

TABLE 3-1a
Sample Results: Metals
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
MW-09	06/30/97	1	N	---	---	---	---	---	ND (0.05)	15	---	7.2	---	---	---	7.6	---	---	---	---	19.7
	06/30/97	3.5	N	---	---	---	---	---	0.06	4.1	---	3.1	---	---	---	3.6	---	---	---	---	11.8
	06/30/97	3.5	FD	---	---	---	---	---	0.21	7.6	---	3.5	---	---	---	3.7	---	---	---	---	12.6
	06/30/97	6	N	---	---	---	---	---	ND (0.05)	11.8	---	6.4	---	---	---	7.7	---	---	---	---	21
	07/01/97	10	N	---	---	91	---	---	ND (0.05)	42.2	---	6.8	2.7	---	ND (0.2)	9.7	---	---	---	21.8	29
	06/30/97	20	N	---	---	---	---	---	ND (0.05)	9	---	7.1	---	---	---	9.1	---	---	---	---	21.7
	07/01/97	30	N	---	---	28.8	---	---	ND (0.05)	16.3	---	12.4	3.9	---	ND (0.2)	15.3	---	---	---	31	29.4
	06/30/97	40	N	---	---	---	---	---	ND (0.05)	9.7	---	7.5	---	---	---	9	---	---	---	---	22.5
	07/01/97	50	N	---	---	83.8	---	---	ND (0.05)	11.7	---	14.7	3.2	---	ND (0.2)	11.3	---	---	---	20.3	23.3
	06/30/97	60	N	---	---	---	---	---	ND (0.05)	28.8	---	17.4	---	---	---	20.2	---	---	---	---	34.4
	06/30/97	70	N	---	---	---	---	---	ND (0.05)	8.9	---	10	---	---	---	10.2	---	---	---	---	19
	07/01/97	87	N	---	---	94	---	---	ND (0.05)	9.8	---	10.2	8.4	---	ND (0.2)	11.6	---	---	---	33	126
07/01/97	87	FD	---	---	---	---	---	0.06	11.9	---	11.4	---	---	---	11.7	---	---	---	---	121	
SWMU1-1	10/16/08	0 - 0.5	N	ND (2.4) J*	3.5	120	ND (1.2) *	ND (1.2) *	0.524	44	11	12	4.2	ND (0.12) *	ND (1.2)	16	ND (1.2)	ND (1.2)	ND (2.4) *	38	41
	10/16/08	2 - 3	N	ND (2.1) *	3	110	ND (1) *	ND (1)	0.462	67	7.5	9.4	3	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	32	37
	10/16/08	5 - 6	N	ND (2.1) *	ND (1)	94	ND (1) *	ND (1)	14.1	3,200	7.3	9.5	4.5	ND (0.1) *	7.8	12	ND (1)	ND (1)	ND (2.1) *	45	76
	10/16/08	9 - 10	N	ND (2.1) *	2.2	83	ND (1) *	ND (1)	0.907	55	6.9	8.6	1.7	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	27	89
SWMU1-2	10/15/08	0 - 0.5	N	ND (2) *	4.7	110	ND (1) *	ND (1)	ND (0.401)	26	7.3	22	6.5	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	35	37
	10/15/08	2 - 3	N	ND (2) *	2.6	110	ND (1) *	ND (1)	ND (0.404)	36	9.3	10	3.7	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	33	38
	10/15/08	5 - 6	N	ND (2) *	3.2	120	ND (1) *	ND (1)	ND (0.404)	44	8.9	12	6.1	ND (0.1) *	3	16	ND (1)	ND (1)	ND (2) *	33	38
	10/15/08	9 - 10	N	ND (2.1) *	ND (1)	130	ND (1) *	ND (1)	22.8	2,000	10	15	4	ND (0.1) *	2.8	16	ND (1)	ND (1)	ND (2.1) *	41	100
SWMU1-3	10/06/08	0 - 0.5	N	ND (2) *	2.7	94	ND (1) *	ND (1)	ND (0.405)	28	9.9	11	3.9	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	37	33
	10/06/08	2 - 3	N	ND (2.1) *	2.5	130	ND (1) *	ND (1)	ND (0.413)	41	9.2	9.4	2.3	ND (0.1) *	1.5	16	ND (1)	ND (1)	ND (2.1) *	35	38
	10/06/08	2 - 3	FD	ND (2) *	2.8	120	ND (1) *	ND (1)	ND (0.41)	38	8.6	9	2.9	ND (0.1) *	1.4	14	ND (1)	ND (1)	ND (2) *	34	37
	10/06/08	5 - 6	N	ND (2.1) *	ND (1)	140	ND (1) *	ND (1)	22.7	1,300	8.9	11	3.8	ND (0.1) *	4.2	12	ND (1)	ND (1)	ND (2.1) *	37	78
	10/06/08	9 - 10	N	ND (2.1) *	3	60	ND (1) *	ND (1)	1.55 J	96	9.4	11	2.7	ND (0.11) *	ND (1)	18	ND (1)	ND (1)	ND (2.1) *	32	140
	10/06/08	19 - 20	N	ND (2.1) *	5.6	250	ND (2.1) *	ND (1)	ND (0.416)	20	9.1	10	2.9	ND (0.1) *	ND (2.1) *	13	ND (1)	ND (2.1)	ND (4.1) *	34	39
	10/06/08	29 - 30	N	ND (2.1) *	10	59	ND (5.3) *	ND (1.1) *	ND (0.424)	21	8.8	15	2.4	ND (0.1) *	ND (5.3) *	16	ND (1.1)	ND (5.3) *	ND (11) *	32	38
	10/06/08	39 - 40	N	ND (2.1) *	5.3	45	ND (2.1) *	ND (1)	ND (0.424)	22	8.6	8.5	2.7	ND (0.1) *	ND (2.1) *	14	ND (1)	ND (2.1)	ND (4.2) *	31	35
	10/06/08	49 - 50	N	ND (2.1) *	5.6	63	ND (2.1) *	ND (1.1) *	ND (0.405)	25	9.8	12	3.2	ND (0.11) *	ND (2.1) *	17	ND (1.1)	ND (2.1)	ND (4.3) *	35	39
	10/06/08	59 - 60	N	ND (2.1) *	5.3	99	ND (2.1) *	ND (1)	ND (0.418)	38	9.6	14	3	ND (0.1) *	2.1	20	ND (1)	ND (2.1)	ND (4.1) *	37	36
	10/07/08	69 - 70	N	ND (2.1) *	5.2	64	ND (2.1) *	ND (1)	ND (0.42)	29	9.9	14	2.6	ND (0.1) *	ND (2.1) *	19	ND (1)	ND (2.1)	ND (4.2) *	38	38
	10/07/08	79 - 80	N	ND (2.2) *	6.6	350	ND (2.2) *	ND (1.1) *	ND (0.427)	20	8.3	13	3.1	ND (0.11) *	ND (2.2) *	14	ND (1.1)	ND (2.2)	ND (4.5) *	35	39
10/07/08	79 - 80	FD	ND (2.3) *	5.1	340	ND (1.1) *	ND (1.1) *	ND (0.441)	21	7.3	15	2.6	ND (0.11) *	1.3	14	ND (1.1)	ND (1.1)	ND (2.3) *	31	34	
SWMU1-4	10/15/08	0 - 0.5	N	ND (2) J*	2.9	75	ND (1) *	ND (1)	ND (0.401)	17	5.6	6.8	2.6	ND (0.1) *	ND (1)	9.5	ND (1)	ND (1)	ND (2) *	34	26
	10/15/08	2 - 3	N	ND (2.1) *	ND (1)	130	ND (1) *	ND (1)	4.95	870	7.3	11	3.6	ND (0.1) *	1.7	13	ND (1)	ND (1)	ND (2.1) *	36	72
	10/15/08	5 - 6	N	ND (2.1) *	1.8	100	ND (1) *	ND (1)	1.39	100	7.6	10	1.8	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	36	170
	10/15/08	7 - 8	N	ND (2.1) *	2.1	89	ND (1) *	ND (1)	ND (0.415)	40	7.5	7.6	1.6	ND (0.1) *	ND (1)	9.8	ND (1)	ND (1)	ND (2.1) *	31	120
	10/15/08	9 - 10	N	ND (2.1) *	2.1	95	ND (1) *	ND (1)	ND (0.414)	23	7.5	7.9	1.7	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	33	110
	10/15/08	13 - 14	N	ND (2.1) *	2.4	110	ND (1) *	ND (1)	ND (0.413)	18	7.4	7.1	1.7	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	31	67

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Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SWMU1-5	10/15/08	9 - 10	N	ND (2.1) *	2.6	71	ND (1) *	ND (1)	0.874	47	7	8.3	2.1	ND (0.1) *	ND (1)	9.9	ND (1)	ND (1)	ND (2.1) *	28	100
	10/15/08	13 - 14	N	ND (2.1) *	5.4	58	ND (2.1) *	ND (1)	ND (0.42)	21	8.3	7.9	2.8	ND (0.1) *	ND (2.1) *	13	ND (1)	ND (2.1)	ND (4.2) *	30	42
	10/15/08	13 - 14	FD	ND (2.1) *	5.8	48	ND (2.1) *	ND (1)	ND (0.423)	21	8	8	2.9	ND (0.1) *	ND (2.1) *	13	ND (1)	ND (2.1)	ND (4.2) *	31	44
	10/15/08	15 - 16	N	ND (2.1) *	5.4	63	ND (2.1) *	ND (1)	ND (0.414)	21	8.1	9.1	2.8	ND (0.1) *	ND (2.1) *	13	ND (1)	ND (2.1)	ND (4.1) *	31	34
	10/15/08	19 - 20	N	ND (2.1) *	4.3	180	ND (1.1) *	ND (1.1) *	ND (0.423)	19	8.6	11	3.1	ND (0.11) *	1.5	12	ND (1.1)	ND (1.1)	ND (2.1) *	32	37
SWMU1-6	10/15/08	0 - 0.5	N	ND (2) *	2.4	110	ND (1) *	ND (1)	1.32	220	8.8	11	3.3	ND (0.1) *	1.2	12	ND (1)	ND (1)	ND (2) *	41	42
	10/15/08	2 - 3	N	ND (2) *	2.1	95	ND (1) *	ND (1)	2.15	270	8.1	12	2.6	ND (0.1) *	1.9	13	ND (1)	ND (1)	ND (2) *	39	46
	10/15/08	5 - 6	N	ND (2) *	2.6	81	ND (1) *	ND (1)	ND (0.405)	32	7.7	10	2.6	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	34	29
	10/15/08	9 - 10	N	ND (2) *	2.4	79	ND (1) *	ND (1)	0.531	33	8.3	8.6	1.7	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	33	88
SWMU1-7	10/15/08	0 - 0.5	N	ND (2) *	3.3	98	ND (1) *	ND (1)	ND (0.403)	27	8.7	13	6.6	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	37	38
	10/15/08	2 - 3	N	ND (2) *	ND (1)	97	ND (1) *	ND (1)	6.45	630	9	14	3.6	ND (0.1) *	1.7	15	ND (1)	ND (1)	ND (2) *	36	130
	10/15/08	5 - 6	N	ND (2.1) *	1.2	100	ND (1) *	ND (1)	5.3	330	8.1	20	2.8	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	35	190
	10/15/08	9 - 10	N	ND (2) *	2.4	100	ND (1) *	ND (1)	0.517	51	8.2	9.2	1.9	ND (0.1) *	ND (1)	14 J	ND (1)	ND (1)	ND (2) *	34	150
	10/15/08	9 - 10	FD	ND (2) *	2.4	99	ND (1) *	ND (1)	0.554	47	7.9	8.3	1.6	ND (0.1) *	ND (1)	11 J	ND (1)	ND (1)	ND (2) *	32	150
SWMU1-8	10/15/08	0 - 0.5	N	ND (2) *	2.9	86	ND (1) *	ND (1)	0.618	120	8.2	9.1	4.7	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	38	36
	10/15/08	2 - 3	N	ND (2.1) *	1.5	100	ND (1) *	ND (1)	22.3	970	8.2	11	3.5	ND (0.1) *	2.2	14	ND (1)	ND (1)	ND (2.1) *	36	160
	10/15/08	5 - 6	N	ND (2.1) *	ND (1)	120	ND (1) *	ND (1)	9.25	1,600	9.2	22	3.3	ND (0.1) *	3.2	16	ND (1)	ND (1)	ND (2.1) *	46	120
	10/15/08	9 - 10	N	ND (2.2) *	3.9	39	ND (1.1) *	ND (1.1) *	ND (0.433)	15	7	7.1	2.8	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2) *	28	32
SWMU1-9	10/14/08	0 - 0.5	N	ND (2.1) *	2.9	110	ND (1) *	ND (1)	0.697	87	8.7	10	2.9	ND (0.11) *	1.4	16	ND (1)	ND (1)	ND (2.1) *	36	37
	10/14/08	2 - 3	N	ND (2.1) *	5.6	140	ND (1) *	ND (1)	ND (0.42)	13	4.5	5.9	5	ND (0.11) *	ND (1)	8.6	ND (1)	ND (1)	ND (2.1) *	21	26
	10/14/08	5 - 6	N	ND (2.1) *	5.8	45	ND (2.1) *	ND (1)	ND (0.417)	26	8.9	8.1	3.1	ND (0.1) *	ND (2.1) *	15	ND (1)	ND (2.1)	ND (4.1) *	34	39
	10/14/08	9 - 10	N	ND (2.1) *	4.3	150	ND (1.1) *	ND (1.1) *	ND (0.425)	22	9	11	3.2	ND (0.1) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1) *	35	38
SWMU1-10	10/14/08	0 - 0.5	N	ND (2) *	2.8	91	ND (1) *	ND (1)	ND (0.401)	19	7.8	11	2.6	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	30	32
	10/14/08	2 - 3	N	ND (2) *	2.5	100	ND (1) *	ND (1)	ND (0.403)	26	8.8	13	2.2	ND (0.1) *	1.8	13	ND (1)	ND (1)	ND (2) *	31	33
	10/14/08	5 - 6	N	ND (2.1) *	3.9	44	ND (1) *	ND (1)	ND (0.413)	21	10	8.4	2.9	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	36	42
	10/14/08	5 - 6	FD	ND (2.1) *	3.4	48	ND (1) *	ND (1)	ND (0.413)	22	9.4	10	2.9	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	36	41
	10/14/08	9 - 10	N	ND (2.1) *	4.9	51	ND (1.1) *	ND (1.1) *	ND (0.431)	25	9.6	15	3.6	ND (0.11) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.1) *	37	44
SWMU1-11	10/15/08	0 - 0.5	N	ND (2.1) *	3.6	61	ND (1.1) *	ND (1.1) *	1.81	200	8.4	11	3.8	ND (0.11) *	1.2	15	ND (1.1)	ND (1.1)	ND (2.1) *	34	65
	10/15/08	2 - 3	N	ND (2.1) *	2.2	92	ND (1.1) *	ND (1.1) *	8.82	840	8.1	11	4.3	ND (0.11) *	4	13	ND (1.1)	ND (1.1)	ND (2.1) *	34	120
	10/15/08	5 - 6	N	ND (2.1) *	5.7	37	ND (2.1) *	ND (1.1) *	ND (0.431)	34	9.3	12	3.2	ND (0.11) *	ND (2.1) *	16	ND (1.1)	ND (2.1)	ND (4.3) *	35	96
	10/15/08	9 - 10	N	ND (2.1) *	4.7	36	ND (1.1) *	ND (1.1) *	ND (0.432)	22	9	10	3.4	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1) *	35	43
SWMU1-12	10/14/08	0 - 0.5	N	ND (2) *	2.8	100	ND (1) *	ND (1)	ND (0.403)	19	8	8.5	2.7	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	32	31
	10/14/08	2 - 3	N	ND (2) *	4.6	88	ND (2) *	ND (1)	ND (0.406)	24	9.5	11	2.3	ND (0.1) *	ND (2) *	16	ND (1)	ND (2)	ND (4) *	34	37
	10/14/08	5 - 6	N	ND (2) *	5.5	57	ND (2) *	ND (1)	ND (0.412)	20	9.6	13	2.7	ND (0.1) *	ND (2) *	15	ND (1)	ND (2)	ND (4.1) *	35	40
	10/14/08	9 - 10	N	ND (2.1) *	10	42	ND (5.2) *	ND (1)	ND (0.419)	21	9.7	11	3.1	ND (0.1) *	ND (5.2) *	16	ND (1)	ND (5.2) *	ND (10) *	34	41
SWMU1-13	10/14/08	0 - 0.5	N	ND (2) J*	3.3	120	ND (1) *	ND (1)	ND (0.407)	23	7.1	14	5.3	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	33	35
	10/14/08	2 - 3	N	ND (2) *	9.7	160	ND (5.1) *	ND (1)	ND (0.409)	28	9.3	11	3.5	ND (0.1) *	ND (5.1) *	15	ND (1)	ND (5.1)	ND (10) *	36	39
	10/14/08	2 - 3	FD	ND (2) *	9.3	170	ND (5.1) *	ND (1)	ND (0.411)	27	8.7	11	3.5	ND (0.1) *	ND (5.1) *	14	ND (1)	ND (5.1)	ND (10) *	34	39
	10/14/08	5 - 6	N	ND (2.1) *	6.4	85	ND (2.1) *	ND (1)	ND (0.416)	34	11	13	2.8	ND (0.1) *	ND (2.1) *	20	ND (1)	ND (2.1)	ND (4.1) *	40	44
	10/14/08	9 - 10	N	ND (2.1) *	5.7	49	ND (1) *	ND (1)	ND (0.426)	30	12	16	3.5	ND (0.1) *	ND (1)	20	ND (1)	ND (1)	ND (2.1) *	43	45

TABLE 3-1a
Sample Results: Metals
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SWMU1-14	10/14/08	0 - 0.5	N	ND (2) *	2.3	96	ND (1) *	ND (1)	ND (0.404)	20	8.8	8.2	2.6	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	33	33
	10/14/08	2 - 3	N	ND (2) *	2.8	120	ND (1) *	ND (1)	ND (0.408)	19	7.9	14	2.3	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	31	33
	10/14/08	5 - 6	N	ND (2) *	5.8	73	ND (2) *	ND (1)	ND (0.413)	28	11	17	3.4	ND (0.1) *	ND (2) *	20	ND (1)	ND (2)	ND (4.1) *	40	42
	10/14/08	9 - 10	N	ND (2.1) *	5.6	67	ND (1) *	ND (1)	ND (0.415)	52	13	35	3.9	ND (0.1) *	ND (1)	32	ND (1)	ND (1)	ND (2.1) *	48	45
SWMU1-15	09/22/08	0 - 0.5	N	ND (2) J*	2.6	130	ND (1) *	ND (1)	1.14	25	8.7	12	4.1	ND (0.1) *	1.9	15	ND (1)	ND (1)	ND (2) *	34	36
	09/22/08	2 - 3	N	ND (2.1) *	2.8	130	ND (1.1) *	ND (1.1) *	ND (0.422)	23	9.3	11	3	ND (0.11) *	1.2	17	ND (1.1)	ND (1.1)	ND (2.1) *	32	34
	09/22/08	5 - 6	N	ND (2.1) *	4.5	100	ND (2.1) *	ND (1.1) *	ND (0.424)	41	12	18	4.5	ND (0.11) *	ND (2.1) *	28	ND (1.1)	ND (2.1)	ND (4.3) *	44	46
	09/22/08	9 - 10	N	ND (2.1) *	4.7	230	ND (2.1) *	ND (1)	ND (0.419)	58	15	24	4.4	ND (0.11) *	ND (2.1) *	43	ND (1)	ND (2.1)	ND (4.1) *	55	50
	09/22/08	9 - 10	FD	ND (2.1) *	5.1	190	ND (2.1) *	ND (1)	ND (0.42)	60	15	23	4.5	ND (0.1) *	ND (2.1) *	44	ND (2.1) *	ND (2.1)	ND (4.1) *	53	50
	09/22/08	19 - 20	N	ND (2.1) *	5.5	81	ND (2.1) *	ND (1.1) *	ND (0.425)	51	14	41	4.5	ND (0.11) *	ND (2.1) *	37	ND (1.1)	ND (2.1)	ND (4.2) *	53	50
	09/22/08	29 - 30	N	ND (2.1) *	7.4	110	ND (5.3) *	ND (1.1) *	ND (0.433)	54	14	23	5.4	ND (0.11) *	ND (5.3) *	39	ND (1.1)	ND (5.3) *	ND (11) *	51	54
	09/22/08	39 - 40	N	ND (2.1) *	4	56	ND (1) *	ND (1)	ND (0.422)	40	12	23	3	ND (0.1) *	ND (1)	27	ND (1)	ND (1)	ND (2.1) *	48	47
	09/22/08	49 - 50	N	ND (2.2) *	6.7	160	ND (2.2) *	ND (1.1) *	ND (0.439)	55	13	25	5.4	ND (0.11) *	ND (2.2) *	39	ND (1.1)	ND (2.2)	ND (4.3) *	57	59
	09/22/08	59 - 60	N	ND (2.1) *	8.4	110	ND (5.3) *	ND (1.1) *	ND (0.449)	47	14	23	3	ND (0.1) *	ND (5.3) *	34	ND (1.1)	ND (5.3) *	ND (11) *	51	49
	09/22/08	59 - 60	FD	ND (2.1) *	5.6	110	ND (2.1) *	ND (1.1) *	ND (0.411)	44	15	24	4.3	ND (0.1) *	ND (2.1) *	31	ND (1.1)	ND (2.1)	ND (4.2) *	52	47
	09/22/08	69 - 70	N	ND (2.1) *	6.1	47	ND (1.1) *	ND (1.1) *	ND (0.43)	39	13	25	3.8	ND (0.11) *	ND (1.1)	27	ND (1.1)	ND (1.1)	ND (2.1) *	42	53
	09/22/08	79 - 80	N	ND (2.1) *	4.4	94	ND (1.1) *	ND (1.1) *	ND (0.43)	28	11	20	3.2	ND (0.11) *	ND (1.1)	19	ND (1.1)	ND (1.1)	ND (2.1) *	38	60
09/23/08	89 - 90	N	ND (4) *	3.7	560	ND (2) *	ND (2) *	ND (0.4)	6.5	6.2	ND (4)	ND (2)	ND (0.1) *	ND (2) *	7	ND (2) *	ND (2)	ND (4) *	15	21	
SWMU1-16	09/21/08	0 - 0.5	N	ND (2) *	2.6	83	ND (1) *	ND (1)	ND (0.405)	10	4.5	5.2	2.3	ND (0.099) *	ND (1)	6.8	ND (1)	ND (1)	ND (2) *	20	21
	09/21/08	2 - 3	N	ND (2) *	1.7	99	ND (1) *	ND (1)	ND (0.408)	18	7.9	8.3	2	ND (0.1) *	1	11	1.1	ND (1)	ND (2) *	32	34
	09/21/08	5 - 6	N	ND (2) *	1.6	110	ND (1) *	ND (1)	ND (0.406)	18	7.8	8.9	2	ND (0.1) *	ND (1)	11	1.6	ND (1)	ND (2) *	32	35
SWMU1-17	09/21/08	0 - 0.5	N	ND (2) *	3.7	210	ND (2) *	ND (1)	ND (0.403)	27	11	16	3.5	ND (0.1) *	ND (2) *	19	ND (2) *	ND (2)	ND (4) *	47	46
	09/21/08	2 - 3	N	ND (2) *	4.3	180	ND (2) *	ND (1)	ND (0.405)	29	10	12	3.9	ND (0.1) *	ND (2) *	20	ND (1)	ND (2)	ND (4) *	40	40
	09/21/08	5 - 6	N	ND (2) *	2.8	130	ND (2) *	ND (1)	ND (0.407)	29	10	12	3.1	ND (0.1) *	2.4	18	ND (1)	ND (2)	ND (4) *	39	44
	09/21/08	9 - 10	N	ND (2) *	3.9	110	ND (2) *	ND (1)	ND (0.408)	43 J	13	26	4.4	ND (0.1) *	ND (2) *	32	ND (2) *	ND (2)	ND (4) *	46	41
	09/21/08	9 - 10	FD	ND (2) *	4.1	110	ND (2) *	ND (1)	ND (0.408)	53 J	14	24	4.7	ND (0.1) *	ND (2) *	37	ND (1)	ND (2)	ND (4) *	51	46
SWMU1-18	01/07/16	0 - 1	N	ND (2.2) *	1.7	93	ND (1.1) *	ND (1.1) *	2.6	16	7.7	7.4	2	0.28	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.2) *	29	30
	01/07/16	2 - 3	N	ND (2.1) *	2.9	150	ND (1.1) *	ND (1.1) *	ND (0.22)	26	9.4	20	2.5	0.27	ND (1.1)	21	ND (1.1)	ND (1.1)	ND (2.1) *	38	40
	01/07/16	5 - 6	N	ND (2.2) *	1.5	83	ND (1.1) *	ND (1.1) *	ND (0.22)	110	7	8.5	2.1	0.3	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.2) *	26	130
	01/07/16	9 - 10	N	ND (2.1) *	3.5	55	ND (1.1) *	ND (1.1) *	ND (0.21)	41	12	17	2.6	0.34	ND (1.1)	27	ND (1.1)	ND (1.1)	ND (2.1) *	47	43
	01/07/16	14 - 15	N	ND (2.1) *	2.9	62 J	ND (1.1) *	ND (1.1) *	ND (0.21)	48	12	19 J	2.4	0.35	ND (1.1)	38	ND (1.1)	ND (1.1)	ND (2.1) *	45	41
	01/07/16	14 - 15	FD	ND (2.1) *	3.2	94 J	ND (1.1) *	ND (1.1) *	ND (0.21)	50	12	25 J	3.5	0.29	ND (1.1)	40	ND (1.1)	ND (1.1)	ND (2.1) *	48	44
	01/07/16	19 - 20	N	ND (2.2) *	3.4	110	ND (1.1) *	ND (1.1) *	ND (0.22)	50	14	21	3.6	0.33	ND (1.1)	41	ND (1.1)	ND (1.1)	ND (2.2) *	53	49
	01/07/16	29 - 30	N	ND (2.1) *	2.5	59	ND (1.1) *	ND (1.1) *	ND (0.21)	29	8.9	22	2	0.29	ND (1.1)	23	ND (1.1)	ND (1.1)	ND (2.1) *	33	33
	01/07/16	39 - 40	N	ND (2.2) *	3.3	96	ND (1.1) *	ND (1.1) *	ND (0.21)	42	12	19	2.9	0.29	ND (1.1)	28	ND (1.1)	ND (1.1)	ND (2.2) *	50	44
	01/08/16	49 - 50	N	ND (2.4) J*	4.6	66 J	ND (1.2) *	ND (1.2) *	ND (0.24)	33 J	11	19	4.2	0.27	ND (1.2)	28	ND (1.2) J	ND (1.2)	ND (2.4) *	47	46 J
	01/08/16	59 - 60	N	ND (2.6) *	5.6	84	ND (1.3) *	ND (1.3) *	ND (0.26)	27	10	16	5.6	0.31	ND (1.3)	22	ND (1.3)	ND (1.3)	ND (2.6) *	44	54
	01/08/16	69 - 70	N	ND (2.3) *	2.8	72	ND (1.1) *	ND (1.1) *	ND (0.23)	21	9.1	13	2.5	ND (0.12) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.3) *	37	41
	01/08/16	79 - 80	N	ND (2.5) *	3.2	41	ND (1.3) *	ND (1.3) *	ND (0.25)	28	9	17	2.1	ND (0.13) *	ND (1.3)	22	ND (1.3)	ND (1.3)	ND (2.5) *	37	37

TABLE 3-1a
Sample Results: Metals
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SWMU1-19	01/09/16	0 - 1	N	ND (2.1) *	7.8	86	ND (1) *	ND (1)	1.3	1,400	5.7	10	3.5	ND (0.1) *	1.1	7.7	ND (1)	ND (1)	ND (2.1) *	34	160
	01/09/16	2 - 3	N	ND (2.1) *	1.9	89	ND (1.1) *	ND (1.1) *	22	23	6.6	8.8	1.8	ND (0.11) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1) *	26	34
	01/09/16	5 - 6	N	ND (2.1) *	3.5	74	ND (1) *	ND (1)	4.9	680	5.7	9.9	1.8	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	ND (2.1) *	32	87
	01/09/16	9 - 10	N	ND (2) *	3.8	110	ND (1) *	ND (1)	22	2,100	6.1	18	2.4	ND (0.1) *	ND (1)	9.2	ND (1)	ND (1)	ND (2) *	37	120
	01/09/16	14 - 15	N	ND (2.1) *	1.6	67	ND (1) *	ND (1)	6.8	240	6.3	23	1.6	ND (0.1) *	ND (1)	9.7	ND (1)	ND (1)	ND (2.1) *	27	150
	01/09/16	19 - 20	N	ND (2.2) *	5.2	53	ND (1.1) *	ND (1.1) *	ND (0.21)	24 J	8	12	3.3	ND (0.11) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.2) *	34	120
	01/09/16	19 - 20	FD	ND (2.1) *	2.5	64	ND (1.1) *	ND (1.1) *	ND (0.21)	31 J	8.5	11	1.9	ND (0.11) *	ND (1.1)	19	ND (1.1)	ND (1.1)	ND (2.1) *	38	110
	01/09/16	29 - 30	N	ND (2.1) *	2.4	33	ND (1.1) *	ND (1.1) *	ND (0.21)	19	9.1	59	1.8	ND (0.11) *	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.1) *	34	35
	01/09/16	39 - 40	N	ND (2.1) *	2.5	22	ND (1) *	ND (1)	ND (0.21)	16	7.1	14	1.7	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	29	33
	01/09/16	49 - 50	N	ND (2.1) *	2.7	87	ND (1.1) *	ND (1.1) *	ND (0.21)	32	11	28	2.2	ND (0.1) *	ND (1.1)	23	ND (1.1)	ND (1.1)	ND (2.1) *	43	40
	01/09/16	59 - 60	N	ND (2.1) *	2.7	66	ND (1.1) *	ND (1.1) *	ND (0.21)	29	8.9	16	2.5	0.24	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.1) *	34	38
	01/10/16	69 - 70	N	ND (2.1) *	3.6	130	ND (1) *	ND (1)	ND (0.21)	22	9.2	17	2.6	0.23	ND (1)	18	ND (1)	ND (1)	ND (2.1) *	36	38
	01/10/16	79 - 80	N	ND (2.1) *	2.5	85	ND (1.1) *	ND (1.1) *	ND (0.21)	16	8.2	10	1.6	0.27	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	31	34
SWMU1-20	01/13/16	14 - 15	N	ND (2.1) *	1.9	68	ND (1) *	ND (1)	8.9	190	8.2	12	1.6	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	30	110
	01/13/16	14 - 15	FD	ND (2.1) *	1.7	76	ND (1) *	ND (1)	7.9	200	9.7	9.9	2.2	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	32	98
	01/13/16	19 - 20	N	ND (2.1) *	2.2	69	ND (1) *	ND (1)	ND (0.21)	23	7.9	8	1.8	ND (0.11) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	31	37
	01/13/16	29 - 30	N	ND (2.1) *	2	63	ND (1) *	ND (1)	ND (0.21)	14	9	11	1.2	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	27	30
	01/14/16	39 - 40	N	ND (2.1) *	2.4	29	ND (1) *	ND (1)	ND (0.21)	18	8.6	13	1.7	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	32	36
	01/14/16	49 - 50	N	ND (2.2) *	2.3	28	ND (1.1) *	ND (1.1) *	ND (0.22)	15	8.6	8	2	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.2) *	31	37
	01/14/16	59 - 60	N	ND (2.1) *	2.1	32	ND (1) *	ND (1)	ND (0.21)	21	7.7	38	1.2	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	29	32
	01/14/16	69 - 70	N	ND (2) *	1.9	56	ND (1) *	ND (1)	ND (0.2)	23	9.4	10	1.2	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	34	34
	01/14/16	79 - 80	N	ND (2.1) *	2.5	100	ND (1) *	ND (1)	ND (0.21)	27	10	11	1.7	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	39	41
SWMU1-21	01/26/16	14 - 15	N	ND (2.1) *	1.9	64	ND (1) *	ND (1)	0.5	19	7.5	13	1.4	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	31	78
	01/26/16	19 - 20	N	ND (2) *	ND (1)	77	ND (1) *	ND (1)	0.3	16	7.4	8.7	ND (1)	ND (0.1) *	ND (1)	9.1	ND (1)	ND (1)	ND (2) *	29	69
	01/27/16	29 - 30	N	ND (2.1) *	2.5	50	ND (1) *	ND (1)	ND (0.21)	16	8	11	1.3	ND (0.1) *	ND (1)	12	ND (1) J	ND (1)	ND (2.1) *	28	34
	01/27/16	39 - 40	N	ND (2.1) *	2.3	35	ND (1) *	ND (1)	ND (0.21)	14	8.1	7.9	1.3	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	29	37
	01/27/16	49 - 50	N	ND (2.1) *	2.6	26	ND (1) *	ND (1)	ND (0.21)	14	7.7	9	1.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	27	33
	01/27/16	59 - 60	N	ND (2.1) *	3.1	45	ND (1.1) *	ND (1.1) *	ND (0.21)	22	9.6	12	1.7	ND (0.1) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.1) *	32	41
	01/27/16	69 - 70	N	ND (2.1) *	2.6	54	ND (1) *	ND (1)	ND (0.21)	23	9.2	10	1.5	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2.1) *	34	40
	01/27/16	79 - 80	N	ND (2.2) *	3.1	330 J	ND (1.1) *	ND (1.1) *	ND (0.22)	19	7.6	16	1.2	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2) *	29	32
	01/27/16	79 - 80	FD	ND (2.2) *	3.4	120 J	ND (1.1) *	ND (1.1) *	ND (0.22)	17	7.5	11	1.3	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.2) *	29	35
SWMU1-22	12/17/15	0 - 1	N	ND (2) *	3.6	140	ND (1) *	ND (1)	ND (0.2)	18	---	12	6.5	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	26	33
SWMU1-23	12/17/15	0 - 1	N	ND (2) *	2.7	120	ND (1) *	ND (1)	0.36	23	7.2	11	7.5	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	31	39
SWMU1-24	12/17/15	0 - 1	N	ND (2) *	3.5	170	ND (1) *	ND (1)	1.6	55	7.1	13	6.5	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	29	44
SWMU1-25	01/26/16	0 - 1	N	18	14	210	ND (1) *	ND (1)	42	2,000	7.6	12	4.4	ND (0.1) *	20	12	ND (1)	ND (1)	ND (2.1) *	38	60
	01/26/16	2 - 3	N	2.4	2.7	53	ND (1.1) *	ND (1.1) *	9.5	450	8.5	13	1.6	ND (0.11) *	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.1) *	35	200
	01/26/16	5 - 6	N	ND (2.1) *	2.5	30	ND (1.1) *	ND (1.1) *	2.3	200	7.4	14	1.6	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1) *	29	170
	01/26/16	9 - 10	N	ND (2.1) *	3.1	24	ND (1.1) *	ND (1.1) *	ND (0.21)	17	8.5	11	2.1	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1) *	29	37

TABLE 3-1a
Sample Results: Metals
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SWMU1-28	02/14/17	0 - 0.5	N	ND (2) *	1.7	140	ND (1) *	1.3	ND (0.2)	15	7.1	9.1	1.6	ND (0.1) *	ND (1)	9.7	ND (1) J	ND (1) J	ND (2) J*	27	31
	02/14/17	0 - 0.5	FD	ND (2) *	1.9	140	ND (1) *	1.4	ND (0.2)	16	7.7	13	1.5	ND (0.1) *	ND (1)	10	ND (1) J	ND (1) J	ND (2) J*	28	34
	02/14/17	2 - 3	N	ND (2) *	1.4	97	ND (1) *	1.2	ND (0.2)	13	6.6	8.3	3	ND (0.1) *	ND (1)	8.3	ND (1) J	ND (1) J	ND (2) J*	24	31
SWMU1-29	02/16/17	0 - 0.5	N	ND (2) *	ND (1)	70	ND (1) *	1.5	ND (0.2)	19	7.3	8.5	1.2	ND (0.1) *	ND (1)	9.9	ND (1) J	ND (1) J	ND (2) J*	33	28 J
	02/16/17	2 - 3	N	13	7.2	89	ND (1) *	1.1	17	1,100	5.6	8.7	2.3	ND (0.1) *	1.2	8	ND (1) J	ND (1) J	ND (2.1) J*	29	41
	02/16/17	5 - 6	N	2.6	1.6	73	ND (1) *	1.2	5.6	270	7.2	11	ND (1)	ND (0.1) *	ND (1)	11	ND (1) J	ND (1) J	ND (2.1) J*	26	33
	02/16/17	9 - 10	N	ND (2.1) *	ND (1)	54	ND (1) *	1.2	1.4	98	7.2	13	1.1	ND (0.1) *	ND (1)	9.7	ND (1) J	ND (1) J	ND (2.1) J*	27	140
SWMU1-WP-1h	10/07/08	0 - 0.5	N	ND (2.1) *	4.5	53	ND (1) *	ND (1)	ND (0.418)	25	8.3	11	3.9	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	32	38
	10/07/08	2 - 3	N	ND (2.1) *	4.4	40	ND (1) *	ND (1)	ND (0.418)	17	7.2	8.9	2.8	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	30	34
	10/07/08	5 - 6	N	ND (2.1) *	3.7	23	ND (1.1) *	ND (1.1) *	ND (0.417)	15	7	7.1	2.5	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1) *	26	39
	10/07/08	9 - 10	N	ND (2.1) *	3.8	29	ND (1) *	ND (1)	ND (0.422)	28	8	8.7	2.9	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	29	58
SWMU1-WP-3a	10/14/08	0 - 0.5	N	ND (2.1) *	3.1	100	ND (1.1) *	ND (1.1) *	ND (0.419)	27	7.4	11	3.6	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	33	40
	10/14/08	2 - 3	N	ND (2.1) *	2.3	100	ND (1) *	ND (1)	ND (0.419)	20	8	9.4	2.3	ND (0.11) *	1.1	11	ND (1)	ND (1)	ND (2.1) *	38	34
	10/14/08	5 - 6	N	ND (2.1) *	6	68	ND (2.1) *	ND (1.1) *	ND (0.425)	27	14	15	6.2	ND (0.11) *	ND (2.1) *	17	ND (1.1)	ND (2.1)	ND (4.2) *	37	45
	10/14/08	7 - 8	N	ND (2.1) *	6	69	ND (2.1) *	ND (1)	ND (0.417)	23	9.3	11	3.4	ND (0.1) *	ND (2.1) *	18	ND (1)	ND (2.1)	ND (4.1) *	36	39
	10/14/08	9 - 10	N	ND (2.1) *	12	120	ND (5.1) *	ND (1)	ND (0.415)	66	14	21	2.8	ND (0.1) *	ND (5.1) *	45	ND (1)	ND (5.1)	ND (10) *	51	46
	10/14/08	9 - 10	FD	ND (2.1) *	12	120	ND (5.1) *	ND (1)	ND (0.414)	66	15	22	2.7	ND (0.1) *	ND (5.1) *	45	ND (1)	ND (5.1)	ND (10) *	52	47
	10/14/08	11 - 12	N	ND (2.1) *	5.1	56	ND (1) *	ND (1)	ND (0.421)	30	12	27	4	ND (0.1) *	ND (1)	23	ND (1)	ND (1)	ND (2.1) *	40	40
	10/14/08	13 - 14	N	ND (2.1) *	5.5	40	ND (1) *	ND (1)	ND (0.426)	28	10	31	3.8	ND (0.1) *	ND (1)	21	ND (1)	ND (1)	ND (2.1) *	39	40
SWMU1-WP-3h	10/07/08	0 - 0.5	N	ND (2.1) *	5.1	40	ND (2.1) *	ND (1.1) *	ND (0.433)	17	7.4	6.3	1.8	ND (0.11) *	ND (2.1) *	11	ND (1.1)	ND (2.1)	ND (4.3) *	25	33
	10/07/08	2 - 3	N	ND (2) *	2.4	89	ND (1) *	ND (1)	ND (0.404)	17	7.6	8.6	2.1	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	30	34
	10/07/08	5 - 6	N	ND (2) *	2.8	92	ND (1) *	ND (1)	ND (0.404)	21	8.7	7.8	2.4	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	31	36
SWMU1-WP-5a	10/05/08	0 - 0.5	N	ND (2) J*	2.4	91	ND (1) *	ND (1)	ND (0.405)	19	8	11	3.9	ND (0.1) *	1	11	ND (1)	ND (1)	ND (2) *	36	35
	10/05/08	2 - 3	N	ND (2) *	2.3	100	ND (1) *	ND (1)	ND (0.408)	19	8.9	9.2	2.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	33	35
	10/05/08	5 - 6	N	ND (2.1) *	6.7	120	ND (2.1) *	ND (1)	ND (0.419)	53	13	17	3.9	ND (0.1) *	ND (2.1) *	38	ND (1)	ND (2.1)	ND (4.1) *	52	42
	10/05/08	5 - 6	FD	ND (2.1) *	12	120	ND (5.2) *	ND (1)	ND (0.42) J	58	15	19	3.5	ND (0.1) *	ND (5.2) *	42	ND (1)	ND (5.2) *	ND (10) *	56	46
	10/05/08	7 - 8	N	ND (2.1) *	6.6	100	ND (2.1) *	ND (1)	ND (0.416)	53	12	18	4.1	ND (0.1) *	ND (2.1) *	37	ND (1)	ND (2.1)	ND (4.1) *	44	41
	10/05/08	9 - 10	N	ND (2.1) *	6.4	76	ND (2.1) *	ND (1)	ND (0.421)	43	13	21	4.2	ND (0.1) *	ND (2.1) *	33	ND (1)	ND (2.1)	ND (4.2) *	47	47
	10/05/08	11 - 12	N	ND (2.1) *	6.8	50	ND (2.1) *	ND (1)	ND (0.416)	36	11	26	3.5	ND (0.1) *	ND (2.1) *	26	ND (1)	ND (2.1)	ND (4.1) *	43	42
	10/05/08	13 - 14	N	ND (2.1) *	4.9	92	ND (1) *	ND (1)	ND (0.422)	27	11	13	3.5	ND (0.1) *	ND (1)	20	ND (1)	ND (1)	ND (2.1) *	40	52
SWMU1-WP-5h	10/07/08	0 - 0.5	N	ND (2.2) J*	3.4	73	ND (1.1) *	ND (1.1) *	ND (0.43)	14	12	12	2.7	ND (0.11) *	ND (1.1)	9.5	ND (1.1)	ND (1.1)	ND (2.2) *	23	31
	10/07/08 ^Θ	2 - 3	N	ND (2.1) *	5.3	130	ND (2.1) *	ND (1.1) *	ND (0.435)	33	8.7	12	4.9	ND (0.11) *	ND (2.1) *	14	ND (1.1)	ND (2.1)	ND (4.3) *	31	46
	10/07/08	5	N	ND (2.1) *	3.2	110	ND (1) *	ND (1)	ND (0.415)	23	8.5	11	3.3	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	33	40

TABLE 3-1a
Sample Results: Metals
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SWMU1-WP-6a	10/05/08	0 - 0.5	N	ND (2) *	2.9	100	ND (1) *	ND (1)	ND (0.405)	32	9.3	10	7.2	ND (0.1) *	2.5	15	ND (1)	ND (1)	ND (2) *	30	35
	10/05/08	2 - 3	N	ND (2) *	2.3	81	ND (1) *	ND (1)	ND (0.404)	19	8.8 J	10	2.3	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	34	35
	10/05/08	2 - 3	FD	ND (2) *	2.4	82	ND (1) *	ND (1)	ND (0.403)	19	11 J	9.2	2.2	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	34	33
	10/05/08	5 - 6	N	ND (2.1) *	6.2	180	ND (2.1) *	ND (1)	ND (0.413)	41	12	19	3.2	ND (0.1) *	ND (2.1) *	27	ND (1)	ND (2.1)	ND (4.1) *	43	44
	10/05/08	7 - 8	N	ND (2.1) *	6	66	ND (2.1) *	ND (1)	ND (0.414)	35	10	18	3.5	ND (0.1) *	ND (2.1) *	24	ND (1)	ND (2.1)	ND (4.1) *	40	38
	10/05/08	9 - 10	N	ND (2) *	11	98	ND (5.1) *	ND (1)	ND (0.412)	26	11	14	2.4	ND (0.1) *	ND (5.1) *	19	ND (1)	ND (5.1)	ND (10) *	40	39
	10/05/08	11 - 12	N	ND (2) *	4.3	71	ND (1) *	ND (1)	ND (0.411)	51	10	17	3.1	ND (0.1) *	3.6	22	ND (1)	ND (1)	ND (2) *	38	35
	10/05/08	13 - 14	N	ND (2) *	6.7	110	ND (2) *	ND (1)	ND (0.41)	60	14	15	3.6	ND (0.1) *	ND (2) *	43	ND (1)	ND (2)	ND (4.1) *	55	43
SWMU1-WP-6h	10/06/08 ^Θ	0 - 0.5	N	ND (2) *	4.7	150	ND (2) *	ND (1)	4.98	130	8.8	15	5.5	ND (0.1) *	ND (2) *	17	ND (1)	ND (2)	ND (4.1) *	37	87
	10/06/08	2 - 3	N	ND (2.1) *	5.5	70	ND (1) *	ND (1)	0.538	23	19	61	6.6	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	36	34
	10/06/08	5 - 6	N	ND (2) *	2.7	100	ND (1) *	ND (1)	ND (0.406)	19	8	10	2.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	34	36
	10/06/08	5 - 6	FD	ND (2) *	2.7	100	ND (1) *	ND (1)	ND (0.405)	20	8.1	12	2.3	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	32	37
	10/06/08	9 - 10	N	ND (2.1) *	4.1	100	ND (1.1) *	ND (1.1) *	ND (0.409)	41	9.4	23	3.5	ND (0.11) *	ND (1.1)	27	ND (1.1)	ND (1.1)	ND (2.1) *	36	39
SWMU1-WP-7	10/06/08	0 - 0.5	N	ND (2.1) *	ND (5.3)	160	ND (5.3) *	ND (1.1) *	0.566	2,600	7.2	11	13	ND (0.11) *	7.1	15	ND (1.1)	ND (5.3) *	ND (11) *	35	88
	10/06/08 ^Θ	2 - 3	N	ND (2.2) *	6	190	ND (2.2) *	ND (1.1) *	18.2	1,200	7.4	16	5.7	ND (0.11) *	3.4	17	ND (1.1)	ND (2.2)	ND (4.4) *	35	56
	10/06/08	5 - 6	N	ND (2.1) *	3	110	ND (1) *	ND (1)	6.17	21	8	11	2.7	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	31	34
	10/06/08	9 - 10	N	ND (2.1) *	3	82	ND (1) *	ND (1)	ND (0.417)	23	7.2	15	2.7	ND (0.11) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	30	31
SWMU1-WP-8	10/06/08	0 - 0.5	N	ND (2) *	5.4	150	ND (2) *	ND (1)	ND (0.402)	35	7.5	13	6.9	ND (0.1) *	ND (2) *	16	ND (1)	ND (2)	ND (4.1) *	31	47
	10/06/08	2 - 3	N	ND (2.1) *	5.1	160	ND (2.1) *	ND (1.1) *	0.541	26	7.9	10	4.1	ND (0.1) *	ND (2.1) *	17	ND (1.1)	ND (2.1)	ND (4.2) *	32	32
	10/06/08	5 - 6	N	ND (2) *	2.7	130	ND (1) *	ND (1)	ND (0.407)	19	8.3	10	2.7	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	34	38
	10/06/08	9 - 10	N	ND (2) J*	2.9	120	ND (1) *	ND (1)	ND (0.411)	22	7.9	9.8	2.6	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	38	38
SWMU1-WP-9	09/21/08	0 - 0.5	N	ND (2) *	2.4	100	ND (1) *	ND (1)	ND (0.406)	26	7.6	8.2	2.9	ND (0.1) *	2.1	12	ND (1)	ND (1)	ND (2) *	30	33
	09/21/08	2 - 3	N	ND (2) *	2.7	150 J	ND (1) *	ND (1)	ND (0.407)	34 J	9.5 J	15	2.3	ND (0.1) *	1.2	20 J	2.5	ND (1)	ND (2) *	35	34
	09/21/08	2 - 3	FD	ND (2.1) *	2.1	1,900 J	ND (1) *	ND (1)	ND (0.409)	20 J	5.9 J	10	2.7	ND (0.1) *	ND (1)	12 J	ND (1)	ND (1)	ND (2.1) *	32	34
	09/21/08	5 - 6	N	ND (2) *	4.2	75	ND (2) *	ND (1)	ND (0.416)	39	13	15	3.2	ND (0.1) *	ND (2) *	26	1.3	ND (2)	ND (4.1) *	49	43
	09/21/08	7 - 8	N	ND (2.1) *	4.8	58	ND (2.1) *	ND (1)	ND (0.416)	28	10	14	3.5	ND (0.1) *	ND (2.1) *	20	ND (1)	ND (2.1)	ND (4.1) *	39	45
	09/21/08	9 - 10	N	ND (2) *	4.7	77	ND (2) *	ND (1)	ND (0.411)	37	12	15	3.3	ND (0.1) *	ND (2) *	28	ND (1)	ND (2)	ND (4.1) *	43	43
	09/21/08	11 - 12	N	ND (2.1) *	7.1	88	ND (5.2) *	ND (1)	ND (0.422)	68	16	23	4	ND (0.11) *	ND (5.2) *	51	ND (1)	ND (5.2) *	ND (10) *	56	56
	09/21/08	13 - 14	N	ND (2.1) *	5.3	91	ND (2.1) *	ND (1)	ND (0.423)	60	15	22	4.9	ND (0.11) *	ND (2.1) *	46	ND (1)	ND (2.1)	ND (4.2) *	56	52
SWMU1-WP-10	10/05/08	0 - 0.5	N	ND (2.1) *	4.4	150	ND (2.1) *	ND (1)	6.64	540	7.1	11	8.3	ND (0.1) *	ND (2.1) *	15	ND (1)	ND (2.1)	ND (4.1) *	32	56
	10/05/08 ^Θ	2 - 3	N	ND (2.1) *	5.3	180	ND (5.2) *	ND (1)	3.85	1,400	8.8	18	10	ND (0.1) *	ND (5.2) *	16	ND (1)	ND (5.2) *	ND (10) *	39	360
	10/05/08	5 - 6	N	ND (2.1) *	5.5	81	ND (2.1) *	ND (1.1) *	0.494 J	50	8	12	3.6	ND (0.11) *	ND (2.1) *	15	ND (1.1)	ND (2.1)	ND (4.3) *	33	53
	10/05/08	9 - 10	N	ND (2.1) *	4.8	110	ND (2.1) *	ND (1.1) *	2.31	250	9.4	11	5.4	ND (0.11) *	ND (2.1) *	18	ND (1.1)	ND (2.1)	ND (4.2) *	33	83

TABLE 3-1a
Sample Results: Metals
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SWMU1-WP-T3a	10/05/08	0 - 0.5	N	ND (2) J*	2.6	110	ND (1) *	ND (1)	ND (0.41)	25	10	11	2.8	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	38	39
	10/05/08	2 - 3	N	ND (2) *	2	92	ND (1) *	ND (1)	ND (0.411)	18	9.2	12	2.9	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	32	35
	10/05/08	5 - 6	N	ND (2.1) *	4.1	82	ND (1.1) *	ND (1.1) *	ND (0.431)	26	11	16	3.4	ND (0.11) *	ND (1.1)	19	ND (1.1)	ND (1.1)	ND (2.1) *	38	40
	10/05/08	5 - 6	FD	ND (2.1) *	4.2	80	ND (1.1) *	ND (1.1) *	ND (0.438)	26	10	15	3.7	ND (0.11) *	1.1	19	ND (1.1)	ND (1.1)	ND (2.1) *	38	39
	10/05/08	7 - 8	N	ND (2.1) *	6.1	86	ND (2.1) *	ND (1.1) *	ND (0.429)	38	12	19	4.4	ND (0.11) *	ND (2.1) *	28	ND (1.1)	ND (2.1)	ND (4.3) *	43	44
	10/05/08	9 - 10	N	ND (2) *	5.1	140	ND (2) *	ND (1)	ND (0.406)	71	13	20	3.4	ND (0.1) *	6.4	29	ND (1)	ND (2)	ND (4.1) *	44	42
	10/05/08	11 - 12	N	ND (2.1) *	7.1	92	ND (2.1) *	ND (1)	ND (0.42)	50	15	17	4.5	ND (0.1) *	ND (2.1) *	38	ND (1)	ND (2.1)	ND (4.2) *	54	42
	10/05/08	13 - 14	N	ND (2.1) *	11	100	ND (5.3) *	ND (1.1) *	ND (0.424)	62	14	30	3.8	ND (0.11) *	ND (5.3) *	45	ND (1.1)	ND (5.3) *	ND (11) *	53	51
SSB-2	06/30/97	1	N	---	---	---	---	---	ND (0.05)	48.7	---	7.4	---	---	---	7.9	---	---	---	---	27.3
	06/30/97	3	N	---	---	---	---	---	ND (0.05)	7.6	---	6.8	---	---	---	5.7	---	---	---	---	20.4
	06/30/97	6	N	---	---	---	---	---	ND (0.05)	10.1	---	9.4	---	---	---	7.9	---	---	---	---	27
	06/30/97	10	N	---	---	46.4	---	---	ND (0.05)	9.7	---	11	3.1	---	ND (0.2)	11.7	---	---	---	20.2	27.3
SSB-3	06/30/97	1	N	---	---	---	---	---	ND (0.05)	8.2	---	4.3	---	---	---	6	---	---	---	---	13.7
	06/30/97	3	N	---	---	---	---	---	ND (0.05)	13.2	---	9.5	---	---	---	10.4	---	---	---	---	21.4
	06/30/97	6	N	---	---	---	---	---	ND (0.05)	23.5	---	13.7	---	---	---	16.4	---	---	---	---	27.1
	06/30/97	10	N	---	---	70	---	---	ND (0.05)	7.1	---	13.4	2.3	---	ND (0.2)	7.7	---	---	---	15.5	19.2
SSB-4	06/30/97	1	N	---	---	---	---	---	ND (0.05)	10.1	---	3	---	---	---	3.9	---	---	---	---	11.9
	06/30/97	3	N	---	---	---	---	---	ND (0.05)	1,520	---	10.3	---	---	---	5.4	---	---	---	---	141
	06/30/97	6	N	---	---	---	---	---	ND (0.05)	297	---	12.4	---	---	---	6.9	---	---	---	---	130
	06/30/97	10	N	---	---	93.9	---	---	ND (0.05)	201	---	11.9	2.1	---	ND (0.2)	7.4	---	---	---	19.3	188
SSB-5	06/30/97	1	N	---	---	---	---	---	0.06	521	---	13.5	---	---	---	7.8	---	---	---	---	39.6
	06/30/97	3	N	---	---	---	---	---	ND (0.05)	1,440	---	16	---	---	---	4.2	---	---	---	---	128
	06/30/97	6	N	---	---	---	---	---	ND (0.05)	617	---	14.9	---	---	---	6.4	---	---	---	---	115
	06/30/97	10	N	---	---	89.6	---	---	ND (0.05)	31.6	---	7	1.75	---	ND (0.2)	7.7	---	---	---	18.7	107
WP-1	06/30/97	0	N	---	---	---	---	---	47.5	2,090	---	3.9	---	---	---	3.6	---	---	---	---	44.5
WP-2	09/18/97	0	N	---	---	---	---	---	ND (0.5)	25.9	---	22.8	---	---	---	9.9	---	---	---	---	80.1
WP-3	09/18/97	0.5	N	---	---	---	---	---	11.8	1,290	---	13.2	---	---	---	5.6	---	---	---	---	50.3
	09/18/97	2	N	---	---	---	---	---	0.41	273	---	18.6	---	---	---	18.3	---	---	---	---	50
WP-4	09/18/97	0	N	---	---	---	---	---	1.14	120	---	10.8	---	---	---	4	---	---	---	---	65.6
WP-5	09/18/97	0	N	---	---	---	---	---	3.51	511	---	16.8	---	---	---	13.2	---	---	---	---	50.4
	09/18/97	1	N	---	---	---	---	---	6.66	711	---	15.4	---	---	---	10.2	---	---	---	---	61.5
	09/18/97	2	N	---	---	---	---	---	8.97	421	---	15.8	---	---	---	12.9	---	---	---	---	51.9
	09/18/97	3	N	---	---	---	---	---	6.1	158	---	10.1	---	---	---	4.5	---	---	---	---	22.9
	09/18/97	4	N	---	---	---	---	---	10.2	113	---	24.4	---	---	---	20.6	---	---	---	---	41.9
WP-6	09/18/97	0	N	---	---	---	---	---	1.64	712	---	21.6	---	---	---	12.4	---	---	---	---	57.9
	09/18/97	1	N	---	---	---	---	---	9.46	1,030	---	18.2	---	---	---	5.8	---	---	---	---	46.5
	09/18/97	2	N	---	---	---	---	---	2.29	401	---	11.9	---	---	---	10.5	---	---	---	---	210
WP-Bank1	11/23/98	0	N	---	---	---	---	---	5.5	261	---	10.3	---	---	---	3.8	---	---	---	---	23.4
WP-Bank2	11/23/98	0	N	---	---	---	---	---	14	909	---	27.2	---	---	---	7.9	---	---	---	---	61.8
BANK-WP	11/13/98	Unknown	N	---	---	---	---	---	ND (0.51)	34.4	---	16.3	---	---	---	24.7	---	---	---	---	41.3

TABLE 3-1a
Sample Results: Metals
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
WP-Floor	11/23/98	Unknown	N	---	---	---	---	---	3.3	317	---	13.9	---	---	---	1.4 J	---	---	---	---	15.9 J
Bank - b	11/13/98	Unknown	N	---	---	---	---	---	0.7	20.1	---	15	---	---	---	18.2	---	---	---	---	38.2
T-1	11/13/98	Unknown	N	---	---	---	---	---	ND (0.53)	15.9	---	13.1	---	---	---	13.2	---	---	---	---	38.6
	11/13/98	Unknown	N	---	---	---	---	---	2.1	38.8	---	28	---	---	---	21.6	---	---	---	---	164
T-2	11/13/98	Unknown	N	---	---	---	---	---	ND (0.53)	21.2	---	12.4	---	---	---	16.2	---	---	---	---	44.7
	11/13/98	Unknown	N	---	---	---	---	---	0.6	44.4	---	14.2	---	---	---	13.1	---	---	---	---	43
T-3-B	11/13/98	0	N	---	---	---	---	---	3.1	619	---	19.6	---	---	---	7.9	---	---	---	---	673
P-1	11/13/98	Unknown	N	---	---	---	---	---	ND (0.52)	12	---	12.7	---	---	---	9.2	---	---	---	---	29.4
	11/13/98	Unknown	N	---	---	---	---	---	ND (0.53)	17.9	---	16.1	---	---	---	13.1	---	---	---	---	40.4
P-2Soil	11/13/98	- 3.5	N	---	---	---	---	---	ND (0.76)	33.2	---	6	---	---	---	5.6	---	---	---	---	6.4
	11/13/98	Unknown	N	---	---	---	---	---	ND (0.52)	15	---	9.7	---	---	---	8.1	---	---	---	---	36.1
Category 3																					
PB-1	06/24/88	0 - 3	N	---	---	---	---	---	ND (0.5)	45	---	---	---	---	---	---	---	---	---	---	---
PB-2	06/24/88	0 - 3	N	---	---	---	---	---	ND (0.5)	38	---	---	---	---	---	---	---	---	---	---	---
	06/24/88	0 - 3	FD	---	---	---	---	---	ND (0.5)	37	---	---	---	---	---	---	---	---	---	---	---
PB-3	06/24/88	0 - 3	N	---	---	---	---	---	7.1	270	---	---	---	---	---	---	---	---	---	---	
PB-4	06/24/88	0 - 3	N	---	---	---	---	---	ND (0.5)	25	---	---	---	---	---	---	---	---	---	---	---

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

- ⊖
- white powder sample.
- *
- Reporting limits greater than or equal to the interim screening level.
-
- not analyzed
- ft bgs
- feet below ground surface
- mg/kg
- milligrams per kilogram
- DTSC
- California Department of Toxic Substances Control
- DTSC-SL
- DTSC Screening Levels
- FD
- field duplicate
- J
- concentration or reporting limit estimated by laboratory or data validation
- N
- primary sample
- ND
- not detected at the listed reporting limit
- NE
- not established
- USEPA
- United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-1b

Sample Results: Contract Laboratory Program Inorganics
 SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)									
Interim Screening Level ¹ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	NE	1,800	NE	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	1,800	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	220	NE	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Iron (2+)	Magnesium	Manganese	Manganese Extractable	Potassium	Sodium	Cyanide
Category 1													
MW-09	07/01/97	10	N	---	---	11,400	ND (100)	---	190	81	---	---	---
	07/01/97	30	N	---	---	13,100	ND (100)	---	192	36.6	---	---	---
	07/01/97	50	N	---	---	9,580	ND (100)	---	139	22.8	---	---	---
	07/01/97	87	N	---	---	16,500	ND (100)	---	526	224	---	---	---
SWMU1-1	10/16/08	0 - 0.5	N	9,200	17,000	25,000	---	7,100	270	---	2,700	310	ND (1.03) *
SWMU1-3	10/06/08	0 - 0.5	N	8,100	16,000	21,000	---	6,400	250	---	2,500	ND (260)	ND (1.01) *
SWMU1-4	10/15/08	0 - 0.5	N	5,900	13,000	21,000	---	4,900	200	---	1,700	190	ND (1) *
SWMU1-9	10/14/08	0 - 0.5	N	9,400	19,000	20,000	---	7,600	260	---	2,800	270	ND (1.1) *
SWMU1-11	10/15/08	0 - 0.5	N	12,000	23,000	18,000	---	8,100	240	---	2,300	600	ND (1.06) *
SWMU1-13	10/14/08	0 - 0.5	N	7,900	15,000	21,000	---	6,500	270	---	2,500	220	ND (1.02) *
SWMU1-15	09/22/08	0 - 0.5	N	8,800	22,000	20,000 J	---	6,900 J	280 J	---	2,800 J	340	ND (1.03) *
SWMU1-17	09/21/08	0 - 0.5	N	12,000	22,000	23,000	---	9,700	340	---	4,900	580	ND (1.01) *
SWMU1-22	12/17/15	0 - 1	N	---	29,000	15,000	---	7,100	230	---	2,300	350	---
SWMU1-23	12/17/15	0 - 1	N	---	23,000	18,000	---	7,000	220	---	2,200	410	---
SWMU1-24	12/17/15	0 - 1	N	---	28,000	17,000	---	7,600	220	---	2,300	890	---
SWMU1-28	02/14/17	0 - 0.5	N	8,200	21,000	21,000	---	6,100	240	---	3,500	180	ND (0.204) J
SWMU1-29	02/16/17	0 - 0.5	N	6,700	14,000	24,000	---	5,200	220	---	2,400	150	ND (0.203) J
SWMU1-WP-1h	10/07/08	0 - 0.5	N	11,000	16,000	17,000	---	7,300	210	---	2,400	500	ND (1.04) *
SWMU1-WP-3a	10/14/08	0 - 0.5	N	8,700	15,000	18,000	---	6,600	270	---	2,800	290	ND (1.05) *
SWMU1-WP-5a	10/05/08	0 - 0.5	N	7,900	14,000	23,000 J	---	6,800	280	---	2,800 J	ND (280)	ND (1.01) *
SWMU1-WP-5h	10/07/08	0 - 0.5	N	8,500	21,000	17,000	---	6,300	220	---	2,300 J	310	ND (1.08) *
SWMU1-WP-6a	10/05/08	0 - 0.5	N	9,600	16,000	19,000	---	8,600	270	---	3,000	ND (370)	ND (1.01) *

TABLE 3-1b

Sample Results: Contract Laboratory Program Inorganics
 SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)									
Interim Screening Level ¹ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	NE	1,800	NE	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	1,800	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	220	NE	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Iron (2+)	Magnesium	Manganese	Manganese Extractable	Potassium	Sodium	Cyanide
SWMU1-WP-6h	10/06/08 ^Θ	0 - 0.5	N	11,000	37,000	21,000	---	10,000	280	---	3,200	ND (690)	ND (1.03) *
SWMU1-WP-7	10/06/08	0 - 0.5	N	9,700	70,000	25,000	---	12,000	250	---	2,600	ND (1,000)	ND (1.07) *
SWMU1-WP-8	10/06/08	0 - 0.5	N	8,400	24,000	17,000	---	6,800	230	---	2,400	ND (320)	ND (1.01) *
SWMU1-WP-T3a	10/05/08	0 - 0.5	N	8,400	17,000	24,000 J	---	8,000 J	280	---	2,900 J	ND (330)	ND (1.03) *
SSB-2	06/30/97	10	N	---	---	9,600	ND (100)	---	150	27.5	---	---	---
SSB-3	06/30/97	10	N	---	---	7,220	ND (100)	---	114	34.2	---	---	---
SSB-4	06/30/97	10	N	---	---	11,600	ND (100)	---	161	45.2	---	---	---
SSB-5	06/30/97	10	N	---	---	9,870	ND (100)	---	139	26.8	---	---	---
WP-Bank1	11/23/98	0	N	---	280,000	4,760	---	12,000	67.4	---	1,040	1,800	---
WP-Bank2	11/23/98	0	N	---	173,000	11,300	---	14,300	139	---	1,680	1,650	---
BANK-WP	11/13/98	Unknown	N	---	31,300 J	21,900 J	---	8,100 J	289 J	---	2,190 J	1,430 J	---
WP-Floor	11/23/98	Unknown	N	---	344,000 J	2,630 J	---	15,500 J	29.2 J	---	486 J	2,360	---
P-2Soil	11/13/98	- 3.5	N	---	255,000 J	6,790 J	---	14,700 J	112 J	---	1,520 J	1,540 J	---

TABLE 3-1b

Sample Results: Contract Laboratory Program Inorganics
 SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Θ	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-1c
Sample Results: Polycyclic Aromatic Hydrocarbons
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																					
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110	
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent	
Category 1																									
SWMU1-1	10/16/08	0 - 0.5	N	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND (6)	ND	ND	ND (6.9)	
	10/16/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.7	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7.5	ND	16.2	6	
	10/16/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.1)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/16/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
SWMU1-2	10/15/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/15/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.4)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/15/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/15/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
SWMU1-3	10/06/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/06/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/06/08	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/06/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.5)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/06/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	10/06/08	19 - 20	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/06/08	29 - 30	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	10/06/08	39 - 40	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/06/08	49 - 50	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.8)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)	
	10/06/08	59 - 60	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/07/08	69 - 70	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.5)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/07/08	79 - 80	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND	ND	ND (6.5)	
10/07/08	79 - 80	FD	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (4.8)	ND (5.7)	ND (5.7)	ND	ND	ND (6.6)	
SWMU1-4	10/15/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/15/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/15/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.6)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/15/08	7 - 8	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.8)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/15/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.6)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/15/08	13 - 14	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.7)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
SWMU1-5	10/15/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/15/08	13 - 14	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.7)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/15/08	13 - 14	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/15/08	15 - 16	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.7)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/15/08	19 - 20	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	

TABLE 3-1c
Sample Results: Polycyclic Aromatic Hydrocarbons
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
SWMU1-6	10/15/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/15/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/15/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/15/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
SWMU1-7	10/15/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.3	6.4	8.5	11	6.8	7.5	ND (5)	12	ND (5)	8.9	ND (5)	6.7	9.2	6.7	75.6	11
	10/15/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/15/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/15/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/15/08	9 - 10	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.9)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
SWMU1-8	10/15/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/15/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.1)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/15/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/15/08	9 - 10	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
SWMU1-9	10/14/08	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/14/08	2 - 3	N	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (6.2)	ND (26)	ND (26)	ND	ND	ND (30)
	10/14/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/14/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.8)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
SWMU1-10	10/14/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/14/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/14/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/14/08	5 - 6	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/14/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
SWMU1-11	10/15/08	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.2	5.4	10	ND (5.3)	7.4	8.3	ND (5.3)	14	ND (5.3)	ND (5.3)	ND (5.3)	5.3	12	5.3	64.3	10
	10/15/08	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	19	14	22	6.5	17	25	ND (5.3)	49	ND (5.3)	6.7	9.7	47	36	56.7	195.2	22
	10/15/08	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.7)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	10/15/08	9 - 10	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
SWMU1-12	10/14/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/14/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/14/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/14/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
SWMU1-13	10/14/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.3	ND (5.1)	7	ND (5.1)	6.3	5.7	ND (5.1)	12	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	ND	47.3	6.7
	10/14/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/14/08	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/14/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/14/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)

TABLE 3-1c
Sample Results: Polycyclic Aromatic Hydrocarbons
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																					
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110	
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent	
SWMU1-14	10/14/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/14/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/14/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/14/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
SWMU1-15	09/22/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	10	ND (5.1)	ND (5.1)	ND (5.1)	5.3	8.2	5.3	18.2	5.9	
	09/22/08	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	09/22/08	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	09/22/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	09/22/08	9 - 10	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	09/22/08	19 - 20	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	09/22/08	29 - 30	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	09/22/08	39 - 40	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	09/22/08	49 - 50	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	09/22/08	59 - 60	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	09/22/08	59 - 60	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	09/22/08	69 - 70	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	09/22/08	79 - 80	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
09/23/08	89 - 90	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)		
SWMU1-16	09/21/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	09/21/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	09/21/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.8)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
SWMU1-17	09/21/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	09/21/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	09/21/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	09/21/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	09/21/08	9 - 10	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
SWMU1-28	02/14/17	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	26	21	38	14	12	20	ND (5)	36	ND (5)	12	ND (5)	7.4	32	7.4	211	31	
SWMU1-29	02/16/17	0 - 0.5	N	---	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340) *	ND (340)	ND (340)	ND (340)	ND (340)	ND (340) *	ND (340)	ND (340)	ND (340)	ND (6.8)	ND (340)	ND (340)	ND	ND	ND (390) *	
SWMU1-WP-1h	10/07/08	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/07/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	10/07/08	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	10/07/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	

TABLE 3-1c
Sample Results: Polycyclic Aromatic Hydrocarbons
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
SWMU1-WP-7	10/06/08	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	17	12	17	10	17	22	ND (5.4)	440	ND (5.4)	9.2	ND (5.4)	12	360	12	904.2	19
	10/06/08 ^Θ	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
	10/06/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/06/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
SWMU1-WP-8	10/06/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.4	8.9	9.2	9	10	10	ND (5.1)	16	ND (5.1)	7.7	ND (5.1)	ND (5.1)	16	ND	93.2	14
	10/06/08	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (3.8)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	10/06/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.2)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/06/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
SWMU1-WP-9	09/21/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/21/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/21/08	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	09/21/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.6)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/21/08	7 - 8	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	09/21/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/21/08	11 - 12	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	09/21/08	13 - 14	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
SWMU1-WP-10	10/05/08	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	15	15	19	11	20	19	ND (5.2)	24	ND (5.2)	10	ND (5.2)	5.9	22	5.9	155	22
	10/05/08 ^Θ	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.9	8	6	8.5	8.5	ND (5.2)	12	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	11	ND	59.9	9.9
	10/05/08	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	10/05/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.4	6.1	ND (5.3)	9.4	ND (5.3)	ND (5.3)	16	ND (5.3)	8.5	16	29.4	6.2
SWMU1-WP-T3	10/05/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/05/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/05/08	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	10/05/08	5 - 6	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.9)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	10/05/08	7 - 8	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	10/05/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/05/08	9 - 10	FD	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (5)	---	---	---	---	---
	10/05/08	11 - 12	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/05/08	13 - 14	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
Θ	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-1d

Sample Results: Total Petroleum Hydrocarbons

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
SWMU1-1	10/16/08	0 - 0.5	N	ND (10)	ND (10)
	10/16/08	2 - 3	N	ND (10)	10
	10/16/08	5 - 6	N	ND (10)	25.9
	10/16/08	9 - 10	N	ND (10)	ND (10)
SWMU1-2	10/15/08	0 - 0.5	N	12.4	13.1
	10/15/08	2 - 3	N	ND (10)	12.6
	10/15/08	5 - 6	N	ND (10)	15
	10/15/08	9 - 10	N	ND (10)	ND (10)
SWMU1-3	10/06/08	0 - 0.5	N	ND (10)	30.4
	10/06/08	2 - 3	N	ND (10)	ND (10)
	10/06/08	2 - 3	FD	ND (10)	ND (10)
	10/06/08	5 - 6	N	ND (10)	49.7
	10/06/08	9 - 10	N	ND (10)	14.9
	10/06/08	19 - 20	N	ND (10)	ND (10)
	10/06/08	29 - 30	N	ND (10)	ND (10)
	10/06/08	39 - 40	N	ND (10)	ND (10)
	10/06/08	49 - 50	N	ND (10)	ND (10)
	10/06/08	59 - 60	N	ND (10)	12.9
	10/07/08	69 - 70	N	ND (10)	ND (10)
	10/07/08	79 - 80	N	ND (10)	ND (10)
	10/07/08	79 - 80	FD	ND (10)	ND (10)
SWMU1-4	10/15/08	0 - 0.5	N	ND (10)	ND (10)
	10/15/08	2 - 3	N	ND (10)	17.6
	10/15/08	5 - 6	N	ND (10)	11.5
	10/15/08	7 - 8	N	ND (10)	ND (10)
	10/15/08	9 - 10	N	ND (10)	ND (10)
	10/15/08	13 - 14	N	ND (10)	ND (10)
SWMU1-5	10/15/08	9 - 10	N	ND (10)	ND (10)
	10/15/08	13 - 14	N	ND (10)	ND (10)
	10/15/08	13 - 14	FD	ND (10)	ND (10)
	10/15/08	15 - 16	N	ND (10)	ND (10)
	10/15/08	19 - 20	N	ND (10)	ND (10)
SWMU1-6	10/15/08	0 - 0.5	N	ND (10)	ND (10)
	10/15/08	2 - 3	N	ND (10)	ND (10)
	10/15/08	5 - 6	N	ND (10)	ND (10)
	10/15/08	9 - 10	N	ND (10)	ND (10)

TABLE 3-1d

Sample Results: Total Petroleum Hydrocarbons

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
SWMU1-7	10/15/08	0 - 0.5	N	ND (10)	ND (10)
	10/15/08	2 - 3	N	ND (10)	13
	10/15/08	5 - 6	N	ND (10)	ND (10)
	10/15/08	9 - 10	N	ND (10)	ND (10)
	10/15/08	9 - 10	FD	ND (10)	ND (10)
SWMU1-8	10/15/08	0 - 0.5	N	ND (10)	11.7
	10/15/08	2 - 3	N	ND (10)	14.5
	10/15/08	5 - 6	N	ND (10)	19.4
	10/15/08	9 - 10	N	ND (10)	ND (10)
SWMU1-9	10/14/08	0 - 0.5	N	ND (10)	41.2 J
	10/14/08	2 - 3	N	ND (10)	41.9 J
	10/14/08	5 - 6	N	ND (10)	20.4 J
	10/14/08	9 - 10	N	ND (10)	11.8 J
SWMU1-10	10/14/08	0 - 0.5	N	10.1	60.8
	10/14/08	2 - 3	N	ND (10)	10.9
	10/14/08	5 - 6	N	ND (10)	11.9
	10/14/08	5 - 6	FD	ND (10)	16.1
	10/14/08	9 - 10	N	ND (10)	15.6
SWMU1-11	10/15/08	0 - 0.5	N	ND (10)	17.6
	10/15/08	2 - 3	N	ND (10)	15.7
	10/15/08	5 - 6	N	ND (10)	21.7
	10/15/08	9 - 10	N	ND (10)	ND (10)
SWMU1-12	10/14/08	0 - 0.5	N	ND (10)	ND (10)
	10/14/08	2 - 3	N	ND (10)	10.4
	10/14/08	5 - 6	N	ND (10)	ND (10)
	10/14/08	9 - 10	N	ND (10)	ND (10)
SWMU1-13	10/14/08	0 - 0.5	N	12.6	67.3
	10/14/08	2 - 3	N	ND (10)	ND (10)
	10/14/08	2 - 3	FD	ND (10)	ND (10)
	10/14/08	5 - 6	N	ND (10)	ND (10)
	10/14/08	9 - 10	N	ND (10)	ND (10)
SWMU1-14	10/14/08	0 - 0.5	N	ND (10)	58.4
	10/14/08	2 - 3	N	ND (10)	11.6
	10/14/08	5 - 6	N	ND (10)	ND (10)
	10/14/08	9 - 10	N	ND (10)	10.7

TABLE 3-1d

Sample Results: Total Petroleum Hydrocarbons

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
SWMU1-15	09/22/08	0 - 0.5	N	ND (10)	23.7
	09/22/08	2 - 3	N	ND (10)	ND (10)
	09/22/08	5 - 6	N	ND (10)	22.5
	09/22/08	9 - 10	N	ND (10)	10.3
	09/22/08	9 - 10	FD	ND (10)	19.8
	09/22/08	19 - 20	N	ND (10)	ND (10)
	09/22/08	29 - 30	N	ND (10)	ND (10)
	09/22/08	39 - 40	N	ND (10)	11.6
	09/22/08	49 - 50	N	ND (10)	ND (10)
	09/22/08	59 - 60	N	ND (10)	ND (10)
	09/22/08	59 - 60	FD	ND (10)	ND (10)
	09/22/08	69 - 70	N	ND (10)	11.2
	09/22/08	79 - 80	N	ND (10)	ND (10)
	09/23/08	89 - 90	N	ND (10)	ND (10)
SWMU1-16	09/21/08	0 - 0.5	N	ND (10)	19.2 J
	09/21/08	2 - 3	N	ND (10)	ND (10)
	09/21/08	5 - 6	N	14.5 J	33.8 J
SWMU1-17	09/21/08	0 - 0.5	N	ND (10)	150 J
	09/21/08	2 - 3	N	ND (10)	ND (10)
	09/21/08	5 - 6	N	ND (10)	27.2 J
	09/21/08	9 - 10	N	ND (10)	ND (10)
	09/21/08	9 - 10	FD	ND (10)	ND (10)
SWMU1-WP-1h	10/07/08	0 - 0.5	N	ND (10)	ND (10)
	10/07/08	2 - 3	N	ND (10)	ND (10)
	10/07/08	5 - 6	N	ND (10)	ND (10)
	10/07/08	9 - 10	N	ND (10)	ND (10)
SWMU1-WP-3a	10/14/08	0 - 0.5	N	17.8	86 J
	10/14/08	2 - 3	N	ND (10)	14.9 J
	10/14/08	5 - 6	N	ND (10) J	18.5 J
	10/14/08	7 - 8	N	ND (10)	11.6 J
	10/14/08	9 - 10	N	ND (10)	13.3 J
	10/14/08	9 - 10	FD	ND (10)	12.5 J
	10/14/08	11 - 12	N	ND (10)	ND (10)
	10/14/08	13 - 14	N	ND (10)	ND (10)
SWMU1-WP-3h	10/07/08	0 - 0.5	N	ND (10)	ND (10)
	10/07/08	2 - 3	N	ND (10)	ND (10)
	10/07/08	5 - 6	N	ND (10)	ND (10)

TABLE 3-1d

Sample Results: Total Petroleum Hydrocarbons

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
SWMU1-WP-5a	10/05/08	0 - 0.5	N	16.2	168
	10/05/08	2 - 3	N	ND (10)	16.2
	10/05/08	5 - 6	N	ND (10)	38.7
	10/05/08	5 - 6	FD	ND (10)	47.4
	10/05/08	7 - 8	N	ND (10)	ND (10)
	10/05/08	9 - 10	N	ND (10)	ND (10)
	10/05/08	11 - 12	N	ND (10)	ND (10)
	10/05/08	13 - 14	N	ND (10)	ND (10)
SWMU1-WP-5h	10/07/08	0 - 0.5	N	ND (10)	ND (10)
	10/07/08	2 - 3	N	ND (10)	ND (10)
	10/07/08	5	N	ND (10)	ND (10)
SWMU1-WP-6a	10/05/08	0 - 0.5	N	ND (10)	ND (10)
	10/05/08	2 - 3	N	ND (10)	ND (10)
	10/05/08	2 - 3	FD	ND (10)	ND (10)
	10/05/08	5 - 6	N	ND (10)	ND (10)
	10/05/08	7 - 8	N	ND (10)	ND (10)
	10/05/08	9 - 10	N	ND (10)	ND (10)
	10/05/08	11 - 12	N	ND (10)	ND (10)
	10/05/08	13 - 14	N	ND (10)	ND (10)
SWMU1-WP-6h	10/06/08	0 - 0.5	N	ND (10)	ND (10)
	10/06/08	2 - 3	N	ND (10)	ND (10)
	10/06/08	5 - 6	N	ND (10)	ND (10)
	10/06/08	5 - 6	FD	ND (10)	ND (10)
	10/06/08	9 - 10	N	ND (10)	ND (10)
SWMU1-WP-7	10/06/08	0 - 0.5	N	ND (10)	ND (10)
	10/06/08	2 - 3	N	ND (10)	ND (10)
	10/06/08	5 - 6	N	ND (10)	ND (10)
	10/06/08	9 - 10	N	ND (10)	ND (10)
SWMU1-WP-8	10/06/08	0 - 0.5	N	ND (10)	ND (10)
	10/06/08	2 - 3	N	ND (10)	ND (10)
	10/06/08	5 - 6	N	ND (10)	ND (10)
	10/06/08	9 - 10	N	ND (10)	ND (10)

TABLE 3-1d

Sample Results: Total Petroleum Hydrocarbons

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
SWMU1-WP-9	09/21/08	0 - 0.5	N	ND (10)	ND (10)
	09/21/08	2 - 3	N	ND (10)	ND (10)
	09/21/08	2 - 3	FD	ND (10)	ND (10)
	09/21/08	5 - 6	N	ND (10)	17.4 J
	09/21/08	7 - 8	N	ND (10)	ND (10)
	09/21/08	9 - 10	N	ND (10)	ND (10)
	09/21/08	11 - 12	N	ND (10)	ND (10)
	09/21/08	13 - 14	N	ND (10)	ND (10)
SWMU1-WP-10	10/05/08	0 - 0.5	N	ND (10)	ND (10)
	10/05/08	2 - 3	N	ND (10)	ND (10)
	10/05/08	5 - 6	N	ND (10)	ND (10)
	10/05/08	9 - 10	N	ND (10)	ND (10)
SWMU1-WP-T3a	10/05/08	0 - 0.5	N	ND (10)	ND (10)
	10/05/08	2 - 3	N	ND (10)	ND (10)
	10/05/08	5 - 6	N	ND (10)	ND (10)
	10/05/08	5 - 6	FD	ND (10)	ND (10)
	10/05/08	7 - 8	N	ND (10)	ND (10)
	10/05/08	9 - 10	N	ND (10)	ND (10)
	10/05/08	11 - 12	N	ND (10)	ND (10)
	10/05/08	13 - 14	N	ND (10)	ND (10)

TABLE 3-1d

Sample Results: Total Petroleum Hydrocarbons

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Θ	white powder sample.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
RWQCB	Regional Water Quality Control Board
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency

- 1 The interim screening level is the Regional Water Quality Control Board environmental screening level.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.
- 5 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 6 Background values have not been established for TPHs.

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
Category 1															
MW-09	06/30/97	1	N	---	---	---	---	---	---	---	8.96	---	---	---	---
	06/30/97	3.5	N	---	---	---	---	---	---	---	9.66	---	---	---	---
	06/30/97	3.5	FD	---	---	---	---	---	---	---	10.08	---	---	---	---
	06/30/97	6	N	---	---	---	---	---	---	---	9.58	---	---	---	---
	07/01/97	10	N	---	---	---	---	124	---	305	9.5	---	14	ND (0.4)	300
	06/30/97	20	N	---	---	16.8	---	---	---	---	9.64	---	---	---	---
	07/01/97	30	N	---	---	---	---	118	---	276	8.79	---	30	ND (0.4)	310
	06/30/97	40	N	---	---	11.5	---	---	---	---	8.57	---	---	---	---
	07/01/97	50	N	---	---	---	---	121	---	311	8.65	---	13	ND (0.4)	ND (100)
	06/30/97	60	N	---	---	12.4	---	---	---	---	8.29	---	---	---	---
	06/30/97	70	N	---	---	---	---	---	---	---	8.74	---	---	---	---
	07/01/97	87	N	---	---	4.9	---	122	---	297	8.66	---	11	ND (0.4)	200
	07/01/97	87	FD	---	---	---	---	---	---	---	8.42	---	---	---	---
SWMU1-1	10/16/08	0 - 0.5	N	---	---	---	---	---	---	---	8.94	---	---	---	---
	10/16/08	2 - 3	N	---	---	---	---	---	---	---	9.4	---	---	---	---
	10/16/08	5 - 6	N	---	---	---	---	---	---	---	8.38	---	---	---	---
	10/16/08	9 - 10	N	---	---	---	---	---	---	---	9.36	---	---	---	---
SWMU1-2	10/15/08	0 - 0.5	N	---	---	---	---	---	---	---	8.68	---	---	---	---
	10/15/08	2 - 3	N	---	---	---	---	---	---	---	9.01	---	---	---	---
	10/15/08	5 - 6	N	---	---	---	---	---	---	---	9.04	---	---	---	---
	10/15/08	9 - 10	N	---	---	---	---	---	---	---	8.41	---	---	---	---

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
SWMU1-3	10/06/08	0 - 0.5	N	---	---	---	---	---	---	---	8.37	---	---	---	---
	10/06/08	2 - 3	N	---	---	---	---	---	---	---	8.44	---	---	---	---
	10/06/08	2 - 3	FD	---	---	---	---	---	---	---	8.85	---	---	---	---
	10/06/08	5 - 6	N	---	---	---	---	---	---	---	8.36	---	---	---	---
	10/06/08	9 - 10	N	---	---	---	---	---	---	---	9.2	---	---	---	---
	10/06/08	19 - 20	N	---	---	---	---	---	---	---	9.45	---	---	---	---
	10/06/08	29 - 30	N	---	---	---	---	---	---	---	9.5	---	---	---	---
	10/06/08	39 - 40	N	---	---	---	---	---	---	---	9.36	---	---	---	---
	10/06/08	49 - 50	N	---	---	---	---	---	---	---	9.35	---	---	---	---
	10/06/08	59 - 60	N	---	---	---	---	---	---	---	9.3	---	---	---	---
	10/07/08	69 - 70	N	---	---	---	---	---	---	---	9.01	---	---	---	---
	10/07/08	79 - 80	N	---	---	---	---	---	---	---	8.04	---	---	---	---
10/07/08	79 - 80	FD	---	---	---	---	---	---	---	8.58	---	---	---	---	
SWMU1-4	10/15/08	0 - 0.5	N	---	---	---	---	---	---	---	8.99	---	---	---	---
	10/15/08	2 - 3	N	---	---	---	---	---	---	---	8.93	---	---	---	---
	10/15/08	5 - 6	N	---	---	---	---	---	---	---	9.08	---	---	---	---
	10/15/08	7 - 8	N	---	---	---	---	---	---	---	9.19	---	---	---	---
	10/15/08	9 - 10	N	---	---	---	---	---	---	---	9.25	---	---	---	---
	10/15/08	13 - 14	N	---	---	---	---	---	---	---	9.6	---	---	---	---
SWMU1-5	10/15/08	9 - 10	N	---	---	---	---	---	---	---	9.04	---	---	---	---
	10/15/08	13 - 14	N	---	---	---	---	---	---	---	9.75	---	---	---	---
	10/15/08	13 - 14	FD	---	---	---	---	---	---	---	9.51	---	---	---	---
	10/15/08	15 - 16	N	---	---	---	---	---	---	---	9.52	---	---	---	---
	10/15/08	19 - 20	N	---	---	---	---	---	---	---	9.59	---	---	---	---

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
SWMU1-6	10/15/08	0 - 0.5	N	---	---	---	---	---	---	---	8.93	---	---	---	---
	10/15/08	2 - 3	N	---	---	---	---	---	---	---	9.09	---	---	---	---
	10/15/08	5 - 6	N	---	---	---	---	---	---	---	9.26	---	---	---	---
	10/15/08	9 - 10	N	---	---	---	---	---	---	---	9.22	---	---	---	---
SWMU1-7	10/15/08	0 - 0.5	N	---	---	---	---	---	---	---	8.6	---	---	---	---
	10/15/08	2 - 3	N	---	---	---	---	---	---	---	9	---	---	---	---
	10/15/08	5 - 6	N	---	---	---	---	---	---	---	8.78	---	---	---	---
	10/15/08	9 - 10	N	---	---	---	---	---	---	---	8.95	---	---	---	---
	10/15/08	9 - 10	FD	---	---	---	---	---	---	---	9.12	---	---	---	---
SWMU1-8	10/15/08	0 - 0.5	N	---	---	---	---	---	---	---	8.99	---	---	---	---
	10/15/08	2 - 3	N	---	---	---	---	---	---	---	8.87	---	---	---	---
	10/15/08	5 - 6	N	---	---	---	---	---	---	---	8.82	---	---	---	---
	10/15/08	9 - 10	N	---	---	---	---	---	---	---	10.2	---	---	---	---
SWMU1-9	10/14/08	0 - 0.5	N	---	---	---	---	---	---	---	8.75	---	---	---	---
	10/14/08	2 - 3	N	---	---	---	---	---	---	---	9.89	---	---	---	---
	10/14/08	5 - 6	N	---	---	---	---	---	---	---	9.72	---	---	---	---
	10/14/08	9 - 10	N	---	---	---	---	---	---	---	9.59	---	---	---	---
SWMU1-10	10/14/08	0 - 0.5	N	---	---	---	---	---	---	---	8.69	---	---	---	---
	10/14/08	2 - 3	N	---	---	---	---	---	---	---	9.07	---	---	---	---
	10/14/08	5 - 6	N	---	---	---	---	---	---	---	10	---	---	---	---
	10/14/08	5 - 6	FD	---	---	---	---	---	---	---	9.85	---	---	---	---
	10/14/08	9 - 10	N	---	---	---	---	---	---	---	9.67	---	---	---	---

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
SWMU1-11	10/15/08	0 - 0.5	N	---	---	---	---	---	---	---	8.4	---	---	---	---
	10/15/08	2 - 3	N	---	---	---	---	---	---	---	8.69	---	---	---	---
	10/15/08	5 - 6	N	---	---	---	---	---	---	---	9.63	---	---	---	---
	10/15/08	9 - 10	N	---	---	---	---	---	---	---	9.66	---	---	---	---
SWMU1-12	10/14/08	0 - 0.5	N	---	---	---	---	---	---	---	9.04	---	---	---	---
	10/14/08	2 - 3	N	---	---	---	---	---	---	---	8.98	---	---	---	---
	10/14/08	5 - 6	N	---	---	---	---	---	---	---	9.53	---	---	---	---
	10/14/08	9 - 10	N	---	---	---	---	---	---	---	9.64	---	---	---	---
SWMU1-13	10/14/08	0 - 0.5	N	---	---	---	---	---	---	---	8.72	---	---	---	---
	10/14/08	2 - 3	N	---	---	---	---	---	---	---	8.86	---	---	---	---
	10/14/08	2 - 3	FD	---	---	---	---	---	---	---	8.9	---	---	---	---
	10/14/08	5 - 6	N	---	---	---	---	---	---	---	9.82	---	---	---	---
	10/14/08	9 - 10	N	---	---	---	---	---	---	---	9.76	---	---	---	---
SWMU1-14	10/14/08	0 - 0.5	N	---	---	---	---	---	---	---	8.92	---	---	---	---
	10/14/08	2 - 3	N	---	---	---	---	---	---	---	9.07	---	---	---	---
	10/14/08	5 - 6	N	---	---	---	---	---	---	---	9.97	---	---	---	---
	10/14/08	9 - 10	N	---	---	---	---	---	---	---	9.52	---	---	---	---

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
SWMU1-15	09/22/08	0 - 0.5	N	---	---	---	---	---	---	---	8.99	---	---	---	---
	09/22/08	2 - 3	N	---	---	---	---	---	---	---	9.95	---	---	---	---
	09/22/08	5 - 6	N	---	---	---	---	---	---	---	9.84	---	---	---	---
	09/22/08	9 - 10	N	---	---	---	---	---	---	---	9.98	---	---	---	---
	09/22/08	9 - 10	FD	---	---	---	---	---	---	---	9.95	---	---	---	---
	09/22/08	19 - 20	N	---	---	---	---	---	---	---	9.82	---	---	---	---
	09/22/08	29 - 30	N	---	---	---	---	---	---	---	9.51	---	---	---	---
	09/22/08	39 - 40	N	---	---	---	---	---	---	---	9.39	---	---	---	---
	09/22/08	49 - 50	N	---	---	---	---	---	---	---	9.19	---	---	---	---
	09/22/08	59 - 60	N	---	---	---	---	---	---	---	9.22	---	---	---	---
	09/22/08	59 - 60	FD	---	---	---	---	---	---	---	9.07	---	---	---	---
	09/22/08	69 - 70	N	---	---	---	---	---	---	---	8.82	---	---	---	---
	09/22/08	79 - 80	N	---	---	---	---	---	---	---	8.7	---	---	---	---
	09/23/08	89 - 90	N	---	---	---	---	---	---	---	9.57	---	---	---	---
SWMU1-16	09/21/08	0 - 0.5	N	---	---	---	---	---	---	---	8.87	---	---	---	---
	09/21/08	2 - 3	N	---	---	---	---	---	---	---	9.23	---	---	---	---
	09/21/08	5 - 6	N	---	---	---	---	---	---	---	9.14	---	---	---	---
SWMU1-17	09/21/08	0 - 0.5	N	---	---	---	---	---	---	---	8.88	---	---	---	---
	09/21/08	2 - 3	N	---	---	---	---	---	---	---	9.15	---	---	---	---
	09/21/08	5 - 6	N	---	---	---	---	---	---	---	9.71	---	---	---	---
	09/21/08	9 - 10	N	---	---	---	---	---	---	---	9.78	---	---	---	---
	09/21/08	9 - 10	FD	---	---	---	---	---	---	---	9.64	---	---	---	---

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
SWMU1-WP-1h	10/07/08	0 - 0.5	N	---	---	---	---	---	---	---	8.96	---	---	---	---
	10/07/08	2 - 3	N	---	---	---	---	---	---	---	9.37	---	---	---	---
	10/07/08	5 - 6	N	---	---	---	---	---	---	---	9.28	---	---	---	---
	10/07/08	9 - 10	N	---	---	---	---	---	---	---	9.22	---	---	---	---
SWMU1-WP-3a	10/14/08	0 - 0.5	N	---	---	---	---	---	---	---	8.68	---	---	---	---
	10/14/08	2 - 3	N	---	---	---	---	---	---	---	9.8	---	---	---	---
	10/14/08	5 - 6	N	---	---	---	---	---	---	---	10	---	---	---	---
	10/14/08	7 - 8	N	---	---	---	---	---	---	---	9.59	---	---	---	---
	10/14/08	9 - 10	N	---	---	---	---	---	---	---	9.65	---	---	---	---
	10/14/08	9 - 10	FD	---	---	---	---	---	---	---	9.55	---	---	---	---
	10/14/08	11 - 12	N	---	---	---	---	---	---	---	9.64	---	---	---	---
	10/14/08	13 - 14	N	---	---	---	---	---	---	---	9.6	---	---	---	---
SWMU1-WP-3h	10/07/08	0 - 0.5	N	---	---	---	---	---	---	---	8.17	---	---	---	---
	10/07/08	2 - 3	N	---	---	---	---	---	---	---	9.44	---	---	---	---
	10/07/08	5 - 6	N	---	---	---	---	---	---	---	9.53	---	---	---	---
SWMU1-WP-5a	10/05/08	0 - 0.5	N	---	---	---	---	---	---	---	9.2	---	---	---	---
	10/05/08	2 - 3	N	---	---	---	---	---	---	---	9.32	---	---	---	---
	10/05/08	5 - 6	N	---	---	---	---	---	---	---	9.92	---	---	---	---
	10/05/08	5 - 6	FD	---	---	---	---	---	---	---	10.2	---	---	---	---
	10/05/08	7 - 8	N	---	---	---	---	---	---	---	9.64	---	---	---	---
	10/05/08	9 - 10	N	---	---	---	---	---	---	---	9.47	---	---	---	---
	10/05/08	11 - 12	N	---	---	---	---	---	---	---	9.67	---	---	---	---
	10/05/08	13 - 14	N	---	---	---	---	---	---	---	9.71	---	---	---	---

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
SWMU1-WP-5h	10/07/08	0 - 0.5	N	---	---	---	---	---	---	---	8.46	---	---	---	---
	10/07/08 ^Θ	2 - 3	N	---	---	---	---	---	---	---	9.71	---	---	---	---
	10/07/08	5	N	---	---	---	---	---	---	---	9.55	---	---	---	---
SWMU1-WP-6a	10/05/08	0 - 0.5	N	---	---	---	---	---	---	---	9.1	---	---	---	---
	10/05/08	2 - 3	N	---	---	---	---	---	---	---	9.28	---	---	---	---
	10/05/08	2 - 3	FD	---	---	---	---	---	---	---	9.16	---	---	---	---
	10/05/08	5 - 6	N	---	---	---	---	---	---	---	9.52	---	---	---	---
	10/05/08	7 - 8	N	---	---	---	---	---	---	---	9.86	---	---	---	---
	10/05/08	9 - 10	N	---	---	---	---	---	---	---	9.57	---	---	---	---
	10/05/08	11 - 12	N	---	---	---	---	---	---	---	9.54	---	---	---	---
	10/05/08	13 - 14	N	---	---	---	---	---	---	---	9.54	---	---	---	---
SWMU1-WP-6h	10/06/08 ^Θ	0 - 0.5	N	---	---	---	---	---	---	---	9.03	---	---	---	---
	10/06/08	2 - 3	N	---	---	---	---	---	---	---	9.09	---	---	---	---
	10/06/08	5 - 6	N	---	---	---	---	---	---	---	9.55	---	---	---	---
	10/06/08	5 - 6	FD	---	---	---	---	---	---	---	9.66	---	---	---	---
	10/06/08	9 - 10	N	---	---	---	---	---	---	---	9.63	---	---	---	---
SWMU1-WP-7	10/06/08	0 - 0.5	N	---	---	---	---	---	---	---	9.36	---	---	---	---
	10/06/08 ^Θ	2 - 3	N	---	---	---	---	---	---	---	9.39	---	---	---	---
	10/06/08	5 - 6	N	---	---	---	---	---	---	---	9.42	---	---	---	---
	10/06/08	9 - 10	N	---	---	---	---	---	---	---	9.87	---	---	---	---
SWMU1-WP-8	10/06/08	0 - 0.5	N	---	---	---	---	---	---	---	8.98	---	---	---	---
	10/06/08	2 - 3	N	---	---	---	---	---	---	---	9.5	---	---	---	---
	10/06/08	5 - 6	N	---	---	---	---	---	---	---	9.1	---	---	---	---
	10/06/08	9 - 10	N	---	---	---	---	---	---	---	8.96	---	---	---	---

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
SWMU1-WP-9	09/21/08	0 - 0.5	N	---	---	---	---	---	---	---	9.02	---	---	---	---
	09/21/08	2 - 3	N	---	---	---	---	---	---	---	9.58	---	---	---	---
	09/21/08	2 - 3	FD	---	---	---	---	---	---	---	8.84	---	---	---	---
	09/21/08	5 - 6	N	---	---	---	---	---	---	---	9.63	---	---	---	---
	09/21/08	7 - 8	N	---	---	---	---	---	---	---	9.57	---	---	---	---
	09/21/08	9 - 10	N	---	---	---	---	---	---	---	9.72	---	---	---	---
	09/21/08	11 - 12	N	---	---	---	---	---	---	---	9.77	---	---	---	---
	09/21/08	13 - 14	N	---	---	---	---	---	---	---	9.67	---	---	---	---
SWMU1-WP-10	10/05/08	0 - 0.5	N	---	---	---	---	---	---	---	9.1	---	---	---	---
	10/05/08 ^Θ	2 - 3	N	---	---	---	---	---	---	---	9.21	---	---	---	---
	10/05/08	5 - 6	N	---	---	---	---	---	---	---	10.2	---	---	---	---
	10/05/08	9 - 10	N	---	---	---	---	---	---	---	9.81	---	---	---	---
SWMU1-WP-T3a	10/05/08	0 - 0.5	N	---	---	---	---	---	---	---	9.16	---	---	---	---
	10/05/08	2 - 3	N	---	---	---	---	---	---	---	9.19	---	---	---	---
	10/05/08	5 - 6	N	---	---	---	---	---	---	---	10	---	---	---	---
	10/05/08	5 - 6	FD	---	---	---	---	---	---	---	10	---	---	---	---
	10/05/08	7 - 8	N	---	---	---	---	---	---	---	9.75	---	---	---	---
	10/05/08	9 - 10	N	---	---	---	---	---	---	---	9.79	---	---	---	---
	10/05/08	11 - 12	N	---	---	---	---	---	---	---	9.67	---	---	---	---
	10/05/08	13 - 14	N	---	---	---	---	---	---	---	9.82	---	---	---	---
SSB-2	06/30/97	1	N	---	---	---	---	---	---	---	8.66	---	---	---	---
	06/30/97	3	N	---	---	---	---	---	---	---	9.07	---	---	---	---
	06/30/97	6	N	---	---	---	---	---	---	---	9.37	---	---	---	---
	06/30/97	10	N	---	---	---	---	103	---	313	10.49	---	10	ND (0.4)	490

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
SSB-3	06/30/97	1	N	---	---	---	---	---	---	---	8.9	---	---	---	---
	06/30/97	3	N	---	---	---	---	---	---	---	8.35	---	---	---	---
	06/30/97	6	N	---	---	---	---	---	---	---	9.7	---	---	---	---
	06/30/97	10	N	---	---	---	---	116	---	306	9.04	---	11	ND (0.4)	250
SSB-4	06/30/97	1	N	---	---	---	---	---	---	---	8.86	---	---	---	---
	06/30/97	3	N	---	---	---	---	---	---	---	8.24	---	---	---	---
	06/30/97	6	N	---	---	---	---	---	---	---	8.77	---	---	---	---
	06/30/97	10	N	---	---	---	---	120	---	265	9.42	---	13	ND (0.4)	110
SSB-5	06/30/97	1	N	---	---	---	---	---	---	---	8.63	---	---	---	---
	06/30/97	3	N	---	---	---	---	---	---	---	8.6	---	---	---	---
	06/30/97	6	N	---	---	---	---	---	---	---	8.92	---	---	---	---
	06/30/97	10	N	---	---	---	---	115	---	261	9.52	---	16.5	ND (0.4)	210
WP-1	06/30/97	0	N	---	---	---	---	---	---	---	9.08	---	---	---	---
WP-2	09/18/97	0	N	---	---	---	---	---	---	---	9.03	---	---	---	---
WP-3	09/18/97	0.5	N	---	---	---	---	---	---	---	9.12	---	---	---	---
	09/18/97	2	N	---	---	---	---	---	---	---	8.6	---	---	---	---
WP-4	09/18/97	0	N	---	---	---	---	---	---	---	8.99	---	---	---	---
WP-5	09/18/97	0	N	---	---	---	---	---	---	---	9.01	---	---	---	---
	09/18/97	1	N	---	---	---	---	---	---	---	9.15	---	---	---	---
	09/18/97	2	N	---	---	---	---	---	---	---	8.56	---	---	---	---
	09/18/97	3	N	---	---	---	---	---	---	---	9.09	---	---	---	---
	09/18/97	4	N	---	---	---	---	---	---	---	9.1	---	---	---	---

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry											
				(mg/kg)	(mg/kg)	(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Cation Exchange Capacity	Chloride	Electric Conductance	Nitrate	Ortho phosphate	pH	Phosphate	Sulfate	Sulfide	Total organic carbon
WP-6	09/18/97	0	N	---	---	---	---	---	---	---	8.52	---	---	---	---
	09/18/97	1	N	---	---	---	---	---	---	---	8.95	---	---	---	---
	09/18/97	2	N	---	---	---	---	---	---	---	8.56	---	---	---	---
WP-Bank1	11/23/98	0	N	456	22	---	46	---	8	---	8.25	161	448	---	---
WP-Bank2	11/23/98	0	N	271	68	---	227	---	54	---	8.93	358	1,010	---	---
BANK-WP	11/13/98	Unknown	N	51	34	---	51	---	10	---	8.34	381	3,700	---	---
WP-Floor	11/23/98	Unknown	N	533	57	---	175	---	26	---	8.84	56 J	425	---	---
Bank - b	11/13/98	Unknown	N	---	---	---	---	---	---	---	8.45	---	---	---	---
T-1	11/13/98	Unknown	N	---	---	---	---	---	---	---	8.86	---	---	---	---
	11/13/98	Unknown	N	---	---	---	---	---	---	---	8.91	---	---	---	---
T-2	11/13/98	Unknown	N	---	---	---	---	---	---	---	8.67	---	---	---	---
	11/13/98	Unknown	N	---	---	---	---	---	---	---	8.52	---	---	---	---
T-3-B	11/13/98	0	N	---	---	---	---	---	---	---	8.67	---	---	---	---
P-1	11/13/98	Unknown	N	---	---	---	---	---	---	---	8.68	---	---	---	---
	11/13/98	Unknown	N	---	---	---	---	---	---	---	8.55	---	---	---	---
P-2Soil	11/13/98	- 3.5	N	639	200	---	34	---	6 J	---	9.01	8.8	53	---	---
	11/13/98	Unknown	N	---	---	---	---	---	---	---	8.89	---	---	---	---

TABLE 3-1e

Sample Results: General Chemistry Parameters

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Θ	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
μS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

- 1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-1f
Sample Results: Pesticides
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
SWMU1-1	10/16/08	0 - 0.5	N	ND (2.4) *	ND (2.4) *	ND (2.4) *	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (2.4)	ND (1.2)	ND (2.4)	ND (2.4)	ND (2.4)	ND (2.4)	ND (2.4)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (6)	ND (60)
SWMU1-3	10/06/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
SWMU1-4	10/15/08	0 - 0.5	N	ND (2)	ND (2) J	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2) J	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2) J	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
SWMU1-9	10/14/08	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
SWMU1-11	10/15/08	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
SWMU1-13	10/14/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
SWMU1-15	09/22/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
SWMU1-17	09/21/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
SWMU1-28	02/14/17	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
SWMU1-29	02/16/17	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
SWMU1-WP-1h	10/07/08	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
SWMU1-WP-3a	10/14/08	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
SWMU1-WP-5a	10/05/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
SWMU1-WP-5h	10/07/08	0 - 0.5	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54)
SWMU1-WP-6a	10/05/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
SWMU1-WP-6h	10/06/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
SWMU1-WP-7	10/06/08	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54)
SWMU1-WP-8	10/06/08	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
SWMU1-WP-T3a	10/05/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)

Notes:	
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Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
Θ	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison values for Additional Chemicals in Soil." July 1.	
5 Background values have not been established for pesticides.	

TABLE 3-1g

Sample Results: Polychlorinated Biphenyls

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
SWMU1-1	10/16/08	0 - 0.5	N	ND (20)	ND (40)	ND (20)	ND (20)	ND (20)	35	ND (20)	ND (20)	ND (20)	35
SWMU1-3	10/06/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	18	ND (17)	ND (17)	ND (17)	18
	10/06/08	2 - 3	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (8.5)
SWMU1-4	10/15/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
SWMU1-9	10/14/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
SWMU1-11	10/15/08	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	40	ND (17)	ND (17)	ND (17)	40
SWMU1-13	10/14/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	22	ND (17)	ND (17)	ND (17)	22
SWMU1-15	09/22/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	96	ND (17)	ND (17)	ND (17)	96
	09/22/08	2 - 3	N	ND (17) J	ND (35) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (8.5)
SWMU1-17	09/21/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
SWMU1-18	01/07/16	0 - 1	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (9)
	01/07/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (9)
SWMU1-19	01/09/16	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	01/09/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
SWMU1-22	12/17/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	150	ND (17)	---	---	150
SWMU1-23	12/17/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	25	ND (17)	---	---	25
SWMU1-24	12/17/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	57	ND (17)	---	---	57
SWMU1-25	01/26/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	46 J	ND (17)	---	---	46
	01/26/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (9)
	01/26/16	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (9)
	01/26/16	9 - 10	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (9)
SWMU1-28	02/14/17	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
SWMU1-WP-1h	10/07/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
SWMU1-WP-3a	10/14/08	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
SWMU1-WP-5a	10/05/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)

TABLE 3-1g

Sample Results: Polychlorinated Biphenyls

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
SWMU1-WP-5h	10/07/08	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	25	ND (18)	ND (18)	ND (18)	25
	10/07/08 ^Θ	2 - 3	N	ND (18) J	ND (35) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (9)
SWMU1-WP-6a	10/05/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	41	ND (17)	ND (17)	ND (17)	41
	10/05/08	2 - 3	N	ND (17) J	ND (33) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (8.5)
SWMU1-WP-6h	10/06/08 ^Θ	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	19	ND (17)	ND (17)	ND (17)	19
	10/06/08	2 - 3	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (8.5)
SWMU1-WP-7	10/06/08	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	200	ND (18)	ND (18)	ND (18)	200
	10/06/08 ^Θ	2 - 3	N	ND (18) J	ND (37) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (9)
SWMU1-WP-8	10/06/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	41	ND (17)	ND (17)	ND (17)	41
	10/06/08	2 - 3	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (8.5)
SWMU1-WP-T3a	10/05/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

^Θ white powder sample.

* Reporting limits greater than or equal to the interim screening level.

--- not analyzed

µg/kg micrograms per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

JR estimated value, one or more input values is "R" qualified.

NE not established

N primary sample

TABLE 3-1g

Sample Results: Polychlorinated Biphenyls

SWMU 1 – Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

ND not detected at the listed reporting limit

ND The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

- 1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.
- 5 Background values have not been established for polychlorinated biphenyls.

TABLE 3-1h
Sample Results: Dioxins and Furans
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
Category 1																							
SWMU1-18	01/07/16	0 - 1	N	3,300	310	33	13	ND (0.53)	91	26	27	ND (0.61)	ND (2.4)	ND (0.37)	ND (1,500)	2.7 J	ND (0.44)	ND (0.13)	47,000	980	98	140	140
	01/07/16	2 - 3	N	4.7 J	ND (0.2)	ND (0.049)	ND (0.092)	ND (0.093)	ND (0.091)	ND (0.086)	ND (0.086)	ND (0.11)	ND (0.085)	ND (0.14)	ND (3.3)	ND (0.15)	ND (0.062)	ND (0.24)	49	0.97 J	0.47	0.37	0.37
	01/07/16	5 - 6	N	3.5 J	ND (0.13)	ND (0.16)	ND (0.09)	ND (0.12)	ND (0.089)	ND (0.11)	ND (0.084)	ND (0.5)	ND (0.041)	ND (0.048)	ND (0.57)	ND (0.052)	ND (0.079)	ND (0.24)	13 J	0.39 J	0.29	0.2	0.2
	01/07/16	9 - 10	N	3.5 J	ND (0.2)	ND (0.25)	ND (0.073)	ND (0.31)	ND (0.079)	ND (0.29)	ND (0.075)	ND (0.36)	ND (0.063)	ND (0.044)	ND (0.87)	ND (0.047)	ND (0.075)	ND (0.14)	23 J	ND (0.12)	0.27	0.23	0.23
SWMU1-19	01/09/16	0 - 1	N	80	4.5 J	ND (0.23)	ND (0.82)	ND (0.35)	3.3 J	ND (0.33)	ND (1.5)	ND (0.41)	ND (0.41)	ND (0.27)	ND (41)	ND (0.29)	ND (0.1)	ND (0.31)	450	11 J	3	3.9	3.9
	01/09/16	2 - 3	N	14,000	2,200	ND (41)	130	320	770	ND (24)	350	ND (30)	63	ND (2.7)	ND (12,000)	36	3.1 J	ND (0.91)	240,000	6,500	850	1,100	1,100
	01/09/16	5 - 6	N	1,100	79	ND (3.7)	4.3 J	ND (2.1)	31	ND (1.9)	10 J	ND (2.4)	ND (1.5)	ND (0.8)	ND (360)	ND (0.86)	ND (0.13)	ND (0.58)	16,000	230	25	41	41
	01/09/16	9 - 10	N	3,300	170	25	17	ND (15)	120	ND (14)	45	ND (18)	7.8 J	3 J	ND (2,600)	17	ND (0.97)	ND (0.59)	43,000	300	170	210	210
	01/09/16	14 - 15	N	1,100 J	100 J	9.1 J	ND (6.4) J	ND (6.2) J	40 J	ND (9.1) J	12 J	ND (7.1) J	3 J	ND (1.9) J	ND (700) J	5.6 J	ND (0.48) J	0.9 J	15,000 J	120 J	51	63	63
	01/09/16	19 - 20	N	25 J	ND (2.4) J	ND (2.8) J	ND (0.11) J	ND (0.11) J	ND (0.12) J	ND (0.24) J	ND (0.27) J	ND (0.13) J	ND (0.079) J	ND (0.087) J	ND (29) J	ND (0.13) J	ND (0.07) J	ND (0.046) J	340 J	1.7 J	1.7	2	2
SWMU1-20	01/13/16	1 - 1.5	N	170	10 J	ND (0.9)	ND (1.1)	ND (0.44)	7 J	ND (0.6)	ND (2.6)	ND (0.51)	ND (0.87)	ND (0.31)	ND (33)	ND (0.33)	ND (0.44)	ND (0.44)	1,100	25	3.4	5.5	5.5
	01/13/16	2 - 3	N	63	3.1 J	ND (0.5)	ND (1.7)	ND (0.62)	3.7 J	ND (0.81)	3.9 J	ND (0.19)	ND (1.5)	ND (0.33)	ND (20)	ND (0.36)	ND (0.18)	ND (0.15)	670	9.3 J	2.8	3.7	3.7
	01/13/16	5 - 6	N	2,200	220	16	23	ND (16)	100	ND (15)	69	ND (19)	20	8 J	ND (690)	ND (3.5)	1.2 J	ND (2.6)	24,000	380	78	110	110
	01/13/16	9 - 10	N	13,000	1,500	150	75	350	730	59	170	36	31	ND (2.5)	ND (11,000)	75	4.6 J	ND (0.5)	160,000	5,700	780	950	950
	01/13/16	14 - 15	N	1,900	160	ND (7.6)	11 J	ND (140)	67	ND (130)	21	ND (160)	ND (2.5)	ND (0.8)	ND (1,300)	12 J	ND (0.46)	ND (0.39)	46,000	200	110	140	140
	01/13/16	19 - 20	N	4.8 J	ND (0.16)	ND (0.19)	ND (0.079)	ND (0.21)	ND (0.068)	ND (0.18)	ND (0.069)	ND (0.24)	ND (0.047)	ND (0.069)	ND (2.7)	ND (0.069)	ND (0.034)	ND (0.066)	ND (71)	ND (0.57)	0.29	0.29	0.29
SWMU1-21	01/26/16	0 - 1	N	10,000	1,100	49 J	ND (12)	28	130 J	ND (9.3)	ND (12)	ND (12)	ND (2.6)	ND (7.9)	ND (220)	7.9 J	0.69 J	ND (1.3)	140,000	13,000	65	190	190
	01/26/16	2 - 3	N	19,000	ND (320)	ND (410)	160	89	1,000	150	350	ND (38)	92	ND (61)	ND (6,500)	ND (66)	3.5 J	ND (6.8)	200,000	10,000	580	870	870
	01/26/16	5 - 6	N	1,600	21	ND (10)	27	ND (1.9)	30	ND (1.8)	8.4 J	ND (2.2)	ND (0.67)	ND (5.2)	ND (260)	ND (5.6)	ND (0.28)	ND (0.26)	12,000	44	23	41	41
	01/26/16	9 - 10	N	130	ND (0.95)	ND (0.39)	ND (0.64)	ND (0.21)	ND (2.6)	ND (0.19)	ND (1.2)	ND (0.24)	ND (0.082)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.062)	ND (0.11)	500	ND (1.3)	0.57	1.8	1.8
	01/26/16	14 - 15	N	31	ND (0.2)	ND (0.23)	ND (0.18)	ND (0.17)	ND (0.15)	ND (0.15)	ND (0.16)	ND (0.2)	ND (0.077)	ND (0.091)	ND (3.7)	ND (0.21)	ND (0.05)	ND (0.084)	110	1.1 J	0.48	0.68	0.68
	01/26/16	19 - 20	N	12 J	ND (0.087)	ND (0.34)	ND (0.11)	ND (0.074)	ND (0.47)	ND (0.15)	ND (0.092)	ND (0.084)	ND (0.13)	ND (0.066)	ND (1.6)	ND (0.077)	ND (0.058)	ND (0.066)	110	ND (1.3)	0.3	0.39	0.39
SWMU1-22	12/17/15	0 - 1	N	240 J	17 J	ND (1.1) J	ND (1.9) J	ND (2.7) J	6.1 J	ND (2.3) J	ND (2.8) J	ND (3.2) J	ND (0.36) J	ND (0.99) J	ND (24) J	ND (0.64) J	ND (0.26) J	ND (1.5) J	2,100 J	31 J	3.9	6.2	6.2
SWMU1-23	12/17/15	0 - 1	N	480 J	39 J	2.6 J	3 J	3.9 J	13 J	2.7 J	5.8 J	ND (1.1) J	2.2 J	1.5 J	ND (71) J	ND (1.1) J	ND (0.38) J	ND (1.1) J	5,200 J	94 J	10	16	16
SWMU1-24	12/17/15	0 - 1	N	47,000 J	5,500 J	ND (71) J	ND (540) J	150 J	1,600 J	260 J	ND (470) J	ND (38) J	150 J	ND (80) J	ND (4,000) J	ND (81) J	18 J	7.4 J	360,000 J	5,000 J	650	1,300	1,300
SWMU1-25	01/26/16	0 - 1	N	140,000	ND (1,100)	ND (1,400)	1,900	ND (400)	14,000	1,600	2,900	ND (470)	910	ND (92)	ND (140,000)	1,600	67	89	540,000	160,000	11,000	12,000	12,000
	01/26/16	2 - 3	N	340	13	ND (1.8)	1.9 J	ND (0.89)	7.8 J	ND (0.82)	ND (2.5)	ND (1)	ND (0.21)	ND (0.35)	ND (71)	ND (0.38)	ND (0.16)	ND (0.22)	4,400	35	5.4	9.9	9.9
	01/26/16	5 - 6	N	210	ND (5.6)	ND (1.3)	2.5 J	ND (0.85)	6.1 J	ND (0.79)	1.9 J	ND (1)	ND (0.17)	ND (0.53)	ND (37)	ND (0.57)	ND (0.58)	0.65 J	2,200	13 J	4.2	6.4	6.4
	01/26/16	9 - 10	N	59	5.4 J	ND (0.42)	ND (0.39)	ND (0.85)	1.7 J	ND (1.1)	ND (0.49)	ND (0.4)	ND (0.19)	ND (0.16)	ND (24)	ND (0.18)	ND (0.097)	ND (0.14)	670	12 J	1.9	2.6	2.6

TABLE 3-1h
Sample Results: Dioxins and Furans
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
SWMU1-26	01/08/17	0 - 0.5	N	450 J	37	ND (9.4)	ND (0.39)	ND (2)	12 J	ND (1.8)	2.9 J	ND (2.3)	ND (0.25)	ND (0.98)	ND (93)	ND (0.79)	ND (0.14)	ND (0.62)	5,100 J	75	7.7	13	13
	01/08/17	0 - 0.5	FD	1,200 J	70	5.7 J	2.1 J	ND (3.4)	21	ND (3.1)	4 J	ND (4)	ND (0.39)	ND (0.38)	ND (140)	ND (1)	ND (0.11)	ND (0.71)	8,000 J	150	12	26	26
	01/08/17	2 - 3	N	46	ND (3.4)	ND (0.6)	ND (0.25)	ND (0.13)	ND (0.25)	ND (0.12)	ND (0.61)	ND (0.15)	ND (0.16)	ND (0.16)	ND (10)	ND (0.51)	ND (0.27)	ND (1.2)	390	8.7 J	1.7	1.5	1.5
	01/08/17	5 - 6	N	410	61	8.3 J	ND (1.4)	ND (1.4)	14	5.6 J	ND (2.6)	ND (1.7)	ND (0.68)	ND (3.2)	ND (420)	ND (3.3)	ND (0.12)	0.77 J	7,100	120	27	31	31
	01/08/17	9 - 10	N	11 J	ND (2.8)	ND (2)	ND (0.57)	0.66 J	ND (0.48)	ND (0.49)	0.99 J	ND (1.2)	0.33 J	0.47 J	ND (1.7)	ND (0.17)	ND (0.11)	0.74 J	80	ND (4.2)	1.7	1	1
	01/08/17	14 - 15	N	1.9 J	ND (0.64)	ND (0.45)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.096)	ND (0.14)	ND (0.19)	ND (0.1)	ND (0.11)	ND (0.5)	ND (0.11)	ND (0.084)	ND (0.31)	20 J	ND (0.26)	0.37	0.22	0.22
	01/08/17	19 - 20	N	ND (0.19)	ND (0.37)	ND (0.12)	ND (0.13)	ND (0.086)	ND (0.13)	ND (0.078)	ND (0.15)	ND (0.5)	ND (0.12)	ND (0.12)	ND (0.68)	ND (0.12)	ND (0.12)	ND (0.45)	11 J	ND (1)	0.49	0.26	0.26
SWMU1-27	01/07/17	0 - 0.5	N	210	22	ND (4.4)	ND (1.1)	ND (0.42)	ND (0.37)	ND (2.3)	3 J	ND (1.2)	ND (0.53)	ND (2.1)	ND (78)	ND (0.4)	ND (0.13)	ND (0.28)	2,100	56	5.9	7.9	7.9
	01/07/17	2 - 3	N	34	ND (2.7)	ND (0.23)	ND (0.42)	ND (0.42)	1.1 J	ND (0.1)	0.74 J	ND (0.13)	ND (0.13)	ND (0.18)	ND (5.9)	ND (0.18)	ND (0.12)	ND (0.6)	250	ND (4.6)	1	1.1	1.1
	01/07/17	5 - 6	N	150	17	ND (2.6)	ND (0.63)	ND (1.8)	4.2 J	ND (1.6)	2 J	ND (2.1)	ND (0.92)	ND (0.53)	ND (44)	ND (0.51)	ND (0.11)	ND (0.59)	1,600	35	4.3	5.9	5.9
	01/07/17	9 - 10	N	ND (1.8)	ND (0.36)	ND (0.064)	ND (0.081)	ND (0.071)	ND (0.08)	ND (0.065)	ND (0.26)	ND (0.17)	ND (0.11)	ND (0.093)	ND (0.69)	ND (0.098)	ND (0.11)	0.27 J	ND (22)	ND (0.78)	0.5	0.24	0.24
	01/07/17	14 - 15	N	ND (0.28)	ND (0.14)	ND (0.62)	0.21 J	ND (0.24)	ND (0.27)	ND (0.057)	ND (0.078)	ND (0.42)	ND (0.08)	ND (0.072)	ND (0.2)	ND (0.075)	ND (0.17)	ND (0.69)	ND (9.9)	ND (1.3)	0.58	0.26	0.26
	01/07/17	19 - 20	N	ND (1.1)	ND (0.45)	ND (0.37)	ND (0.048)	ND (0.093)	ND (0.047)	ND (0.085)	ND (0.075)	ND (0.11)	ND (0.092)	ND (0.033)	ND (0.096)	ND (0.15)	ND (0.09)	ND (0.29)	ND (12)	ND (0.76)	ND (0.34)	ND (0.17)	ND (0.17)
SWMU1-28	02/14/17	0 - 0.5	N	150	14	ND (1.9)	ND (0.55)	ND (0.2)	ND (2.6)	ND (1.1)	ND (1.7)	ND (0.3)	ND (0.27)	ND (0.2)	ND (25)	ND (0.21)	ND (0.073)	ND (0.22)	1,000	57	2.2	3.8	3.8
	02/14/17	0 - 0.5	FD	120	15	ND (1.9)	ND (0.43)	ND (0.56)	3.5 J	ND (0.46)	ND (0.42)	ND (0.51)	ND (0.13)	ND (0.41)	ND (26)	ND (0.43)	ND (0.071)	ND (0.1)	1,000	59	2.2	3.6	3.6
	02/14/17	2 - 3	N	33	6.4 J	ND (0.7)	ND (0.27)	ND (0.35)	1.3 J	ND (0.18)	0.87 J	ND (0.22)	ND (0.32)	ND (0.3)	ND (8.7)	ND (0.56)	ND (0.061)	ND (0.17)	230	ND (11)	1.3	1.5	1.5
SWMU1-29	02/16/17	0 - 0.5	N	240 J	21	ND (1.7)	ND (1.2)	1.6 J	8.1 J	ND (0.92)	2.8 J	ND (0.34)	ND (0.62)	ND (0.93)	ND (49)	ND (1.1)	ND (0.15)	ND (0.57)	2,400	56 J	5	7.8	7.8
	02/16/17	2 - 3	N	4,700	250	25	61	20	240	18	ND (110)	4.6 J	39	7.4 J	ND (3,400)	7.1 J	ND (0.16)	2 J	48,000 J	320	250	320	320
	02/16/17	5 - 6	N	400	29	2.7 J	3.2 J	ND (2.9)	14	ND (1.6)	7 J	ND (0.27)	ND (1.8)	ND (0.68)	ND (190)	1.3 J	ND (0.11)	0.59 J	4,700	48	15	19	19
	02/16/17	9 - 10	N	380	23	2.3 J	ND (1.6)	2.4 J	9.2 J	ND (0.64)	ND (3.8)	ND (0.4)	ND (0.94)	ND (0.16)	ND (130)	ND (0.45)	ND (0.13)	ND (0.39)	6,200	43	9.3	15	15

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

- not analyzed
- ft bgs feet below ground surface
- ng/kg nanograms per kilogram
- DTSC-SL DTSC Screening Levels
- DTSC California Department of Toxic Substances Control
- FD Field Dupliicate
- J concentration or reporting limit estimated by laboratory or data validation
- JR estimated value, one or more input values is “R” qualified.
- N Primary Sample
- NA NA = not applicable
- NE not established

TABLE 3-1h
Sample Results: Dioxins and Furans
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	USEPA = United States Environmental Protection Agency

- 1 For individual dioxins and furans, selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher. For TEQ values, selected value is the DTSC-SL.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. JanuaryCalifornia Department of Toxic Substances Control (DTSC). 2017. Human Health Risk Assessment (HHRA) Note 2, Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites. April.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Dectected Chemicals in Soil." July 1.
- 5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

Calculations:

TEQ = Sum of Result xToxic equivalency factor (TEF), 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
TEQ Avian = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
TEQMammals = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
Teq Humans = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TABLE 3-1i
Constituent Concentrations in Soil Compared to Screening Values
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶			
Parameter	Units				# of ⁷		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸	
					Exceedences	(BK)	Exceedences	(ECV)	Exceedences	(RSL)	Exceedences	(ESL)	Exceedences	(CSL)	Exceedences	(ISL)		
Dioxins and Furans																		
TEQ Avian	ng/kg	12	46 / 47 (98%)	11,000	19	(5.98)	15	(16)	NA	(NE)	NA	(NA)	NA	(NE)	15	(16)		
TEQ Human	ng/kg	12	46 / 47 (98%)	12,000	25	(5.58)	NA	(NE)	12	(50)	NA	(NA)	6	(220)	12	(50)		
TEQ Mammals	ng/kg	12	46 / 47 (98%)	12,000	25	(5.58)	25	(1.6)	NA	(NE)	NA	(NA)	NA	(NE)	25	(5.58)		
Metals																		
Antimony	mg/kg	39	4 / 194 (2.1%)	18	NA	(NE)	4	(0.285)	0	(31)	NA	(NA)	0	(470)	4	(0.285)		
Arsenic	mg/kg	39	184 / 194 (95%)	14	3	(11)	3	(11.4)	3	(0.11) *	NA	(NA)	3	(0.36) *	3	(11)		
Barium	mg/kg	44	200 / 200 (100%)	1,900	2	(410)	2	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	2	(410)		
Beryllium	mg/kg	39	0 / 194 (0%)	ND (5.3) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)		
Cadmium	mg/kg	39	6 / 194 (3.1%)	1.5	5	(1.1)	5	(0.0151) *	0	(5.2)	NA	(NA)	0	(7.3)	5	(1.1)		
Chromium, Hexavalent	mg/kg	60	69 / 246 (28%)	47.5	50	(0.83)	0	(139.6)	50	(0.3)	NA	(NA)	22	(6.3)	50	(0.83)		
Chromium, Hexavalent-SPLP	mg/L	6	6 / 6 (100%)	0.024	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)		
Chromium, total	mg/kg	60	246 / 246 (100%)	3,200	91	(39.8)	91	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	91	(39.8)		
Chromium-SPLP	mg/L	6	3 / 6 (50%)	0.156	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)		
Cobalt	mg/kg	38	191 / 191 (100%)	19	21	(12.7)	15	(13)	0	(23)	NA	(NA)	0	(350)	21	(12.7)		
Copper	mg/kg	60	245 / 246 (100%)	61	56	(16.8)	33	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	56	(16.8)		
Lead	mg/kg	44	197 / 200 (99%)	13	2	(8.39)	2	(0.0166) *	0	(80)	NA	(NA)	0	(320)	2	(8.39)		
Mercury	mg/kg	39	13 / 193 (6.7%)	0.35	NA	(NE)	13	(0.0125)	0	(1)	NA	(NA)	0	(4.5)	13	(0.0125)		
Molybdenum	mg/kg	44	34 / 202 (17%)	20	23	(1.37)	12	(2.25)	0	(390)	NA	(NA)	0	(5,800)	23	(1.37)		
Nickel	mg/kg	60	247 / 247 (100%)	51	24	(27.3)	24	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	24	(27.3)		
Selenium	mg/kg	39	4 / 194 (2.1%)	2.5	2	(1.47)	2	(0.177) *	0	(390)	NA	(NA)	0	(5,800)	2	(1.47)		
Silver	mg/kg	39	0 / 194 (0%)	ND (5.3) ‡	NA	(NE)	0	(5.15)	0	(390)	NA	(NA)	0	(1,500)	0	(5.15)		
Thallium	mg/kg	39	0 / 194 (0%)	ND (11) ‡	NA	(NE)	0	(2.32)	0	(0.78)	NA	(NA)	0	(12)	0	(0.78)		
Vanadium	mg/kg	44	200 / 200 (100%)	57	10	(52.2)	10	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	10	(52.2)		
Zinc	mg/kg	60	246 / 246 (100%)	673	51	(58)	51	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	51	(58)		
Contract Laboratory Program Inorganics																		
Aluminum	mg/kg	18	18 / 18 (100%)	12,000	0	(16,400)	NA	(NE)	0	(77,000)	NA	(NA)	0	(1,100,000)	0	(16,400)		
Calcium	mg/kg	26	26 / 26 (100%)	344,000	5	(66,500)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	5	(66,500)		
Iron	mg/kg	31	34 / 34 (100%)	25,000	0	(29,303)	NA	(NE)	0	(55,000)	NA	(NA)	0	(820,000)	0	(29,303)		
Magnesium	mg/kg	26	26 / 26 (100%)	15,500	3	(12,100)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	3	(12,100)		
Manganese	mg/kg	31	34 / 34 (100%)	526	1	(402)	1	(220)	0	(1,800)	NA	(NA)	0	(6,900)	1	(402)		
Manganese Extractable	mg/kg	5	8 / 8 (100%)	224	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)		
Potassium	mg/kg	26	26 / 26 (100%)	4,900	1	(4,400)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	1	(4,400)		
Sodium	mg/kg	26	20 / 26 (77%)	2,360	1	(2,070)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	1	(2,070)		
Cyanide	mg/kg	18	0 / 18 (0%)	ND (1.1) ‡	NA	(NE)	0	(0.9)	0	(23)	NA	(NA)	0	(150)	0	(0.9)		
Polycyclic Aromatic Hydrocarbons																		
Benzo (a) anthracene	µg/kg	31	8 / 143 (5.6%)	26	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)		
Benzo (a) pyrene	µg/kg	31	7 / 143 (4.9%)	21	NA	(NE)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)		
Benzo (b) fluoranthene	µg/kg	31	8 / 143 (5.6%)	38	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)		
Benzo (ghi) perylene	µg/kg	31	6 / 143 (4.2%)	14	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)		
Benzo (k) fluoranthene	µg/kg	31	9 / 143 (6.3%)	20	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)		
Chrysene	µg/kg	31	9 / 143 (6.3%)	25	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)		

TABLE 3-1i
Constituent Concentrations in Soil Compared to Screening Values
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
					# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Polycyclic Aromatic Hydrocarbons																
Fluoranthene	µg/kg	31	12 / 143 (8.4%)	440	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Indeno (1,2,3-cd) pyrene	µg/kg	31	6 / 143 (4.2%)	12	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Naphthalene	µg/kg	31	2 / 143 (1.4%)	16	NA	(NE)	NA	(NE)	0	(3,800)	NA	(NA)	0	(17,000)	0	(3,800)
Phenanthrene	µg/kg	31	7 / 143 (4.9%)	47	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Pyrene	µg/kg	31	11 / 143 (7.7%)	360	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
PAH Low molecular weight	µg/kg	31	143 / 143 (100%)	56.7	1	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	31	143 / 143 (100%)	904.2	1	(267.4)	0	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	0	(1,160)
B(a)P Equivalent	µg/kg	31	12 / 143 (8.4%)	31	0	(55)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Polychlorinated biphenyls																
Aroclor 1254	µg/kg	24	13 / 33 (39%)	200	NA	(NE)	NA	(NE)	0	(240)	NA	(NA)	0	(970)	0	(240)
Total PCBs	µg/kg	24	13 / 33 (39%)	200	NA	(NE)	0	(204)	0	(230)	NA	(NA)	0	(940)	0	(204)
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	29	6 / 141 (4.3%)	17.8	NA	(NE)	NA	(NE)	0	(230)	0	(230)	0	(1,100)	0	(230)
TPH as motor oil	mg/kg	29	49 / 141 (35%)	168	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

TABLE 3-1i
Constituent Concentrations in Soil Compared to Screening Values
SWMU 1 – Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RSL	esidential screening level
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

- 1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.
- 2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1
- 3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.
- 4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr
- 5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.
- 6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).
- 8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-2a
Sample Results: Metals in Sediment
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Interim Screening Level ¹ :				NE	9.79	410	0.672	0.99	0.83	43.4	12.7	31.6	35.8	0.18	1.37	22.7	1.47	NE	NE	52.2	121	
Soil Background ² : Consensus-based Threshold effect concentration ³ : Consensus-based Probable effect concentration ³ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58	
				NE	9.79	NE	NE	0.99	NE	43.4	NE	31.6	35.8	0.18	NE	22.7	NE	NE	NE	NE	NE	121
				NE	33	NE	NE	4.98	NE	111	NE	149	128	1.06	NE	48.6	NE	NE	NE	NE	NE	459
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
Category 1																						
AOC1-BCW6	08/22/08 ‡	0 - 0.5	N	ND (5.7) *	13	320	ND (2.8) *	ND (2.8) *	2.63	71	7.7	22	23	ND (0.14) *	ND (2.8) *	18	ND (2.8) *	ND (2.8)	ND (5.7) *	37	81	
	08/22/08 ‡	2 - 3	N	ND (5.8) *	9.3	230	ND (2.9) *	ND (2.9) *	ND (0.608)	21	6.3	14	8.7	ND (0.14) *	ND (2.9) *	13	ND (2.9) *	ND (2.9)	ND (5.8) *	31	50	
DrSed-1	02/18/03 Δ	1	N	ND (1.56) *	1.57	92.6	0.105 J	ND (0.39)	ND (4.2) *	2.27	1.14	1.26	4.12	ND (0.0333) *	ND (0.78)	1.94	ND (0.78)	0.176 J	ND (0.78) *	6.33	9.27	
DrSed-2	02/18/03 Δ	1	N	ND (1.58) *	1.27	65.9	0.0963 J	ND (0.394)	ND (4.2) *	1.78	1.07	1.07	3.44	ND (0.0327) *	ND (0.788)	1.88	ND (0.788)	0.219 J	ND (0.788) *	4.46	7.14	
DrSed-3	02/19/03 Δ	1	N	ND (1.81) *	1.67	45.8	0.101 J	ND (0.453)	ND (4.2) *	1.75	1.02	1.38	3.69	ND (0.0351) *	ND (0.906)	1.7	ND (0.906)	0.203 J	ND (0.906) *	4.65	6.74	
SED-1	02/18/03 Δ	2	N	---	---	---	---	---	ND (5.5) *	3.33	---	2.5	---	---	---	3.21	---	---	---	---	11.8	
SED-10	02/17/03 Δ	2	N	ND (2.79) *	2.72	100	0.219 J	0.0789 J	ND (5.7) *	6.79	2.07	5.17	5.15	ND (0.0445) *	ND (1.4) *	4.59	0.891 J	0.343 J	ND (1.4) *	10.9	18	
SED-11	02/17/03 Δ	2	N	---	---	---	---	---	ND (5.6) *	15.7	---	7.88	---	---	---	6.87	---	---	---	---	26	
SED-12	02/17/03 Δ	2	N	ND (2.15) *	3.58	170	0.506 J	0.158 J	ND (4.9) *	21.4	8.1	15.2	6.69	ND (0.0404) *	0.463 J	13.3	0.886 J	ND (1.08)	ND (1.08) *	36	50.9	
SED-2	02/18/03 Δ	2	N	---	---	---	---	---	ND (5) *	4.61	---	3.39	---	---	---	3.79	---	---	---	---	13.4	
SED-27	02/19/03 Δ	2	N	ND (2.86) *	3.68	151	0.338 J	0.198 J	ND (6) *	6.87	2.7	6.84	9.5	0.0573	0.821 J	5.56	ND (1.43)	0.373 J	ND (1.43) *	14.8	28.5	
SED-28	02/19/03 Δ	2	N	ND (2.19) *	1.58	69.3	0.156 J	0.0772 J	ND (5.4) *	4.62	1.47	2.8	3.7	ND (0.0348) *	ND (1.09)	3.04	0.668 J	0.341 J	ND (1.09) *	7.64	10.3	
SED-29	02/19/03 Δ	2	N	ND (2.11) *	1.54	170	0.17 J	0.0666 J	ND (5.3) *	4.48	1.65	2.93	4.15	ND (0.0339) *	ND (1.06)	3.12	ND (1.06)	ND (1.06)	ND (1.06) *	11	12	
SED-3	02/18/03 Δ	2	N	---	---	---	---	---	ND (5) *	3.64	---	3.12	---	---	---	5.5	---	---	---	---	11.3	
SED-4	02/18/03 Δ	2	N	---	---	---	---	---	ND (5.8) *	5.48	---	4.46	---	---	---	3.99	---	---	---	---	15.6	
SED-5	02/17/03 Δ	2	N	---	---	---	---	---	ND (5) *	2.41	---	1.95	---	---	---	3.4	---	---	---	---	7.32	
SED-6	02/17/03 Δ	2	N	---	---	---	---	---	ND (4.9) *	5.1	---	2.13	---	---	---	6.42	---	---	---	---	9.83	
SED-7	02/17/03 Δ	2	N	---	---	---	---	---	ND (6) *	22.1	---	11.7	---	---	---	12.1	---	---	---	---	37.3	
SED-8	02/17/03 Δ	2	N	ND (2.38) *	1.54	64.3	0.215 J	ND (0.595)	ND (4.8) *	8.27	2.53	5.71	6.22	ND (0.0394) *	ND (1.19)	7.15	0.702 J	0.28 J	ND (1.19) *	12.1	20.3	
SED-9	02/17/03 Δ	2	N	ND (4.2) *	ND (1.05)	135	0.614	0.0822 J	ND (4.9) *	19.1	7.44	25.6	6.33	ND (0.0311) *	0.451 J	12.7	0.675 J	ND (1.05)	0.573 J	39	39.1	
SS-1	06/29/97 ‡	0.5	N	---	---	---	---	---	ND (0.05)	38.2	---	16.5	---	---	---	17.9	---	---	---	---	55	
	06/29/97 ‡	1.5	N	---	---	---	---	---	ND (0.05)	25.3	---	13.6	---	---	---	12.5	---	---	---	---	43.4	

TABLE 3-2a
Sample Results: Metals in Sediment
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.	
‡	This location is in an area where soil is transitioning into sediment.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
1 Interim screening level is equal to the to the lower value between the threshold effect concentration and probable effect concentration. If neither is available, then the soil background value, if available, is used.	
2 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.	
3 MacDonald, D.D., C.G. Ingersoll, and T. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environm. Contam. Toxicol. 39:20-31.	

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC1-BCW1	09/20/08	0 - 0.5	N	ND (2) *	4.3	160	ND (1) *	ND (1)	ND (0.401)	23	6.4	11	7.5	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	26	44
	09/20/08	2 - 3	N	ND (2) *	8.4	160	ND (1) *	ND (1)	ND (0.404)	25	9.4	15	2	ND (0.1) *	ND (1)	19	ND (1)	ND (1)	ND (2) *	40	28
AOC1-BCW2	10/04/08	0 - 0.5	N	ND (2) *	3.4	96	ND (1) *	ND (1)	ND (0.403)	21	6	7.6	3.7	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	23	40
	10/04/08	2 - 3	N	ND (2) *	3.1	110	ND (1) *	ND (1)	ND (0.407)	34	7.1	9.2	18	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	30	39
	10/04/08	5 - 6	N	ND (2) *	3.1	100	ND (1) *	ND (1)	ND (0.404)	35	7.1	8.8	4.4	ND (0.1) *	1.5	12	ND (1)	ND (1)	ND (2) *	28	41
	10/04/08	9 - 10	N	ND (2.1) *	3.8	120	ND (1.1) *	ND (1.1) *	ND (0.426)	20	8.7	8.1	3.8	ND (0.1) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	38	39
AOC1-BCW3	10/04/08	0 - 0.5	N	ND (2) *	4.4	140	ND (1) *	ND (1)	0.416	25	6.4	11	7.3	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	27	51
	10/04/08	2 - 3	N	ND (2) *	3.2	99	ND (1) *	ND (1)	ND (0.404)	25	7.5	9.8	4	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	30	38
	10/04/08	5 - 6	N	ND (2.1) *	4.2	170	ND (2.1) *	ND (1)	ND (0.415)	23	11	9.6	2.2	ND (0.1) *	ND (2.1) *	14	ND (1)	ND (2.1)	ND (4.1) *	36	43
	10/04/08	9 - 10	N	ND (2.1) *	4	120	ND (1.1) *	ND (1.1) *	ND (0.421)	21	9	8.5	2.2	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	36	38
	10/04/08	9 - 10	FD	ND (2.1) *	4.2	130	ND (1.1) *	ND (1.1) *	ND (0.424)	22	9.3	8.8	2.3	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	37	41
AOC1-BCW4	10/04/08	0 - 0.5	N	ND (2) *	4.4	180	ND (1) *	ND (1)	1.3	36	8.3	13	9.4	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2) *	33	61
	10/04/08	2 - 3	N	ND (2) *	2.9	76	ND (1) *	ND (1)	ND (0.407)	24	5.8	8.3	3.6	ND (0.1) *	ND (1)	9.5	ND (1)	ND (1)	ND (2) *	23	33
	10/04/08	5 - 6	N	ND (2.1) *	4	60	ND (1) *	ND (1)	ND (0.416)	23	9.4	8.4	2.7	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	37	45
	10/04/08	9 - 10	N	ND (2.1) *	5.1	81	ND (2.1) *	ND (1.1) *	ND (0.426)	22	9.7	7.6	2.3	ND (0.11) *	ND (2.1) *	15	ND (1.1)	ND (2.1)	ND (4.3) *	35	42
AOC1-BCW5	10/04/08	0 - 0.5	N	ND (2) *	3.7	160	ND (1) *	ND (1)	0.445	35	8.7	12	6	ND (0.099) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	34	46
	10/04/08	2 - 3	N	ND (2) *	3.5	130	ND (1) *	ND (1)	ND (0.407)	31	7.4	9.6	7	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	30	42
	10/04/08	5 - 6	N	ND (2.1) *	3.9	120	ND (1) *	ND (1)	ND (0.42)	26	9.9	8.4	2.7	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	41	44
	10/04/08	9 - 10	N	ND (2.1) *	4.7	110	ND (2.1) *	ND (1)	ND (0.425)	22	9.2	ND (7.4)	3.2	ND (0.11) *	ND (2.1) *	15	ND (1)	ND (2.1)	ND (4.2) *	35	40
	10/04/08	9 - 10	FD	ND (2.1) *	4.7	110	ND (2.1) *	ND (1.1) *	ND (0.427)	24	9	ND (7.3)	3	ND (0.11) *	ND (2.1) *	15	ND (1.1)	ND (2.1)	ND (4.2) *	34	40
AOC1-BCW6	08/22/08 ‡	0 - 0.5	N	ND (5.7) *	13	320	ND (2.8) *	ND (2.8) *	2.63	71	7.7	22	23	ND (0.14) *	ND (2.8) *	18	ND (2.8) *	ND (2.8)	ND (5.7) *	37	81
	08/22/08 ‡	2 - 3	N	ND (5.8) *	9.3	230	ND (2.9) *	ND (2.9) *	ND (0.608)	21	6.3	14	8.7	ND (0.14) *	ND (2.9) *	13	ND (2.9) *	ND (2.9)	ND (5.8) *	31	50
AOC1-T1a	10/16/08	0 - 0.5	N	ND (2) *	6.5	100	ND (2) *	ND (1)	ND (0.406)	19	7.3	11	4.9	ND (0.1) *	ND (2) *	14	ND (1)	ND (2)	ND (4) *	30	38
	10/16/08	2 - 3	N	ND (2) *	3.2	120	ND (1) *	ND (1)	ND (0.404)	27	7.7	8.6	3.8	ND (0.1) *	2	13	ND (1)	ND (1)	ND (2) *	29	37
	10/16/08	5 - 6	N	ND (2) *	3.5	110	ND (1) *	ND (1)	ND (0.405)	26	7.2	9.5	3.4	ND (0.1) *	2	12	ND (1)	ND (1)	ND (2) *	29	34
	10/16/08	9 - 10	N	ND (2) *	2.4	88	ND (1) *	ND (1)	ND (0.404)	14	7.3	7.5	1.4	ND (0.1) *	ND (1)	9.5	ND (1)	ND (1)	ND (2) *	29	32
AOC1-T1b	10/16/08	0 - 0.5	N	ND (2) *	2.9	88	ND (1) *	ND (1)	ND (0.405)	43 J	8.4	9	3.1	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	36	31
	10/16/08	0 - 0.5	FD	ND (2) *	2.8	86	ND (1) *	ND (1)	ND (0.405)	33 J	8.2	10	3.2	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2) *	35	32
	10/16/08	2 - 3	N	ND (2.1) *	2.9	210	ND (1) *	ND (1)	ND (1.94) *	98	7.5	12	3.9	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	33	67
	10/16/08	5 - 6	N	ND (2) *	3	99	ND (1) *	ND (1)	0.402	28	7.2	9	3.2	ND (0.1) *	1.7	12	ND (1)	ND (1)	ND (2) *	31	31
	10/16/08	9 - 10	N	ND (2) *	2.6	120	ND (1) *	ND (1)	ND (0.402)	42	8	11	2.6	ND (0.1) *	5	14	ND (1)	ND (1)	ND (2) *	30	32
AOC1-T1c	10/16/08	0 - 0.5	N	ND (2) *	3.2	120	ND (1) *	ND (1)	0.601	44	7.4	13	7.5	ND (0.1) *	1.9	11	ND (1)	ND (1)	ND (2) *	33	53
	10/16/08	2 - 3	N	ND (2.1) *	2.6	150	ND (1) *	ND (1)	4.77 J	140	8	26	20 J	ND (0.1) *	2.5	11 J	ND (1)	ND (1)	ND (2.1) *	33	82 J
	10/16/08	2 - 3	FD	ND (2.1) *	3	170	ND (1) *	ND (1)	3.58 J	150	8.2	29	32 J	ND (0.1) *	2.2	14 J	ND (1)	ND (1)	ND (2.1) *	29	110 J
	10/16/08	5 - 6	N	ND (2) *	3.1	97	ND (1) *	ND (1)	0.446	46	7.2	15	5	ND (0.1) *	3	12	ND (1)	ND (1)	ND (2) *	27	44
	10/16/08	9 - 10	N	ND (2.1) *	2.8	120	ND (1) *	ND (1)	ND (0.418)	20	8.6	11	1.9	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	33	38

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC1-T2a	10/05/08	0 - 0.5	N	ND (2) *	4	110	ND (1) *	ND (1)	ND (0.403)	26	7.1	10	4.8	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	30	38
	10/16/08	2 - 3	N	ND (2) *	6	120	ND (2) *	ND (1)	ND (0.407)	28	8.7	10	4	ND (0.1) *	ND (2) *	15	ND (1)	ND (2)	ND (4) *	32	42
	10/16/08	5 - 6	N	ND (2) *	2.7	110	ND (1) *	ND (1)	ND (0.405)	19	8.1	8.3	2.4	ND (0.1) *	1.1	11	ND (1)	ND (1)	ND (2) *	28	35
	10/16/08	9 - 10	N	ND (2.1) *	2.9	110	ND (1) *	ND (1)	ND (0.416)	15	7.4	7.1	2.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	27	36
AOC1-T2b	10/16/08	0 - 0.5	N	ND (2) J*	3.6	120	ND (1) *	ND (1)	ND (0.408)	26	7.3	9.3	3.2	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	28	39
	10/16/08	2 - 3	N	ND (2.1) *	3	93	ND (1) *	ND (1)	ND (0.414)	26	6.9	10	3	ND (0.1) *	2.4	11	ND (1)	ND (1)	ND (2.1) *	23	33
	10/16/08	5 - 6	N	ND (2) *	3	89	ND (1) *	ND (1)	ND (0.407)	53	6.7	8.7	2.4	ND (0.1) *	5.5	12	ND (1)	ND (1)	ND (2) *	25	32
	10/16/08	9 - 10	N	ND (2.1) *	2.4	99	ND (1) *	ND (1)	ND (0.415)	18	8.4	8.5	1.8	ND (0.1) *	1.3	12	ND (1)	ND (1)	ND (2.1) *	27	33
	10/16/08	9 - 10	FD	ND (2.1) *	2.3	110	ND (1) *	ND (1)	ND (0.413)	18	8.2	9.6	1.6	ND (0.1) *	1.2	13	ND (1)	ND (1)	ND (2.1) *	29	35
AOC1-T2c	10/08/08	0 - 0.5	N	ND (2) J*	3.7	88	ND (1) *	ND (1)	1.26	60	6.3	10	5.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	26	44
	10/08/08	2 - 3	N	ND (2) *	3.1	130	ND (1) *	ND (1)	ND (0.416)	42	8.4	11	3.3	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	34	33
	10/08/08	5 - 6	N	ND (2) *	2.3	81	ND (1) *	ND (1)	ND (0.412)	22	7.2	9.1	1.8	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	31	28
	10/08/08	9 - 10	N	ND (2.1) *	3.7	40	ND (1) *	ND (1)	ND (0.419)	24	9.3	9.7	2.6	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	35	40
AOC1-T2d	10/07/08	0 - 0.5	N	ND (2) *	3	100	ND (1) *	ND (1)	ND (0.408)	46	8.2	10	2.9	ND (0.1) *	2.9	14	ND (1)	ND (1)	ND (2) *	36	36
	10/07/08	2 - 3	N	ND (2.1) *	ND (1)	120	ND (1) *	ND (1)	5.73	970	7.5	13	4.7	ND (0.1) *	1.5	11	ND (1)	ND (1)	ND (2.1) *	34	98
	10/07/08	5 - 6	N	ND (2.1) *	ND (1)	84	ND (1) *	ND (1)	4.34	370	6.9	11	3.9	ND (0.1) *	1.1	11	ND (1)	ND (1)	ND (2.1) *	26	130
	10/07/08	9 - 10	N	ND (2.1) *	4.5	86	ND (2.1) *	ND (1)	2.92	140	10	14	3.1	ND (0.1) *	ND (2.1) *	15	ND (1)	ND (2.1)	ND (4.2) *	33	68
	10/07/08	19 - 20	N	ND (2.1) *	5.8	56	ND (2.1) *	ND (1.1) *	ND (0.423)	26	10	9.2	3	ND (0.11) *	ND (2.1) *	16	ND (1.1)	ND (2.1)	ND (4.2) *	38	45
	10/07/08	29 - 30	N	ND (2.1) *	6.2	38	ND (2.1) *	ND (1)	ND (0.424)	21	8.5	8.9	2.7	ND (0.1) *	ND (2.1) *	14	ND (1)	ND (2.1)	ND (4.2) *	31	37
	10/07/08	29 - 30	FD	ND (2.1) *	9.7	40	ND (5.3) *	ND (1.1) *	ND (0.423)	24	8.7	ND (11)	2.2	ND (0.11) *	ND (5.3) *	16	ND (1.1)	ND (5.3) *	ND (11) *	34	36
	10/07/08	39 - 40	N	ND (2.1) *	6.4	79	ND (2.1) *	ND (1.1) *	ND (0.431)	22	8.9	11	3.6	ND (0.11) *	ND (2.1) *	16	ND (1.1)	ND (2.1)	ND (4.3) *	34	42
	10/07/08	49 - 50	N	ND (2.1) *	4.1	62	ND (1.1) *	ND (1.1) *	ND (0.425)	28	9.3	10	2.1	ND (0.11) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.1) *	36	38
	10/08/08	59 - 60	N	ND (2) *	5.3	36	ND (2) *	ND (1)	ND (0.406)	39	9	9.8	2.2	ND (0.1) *	4.7	13	ND (1)	ND (2)	ND (4) *	33	32
	10/08/08	69 - 70	N	ND (2.2) *	4.4	41	ND (1.1) *	ND (1.1) *	ND (0.435)	18	9.1	9.8	2.8	ND (0.11) *	2.2	13	ND (1.1)	ND (1.1)	ND (2.2) *	31	31
AOC1-T2e	10/16/08	0 - 0.5	N	ND (2) *	2.9	98	ND (1) *	ND (1)	ND (0.405)	34	7.5	9.3	3.4	ND (0.1) *	2.2	13	ND (1)	ND (1)	ND (2) *	29	36
	10/16/08	2 - 3	N	ND (2) *	2.9	87	ND (1) *	ND (1)	ND (0.408)	30	6.9	8.4	3.2	ND (0.1) *	1.4	12	ND (1)	ND (1)	ND (2) *	27	30
	10/16/08	2 - 3	FD	ND (2) *	3.1	90	ND (1) *	ND (1)	ND (0.408)	32	7.1	8	3.2	ND (0.1) *	1.3	12	ND (1)	ND (1)	ND (2) *	27	33
	10/16/08	5 - 6	N	ND (2) *	2.6	98	ND (1) *	ND (1)	ND (0.402)	44	7	8.4	2.3	ND (0.1) *	5.4	12	ND (1)	ND (1)	ND (2) *	26	32
	10/16/08	9 - 10	N	ND (2.1) *	2.5	100	ND (1) *	ND (1)	ND (0.415)	20	6.4	4.9	1.1	ND (0.1) *	1.1	9	ND (1)	ND (1)	ND (2.1) *	24	27
AOC1-T3a	10/05/08	0 - 0.5	N	ND (2) *	4.1	150	ND (1) *	ND (1)	ND (0.403)	24	7.8	11	8.4	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	33	47
	10/17/08	2 - 3	N	ND (2) *	4.4	110	ND (1) *	ND (1)	ND (0.407)	19	7.1	9	4.2	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	29	37
	10/17/08	5 - 6	N	ND (2) *	4.2	110	ND (1) *	ND (1)	ND (0.405)	23	7	12	14	ND (0.1) *	1.7	12	ND (1)	ND (1)	ND (2) *	28	39
	10/17/08	9 - 10	N	ND (2) *	2.9	99	ND (1) *	ND (1)	ND (0.406)	15	7.2	10	1.9	ND (0.1) *	ND (1)	9.8	ND (1)	ND (1)	ND (2) *	26	33
AOC1-T3b	10/05/08	0 - 0.5	N	ND (2) *	2.6	78	ND (1) *	ND (1)	ND (0.402)	23	7	8	3.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	35	29
	10/17/08	2 - 3	N	ND (2.1) *	3.1	120	ND (1) *	ND (1)	2.77	170	6.5	13	9.1	ND (0.11) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	26	120
	10/17/08	5 - 6	N	ND (2) *	2.3	92	ND (1) *	ND (1)	ND (0.405)	46	7	8.6	2.3	ND (0.1) *	4.6	12	ND (1)	ND (1)	ND (2) *	25	34
	10/17/08	9 - 10	N	ND (2) *	2.7	110	ND (1) *	ND (1)	ND (0.41)	17	7.3	7.7	1.7	ND (0.1) *	1.1	9.4	ND (1)	ND (1)	ND (2) *	28	31
	10/17/08	9 - 10	FD	ND (2.1) *	2.5	110	ND (1) *	ND (1)	ND (0.412)	16	7.2	6.5	1.9	ND (0.1) *	1.1	9.5	ND (1)	ND (1)	ND (2.1) *	29	32

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC1-T3c	10/05/08	0 - 0.5	N	ND (2) *	4.6	130	ND (1) *	ND (1)	0.42	27	6.5	11	7	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	29	46
	10/05/08	2 - 3	N	ND (2) *	3.5	98	ND (1) *	ND (1)	ND (0.41)	30	8.9	9.7	3.4	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	33	39
	10/05/08	5 - 6	N	ND (2) *	3.7	130	ND (1) *	ND (1)	1.65	89	8.8	12	5.8	ND (0.1) *	1.4	14	ND (1)	ND (1)	ND (2) *	34	65
	10/05/08	9 - 10	N	ND (2) *	2.7	94	ND (1) *	ND (1)	ND (0.403)	19	8.2	10	2.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	32	36
AOC1-T4a	10/03/08	0 - 0.5	N	ND (2) *	4.2	120	ND (1) *	ND (1)	ND (0.402)	28	7.3	11	5.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	26	51
	10/03/08	2 - 3	N	ND (2) *	3.9	99	ND (1) *	ND (1)	ND (0.407)	26	7.7	10	4	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	31	40
	10/03/08	5 - 6	N	ND (2) *	4	89	ND (1) *	ND (1)	ND (0.409)	25	8.3	11	3.3	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	34	40
	10/03/08	9 - 10	N	ND (2) *	3.7	160	ND (1) *	ND (1)	0.525	26	6.9	9.6	4.3	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	28	36
AOC1-T4b	10/02/08	0 - 0.5	N	ND (2) *	2.9	83	ND (1) *	ND (1)	1.26	21	6.3	7.5	2.6	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	22	29
	10/02/08	2 - 3	N	ND (2) *	3.7	120	ND (1) *	ND (1)	ND (0.412)	29	7.6	12	8.8 J	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	33	46
	10/02/08	2 - 3	FD	ND (2) *	3.5	110	ND (1) *	ND (1)	ND (0.408)	28	7.2	11	7 J	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	31	50
	10/02/08	5 - 6	N	ND (2.1) *	3.6	110	ND (1) *	ND (1)	ND (0.419)	24	9.9	9.6	3.2	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	33	39
	10/02/08	9 - 10	N	ND (2.1) *	3.2	100	ND (1) *	ND (1)	ND (0.415)	19	7.7	8.8	2.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	31	37
AOC1-T4c	10/04/08	0 - 0.5	N	ND (2) J*	4.2	100	ND (1) *	ND (1)	ND (0.403)	19	5.5	22	5.9	ND (0.1) *	ND (1)	9.4	ND (1)	ND (1)	ND (2) *	25	33
	10/04/08	2 - 3	N	ND (2) *	3.8	130	ND (1) *	ND (1)	0.816	27	8.9	19	14	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	38	67
	10/04/08	5 - 6	N	ND (2) *	3.3	150	ND (1) *	ND (1)	0.868	28	9.2	21	19	ND (0.1) *	1.3	13	ND (1)	ND (1)	ND (2) *	36	71
	10/04/08	9 - 10	N	ND (2.1) *	3.1	120	ND (1) *	ND (1)	ND (0.413)	27	8.3	13	5.8	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	35	47
AOC1-T5a	10/04/08	0 - 0.5	N	ND (2) *	3.1	150	ND (1) *	ND (1)	ND (0.402)	21	7.8	13	4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	33	41
	10/04/08	2 - 3	N	ND (2) *	2.8	95	ND (1) *	ND (1)	ND (0.403)	39	9	10	3.2	ND (0.099) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	32	38
	10/04/08	5 - 6	N	ND (2) *	3.8	99	ND (1) *	ND (1)	ND (0.405)	35	9	24	3.4	ND (0.1) *	2.2	17	ND (1)	ND (1)	ND (2) *	32	38
	10/04/08	9 - 10	N	ND (2) *	2.6	110	ND (1) *	ND (1)	ND (0.411)	24	7.4	11	3.6	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	30	38
	10/04/08	9 - 10	FD	ND (2) *	2.4	110	ND (1) *	ND (1)	ND (0.409)	27	7.8	11	3.1	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	30	38
AOC1-T5b	10/04/08	0 - 0.5	N	ND (2) J*	2.4	73	ND (1) *	ND (1)	ND (0.402)	26	6.8	11	4.9	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	28	33
	10/04/08	2 - 3	N	ND (2) *	3.3	110	ND (1) *	ND (1)	0.452	41	7.2	9.5	4.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	32	38
	10/04/08	5 - 6	N	ND (2) *	3.4	120	ND (1) *	ND (1)	0.596	61	7.9	9.8	4.8	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	31	41
	10/04/08	9 - 10	N	ND (2) *	3.5	120	ND (1) *	ND (1)	ND (0.409)	23	9.6	13	3.4	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	39	41
AOC1-T5c	10/04/08	0 - 0.5	N	ND (2) *	3.7	140	ND (1) *	ND (1)	ND (0.403)	15	6.7	8.8	5.8	ND (0.1) *	ND (1)	8.7	ND (1)	ND (1)	ND (2) *	27	37
	10/04/08	2 - 3	N	ND (2) *	3.3	150	ND (1) *	ND (1)	0.875	31	8.6	12	7.5	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	35	53
	10/04/08	5 - 6	N	ND (2) *	3.1	130	ND (1) *	ND (1)	0.641	36	7.2	12	11	ND (0.099) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	49
	10/04/08	9 - 10	N	ND (2) *	3.5	130	ND (1) *	ND (1)	0.478	21	7.7	9.8	3.9	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	32	39
AOC1-T6a	09/30/08	0 - 0.5	N	ND (2) *	3.2	96	ND (1) *	ND (1)	ND (0.402)	20	6.3	11	5.6	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	28	47
	09/30/08	2.5 - 3	N	ND (2) *	3.2	110	ND (1) *	ND (1)	ND (0.408)	20	6.9	8.9	5.6	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	29	36
	09/30/08	2.5 - 3	FD	ND (2) *	3.1	100	ND (1) *	ND (1)	ND (0.407)	21	6.6	8.8	5.4	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	40
	09/30/08	5.5 - 6	N	ND (2) *	2.3	94	ND (1) *	ND (1)	ND (0.408)	16	7.2	7.9	3.9	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	33	34
	09/30/08	9.5 - 10	N	ND (2) *	3.2	110	ND (1) *	ND (1)	ND (0.41)	20	7	8.7	12	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	32	40
AOC1-T6b	09/30/08	0 - 0.5	N	ND (2) *	3	110	ND (1) *	ND (1)	ND (0.401)	26	6.3	9	5.5	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	31	41
	09/30/08	2.5 - 3	N	ND (2) *	3.4	130	ND (1) *	ND (1)	ND (0.404)	18	5.7	7.1	4.4	ND (0.1) *	ND (1)	8.5	ND (1)	ND (1)	ND (2) *	25	29
	09/30/08	5.5 - 6	N	ND (2) *	2.9	100	ND (1) *	ND (1)	ND (0.404)	22	7.3	10	3.2	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	30	36
	09/30/08	9.5 - 10	N	ND (2) *	2.8	94	ND (1) *	ND (1)	ND (0.405)	25	7	9.3	3.1 J	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	30	37
	09/30/08	9.5 - 10	FD	ND (2) *	3	110	ND (1) *	ND (1)	ND (0.404)	27	7.9	10	8.5 J	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	33	39

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC1-T6c	09/30/08	0 - 0.5	N	ND (2) *	2.9	81	ND (1) *	ND (1)	ND (0.401)	18	6.4	8.7	3.2	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	25	39
	09/30/08	2.5 - 3	N	ND (2) *	5.1	94	ND (1) *	ND (1)	ND (0.407)	26	6.6	9.7	5.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	29	37
	09/30/08	5.5 - 6	N	ND (2) *	2.4	110	ND (1) *	ND (1)	ND (0.406)	21	9	9.4	2.9	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	32	37
AOC4-1	10/14/08	0 - 0.5	N	ND (2) J*	3.7	440 J	ND (1) *	ND (1)	0.49	47	6.7	16	8.5	ND (0.1) *	ND (1)	19	ND (1)	ND (1)	ND (2) *	23	48
	10/14/08	0.5 - 1	N	ND (2) *	4	120	ND (1) *	ND (1)	ND (0.404)	32	9.6	13	10	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2) *	32	47
	10/14/08	2 - 3	N	ND (2) *	3.6	120	ND (1) *	ND (1)	ND (0.405)	20	7.4	12	17	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	30	39
AOC1-1	01/23/16	0 - 0.5	N	ND (2.1) *	3.5	93	ND (1) *	ND (1)	12	410	6.8	14	5.4	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	31	74
	01/23/16	2 - 3	N	ND (2) *	2.5	120	ND (1) *	ND (1)	4.1	290	7.6	14	4.5	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	35	74
	01/23/16	5 - 6	N	ND (2) *	2.3	130	ND (1) *	ND (1)	ND (0.2)	15	7	9	2.6	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	31	34
	01/23/16	9 - 10	N	ND (2) *	1.5	99	ND (1) *	ND (1)	ND (0.2)	17	7.7	9.6	2.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	36	35
	01/23/16	14 - 15	N	ND (2) *	1.8	130	ND (1) *	ND (1)	ND (0.2)	18	9	11	1.8	ND (0.1) *	ND (1)	15 J	ND (1)	ND (1)	ND (2) *	32	36
	01/23/16	14 - 15	FD	ND (2) *	1.5	130	ND (1) *	ND (1)	ND (0.2)	19	8.5	12	1.9	ND (0.1) *	ND (1)	12 J	ND (1)	ND (1)	ND (2) *	35	36
	01/24/16	19 - 20	N	ND (2) *	1.1	100	ND (1) *	ND (1)	ND (0.2)	18	8.7	9	1.3	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	36	39
	01/24/16	29 - 30	N	ND (2.1) *	1.5	100	ND (1) *	ND (1)	ND (0.21)	16	9.5	12	2.3	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	36	41
AOC1-2	01/23/16	0 - 0.5	N	ND (2.1) *	2.2	110	ND (1) *	ND (1)	ND (0.21)	20	7.9	9.1	4.2	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	35	38
	01/23/16	2 - 3	N	ND (2) J*	1.7	180	ND (1) *	ND (1)	ND (0.2)	18 J	8	9.1	1.9	ND (0.1) *	ND (1)	12	ND (1) J	ND (1)	ND (2) *	31	36
	01/23/16	5 - 6	N	ND (2) *	1.7	130	ND (1) *	ND (1)	ND (0.2)	19	8.7	11	1.8	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	32	36
	01/23/16	9 - 10	N	ND (2) *	ND (1)	74	ND (1) *	ND (1)	ND (0.2)	18	6.7	6.3	1	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	25	28
	01/23/16	14 - 15	N	ND (2) *	ND (1)	92	ND (1) *	ND (1)	ND (0.2)	13	7.9	8.1	1	ND (0.1) *	ND (1)	8.5	ND (1)	ND (1)	ND (2) *	35	34
	01/23/16	19 - 20	N	ND (2) *	1.5	73	ND (1) *	ND (1)	ND (0.2)	16 J	7.8	7.7	1.5	ND (0.1) *	ND (1)	12 J	ND (1)	ND (1)	ND (2) *	30	35
	01/23/16	20 - 30	FD	ND (2) *	1.4	84	ND (1) *	ND (1)	ND (0.2)	13 J	7.6	8	1.3	ND (0.1) *	ND (1)	9.4 J	ND (1)	ND (1)	ND (2) *	33	36
	01/23/16	29 - 30	N	ND (2) *	1.1	94	ND (1) *	ND (1)	ND (0.2)	15	7.8	7.6	1.2	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	31
AOC1-3	01/25/16	0 - 0.5	N	ND (2.1) *	3	100	ND (1) *	ND (1)	14	410	7.9	13	3.7	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	37	90
	01/25/16	2 - 3	N	ND (2) *	2.4	110	ND (1) *	ND (1)	3.7	210	8.6	11	3.3	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	36	60
	01/25/16	5 - 6	N	ND (2) *	1.2	130	ND (1) *	ND (1)	ND (0.2)	24	8.6	14	1.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	37	39
	01/25/16	9 - 10	N	ND (2) *	1.3	97	ND (1) *	ND (1)	ND (0.2)	13	7.5	7.7	1.4	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	ND (2) *	33	32
	01/25/16	14 - 15	N	ND (2) *	1.8	110	ND (1) *	ND (1)	ND (0.2)	17	8.1	10	1.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	38	40
	01/25/16	14 - 15	FD	ND (2) *	1.4	110	ND (1) *	ND (1)	ND (0.2)	19	8.3	9.8	1.3	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	37	43
	01/25/16	19 - 20	N	ND (2) *	1.5	120	ND (1) *	ND (1)	ND (0.2)	19	9.5	11	1.6	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	42	38
	01/25/16	29 - 30	N	ND (2) *	1.3	66	ND (1) *	ND (1)	ND (0.2)	15	7.5	11	2.2	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	34	34
	01/25/16	39 - 40	N	ND (2.2) *	2.7	40	ND (1.1) *	ND (1.1) *	ND (0.22)	22	9.7	10	1.7	ND (0.11) *	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.2) *	35	39
	01/25/16	49 - 50	N	ND (2.1) *	2.8	42	ND (1.1) *	ND (1.1) *	ND (0.21)	23	11	14	2.3	ND (0.11) *	ND (1.1)	19	ND (1.1)	ND (1.1)	ND (2.1) *	45	42
	01/25/16	59 - 60	N	ND (2.1) *	4	42	ND (1.1) *	ND (1.1) *	ND (0.21)	39	10	14	2.2	ND (0.11) *	ND (1.1)	23	ND (1.1)	ND (1.1)	ND (2.1) *	45	42
	01/26/16	69 - 70	N	ND (2.1) *	2.2	64	ND (1) *	ND (1)	ND (0.21)	20	8.9	19	1.5	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	35	38
	01/26/16	79 - 80	N	ND (2.1) *	2.4	86	ND (1) *	ND (1)	ND (0.21)	17	7.1	13	1.3	ND (0.11) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	29	31

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC1-4	01/23/16	0 - 0.5	N	ND (2) *	1.9	82	ND (1) *	ND (1)	ND (0.2)	13	6.7	7	1.9	ND (0.1) *	ND (1)	9	ND (1)	ND (1)	ND (2) *	26	35
	01/23/16	2 - 3	N	ND (2) *	2	110	ND (1) *	ND (1)	ND (0.2)	19	7.7	8.7	3	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	32	30
	01/23/16	5 - 6	N	ND (2) *	1.8	84	ND (1) *	ND (1)	ND (0.2)	14	6.8	10	2.9	ND (0.1) *	ND (1)	9.5	ND (1)	ND (1)	ND (2) *	30	31
	01/23/16	9 - 10	N	ND (2) *	1.8	90	ND (1) *	ND (1)	ND (0.2)	14	7	9.3	2.2	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	33
	01/23/16	14 - 15	N	ND (2) *	1.8	95	ND (1) *	ND (1)	ND (0.2)	35	7.6	9.1	2	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	33	35
	01/23/16	19 - 20	N	ND (2) *	1.6	99	ND (1) *	ND (1)	ND (0.2)	16	8.4	8.4	1.2	ND (0.1) J*	ND (1)	12	ND (1)	ND (1)	ND (2) *	33	37
	01/23/16	19 - 20	FD	ND (2) J*	1.6	110 J	ND (1) *	ND (1)	ND (0.2)	21	9.9	11	1.3	ND (0.1) *	ND (1)	15	ND (1) J	ND (1)	ND (2) *	39	43 J
	01/23/16	29 - 30	N	ND (2.1) *	2.5	1,400	ND (1.1) *	ND (1.1) *	ND (0.21)	16	8.1	7.9	2.2	ND (0.1) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	32	39
AOC1-5	01/09/17	0 - 0.5	N	ND (2.1) *	1.3	65	ND (1) *	ND (1)	ND (0.21)	14	7.2	7.3	1.5	ND (0.1) *	ND (1)	9.7	ND (1) J	ND (1)	ND (2.1) *	28	26
	01/09/17	2 - 3	N	ND (2.1) *	1.6	76	ND (1) *	ND (1)	ND (0.21)	24	8.8	8.7	ND (1)	ND (0.1) *	ND (1)	12	ND (1) J	ND (1)	ND (2.1) *	42	32
	01/09/17	5 - 6	N	ND (2.1) *	1.4	77	ND (1) *	ND (1)	ND (0.21)	19	7.6	7.9	2.1	ND (0.1) *	ND (1)	10	ND (1) J	ND (1)	ND (2.1) *	27	45
	01/09/17	9 - 10	N	ND (2.1) *	ND (1)	110	ND (1) *	ND (1)	ND (0.21)	13	7.2	9.5	ND (1)	ND (0.1) *	ND (1)	8.6	ND (1) J	ND (1)	ND (2.1) *	29	28
	01/09/17	14 - 15	N	ND (2.1) *	1.7	51	ND (1.1) *	ND (1.1) *	ND (0.21)	18	8.4	8.3	1.9	ND (0.11) *	ND (1.1)	13	ND (1.1) J	ND (1.1)	ND (2.1) *	29	34
AOC1-6	01/09/17	0 - 0.5	N	ND (2.1) *	1.8	69	ND (1) *	ND (1)	0.22	23	8.4	11	2.9	ND (0.1) *	ND (1)	11	ND (1) J	ND (1)	ND (2.1) *	30	34
	01/09/17	2 - 3	N	ND (2.1) *	1.1	60	ND (1) *	ND (1)	ND (0.21)	17	7.1	6.7	1.2	ND (0.1) *	ND (1)	9.4	ND (1) J	ND (1)	ND (2.1) *	25	27
	01/09/17	5 - 6	N	ND (2.1) *	1.3	92	ND (1) *	ND (1)	ND (0.21)	14	8.3	8.8	ND (1)	ND (0.1) *	ND (1)	9.4	ND (1) J	ND (1)	ND (2.1) *	29	30
	01/09/17	9 - 10	N	ND (2.1) *	2.1	50	ND (1) *	ND (1)	ND (0.21)	21	9.9	8.3	1.5	ND (0.1) *	ND (1)	13	ND (1) J	ND (1)	ND (2.1) *	36	35
	01/09/17	14 - 15	N	ND (2.1) *	2.8	52	ND (1) *	ND (1)	ND (0.21)	23	9.4	7.3	1.6	ND (0.1) *	ND (1)	17	ND (1) J	ND (1)	ND (2.1) *	32	38
AOC16-5	02/20/17	0 - 0.5	N	ND (2.1) *	1.5	130	ND (1) *	1.4	0.56	28 J	5.7 J	18 J	29 J	---	ND (1)	9.8 J	ND (1) J	ND (1)	ND (2.1) J*	20 J	46 J
	02/20/17	0 - 0.5	FD	ND (2.1) *	1.7	130	ND (1) *	1.3	0.61	22 J	8.1 J	11 J	3.9 J	0.12	ND (1)	14 J	ND (1) J	ND (1)	ND (2.1) J*	25 J	36 J
	02/20/17	2 - 3	N	ND (2.1) *	1.3	84	ND (1) *	1.1	ND (0.21)	13	7.6	28	1.3	ND (0.1) *	ND (1)	12	ND (1) J	ND (1)	ND (2.1) J*	22	25
AOC1-7	01/09/17	0 - 0.5	N	ND (2.1) *	1.6 J	56	ND (1) *	ND (1)	ND (0.21)	14	6.4	9.4	1.6	ND (0.1) *	ND (1)	9.3 J	ND (1) J	ND (1)	ND (2.1) *	21	28 J
	01/09/17	2 - 3	N	ND (2.1) *	1.7	62	ND (1) *	ND (1)	ND (0.21)	20	9.5	9	1.9	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	34	35
	01/09/17	2 - 3	FD	ND (2.1) *	1.6	56	ND (1) *	ND (1)	ND (0.21)	18	8.6	7.1	1.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	30	33
	01/09/17	5 - 6	N	ND (2.1) *	1.6	51	ND (1) *	ND (1)	ND (0.21)	18	9.3	6.3	1.1	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	33	35
	01/09/17	9 - 10	N	ND (2.1) *	1.9	86	ND (1) *	ND (1)	ND (0.21)	25	11	8.8	1.6	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	38	42
	01/09/17	14 - 15	N	ND (2.1) *	1.9	61	ND (1) *	ND (1)	ND (0.21)	22	10	9.2	1.3	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	36	38
AOC1-8	01/05/17	0 - 0.5	N	ND (2.1) *	2.2	110	ND (1.1) *	ND (1.1) *	ND (0.21)	26	6.1	12	4.1	ND (0.11) *	ND (1.1)	9.9	ND (1.1) J	ND (1.1)	ND (2.1) J*	22	41
	01/05/17	2 - 3	N	ND (2.4) *	2.4	130	ND (1.2) *	ND (1.2) *	0.24	16	5.8	10	12	ND (0.12) *	ND (1.2)	7.3	ND (1.2) J	ND (1.2)	ND (2.4) J*	24	40
AOC1-BCW10	02/04/16	0 - 0.5	N	ND (2.1) *	3.6	190	ND (1) *	ND (1)	ND (0.21)	52	8.5	16	11	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	33	65
	02/04/16	2 - 3	N	ND (2.1) *	3.4	190	ND (1) *	ND (1)	0.42	66	8.8	15	11	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	32	63
	02/04/16	5 - 6	N	ND (2) *	1.7	100	ND (1) *	ND (1)	ND (0.2)	17	7.8	9.5	1.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	30	35
	02/04/16	9 - 10	N	ND (2.1) *	2.6	150	ND (1) *	ND (1)	ND (0.21)	25 J	11	7.9	1.8	ND (0.11) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	40	49
	02/04/16	9 - 10	FD	ND (2.1) *	2.5	160	ND (1.1) *	ND (1.1) *	ND (0.21)	19 J	11	8.2	1.9	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	41	44
AOC1-BCW11	02/04/16	0 - 0.5	N	ND (2.1) *	4.4	180	ND (1.1) *	ND (1.1) *	ND (0.21) J	19	6.6	14	8.5	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1) *	25	54
	02/04/16	2 - 3	N	ND (2) *	2.5	180	ND (1) *	ND (1)	0.36	38	11	15	6.3	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2) *	41	54
	02/04/16	5 - 6	N	ND (2.1) *	3.3	210	ND (1) *	ND (1)	0.5	54	10	16	7.3	ND (0.1) *	ND (1)	18	ND (1)	ND (1)	ND (2.1) *	38	62
	02/04/16	9 - 10	N	ND (2.2) *	2.1	91	ND (1.1) *	ND (1.1) *	ND (0.22)	11	6.5	6	ND (1.1)	ND (0.11) *	ND (1.1)	7.3	ND (1.1)	ND (1.1)	ND (2.2) *	22	27

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC1-BCW12	02/04/16	0 - 0.5	N	ND (2.2) *	4.3	200	ND (1.1) *	ND (1.1) *	ND (0.23)	29	7.5	15	9.8	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.2) *	30	74
	02/04/16	2 - 3	N	ND (2.3) *	4	190	ND (1.1) *	ND (1.1) *	0.8	48	7.7	17	10	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.3) *	31	58
	02/04/16	5 - 6	N	ND (2.1) *	2.5	110	ND (1.1) *	ND (1.1) *	ND (0.21)	12	6.2	6.9	2	ND (0.11) *	ND (1.1)	8.3	ND (1.1)	ND (1.1)	ND (2.1) *	24	30
	02/04/16	9 - 10	N	ND (2.1) *	2.1	92	ND (1.1) *	ND (1.1) *	ND (0.21)	13	7.3	6.5	1.3	ND (0.11) *	ND (1.1)	8.2	ND (1.1)	ND (1.1)	ND (2.1) *	26	29
AOC1-BCW13	02/04/16	0 - 0.5	N	ND (2.1) *	3.7	190	ND (1.1) *	ND (1.1) *	ND (0.21)	29	8	16	8.7	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	31	62
	02/04/16	2 - 3	N	ND (2.1) *	2.4	190	ND (1.1) *	ND (1.1) *	0.22	22	10	17	1.5	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	39	44
	02/04/16	5 - 6	N	ND (2.2) *	3.4	73	ND (1.1) *	ND (1.1) *	ND (0.22)	17	9.3	11	2	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.2) *	34	39
	02/04/16	9 - 10	N	ND (2.2) *	2.5	140	ND (1.1) *	ND (1.1) *	ND (0.22)	16	8.6	6.5	1.5	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2) *	30	35
AOC1-BCW14	02/04/16	0 - 0.5	N	ND (2.1) *	2.5	150	ND (1.1) *	ND (1.1) *	ND (0.21)	28	9.5	12	4.7	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	39	49
	02/04/16	2 - 3	N	ND (2.1) *	2.5	110	ND (1) *	ND (1)	0.23	15	7.7	10	3.6	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	32	34
	02/04/16	5 - 6	N	ND (2.1) J*	ND (1)	88 J	ND (1) *	ND (1)	ND (0.21)	14	8	8.8	1.3	ND (0.1) *	ND (1)	9.6	ND (1) J	ND (1)	ND (2.1) *	29	34
	02/04/16	9 - 10	N	ND (2.1) *	4.5	280	ND (1.1) *	ND (1.1) *	ND (0.21)	19	11	22	1.2	ND (0.11) *	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.1) *	37	29
AOC1-BCW15	02/04/16	0 - 0.5	N	ND (2.3) *	4.7	180	ND (1.2) *	ND (1.2) *	ND (0.23)	21	6.6	15	9.2	ND (0.12) *	ND (1.2)	12	ND (1.2)	ND (1.2)	ND (2.3) *	27	52
	02/04/16	2 - 3	N	ND (2.5) *	2.5	140	ND (1.2) *	ND (1.2) *	0.54	43	7	17	9.9	ND (0.13) *	ND (1.2)	12	ND (1.2)	ND (1.2)	ND (2.5) *	29	49
	02/04/16	5 - 6	N	ND (2.2) *	ND (1.1)	95	ND (1.1) *	ND (1.1) *	ND (0.22)	14	8.5	6.6	1.4	ND (0.11) *	ND (1.1)	9.9	ND (1.1)	ND (1.1)	ND (2.2) *	32	39
	02/04/16	9 - 10	N	ND (2.2) *	ND (1.1)	140	ND (1.1) *	ND (1.1) *	ND (0.22)	16	7.5	6.9	ND (1.1)	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.2) *	29	37
AOC1-BCW16	02/04/16	0 - 0.5	N	ND (2.2) *	2.4	150	ND (1.1) *	ND (1.1) *	ND (0.22)	30	8.9	13	5.8	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.2) *	38	46
	02/04/16	2 - 3	N	ND (2.4) *	4.2	200	ND (1.2) *	ND (1.2) *	0.36	50	7.4	18	12	ND (0.12) *	ND (1.2)	12	ND (1.2)	ND (1.2)	ND (2.4) *	31	51
	02/04/16	5 - 6	N	ND (2.1) *	2.2	78	ND (1.1) *	ND (1.1) *	ND (0.21)	15	6.3	8.1	1.3	ND (0.11) *	ND (1.1)	8.8	ND (1.1)	ND (1.1)	ND (2.1) *	27	28
	02/04/16	9 - 10	N	ND (2.1) *	1.8	40	ND (1.1) *	ND (1.1) *	ND (0.21)	10	5.5	6.2	ND (1.1)	ND (0.11) *	ND (1.1)	7.7	ND (1.1)	ND (1.1)	ND (2.1) *	24	22
AOC1-BCW17	02/04/16	0 - 0.5	N	ND (2.3) *	2.7	140	ND (1.1) *	ND (1.1) *	ND (0.23)	15	6.9	13	5.1	ND (0.11) *	ND (1.1)	10	ND (1.1)	ND (1.1)	ND (2.3) *	28	36
	02/04/16	2 - 3	N	ND (2.1) *	ND (1.1)	110	ND (1.1) *	ND (1.1) *	ND (0.21)	23	9.1	18	1.4	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1) *	36	41
	02/04/16	5 - 6	N	ND (2.1) *	ND (1.1)	120	ND (1.1) *	ND (1.1) *	ND (0.21)	18	8.5	18	2	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1) *	34	38
	02/04/16	9 - 10	N	ND (2.1) *	ND (1.1)	250	ND (1.1) *	ND (1.1) *	ND (0.21)	19	8.3	15	1.7	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1) *	34	39
AOC1-BCW18	02/05/16	0 - 0.5	N	ND (2.6) *	3.7	250	ND (1.3) *	ND (1.3) *	ND (0.26)	46	9.4	19	13	ND (0.13) *	ND (1.3)	18	ND (1.3)	ND (1.3)	ND (2.6) *	39	68
	02/05/16	2 - 3	N	ND (2.5) *	2.9	180	ND (1.2) *	ND (1.2) *	ND (0.25)	10	5.5	7	3.5	ND (0.12) *	ND (1.2)	7.6	ND (1.2)	ND (1.2)	ND (2.5) *	23	30
	02/05/16	5 - 6	N	ND (2.2) *	1.7	110	ND (1.1) *	ND (1.1) *	ND (0.22)	9.6	5.8	6.9	ND (1.1)	ND (0.11) *	ND (1.1)	7.6	ND (1.1)	ND (1.1)	ND (2.2) *	22	28
	02/05/16	9 - 10	N	ND (2.2) *	2.4	180	ND (1.1) *	ND (1.1) *	ND (0.22)	17	8.4	6	1.5	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2) *	33	35
AOC1-BCW19	02/05/16	0 - 0.5	N	ND (2.3) J*	3.3	190	ND (1.2) *	ND (1.2) *	1.4	58	8.5	15	11	ND (0.12) *	ND (1.2)	15	ND (1.2) J	ND (1.2)	ND (2.3) *	34	60
	02/05/16	2 - 3	N	ND (2.1) *	1.4	60	ND (1) *	ND (1)	ND (0.21)	12	7.1	6.9	1.4	ND (0.1) *	ND (1)	8.2	ND (1)	ND (1)	ND (2.1) *	26	27
	02/05/16	5 - 6	N	ND (2.1) *	ND (1)	62	ND (1) *	ND (1)	ND (0.21)	15	8.2	6.9	1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	32	34
	02/05/16	9 - 10	N	ND (2.2) *	1.9	59	ND (1.1) *	ND (1.1) *	ND (0.22)	12	7.1	7.7	ND (1.1)	ND (0.11) *	ND (1.1)	8.6	ND (1.1)	ND (1.1)	ND (2.2) *	31	31
AOC1-BCW20	02/05/16	0 - 0.5	N	ND (2.1) *	ND (1)	75	ND (1) *	ND (1)	ND (0.21)	20	8.7	8.2	2.2	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	35	38
	02/05/16	2 - 3	N	ND (2.1) *	1.8	67	ND (1.1) *	ND (1.1) *	ND (0.21)	14	7.3	7.4	1.6	ND (0.11) *	ND (1.1)	9.9	ND (1.1)	ND (1.1)	ND (2.1) *	34	31
	02/05/16	5 - 6	N	ND (2.3) *	1.6	71	ND (1.1) *	ND (1.1) *	ND (0.22)	12	7.1	8.7	1.4	ND (0.11) *	ND (1.1)	8.9	ND (1.1)	ND (1.1)	ND (2.3) *	29	29
	02/05/16	9 - 10	N	ND (2.3) *	2.4	70	ND (1.1) *	ND (1.1) *	ND (0.23)	22	11	17	2.9	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.3) *	43	48
AOC1-BCW21	02/05/16	0 - 0.5	N	ND (2.3) *	3.3	190	ND (1.1) *	ND (1.1) *	ND (0.23)	42	8.6	17	13	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.3) *	36	64
	02/05/16	2 - 3	N	ND (2.2) *	2.9	110	ND (1.1) *	ND (1.1) *	ND (0.22)	22	10	9.7	3.2	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.2) *	38	40
	02/05/16	5 - 6	N	ND (2.2) *	2	420	ND (1.1) *	ND (1.1) *	ND (0.22)	15	7.2	13	1.6	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2) *	29	33
	02/05/16	9 - 10	N	ND (2.2) *	2	140	ND (1.1) *	ND (1.1) *	ND (0.22)	19	9.1	14	2	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2) *	41	40

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC1-BCW22	02/05/16	0 - 0.5	N	ND (2.1) *	3.9	72	ND (1) *	ND (1)	ND (0.21)	12	4.6	7	6.1	ND (0.1) *	ND (1)	6.8	ND (1)	ND (1)	ND (2.1) *	23	26
	02/05/16	2 - 3	N	ND (2.1) *	3.9	120	ND (1) *	ND (1)	ND (0.21)	20	6.6	10	16	ND (0.11) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	30	43
	02/05/16	5 - 6	N	ND (2.1) *	2.9	90	ND (1) *	ND (1)	ND (0.21)	16	7.6	7.7	4.2	ND (0.1) *	ND (1)	9.1	ND (1)	ND (1)	ND (2.1) *	36	36
	02/05/16	9 - 10	N	ND (2.2) *	2.2	66	ND (1.1) *	ND (1.1) *	ND (0.22)	15	7.2	8.8	ND (1.1)	ND (0.11) *	ND (1.1)	9.6	ND (1.1)	ND (1.1)	ND (2.2) *	29	33
AOC1-BCW23	02/05/16	0 - 0.5	N	ND (2.6) *	6.9	270	ND (1.3) *	ND (1.3) *	ND (0.26)	38	9.6	22	16	ND (0.13) *	ND (1.3)	18	ND (1.3)	ND (1.3)	ND (2.6) *	42	84
	02/05/16	2 - 3	N	ND (2.4) *	3.3	180	ND (1.2) *	ND (1.2) *	ND (0.24)	17	7.6	12	6.9	ND (0.12) *	ND (1.2)	12	ND (1.2)	ND (1.2)	ND (2.4) *	33	47
	02/05/16	5 - 6	N	ND (2.2) *	2.3	55	ND (1.1) *	ND (1.1) *	ND (0.22)	11	5.9	5.7	1.7	ND (0.11) *	ND (1.1)	6.9	ND (1.1)	ND (1.1)	ND (2.2) *	28	24
	02/05/16	9 - 10	N	ND (2.2) *	2	120	ND (1.1) *	ND (1.1) *	ND (0.22)	13	7.3	7.6	1.5	ND (0.11) *	ND (1.1)	8.7	ND (1.1)	ND (1.1)	ND (2.2) *	29	33
AOC1-BCW24	02/05/16	0 - 0.5	N	ND (2.4) J*	3.4	170	ND (1.2) *	ND (1.2) *	ND (0.24)	30	9.2	14	7.4	ND (0.12) *	ND (1.2)	15	ND (1.2) J	ND (1.2)	ND (2.4) *	40	56
	02/05/16	2 - 3	N	ND (2.4) *	2.7	170	ND (1.2) *	ND (1.2) *	0.28	29	6.7	15	8.8	ND (0.12) *	ND (1.2)	11	ND (1.2)	ND (1.2)	ND (2.4) *	29	49
	02/05/16	5 - 6	N	ND (2.2) *	1.9	55	ND (1.1) *	ND (1.1) *	ND (0.22)	11	7.3	7.7	1.1	ND (0.11) *	ND (1.1)	8	ND (1.1)	ND (1.1)	ND (2.2) *	28	27
	02/05/16	9 - 10	N	ND (2.2) *	1.9	43	ND (1.1) *	ND (1.1) *	ND (0.22)	7.9	4.5	4.9	1.3	ND (0.11) *	ND (1.1)	5.6	ND (1.1)	ND (1.1)	ND (2.2) *	19	21
AOC1-BCW25	02/05/16	0 - 0.5	N	ND (2.6) *	5.1	230	ND (1.3) *	ND (1.3) *	ND (0.26)	39	9.4	18	11	ND (0.13) *	ND (1.3)	16	ND (1.3)	ND (1.3)	ND (2.6) *	41	69
	02/05/16	2 - 3	N	ND (2.6) *	3.6	180	ND (1.3) *	ND (1.3) *	ND (0.26)	21	9.2	14	3.8	ND (0.13) *	ND (1.3)	12	ND (1.3)	ND (1.3)	ND (2.6) *	38	42
	02/05/16	5 - 6	N	ND (2.2) *	2.2	110	ND (1.1) *	ND (1.1) *	ND (0.22)	13	7.5	7.9	2.6	ND (0.11) *	ND (1.1)	8.8	ND (1.1)	ND (1.1)	ND (2.2) *	31	37
	02/05/16	9 - 10	N	ND (2.2) *	2	120	ND (1.1) *	ND (1.1) *	ND (0.22)	16	9.1	14	2	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2) *	38	42
AOC1-BCW26	02/04/16	0 - 0.5	N	ND (2.2) *	5	170	ND (1.1) *	ND (1.1) *	ND (0.22)	35	9	15	8.9	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2) *	35	59
	02/04/16	2 - 3	N	ND (2.5) *	7.1	190	ND (1.3) *	ND (1.3) *	ND (0.25)	12	6.3	10	8.2	ND (0.13) *	ND (1.3)	9.8	ND (1.3)	ND (1.3)	ND (2.5) *	23	43
	02/04/16	5 - 6	N	ND (2.1) *	3.3	74	ND (1.1) *	ND (1.1) *	ND (0.21)	13	6.8	11	3.6	ND (0.11) *	ND (1.1)	9.2	ND (1.1)	ND (1.1)	ND (2.1) *	24	33
	02/04/16	9 - 10	N	ND (2.4) *	3.3	42	ND (1.2) *	1.3	ND (0.24)	19	9	25	3.1	ND (0.12) *	ND (1.2)	14	ND (1.2)	ND (1.2)	ND (2.4) *	35	40
AOC1-BCW27	02/05/16	0 - 0.5	N	ND (2.4) *	5.2	210	ND (1.2) *	ND (1.2) *	ND (0.24)	33	8.1	17	17	ND (0.12) *	ND (1.2)	15	ND (1.2)	ND (1.2)	ND (2.4) *	35	59
	02/05/16	2 - 3	N	ND (2.3) *	1.7	65	ND (1.1) *	ND (1.1) *	ND (0.23)	12	8	8.6	2	ND (0.11) *	ND (1.1)	9.2	ND (1.1)	ND (1.1)	ND (2.3) *	36	33
	02/05/16	5 - 6	N	ND (2.1) *	1.4	53	ND (1.1) *	ND (1.1) *	ND (0.21)	9.7	6.3	9	1.3	ND (0.11) *	ND (1.1)	7	ND (1.1)	ND (1.1)	ND (2.1) *	26	29
	02/05/16	9 - 10	N	ND (2.3) *	1.9	78	ND (1.1) *	ND (1.1) *	ND (0.23)	15	7.4	7.4	2.2	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.3) *	30	31
AOC1-BCW28	02/05/16	0 - 0.5	N	ND (2.4) *	5.1	270	ND (1.2) *	ND (1.2) *	0.3	49	9.2	19	14	ND (0.12) *	ND (1.2)	17	ND (1.2)	ND (1.2)	ND (2.4) *	39	73
	02/05/16	2 - 3	N	ND (2.3) *	4.6	150	ND (1.2) *	ND (1.2) *	ND (0.23)	18	6.8	10	4.2	ND (0.11) *	ND (1.2)	9.9	ND (1.2)	ND (1.2)	ND (2.3) *	32	38
	02/05/16	5 - 6	N	ND (2.2) *	1.3	96	ND (1.1) *	1.1	ND (0.22)	18	7.8	8.3	1.4	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.2) *	29	33
	02/05/16	9 - 10	N	ND (2.2) *	1.8	110	ND (1.1) *	ND (1.1) *	ND (0.22)	18	8.9	11	2.1	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2) *	36	39
AOC1-BCW29	02/04/16	0 - 0.5	N	ND (2.6) *	4.3	160	ND (1.3) *	ND (1.3) *	ND (0.26)	33	8.7	15	8.3	ND (0.13) *	ND (1.3)	14	ND (1.3)	ND (1.3)	ND (2.6) *	38	56
	02/04/16	2 - 3	N	ND (2.7) *	4.2	210	ND (1.4) *	ND (1.4) *	ND (0.27)	17	8.7	13	5.2	ND (0.14) *	ND (1.4) *	13	ND (1.4)	ND (1.4)	ND (2.7) *	31	49
	02/04/16	5 - 6	N	ND (3.1) *	5.4	350	ND (1.5) *	ND (1.5) *	ND (0.31)	27	14	23	7.6	ND (0.15) *	ND (1.5) *	19	ND (1.5) *	ND (1.5)	ND (3.1) *	46	66
	02/04/16	9 - 10	N	ND (2.4) *	2.7	74	ND (1.2) *	ND (1.2) *	ND (0.24) J	11	7.3	7.1	ND (1.2)	ND (0.12) *	ND (1.2)	9.6	ND (1.2)	ND (1.2)	ND (2.4) *	32	29
AOC1-BCW30	02/04/16	0 - 0.5	N	ND (2.4) J*	5.5	220	ND (1.2) *	ND (1.2) *	ND (0.24)	42	7.3	18	17 J	ND (0.12) *	ND (1.2) J	14	ND (1.2) J	ND (1.2)	ND (2.4) J*	28	61
	02/04/16	2 - 3	N	ND (2.4) *	3.4	140	ND (1.2) *	ND (1.2) *	0.26	14	6	8.7	2.7	ND (0.12) *	ND (1.2)	11	ND (1.2)	ND (1.2)	ND (2.4) *	22	28
	02/04/16	5 - 6	N	ND (2.3) *	3.7	210	ND (1.2) *	ND (1.2) *	ND (0.23)	12	6	8.4	2.9	ND (0.12) *	ND (1.2)	9.6	ND (1.2)	ND (1.2)	ND (2.3) *	23	29
	02/04/16	9 - 10	N	ND (2.3) *	2.7	49	ND (1.2) *	ND (1.2) *	ND (0.23)	8.8	5.8	7.8	ND (1.2)	ND (0.12) *	ND (1.2)	6.3	ND (1.2)	ND (1.2)	ND (2.3) *	19	27

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC1-BCW7	02/05/16	0 - 0.5	N	ND (2) *	2.2	74	ND (1) *	ND (1)	0.29	18	6.3	18	8	ND (0.1) *	ND (1)	9.6	ND (1)	ND (1)	ND (2) *	24	34
	02/05/16	2 - 3	N	ND (2.1) *	3.5	80	ND (1) *	ND (1)	0.36	20	7	8.4	1.7	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	25	29
	02/05/16	2 - 3	FD	ND (2.1) *	4.3	91	ND (1) *	ND (1)	0.28	23	6.3	7.5	1.7	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	25	27
	02/05/16	5 - 6	N	ND (2.1) *	6.7	150	ND (1) *	ND (1)	ND (0.21)	15	3.3	6.2	2.2	ND (0.1) *	ND (1)	7.5	ND (1)	ND (1)	ND (2.1) *	15	15
	02/05/16	9 - 10	N	ND (2.1) *	7.1	540	ND (1.1) *	ND (1.1) *	0.36	24	10	23	1.4	ND (0.1) *	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.1) *	41	26
	02/05/16	14 - 15	N	ND (2.1) *	3	210	ND (1.1) *	ND (1.1) *	ND (0.21)	19	10	8.4	2.4	ND (0.1) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1) *	33	39
	02/05/16	19 - 20	N	ND (2.1) *	3.9	460 J	ND (1) *	ND (1)	ND (0.21)	20	9.1	7.2	1.8	ND (0.11) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	34	38
	02/05/16	19 - 20	FD	ND (2.1) *	3.5	210 J	ND (1.1) *	ND (1.1) *	ND (0.21)	19	9.1	8.7	1.8	ND (0.1) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	34	38
AOC1-BCW8	02/04/16	0 - 0.5	N	ND (2.2) *	3.8	180	ND (1.1) *	ND (1.1) *	ND (0.22)	21	7.1	14	8.3	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.2) *	32	53
	02/04/16	2 - 3	N	ND (2) *	2.5	110	ND (1) *	ND (1)	0.44	28	9.3	10	4.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	37	45
	02/04/16	5 - 6	N	ND (2) *	1.4	82	ND (1) *	ND (1)	0.24	18	9.6	8.4	3.2	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	32	35
	02/04/16	9 - 10	N	ND (2.1) *	1.1	92	ND (1.1) *	ND (1.1) *	ND (0.21)	15 J	8	9.3	1.1	ND (0.11) *	ND (1.1)	10	ND (1.1) J	ND (1.1)	ND (2.1) *	32	35
	02/04/16	9 - 10	FD	ND (2.1) *	2.2	110	ND (1.1) *	ND (1.1) *	ND (0.21)	11 J	8.7	11	ND (1.1)	ND (0.11) *	ND (1.1)	9.5	ND (1.1)	ND (1.1)	ND (2.1) *	30	37
AOC1-BCW9	02/04/16	0 - 0.5	N	ND (2.2) *	4	200	ND (1.1) *	ND (1.1) *	ND (0.22)	35	8.3	17	9.3	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2) *	33	61
	02/04/16	2 - 3	N	ND (2.2) *	3.5	190	ND (1.1) *	ND (1.1) *	1.2	66	8.1	16	11	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.2) *	33	57
	02/04/16	5 - 6	N	ND (2.1) *	2.4	110	ND (1.1) *	ND (1.1) *	ND (0.21)	17	8.5	9.5	3	ND (0.1) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1) *	37	37
	02/04/16	9 - 10	N	ND (2.1) *	2.4	100	ND (1.1) *	ND (1.1) *	ND (0.21)	13	7.9	10	ND (1.1)	ND (0.1) *	ND (1.1)	10	ND (1.1)	ND (1.1)	ND (2.1) *	28	32
AOC1-T1e	01/11/16	0 - 1	N	ND (2.1) *	2.7	37	ND (1) *	ND (1)	ND (0.21)	26	7.5	13	3.3	---	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	23	37
	01/11/16	2 - 3	N	ND (2.1) *	2.7	32	ND (1) *	ND (1)	ND (0.21)	18	9.8	10	2	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	30	40
	01/11/16	5 - 6	N	ND (2.1) *	1.9	22	ND (1) *	ND (1)	ND (0.21)	16	6.6	7.5	1.1	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	23	30
	01/11/16	9 - 10	N	ND (2.1) *	1.9	40	ND (1) *	ND (1)	ND (0.2)	20	8.1	11	1.3	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	27	32
	01/11/16	9 - 10	FD	ND (2.1) *	2.4	43	ND (1) *	ND (1)	ND (0.21)	17	8.1	13	1.5	0.18	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	27	32
	01/11/16	14 - 15	N	ND (2.2) *	2.1	42	ND (1.1) *	ND (1.1) *	ND (0.22)	17	6.8	11	1.3	0.16	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.2) *	24	28
AOC1-T1f	01/12/16	0 - 1	N	ND (2.1) *	2.5	73	ND (1) *	ND (1)	0.71	49	6.6	13	5.5	0.13	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	23	41
	01/12/16	2 - 3	N	ND (2.1) *	2.3	37	ND (1) *	ND (1)	ND (0.21)	20	7.6	7.2	1.5	0.13	ND (1)	19	ND (1)	ND (1)	ND (2.1) *	25	32
	01/12/16	5 - 6	N	ND (2.1) *	3.1	32	ND (1.1) *	ND (1.1) *	ND (0.21)	24	8.9	11	2	0.11	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.1) *	27	40
	01/12/16	9 - 10	N	ND (2.1) *	2.7	72	ND (1) *	ND (1)	ND (0.21)	18 J	11 J	9.1	1.9	0.11	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	36 J	46 J
	01/12/16	9 - 10	FD	ND (2) *	3.1	71	ND (1) *	ND (1)	ND (0.21)	30 J	8.2 J	11	2.6	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	28 J	35 J
	01/12/16	14 - 15	N	ND (2) *	2.2	55	ND (1) *	ND (1)	0.68	29	7.6	9.2	2	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	25	34
AOC1-T1g	02/17/17	0 - 0.5	N	ND (2) *	1.4	97	ND (1) *	1.4	ND (0.2)	26	8.2	12	4.1	ND (0.1) *	ND (1)	15	ND (1) J	ND (1) J	ND (2) J*	30	33
	02/17/17	0 - 0.5	FD	ND (2) *	ND (1)	100	ND (1) *	1.4	ND (0.2)	24	9.9	14	1.6	ND (0.1) *	ND (1)	15	ND (1) J	ND (1) J	ND (2) J*	31	36
	02/17/17	2 - 3	N	ND (2.1) *	ND (1)	80	ND (1) *	1.3	ND (0.21)	30	9.4	13	ND (1)	ND (0.1) *	ND (1)	17	ND (1) J	ND (1) J	ND (2.1) J*	31	32
	02/17/17	5 - 6	N	ND (2.1) *	ND (1)	81	ND (1) *	1.1	0.63	23	7.1	9.2	1.1	ND (0.1) *	ND (1)	9.9	ND (1) J	ND (1) J	ND (2.1) J*	27	30
	02/17/17	9 - 10	N	ND (2.1) *	ND (1)	69	ND (1) *	1.1	ND (0.21)	14	6.7	9.2	ND (1)	ND (0.1) *	ND (1)	8.8	ND (1) J	ND (1) J	ND (2.1) J*	26	29
AOC1-T2f	12/17/15	0 - 1	N	ND (2) *	7.6	96	ND (1) *	ND (1)	0.22	14	5.3	12	7.9	ND (0.1) *	3.2	11	ND (1)	ND (1)	ND (2) *	25	39
	12/17/15	2 - 3	N	ND (2) *	4.4	55	ND (1) *	ND (1)	0.25	17	7.5	11	3.1	ND (0.1) *	8.2	12	ND (1)	ND (1)	ND (2) *	37	40

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC1-T2g	03/03/16	9 - 10	N	4.5	3.6	90	ND (1.1) *	ND (1.1) *	30	2,100	8	11	5.2	0.26	8.4	10	ND (1.1)	ND (1.1)	ND (2.2) *	26	140
	03/03/16	14 - 15	N	ND (2.1) *	2.3	52	ND (1.1) *	ND (1.1) *	0.77	28	8.6	8.9	2	0.16	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	33	75
	03/03/16	19 - 20	N	ND (2.1) *	1.8	43	ND (1.1) *	ND (1.1) *	0.58	27	8.7	9.2	2	0.16	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.1) *	30	53
	03/03/16	29 - 30	N	ND (2.1) *	2.1	50	ND (1.1) *	ND (1.1) *	0.25	21	10	9.9	2.1	0.15	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	36	50
	03/03/16	39 - 40	N	ND (2.1) *	2.2	94	ND (1.1) *	ND (1.1) *	0.23	19	8.9	9.2	1.8	0.14	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	36	39
	03/03/16	39 - 40	FD	ND (2.1) *	2	79	ND (1.1) *	ND (1.1) *	ND (0.21)	19	9	9.8	1.8	0.13	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	36	39
	03/03/16	49 - 50	N	ND (2.1) *	2.8	22	ND (1.1) *	ND (1.1) *	ND (0.21)	18	8.9	15	1.9	0.12	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1) *	36	37
	03/03/16	59 - 60	N	ND (2.1) *	2.3	69	ND (1.1) *	ND (1.1) *	ND (0.21)	18	9.6	13	2.1	0.15	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	37	44
	03/03/16	69 - 70	N	ND (2.1) *	2.1	67	ND (1.1) *	ND (1.1) *	ND (0.21)	15	7.5	8.4	1.4	0.11	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	29	36
AOC1-T2h	03/04/16	0 - 1	N	ND (2.1) J*	1.4	120	ND (1) *	ND (1)	2.5	100 J	9	9.2 J	2.2	ND (0.1) *	ND (1)	17	ND (1) J	ND (1)	ND (2.1) *	32	39
	03/04/16	2 - 3	N	ND (2.1) *	2.1	72	ND (1.1) *	ND (1.1) *	0.42	24	11	9.9	2.2	ND (0.11) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1) *	34	45
	03/04/16	5 - 6	N	ND (2.1) *	ND (1)	130	ND (1) *	ND (1)	6.8	200	9.4	9.8	3.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	32	85
	03/04/16	9 - 10	N	ND (2.1) *	ND (1)	100	ND (1) *	ND (1)	0.94	28	8.7	16	1.4	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	31	44
	03/04/16	14 - 15	N	ND (2.1) *	1.7	42	ND (1) *	ND (1)	0.29	19	7.1	9	1.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	26	33
	03/04/16	19 - 20	N	ND (2.1) *	1.5	58	ND (1.1) *	ND (1.1) *	0.23	18	9.1	12	1.3	ND (0.1) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1) *	31	41
	03/04/16	29 - 30	N	ND (2.1) *	1.9	40	ND (1) *	ND (1)	ND (0.21)	18	8.9	8.9	1.2	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	31	34
	03/04/16	39 - 40	N	ND (2.1) *	2.2	44	ND (1.1) *	ND (1.1) *	ND (0.21)	17	7.9	8	1.6	ND (0.1) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	30	35
AOC1-T2i	03/05/16	0 - 1	N	ND (2.1) *	1.8	92	ND (1) *	ND (1)	0.61	28	7.8	10	2.6	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	31	36
	03/05/16	2 - 3	N	ND (2.1) *	1.3	89	ND (1) *	ND (1)	0.55	25	7.8	9.2	2.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	27	34
	03/05/16	5 - 6	N	ND (2.1) *	ND (1)	89	ND (1) *	ND (1)	0.29	16	7.8	10	3.5	0.12	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	27	40
	03/05/16	9 - 10	N	ND (2) *	1.2	110	ND (1) *	ND (1)	0.31	40	7.9	12	4.8	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	28	40
	03/05/16	14 - 15	N	ND (2.1) *	ND (1)	100	ND (1) *	ND (1)	0.28	17	9	9.5	1.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	35	38
	03/05/16	19 - 20	N	ND (2) *	1.2	130	ND (1) *	ND (1)	0.27	18	8.7	14	1.3	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	31	39
AOC1-T2j	03/05/16	0 - 1	N	ND (2.1) *	ND (1)	93	ND (1) *	ND (1)	0.6	31	11	8.8	1.9	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	48	40
	03/05/16	2 - 3	N	ND (2.1) *	ND (1)	80 J	ND (1) *	ND (1)	0.38	21	8.3 J	9.3	2.4	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	35	32
	03/05/16	2 - 3	FD	ND (2.1) *	ND (1)	65 J	ND (1) *	ND (1)	0.39	18	6.5 J	10	1.7	ND (0.1) *	ND (1)	9.1	ND (1)	ND (1)	ND (2.1) *	29	29
	03/05/16	5 - 6	N	ND (2.1) *	1.7	64	ND (1) *	ND (1)	ND (0.21)	18	8.7	9.2	1.4	0.11	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	33	31
	03/05/16	9 - 10	N	ND (2.1) *	ND (1)	81	ND (1) *	ND (1)	0.37	16	7.4	6.4	1.3	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	41	33
	03/05/16	14 - 15	N	ND (2.1) *	1.5	64	ND (1.1) *	ND (1.1) *	0.26	26	10	12	2.1	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	42	44
	03/05/16	19 - 20	N	ND (2.1) *	1.6	53	ND (1.1) *	ND (1.1) *	0.7	22 J	9.8	8.8	1.7	ND (0.11) *	ND (1.1)	11 J	ND (1.1)	ND (1.1)	ND (2.1) *	39	46
	03/05/16	19 - 20	FD	ND (2.1) *	1.6	57	ND (1.1) *	ND (1.1) *	0.64	30 J	11	9.3	2	ND (0.11) *	ND (1.1)	14 J	ND (1.1)	ND (1.1)	ND (2.1) *	40	45
AOC1-T5D	01/12/16	0 - 1	N	ND (2) *	1.3	84	ND (1) *	ND (1)	ND (0.2)	23	7.5	8.3	6.2	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	26	33
	01/12/16	2 - 3	N	ND (2.1) *	5.3	230	ND (1.1) *	ND (1.1) *	2.7	120 J	6.6	17	18	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1) *	28	100 J
	01/12/16	2 - 3	FD	ND (2.1) *	4.2	210	ND (1) *	ND (1)	2.6	69 J	6.4	14	16	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	25	72 J
	01/12/16	5 - 6	N	ND (2) *	2.3	120	ND (1) *	ND (1)	2.4	80	7.9	9.7	3.7	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	32	42
	01/12/16	9 - 10	N	ND (2) *	1.9	97	ND (1) *	ND (1)	0.33	23	8.2	8.3	4.8	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	31	40
	01/12/16	14 - 15	N	ND (2) *	1.8	110	ND (1) *	ND (1)	0.92	36	7.3	8.8	4.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	27	36
	01/12/16	19 - 20	N	ND (2) *	ND (1)	120 J	ND (1) *	ND (1)	0.51	23	9.5	8.8	1.8	ND (0.099) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	33	48
	01/12/16	19 - 20	FD	ND (2.1) *	ND (1.1)	91 J	ND (1.1) *	ND (1.1) *	0.72	22	9.3	8.8	1.8	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	32	52

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC1-T6D	02/09/16	0 - 0.5	N	ND (2) *	3.7	110 J	ND (1) *	ND (1)	ND (0.2) J	19	6.7	7.6	2.4	ND (0.1) *	ND (1)	9.9	ND (1)	ND (1)	2.4	28	100
	02/09/16	2 - 3	N	ND (2.1) *	2.6	96	ND (1) *	ND (1)	0.32 J	19	8.4	11	1.3	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	31	38
	02/09/16	5 - 6	N	ND (2.1) *	1.3	110	ND (1) *	ND (1)	0.24 J	19	9.1	11	1.7	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	2.3	33	43
	02/09/16	9 - 10	N	ND (2.1) *	3.4	39	ND (1) *	ND (1)	ND (0.21) J	16	7.6	8.8	1.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	2.6	27	35
	02/09/16	9 - 10	FD	ND (2.1) *	3.9	40	ND (1) *	ND (1)	ND (0.21) J	16	7.6	9.5	1.7	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	2.1	29	36
	02/09/16	14 - 15	N	ND (2.1) *	3.1	72 J	ND (1) *	ND (1)	ND (0.21) J	16	8.3	8.3	1.2	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	2.4	31	36
	02/09/16	14 - 15	FD	ND (2) *	2	91 J	ND (1) *	ND (1)	ND (0.2) J	19	9.5	9.9	1.7	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	35	41
	02/09/16	19 - 20	N	ND (2) *	2.6	65	ND (1) *	ND (1)	ND (0.2) J	24	9.7	10	1.2	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	2.2	37	41
AOC1-T7	02/19/17	0 - 0.5	N	ND (2.1) *	1.1	84	ND (1.1) *	1.3	ND (0.21)	23	8.2	13	ND (1.1)	ND (0.1) *	ND (1.1)	13	ND (1.1) J	ND (1.1)	ND (2.1) J*	26	32
	02/19/17	2 - 3	N	ND (2) *	ND (1)	58	ND (1) *	1.1	0.33	27	6.4	8.9	1.1	ND (0.1) *	ND (1)	10	ND (1) J	ND (1)	ND (2) J*	24	35
	02/19/17	5 - 6	N	ND (2) *	ND (1)	72	ND (1) *	1.1	0.43	18	6.5	8.9	7.1	ND (0.1) *	ND (1)	8.5	ND (1) J	ND (1)	ND (2) J*	23	30
	02/19/17	9 - 10	N	ND (2.1) *	1.2	78	ND (1) *	1.3	ND (0.21)	17	7.3	10	ND (1)	ND (0.1) *	ND (1)	9.5	ND (1) J	ND (1)	ND (2.1) J*	27	30
AOC1-T8	02/18/17	0 - 0.5	N	ND (2.1) *	ND (1)	57	ND (1) *	1.2	0.23	43	7.8	11	1.1	ND (0.1) *	ND (1)	16	ND (1) J	ND (1)	ND (2.1) J*	22	34
	02/18/17	2 - 3	N	ND (2.1) *	ND (1)	60	ND (1) *	1	ND (0.21)	18	6.1	17	1.1	ND (0.1) *	ND (1)	8.8	ND (1) J	ND (1)	ND (2.1) J*	20	28
	02/18/17	5 - 6	N	ND (2.1) *	1.5	47	ND (1.1) *	1.2	ND (0.21)	14	7.3	8.6	ND (1.1)	ND (0.11) *	ND (1.1)	9.9	ND (1.1) J	ND (1.1)	ND (2.1) J*	23	36
	02/18/17	9 - 10	N	ND (2.1) *	ND (1)	62	ND (1) *	1.1	0.22	13 J	6	10	ND (1)	ND (0.1) *	ND (1)	7.9 J	ND (1) J	ND (1)	ND (2.1) J*	20	31
	02/18/17	9 - 10	FD	ND (2) *	ND (1)	63	ND (1) *	1.1	ND (0.21)	17 J	6.8	9.2	ND (1)	ND (0.1) *	ND (1)	11 J	ND (1) J	ND (1)	ND (2) J*	21	27
AOC4-GB10	02/10/10	0 - 0.5	N	ND (2.2) *	ND (1.1)	160 J	ND (1.1) *	ND (1.1) *	ND (0.44)	35 J	8.5	16	14	ND (0.11) *	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.2) *	40 J	71 J
AOC4-GB11	02/10/10	0 - 0.5	N	ND (2.2) *	ND (1.1)	170	ND (1.1) *	ND (1.1) *	ND (0.43)	31	9.1	13	7.2 J	ND (0.11) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.2) *	38	46
	02/10/10	0 - 0.5	FD	ND (2.2) *	ND (1.1)	160	ND (1.1) *	ND (1.1) *	0.57	29	8.1	14	16 J	ND (0.11) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.2) *	38	47
AOC4-GB12	02/10/10	0 - 0.5	N	ND (2.2) *	ND (1.1)	160	ND (1.1) *	ND (1.1) *	ND (0.44)	35	9.1	15	5.5	ND (0.11) *	ND (1.1)	24	ND (1.1)	ND (1.1)	ND (2.2) *	42	43
MW-10	06/27/97	1	N	---	---	---	---	---	ND (0.05)	14.2	---	14.1	---	---	---	8.8	---	---	---	---	20.9
	06/27/97	3	N	---	---	---	---	---	ND (0.05)	13.4	---	8.3	---	---	---	9	---	---	---	---	26.6
	06/27/97	6	N	---	---	---	---	---	ND (0.05)	19	---	8.4	---	---	---	10.7	---	---	---	---	23.3
	06/27/97	10	N	---	---	95.3	---	---	ND (0.05)	26.7	---	9.6	2.8	---	0.62	14.1	---	---	---	26.9	30.4
	06/27/97	20	N	---	---	---	---	---	ND (0.05)	14.7	---	7.7	---	---	---	10.2	---	---	---	---	27.1
	06/27/97	25	N	---	---	---	---	---	ND (0.05)	16.1	---	10.6	---	---	---	13.4	---	---	---	---	34.1
	06/27/97	30	N	---	---	---	---	---	ND (0.05)	13.8	---	9.4	---	---	---	11.5	---	---	---	---	31.5
	06/27/97	35	N	---	---	87	---	---	---	---	---	---	3.6	---	ND (0.2)	---	---	---	---	29.9	---
	06/27/97	40	N	---	---	---	---	---	ND (0.05)	14.5	---	9.2	---	---	---	12.6	---	---	---	---	29.4
	06/28/97	50	N	---	---	---	---	---	ND (0.05)	14.3	---	8.5	---	---	---	12.2	---	---	---	---	31.2
	06/27/97	60	N	---	---	---	---	---	ND (0.05)	9.1	---	6	---	---	---	6.6	---	---	---	---	16.3
	06/27/97	70	N	---	---	110	---	---	ND (0.05)	11.7	---	8.8	2.2	---	ND (0.2)	9.4	---	---	---	20.1	24.2
	06/27/97	75	N	---	---	---	---	---	ND (0.05)	11.5	---	6.4	---	---	---	8.2	---	---	---	---	24.9
	06/27/97	75	FD	---	---	---	---	---	0.1	9.6	---	6.97	---	---	---	8.1	---	---	---	---	21.6
	06/27/97	82	N	---	---	115	---	---	ND (0.05)	9.9	---	6.3	2.3	---	ND (0.2)	8.7	---	---	---	21.5	26.6

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
MW-11	06/29/97	1	N	---	---	---	---	---	ND (0.05)	12.2	---	7.5	---	---	---	8.4	---	---	---	---	24.8
	06/29/97	3	N	---	---	---	---	---	ND (0.05)	31.1	---	6.6	---	---	---	7.3	---	---	---	---	29.5
	06/29/97	6	N	---	---	---	---	---	ND (0.05)	26.9	---	5.3	---	---	---	5.6	---	---	---	---	23.2
	06/29/97	10	N	---	---	101	---	---	ND (0.05)	13.5	---	8.3	6.3	---	0.32	7.7	---	---	---	18.9	38.5
	06/29/97	20	N	---	---	---	---	---	ND (0.05)	5.9	---	6	---	---	---	4.9	---	---	---	---	19.9
	06/29/97	30	N	---	---	91.4	---	---	ND (0.05)	12.6	---	6.9	1.8	---	0.8	8.2	---	---	---	22	28.4
	06/29/97	40	N	---	---	---	---	---	ND (0.05)	9.8	---	9.8	---	---	---	8.6	---	---	---	---	28.4
	06/29/97	50	N	---	---	---	---	---	ND (0.05)	13.6	---	6.9	---	---	---	10.1	---	---	---	---	29.8
	06/29/97	60	N	---	---	27.4	---	---	ND (0.05)	9.6	---	5.8	3	---	0.088 J	8.3	---	---	---	18.1	26.2
	06/29/97	60	FD	---	---	---	---	---	ND (0.05)	10	---	5.74	---	---	---	8.6	---	---	---	---	19.8
06/29/97	69	N	---	---	370	---	---	ND (0.05)	16.9	---	13.8	5	---	ND (0.2)	11.3	---	---	---	23.2	35.7	
MW-13	07/09/97	10	N	---	---	---	---	---	ND (0.05)	10.8	---	9.3	---	---	---	8.1	---	---	---	---	27.2
	07/09/97	20	N	---	---	94.2	---	---	ND (0.05)	10.5	---	7.1	2.4	---	0.14 J	8.9	---	---	---	21.1	28.3
	07/09/97	25	N	---	---	124	---	---	---	---	---	---	2.8	---	ND (0.2)	---	---	---	---	26.4	---
	07/09/97	30	N	---	---	---	---	---	ND (0.05)	12.2	---	8.6	---	---	---	8.2	---	---	---	---	33.3
	07/09/97	40	N	---	---	---	---	---	ND (0.05)	10.7	---	8.1	---	---	---	9.4	---	---	---	---	30.4
	07/09/97	40	FD	---	---	---	---	---	ND (0.05)	6.4	---	5.6	---	---	---	5.6	---	---	---	---	17.7
Old Well-BCW-1	09/11/13	7 - 8	N	ND (2.2) J*	4.8	130	ND (1.1) J*	ND (1.1) J*	80	4,200	7	14	12 J	ND (0.11) *	18	11	2.1	ND (1.1) J	ND (2.2) *	37 J	190
Old Well-BCW-2	09/11/13	4 - 5	N	ND (2.1) *	19	130	ND (1) *	ND (1)	73	4,400	7.2	23	10	ND (0.11) *	6.7	12	ND (1)	ND (1)	ND (2.1) *	61	150
PA-01	11/09/15	0 - 1	N	ND (2) J*	3.4	85 J	ND (1) *	ND (1)	0.65	20	3.7	8.5	9.3	ND (0.1) *	ND (1)	6.9	ND (1)	ND (1)	ND (2) *	18	80
PA-03	11/09/15	0 - 1	N	ND (2) *	3.8	140	ND (1) *	ND (1)	0.65	26	7.1	15	13	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	25	200
PA-04	11/09/15	0 - 1	N	ND (2) *	3.9	170	ND (1) *	ND (1)	0.69	36	7.1	14	25	ND (0.1) *	ND (1)	20	ND (1)	ND (1)	ND (2) *	33	56
PA-14	01/27/16	0 - 1	N	ND (2.1) *	4.5	180	ND (1) *	ND (1)	ND (0.21)	20	5.5	22	10	ND (0.1) *	ND (1)	8.7	ND (1)	ND (1)	ND (2.1) *	23	270
PA-15	01/27/16	0 - 1	N	ND (2.1) *	4.7	120	ND (1) *	ND (1)	1.1	170	6.6	26	20	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	25	120
PA-16	01/27/16	0 - 1	N	ND (2.1) *	4.1	150	ND (1) *	ND (1)	1.3	47	6.4	26	8.5	ND (0.1) *	1.2	35	ND (1)	ND (1)	ND (2.1) *	25	64
SD-14	01/11/16	0 - 1	N	ND (2.1) *	3.7	87	ND (1) *	ND (1)	0.72	29	5.6	14	13	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	20	37
	01/11/16	2 - 3	N	ND (2.1) *	2.6	94	ND (1) *	ND (1)	0.63	32	5	7.6	16	ND (0.1) *	ND (1)	9.1	ND (1)	ND (1)	ND (2.1) *	19	47
	01/11/16	5 - 6	N	ND (2.3) *	6.7	140	ND (1.1) *	ND (1.1) *	3.1	42	4.5	64	120	ND (0.11) *	5	11	ND (1.1)	ND (1.1)	ND (2.3) *	18	660
	01/11/16	9 - 10	N	ND (2.1) *	1.6	64	ND (1) *	ND (1)	1.1	35	7.6	7.8	1.9	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	28	36
SD-15	01/12/16	0 - 0.5	N	ND (2.1) *	1.8	220	ND (1.1) *	ND (1.1) *	0.77	19	6.3	13	2.7	ND (0.11) *	ND (1.1)	9.6	ND (1.1)	ND (1.1)	ND (2.1) *	24	32
	01/12/16	2 - 3	N	ND (2.1) *	2.1	36	ND (1.1) *	ND (1.1) *	ND (0.21)	25	7.7	12	1.8	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	27	32
	01/12/16	5 - 6	N	ND (2.1) *	1.6	72	ND (1.1) *	ND (1.1) *	ND (0.21)	21	7.2	11	1.5	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1) *	28	32
	01/12/16	9 - 10	N	ND (2.1) *	2	49	ND (1.1) *	ND (1.1) *	ND (0.21)	20	9.4	9.3	2.1	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	35	37
SD-16	01/12/16	0 - 0.5	N	ND (2.1) *	1.3	100	ND (1.1) *	ND (1.1) *	ND (0.21)	16	7.3	10	1.8	ND (0.1) *	ND (1.1)	10	ND (1.1)	ND (1.1)	ND (2.1) *	28	32
	01/12/16	2 - 3	N	ND (2.1) *	1.9	230	ND (1.1) *	ND (1.1) *	ND (0.21)	19	7.6	11	2.2	ND (0.1) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	34	28
	01/12/16	5 - 6	N	ND (2.1) *	2.3	46	ND (1) *	ND (1)	ND (0.21)	24	10	9.3	2.4	ND (0.11) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	37	40
	01/12/16	9 - 10	N	ND (2.1) *	1.4	69	ND (1) *	ND (1)	ND (0.21)	13	9.4	6.1	1.9	ND (0.1) *	ND (1)	9.3	ND (1)	ND (1)	ND (2.1) *	28	33
SD-17	12/17/15	0 - 0.5	N	ND (2.1) *	5.1	190	ND (1) *	ND (1)	ND (0.2)	17	6.6	15	15	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	27	60
	12/17/15	2 - 3	N	ND (2) *	5.5	180	ND (1) *	ND (1)	0.25	18	7.6	16	19	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	30	65

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
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PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SD-18	12/17/15	0 - 0.5	N	ND (2.1) *	2.9	63	ND (1.1) *	ND (1.1) *	ND (0.21)	32	11	17	3.4	ND (0.11) *	ND (1.1)	22	ND (1.1)	ND (1.1)	ND (2.1) *	41	310
SD-19	01/13/16	0 - 0.5	N	ND (2.1) *	2.3	150 J	ND (1) *	ND (1)	ND (0.21)	30	9.8	15 J	2	ND (0.1) *	ND (1)	24	ND (1)	ND (1)	ND (2.1) *	31	33
	01/13/16	0 - 0.5	FD	ND (2.1) *	2.3	120 J	ND (1) *	ND (1)	ND (0.21)	28	9.8	11 J	2.1	ND (0.11) *	1.3	22	ND (1)	ND (1)	ND (2.1) *	31	33
	01/13/16	2 - 3	N	ND (2) *	2.8	150	ND (1) *	ND (1)	ND (0.2)	24	8.3	10	2.8	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2) *	32	33
	01/13/16	5 - 6	N	ND (2) *	1.2	75	ND (1) *	ND (1)	ND (0.2)	14	6.6	7.9	1.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	23	30
	01/13/16	8 - 8.5	N	ND (2) *	1.9	94	ND (1) *	ND (1)	ND (0.2)	15	6.5	7.8	1.8	0.12	ND (1)	11	ND (1)	ND (1)	ND (2) *	24	35
SD-25	03/10/16	0 - 1	N	ND (2.1) *	2.2	89	ND (1) *	ND (1)	ND (0.21)	23	8.6	15	3.1	0.1	ND (1)	20	ND (1)	ND (1)	ND (2.1) *	32	39
SD-26	03/10/16	0 - 1	N	ND (2) *	4.8	130	ND (1) *	1.1	0.32	24	5.6	21	16	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2) *	22	220
SD-OS33	12/20/16	1.5 - 2	N	ND (2.1) J*	4.7	120	ND (1) *	ND (1)	0.36	29	8	12	5.2	ND (0.1) *	ND (1)	15	ND (1) J	ND (1)	ND (2.1) *	34	47
TCS-4	03/25/14	59 - 60	N	ND (2) J*	2.1	80	ND (1) *	ND (1) J	2.2	61 J	6.3	18 J	32 J	ND (0.1) *	ND (1)	16 J	1.6	ND (1) J	ND (2) J*	29	30
	03/25/14	113	N	ND (2) *	20	51	ND (1) *	ND (1)	ND (0.4)	1,700	31	580	17	ND (0.1) *	35	300	42	ND (1)	ND (2) *	5.7	55
TCS4-E	03/01/16	4 - 5	N	8.3 J	19 J	140	ND (1) J*	ND (1)	29 J	3,100	6.5	16 J	6.2	ND (0.1) *	9.6 J	10 J	ND (1) J	ND (1)	ND (2.1) J*	67 J	190 J
	03/01/16	4 - 5	FD	16 J	18 J	120	ND (1.1) J*	ND (1.1) *	50 J	3,400	5.9	12 J	5	ND (0.11) *	9.1 J	7.1 J	ND (1.1) J	ND (1.1)	ND (2.1) J*	60 J	120 J
	03/01/16	5 - 6	N	ND (2.1) *	ND (1)	58	ND (1) *	ND (1)	0.99	13	8	8	ND (1)	ND (0.1) *	ND (1)	7.6	ND (1)	ND (1)	ND (2.1) *	32	31
TCS4-N	03/01/16	4 - 5	N	8.6	14	100	ND (1.1) *	ND (1.1) *	33	3,400	6.9	8.7	6.9	ND (0.1) *	4.9	13	ND (1.1)	ND (1.1)	ND (2.1) *	70	82
	03/01/16	5 - 6	N	6.9	3.8	130	ND (1.1) *	ND (1.1) *	39	3,300	7.5	14	6.2	ND (0.11) *	15	12	ND (1.1)	ND (1.1)	ND (2.2) *	33	130
TCS4-S	03/01/16	4 - 5	N	ND (2.1) *	1.9	74	ND (1.1) *	ND (1.1) *	30	840	7.4	9	4.5	ND (0.11) *	ND (1.1)	9.5	ND (1.1)	ND (1.1)	ND (2.1) *	33	120
	03/01/16	5 - 6	N	5	2.7	100	ND (1.1) *	ND (1.1) *	21	2,200	7.3	11	3.1	ND (0.11) *	3.4	9	ND (1.1)	ND (1.1)	ND (2.2) *	30	150
SS-1	06/29/97 ‡	0.5	N	---	---	---	---	---	ND (0.05)	38.2	---	16.5	---	---	---	17.9	---	---	---	---	55
	06/29/97 ‡	1.5	N	---	---	---	---	---	ND (0.05)	25.3	---	13.6	---	---	---	12.5	---	---	---	---	43.4
SS-2	06/29/97	0.5	N	---	---	---	---	---	ND (0.05)	18.9	---	14.1	---	---	---	13.2	---	---	---	---	48.3
	06/29/97	1.5	N	---	---	---	---	---	ND (0.05)	10.2	---	12.9	---	---	---	9.4	---	---	---	---	42.2
SS-3	06/29/97	0.5	N	---	---	---	---	---	ND (0.05)	---	---	---	---	---	---	---	---	---	---	---	---
SS-4	06/29/97	0.5	N	---	---	---	---	---	ND (0.05)	---	---	---	---	---	---	---	---	---	---	---	---
SS-5	06/29/97	0.5	N	---	---	---	---	---	ND (0.05)	---	---	---	---	---	---	---	---	---	---	---	---
SS-6	06/29/97	0.5	N	---	---	---	---	---	ND (0.05)	---	---	---	---	---	---	---	---	---	---	---	---
SS-7	06/29/97	0.5	N	---	---	---	---	---	ND (0.05)	---	---	---	---	---	---	---	---	---	---	---	---
SS-8	06/29/97	0.5	N	---	---	---	---	---	ND (0.05)	---	---	---	---	---	---	---	---	---	---	---	---
SSB-1	06/25/97	1	N	---	---	---	---	---	ND (0.05)	13.7	---	14.9	---	---	---	11.6	---	---	---	---	35.7
	06/25/97	3	N	---	---	---	---	---	ND (0.05)	13.6	---	11	---	---	---	12	---	---	---	---	29.6
	06/25/97	6	N	---	---	---	---	---	ND (0.05)	16.7	---	16.9	---	---	---	12.2	---	---	---	---	34.5
	06/25/97	10	N	---	---	97.3	---	---	ND (0.05)	16.5	---	8.2	1.3	---	ND (0.2)	12.9	---	---	---	24.6	31.9
SSB-6	06/30/97	1	N	---	---	---	---	---	ND (0.05)	13.7	---	8.6	---	---	---	8.9	---	---	---	---	29.1
	06/30/97	3	N	---	---	---	---	---	ND (0.05)	27.5	---	6.6	---	---	---	8.2	---	---	---	---	24.8
	06/30/97	6	N	---	---	---	---	---	0.06	467	---	33.8	---	---	---	5.5	---	---	---	---	132
	06/30/97	10	N	---	---	100	---	---	ND (0.05)	14.8	---	9.6	3.1	---	0.79	10.3	---	---	---	22.7	33.4

TABLE 3-2b
Sample Results: Metals in Soil
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SSB-7	06/30/97	1	N	---	---	---	---	---	ND (0.05)	19.8	---	7.7	---	---	---	8.4	---	---	---	---	28.1
	06/30/97	3	N	---	---	---	---	---	ND (0.05)	24.9	---	6.5	---	---	---	7	---	---	---	---	29.4
	06/30/97	6	N	---	---	---	---	---	ND (0.05)	8.6	---	14.7	---	---	---	6.3	---	---	---	---	23
	06/30/97	10	N	---	---	77.5	---	---	ND (0.05)	8.1	---	5.8	1.8	---	ND (0.2)	6.5	---	---	---	16.2	23.4
SSB-8	07/10/97	1	N	---	---	---	---	---	ND (0.05)	53.1	---	15.1	---	---	---	15.3	---	---	---	---	38.3
	07/10/97	3	N	---	---	---	---	---	ND (0.05)	13.6	---	14.1	---	---	---	10.6	---	---	---	---	35.3
	07/10/97	6	N	---	---	---	---	---	ND (0.05)	15.3	---	7.3	---	---	---	10	---	---	---	---	33.5
	07/10/97	10	N	---	---	43.9	---	---	ND (0.05)	17.1	---	10.7	2.8	---	0.071 J	13.9	---	---	---	26.8	35.8
	07/10/97	10	FD	---	---	---	---	---	ND (0.05)	13.7	---	8	---	---	---	11.1	---	---	---	---	30
SSB-9	07/10/97	1	N	---	---	---	---	---	ND (0.05)	17.3	---	8.6	---	---	---	10.1	---	---	---	---	35.5
	07/10/97	3	N	---	---	---	---	---	ND (0.05)	11	---	6.1	---	---	---	7	---	---	---	---	31.8
	07/10/97	6	N	---	---	---	---	---	ND (0.05)	9.6	---	6.4	---	---	---	7.8	---	---	---	---	25.3
	07/10/97	10	N	---	---	102	---	---	ND (0.05)	15.7	---	7.7	3	---	0.096 J	11.4	---	---	---	25.7	33.1
XMW-9	06/25/97	3	N	---	---	---	---	---	ND (0.05)	18.4	---	12	---	---	---	9	---	---	---	---	25.8
	06/25/97	10	N	---	---	257	---	---	ND (0.05)	45.7	---	19.7	5.7	---	0.075 J	35.2	---	---	---	44.5	44.2
	06/25/97	10	FD	---	---	---	---	---	ND (0.05)	31.1	---	16.7	---	---	---	27	---	---	---	---	38.7
	06/25/97	30	N	---	---	88.1	---	---	ND (0.05)	35.6	---	17.2	7.2	---	0.11 J	32.1	---	---	---	42.9	50.3
	06/25/97	50	N	---	---	57.4	---	---	ND (0.05)	36.3	---	15.6	4.5	---	ND (0.2)	28.5	---	---	---	37.7	54.2
	06/25/97	70	N	---	---	1,580	---	---	ND (0.05)	6.7	---	170	6.1	---	1.8	7.4	---	---	---	19.7	54.6
Category 2																					
Spill04162006_Sam	04/26/06	0	N	5	2.3	140	0.5	0.5	---	35	5.3	10	18	0.14	2.7	15	1	0.5	5	24	78
Spill04162006_Sam	04/26/06	0	N	10	4.6	210	1	1	---	20	7	11	6.2	0.16	5	15	1	1	10	34	42
Category 3																					
DS-1	06/24/88	1 - 3	N	---	---	---	---	---	6.8	80	---	---	---	---	---	---	---	---	---	---	---
DS-2	06/24/88	0 - 3	N	---	---	---	---	---	0.7	43	---	---	---	---	---	---	---	---	---	---	---
DS-3	06/24/88	0 - 3	N	---	---	---	---	---	ND (0.5)	25	---	---	---	---	---	---	---	---	---	---	---
DS-4	06/24/88	0 - 3	N	---	---	---	---	---	ND (0.5)	28	---	---	---	---	---	---	---	---	---	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

‡	This location is in an area where soil is transitioning into sediment.
Δ	sediment sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

- 1 Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-2c

Sample Results: Contract Laboratory Program Inorganics
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)									
Interim Screening Level ¹ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	NE	1,800	NE	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	1,800	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	220	NE	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Iron (2+)	Magnesium	Manganese	Manganese Extractable	Potassium	Sodium	Cyanide
Category 1													
AOC1-BCW1	09/20/08	0 - 0.5	N	8,100	21,000	14,000	---	6,400	260	---	2,800	300	ND (1) *
AOC1-BCW5	10/04/08	0 - 0.5	N	9,500	20,000	18,000	---	7,700	300	---	3,900	ND (360)	ND (1.01) *
AOC1-BCW6	08/22/08 ‡	0 - 0.5	N	14,000	35,000	20,000	---	11,000	420	---	4,000	660	ND (6.69) *
AOC1-T1a	10/16/08	0 - 0.5	N	9,800	30,000	17,000	---	8,100	270	---	2,600	260	ND (1.02) *
AOC1-T1b	10/16/08	0 - 0.5	N	7,700	16,000	19,000	---	6,000	230	---	2,300	250	ND (1.01) *
	10/16/08	0 - 0.5	FD	8,100	15,000	19,000	---	6,500	240	---	2,500	250	ND (1.01) *
AOC1-T1c	10/16/08	0 - 0.5	N	9,100	22,000	16,000	---	6,600	250	---	3,800	340	ND (1.02) *
AOC1-T2b	10/16/08	0 - 0.5	N	8,900	24,000	19,000	---	7,800	280	---	3,000 J	310	ND (1.02) *
AOC1-T3a	10/05/08	0 - 0.5	N	11,000	24,000	18,000	---	7,700	290	---	2,900	ND (250)	ND (1.01) *
AOC1-T4c	10/04/08	0 - 0.5	N	5,700	18,000	16,000	---	5,300	200	---	1,700	ND (240)	ND (1.01) *
AOC1-T5b	10/04/08	0 - 0.5	N	6,500	15,000	16,000	---	5,600	210	---	1,800	ND (210)	ND (1) *
AOC1-T6c	09/30/08	0 - 0.5	N	6,300	14,000	15,000	---	5,300	200	---	1,600	210	ND (1) *
AOC4-1	10/14/08	0 - 0.5	N	8,400	21,000	20,000	---	7,900	310	---	2,500 J	270	ND (1.01) *
AOC16-5	02/20/17	0 - 0.5	N	6,900	19,000	15,000 J	---	5,400	210	---	2,100	2,700	ND (0.21)
AOC1-7	01/09/17	0 - 0.5	N	6,500	9,100	29,000	---	4,700	180 J	---	1,300	150	---
AOC1-8	01/05/17	0 - 0.5	N	7,600	18,000	15,000	---	5,700	210	---	2,800	180	---
AOC1-T7	02/19/17	0 - 0.5	N	8,200	26,000	19,000	---	6,500	250	---	2,000	140	ND (0.214)
MW-10	06/27/97	10	N	---	---	15,300	ND (100)	---	231	78.4	---	---	---
	06/27/97	35	N	---	---	15,300	ND (100)	---	226	19.4	---	---	---
	06/27/97	70	N	---	---	10,400	ND (100)	---	284	224	---	---	---
	06/27/97	82	N	---	---	11,000	ND (100)	---	312	151	---	---	---

TABLE 3-2c

Sample Results: Contract Laboratory Program Inorganics

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)									
Interim Screening Level ¹ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	NE	1,800	NE	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	1,800	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	220	NE	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Iron (2+)	Magnesium	Manganese	Manganese Extractable	Potassium	Sodium	Cyanide
MW-11	06/29/97	10	N	---	---	11,300	ND (100)	---	201	70.2	---	---	---
	06/29/97	30	N	---	---	12,900	ND (100)	---	201	60	---	---	---
	06/29/97	60	N	---	---	10,100	ND (100)	---	138	15.6	---	---	---
	06/29/97	69	N	---	---	14,900	ND (100)	---	276	31.4	---	---	---
MW-13	07/09/97	20	N	---	---	12,200	ND (100)	---	218	102.8	---	---	---
	07/09/97	25	N	---	---	15,400	ND (100)	---	270	86.37	---	---	---
SD-14	01/11/16	0 - 1	N	5,800	18,000	12,000	---	4,800	190	---	1,400	250	ND (0.208) J
	01/11/16	2 - 3	N	6,600	17,000	14,000	---	4,900	220	---	1,700	320	ND (0.208) J
	01/11/16	5 - 6	N	9,000	67,000	18,000	---	4,500	220	---	1,900	610	ND (0.224) J
	01/11/16	9 - 10	N	9,500	33,000	18,000	---	6,800	230	---	2,100	440	ND (0.211) J
SD-15	01/12/16	0 - 0.5	N	8,600	48,000	15,000	---	5,400	250	---	1,800	390	ND (0.216)
	01/12/16	2 - 3	N	9,900	26,000	17,000	---	7,000	210	---	1,800	430	ND (0.217)
	01/12/16	5 - 6	N	9,600	59,000	17,000	---	6,800	260	---	1,900	460	ND (0.215)
	01/12/16	9 - 10	N	11,000	17,000	21,000	---	7,800	230	---	2,300	630	ND (0.214)
SD-16	01/12/16	0 - 0.5	N	8,100	14,000	18,000	---	5,900	240	---	2,600	200	ND (0.21)
	01/12/16	2 - 3	N	9,000	56,000	16,000	---	6,500	720	---	2,800	540	ND (0.211)
	01/12/16	5 - 6	N	12,000	6,000	22,000	---	8,600	250	---	2,100	740	ND (0.211)
	01/12/16	9 - 10	N	9,500	45,000	16,000	---	6,500	280	---	2,500	550	ND (0.208)
SED-10	02/17/03 ^Δ	2	N	---	---	5,610	---	---	122	---	---	---	---
SED-12	02/17/03 ^Δ	2	N	---	---	18,400	---	---	353	---	---	---	---
SED-27	02/19/03 ^Δ	2	N	---	---	7,270	---	---	202 B	---	---	---	---
SED-28	02/19/03 ^Δ	2	N	---	---	3,510	---	---	92.1 B	---	---	---	---
SED-29	02/19/03 ^Δ	2	N	---	---	4,630	---	---	113 B	---	---	---	---
SED-8	02/17/03 ^Δ	2	N	---	---	6,660	---	---	127	---	---	---	---

TABLE 3-2c

Sample Results: Contract Laboratory Program Inorganics

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)									
Interim Screening Level ¹ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	NE	1,800	NE	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	1,800	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	220	NE	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	NE	12,100	402	NE	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Iron (2+)	Magnesium	Manganese	Manganese Extractable	Potassium	Sodium	Cyanide
SED-9	02/17/03 ^Δ	2	N	---	---	19,600	---	---	224	---	---	---	---
SSB-1	06/25/97	10	N	---	---	15,300	ND (100)	---	248	63.2	---	---	---
SSB-6	06/30/97	10	N	---	---	14,700	ND (100)	---	273	94.3	---	---	---
SSB-7	06/30/97	10	N	---	---	10,100	ND (100)	---	186	89.6	---	---	---
SSB-8	07/10/97	10	N	---	---	15,600	ND (100)	---	270	57.2	---	---	---
SSB-9	07/10/97	10	N	---	---	14,200	ND (100)	---	205	39.5	---	---	---
XMW-9	06/25/97	10	N	---	---	22,600	ND (100)	---	345	51.3	---	---	---
	06/25/97	30	N	---	---	22,200	ND (100)	---	344	45.7	---	---	---
	06/25/97	50	N	---	---	19,700	ND (100)	---	280	29.5	---	---	---
	06/25/97	70	N	---	---	22,000	ND (100)	---	203	76.4	---	---	---

TABLE 3-2c

Sample Results: Contract Laboratory Program Inorganics

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

‡	This location is in an area where soil is transitioning into sediment.
Δ	sediment sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-2d
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
Category 1																								
AOC1-BCW1	09/20/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8.5	11	9.4	10	10	12	ND (5)	17	ND (5)	7.8	ND (5)	6.2	15	6.2	100.7	16
	09/20/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC1-BCW2	10/04/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/04/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.9 J	10 J	9.7 J	7.7 J	11 J	10 J	ND (5.1)	19 J	ND (5.1)	7.3 J	ND (5.1)	6.2 J	16 J	6.2	98.6	15
	10/04/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8	ND (5)	ND (5)	ND (5)	ND (5)	6.4	ND	14.4	5.8
	10/04/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.9)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC1-BCW3	10/04/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	22	20	24	17	27	29	5.9	34	ND (5.1)	14	ND (5.1)	14	30	14	222.9	32
	10/04/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/04/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.1)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/04/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.7)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	10/04/08	9 - 10	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.9)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC1-BCW4	10/04/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	18	27	16	16	22	6.1	31	ND (5.1)	14	ND (5.1)	11	27	11	189.1	30
	10/04/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/04/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.8)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/04/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.4)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC1-BCW5	10/04/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/04/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.7	7.9	ND (5.1)	5.5	ND (5.1)	8.1	ND (5.1)	9.3	ND (5.1)	5.1	ND (5.1)	ND (5.1)	9.3	ND	50.9	12
	10/04/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.1)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/04/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	10/04/08	9 - 10	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC1-BCW6	08/22/08 ‡	0 - 0.5	N	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	11	ND (7.1)	ND (7.1)	7.3	ND (7.1)	10	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	10	ND	38.3	9
	08/22/08 ‡	2 - 3	N	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	10	ND (7.2)	ND (7.2)	7.7	ND (7.2)	19	ND (7.2)	ND (7.2)	ND (6.4)	10	15	10	51.7	9
AOC1-T1a	10/16/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/16/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/16/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/16/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC1-T1b	10/16/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/16/08	0 - 0.5	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/16/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.9)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/16/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/16/08	9 - 10	N	ND (5)	5.2	ND (5)	ND (5)	9.7	8.1	ND (5)	ND (5)	ND (5)	ND (5)	7.8	ND (5)	28	7.9	ND (5)	ND (4.8)	75	26	97.8	69.9	6.3

TABLE 3-2d
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC1-T1c	10/16/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	24	26	26	23	31	32	9.1	48	ND (5.1)	21	ND (5.1)	20	42	20	282.1	43
	10/16/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.1	7.7	8	6.1	10	9.7	ND (5.2)	16	ND (5.2)	ND (5.2)	ND (5.2)	6.4	14	6.4	79.6	12
	10/16/08	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	9.4	8.3	12	6.3	8.1	12	ND (5.2)	21	ND (5.2)	5.6	ND (5)	7.1	17	7.1	99.7	14
	10/16/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6	7.3	7.8	7.5	10	9.6	ND (5.1)	11	ND (5.1)	6.4	ND (4.1)	ND (5.1)	10	ND	75.6	12
	10/16/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC1-T2a	10/05/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.8	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	5.8	5.8
	10/16/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/16/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/16/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC1-T2b	10/16/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/16/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/16/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/16/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.6)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/16/08	9 - 10	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.5)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC1-T2c	10/08/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	22	20	28	16	17	25	ND (5)	41	ND (5)	14	ND (5)	7.9	40	7.9	223	29
	10/08/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.5	8	9.5	7.5	6.3	8.1	ND (5.1)	15	ND (5.1)	6.3	ND (5)	5.4	13	5.4	80.2	13
	10/08/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.3)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/08/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC1-T2d	10/07/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/07/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	9	5.7	7.2	ND (5.2)	7.3	9.5	ND (5.2)	18	ND (5.2)	ND (5.2)	ND (4.2)	5.4	16	5.4	72.7	10
	10/07/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.5)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/07/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/07/08	19 - 20	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.9)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	10/07/08	29 - 30	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.5)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/07/08	29 - 30	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	10/07/08	39 - 40	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	10/07/08	49 - 50	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.9)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	10/08/08	59 - 60	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.3)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/08/08	69 - 70	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.5)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
AOC1-T2e	10/16/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/16/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/16/08	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)							

TABLE 3-2d
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC1-T5c	10/04/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.4	6.6	5.7	7.7	7.3	ND (5)	8.8	ND (5)	ND (5)	ND (5)	ND (5)	8	ND	49.5	9.1
	10/04/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.1	8.3	7.6	6.6	11	9.7	ND (5)	14	ND (5)	6.1	ND (5)	ND (5)	13	ND	82.4	13
	10/04/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	16	84	45	58	25	58	91	8.8	220	ND (5)	26	ND (5)	62	150	78	765.8	71
	10/04/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC1-T6a	09/30/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.4	6.3	10	8.8	6.1	9.2	ND (5)	10	ND (5)	5.6	ND (5)	ND (5)	10	ND	71.4	11
	09/30/08	2.5 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.2)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	2.5 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (3.8)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	5.5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.3)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	9.5 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (3.7)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC1-T6b	09/30/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.7	6	ND (5)	5.2	ND (5)	5.9	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	22.8	6.1
	09/30/08	2.5 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/30/08	5.5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (3.7)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	9.5 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/30/08	9.5 - 10	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC1-T6c	09/30/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.5	ND (5)	6.1	ND (5)	5.6	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	17.2	5.8
	09/30/08	2.5 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	5.5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC4-1	10/14/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	14	11	37	12	18	28	ND (5)	37	ND (5)	12	ND (5)	10	24	10	193	20
	10/14/08	0.5 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/14/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.2)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC1-1	01/23/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	9.3	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	9.3	6.7
	01/23/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/23/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/23/16	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/23/16	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/23/16	14 - 15	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/24/16	19 - 20	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/24/16	29 - 30	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)

TABLE 3-2d
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC1-3	01/25/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/25/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/25/16	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/25/16	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/25/16	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/25/16	14 - 15	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/25/16	19 - 20	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/25/16	29 - 30	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/25/16	39 - 40	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	01/25/16	49 - 50	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/25/16	59 - 60	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/26/16	69 - 70	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
01/26/16	79 - 80	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
AOC1-4	01/23/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.9	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	9.9	6.6
	01/23/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/23/16	5 - 6	N	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND	ND	ND (58)
	01/23/16	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/23/16	14 - 15	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/23/16	19 - 20	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/23/16	19 - 20	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	01/23/16	29 - 30	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
AOC16-5	02/20/17	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	72 J	52 J	110 J	31	22	57 J	ND (5.2)	110 J	ND (5.2)	29	ND (5.2)	29 J	94 J	29	577	76
	02/20/17	0 - 0.5	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	16 J	13 J	28 J	11	7.9	15 J	ND (5.2)	25 J	ND (5.2)	9	ND (5.2)	5.9 J	23 J	5.9	147.9	21
	02/20/17	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC1-7	01/09/17	0 - 0.5	N	---	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340) *	ND (340)	ND (340) J	ND (340)	ND (340)	ND (340) J*	ND (340)	ND (340)	ND (340) J	ND (6.3)	ND (340)	ND (340)	ND	ND	ND (390) *
AOC1-8	01/05/17	0 - 0.5	N	---	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350) *	ND (350)	ND (350)	ND (350)	ND (350)	ND (350) *	ND (350)	ND (350)	ND (350)	ND (6.7)	ND (350)	ND (350)	ND	ND	ND (400) *
AOC1-BCW13	02/04/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.1 J	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	7.1	6.1
	02/04/16	2 - 3	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND	ND	ND (6.5)
	02/04/16	5 - 6	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND	ND	ND (6.5)
	02/04/16	9 - 10	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND	ND	ND (6.5)
AOC1-BCW24	02/05/16	0 - 0.5	N	6 R	6 R	6 R	6 R	6 R	7.2 J	8 J	17 J	6 R	7.6 J	11 J	6 R	21 J	6 R	6 R	6 R	10 J	16 J	10	87.8	14 JR
	02/05/16	2 - 3	N	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	ND	ND	6.1 R
AOC1-BCW25	02/05/16	0 - 0.5	N	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (65)	ND (65)	ND (65)	ND (65)	10	ND (65)	16	ND (6.5)	ND (65)	ND (6.5)	7.8	14	7.8	40	72
	02/05/16	2 - 3	N	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND	ND	ND (7.5)
	02/05/16	5 - 6	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
	02/05/16	9 - 10	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)

TABLE 3-2d
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC1-T2h	03/04/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/04/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	03/04/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/04/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/04/16	14 - 15	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/04/16	19 - 20	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	03/04/16	29 - 30	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/04/16	39 - 40	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC1-T2i	03/05/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/05/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/05/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/05/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/05/16	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/05/16	19 - 20	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC1-T2j	03/05/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/05/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/05/16	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/05/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/05/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/05/16	14 - 15	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	03/05/16	19 - 20	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	03/05/16	19 - 20	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC1-T5D	01/12/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.8	9.6	11	ND (5.1)	6.5	10	ND (5.1)	14	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	14	ND	71.9	14
	01/12/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	30	24	58	5.3	20	30	ND (5.3)	65	ND (5.3)	6	ND (5.3)	22	54	22	292.3	36
	01/12/16	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	30	ND (52)	ND (52)	ND (52)	ND (52)	32	ND (52)	73	ND (5.2)	ND (52)	ND (5.2)	28	63	28	198	60
	01/12/16	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/12/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/12/16	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.5	ND (5.1)	ND (5.1)	5.8	ND (5.1)	8.9	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.9	ND	30.1	6.3
	01/12/16	19 - 20	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/12/16	19 - 20	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)

TABLE 3-2d
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC1-T6D	02/09/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/09/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	02/09/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	02/09/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/09/16	9 - 10	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	02/09/16	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/09/16	14 - 15	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (57)
	02/09/16	19 - 20	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC1-T7	02/19/17	0 - 0.5	N	---	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350) *	ND (350)	ND (350)	ND (350)	ND (350)	ND (350) *	ND (350)	ND (350)	ND (350)	ND (5.3)	ND (350)	ND (350)	ND	ND	ND (400) *
AOC4-GB10	02/10/10	0 - 0.5	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	28 J	15 J	33 J	9.6 J	ND (5.6)	25 J	ND (5.6)	45 J	ND (5.6)	10 J	ND (5.6)	13 J	36 J	13	201.6	25
AOC4-GB11	02/10/10	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	13	7.9	16	5.4	ND (5.4)	ND (5.4)	ND (5.4)	21	ND (5.4)	5.4	ND (5.4)	9	19	9	87.7	14
	02/10/10	0 - 0.5	FD	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	13	11	20	8	ND (5.5)	13	ND (5.5)	28	ND (5.5)	7.6	ND (5.5)	13	23	13	123.6	18
AOC4-GB12	02/10/10	0 - 0.5	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	12	12	19	9	ND (5.6)	ND (5.6)	ND (5.6)	7.8	ND (5.6)	8.6	ND (5.6)	ND (5.6)	7.8	ND	76.2	19
Old Well-BCW-1	09/11/13	7 - 8	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND	ND	ND (6.5)
PA-01	11/09/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	16	26	64 J	9.5	18 J	31	ND (5.1)	35	ND (5.1)	10	ND (5.1)	11	34	11	243.5	38
PA-03	11/09/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	47 J	95	230	51	75	120 J	ND (51)	110 J	ND (5.1)	ND (51)	ND (5.1)	34 J	100 J	34	828	150
PA-04	11/09/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	5.1	6.1
PA-14	01/27/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	130	ND (52)	ND (52)	ND (52)	ND (52)	37 J	ND (5.2)	ND (52)	ND (5.2)	12 J	28 J	12	195	70
PA-15	01/27/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	9.7 J	210 J	350	720	180	240	350	ND (52)	230 J	ND (5.2)	180	5.5 J	150 J	190 J	165.2	2,650	490
PA-16	01/27/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	7.6	ND (52)	14	ND (5.2)	ND (52)	ND (5.2)	9.6	12	9.6	33.6	58
SD-14	01/11/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.9	110	100	200	31	72	140	ND (5.2)	260	ND (5.2)	33	ND (5.2)	96	230	102.9	1,176	140
	01/11/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.9	100	84	140	33	53	110	ND (5.2)	220	ND (5.2)	33	ND (5.2)	43	200	49.9	973	110
	01/11/16	5 - 6	N	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (57)	ND (57)	ND (57)	ND (57)	ND (5.7)	ND (57)	ND (5.7)	ND (5.7)	ND (57)	ND (5.7)	ND (5.7)	ND (5.7)	ND	ND	ND (63)
	01/11/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
SD-15	01/12/16	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	6.1	68	62	130	15	47	81	ND (5.4)	150	ND (5.4)	16	ND (5.4)	52	120	58.1	689	87
	01/12/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	01/12/16	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/12/16	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
SD-16	01/12/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/12/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/12/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/12/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
SD-17	12/17/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	5.8	ND (51)	6.8	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	6.5	ND	19.1	57
	12/17/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.4	6.1	13	ND (5.1)	ND (5.1)	6.1	ND (5.1)	13	ND (5.1)	ND (5.1)	ND (5.1)	5.1	12	5.1	55.6	11
SD-18	12/17/15	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.3	ND	17.3	6.5

TABLE 3-2d
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 1 – Area around Former Percolation Bed
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PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
SD-19	01/13/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/13/16	0 - 0.5	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/13/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.8	ND (5.1)	ND (5.1)	ND (5.1)	7.1	7.4	7.1	26.3	6.5
	01/13/16	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/13/16	8 - 8.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
SD-25	03/10/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.5	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	5.5	6
SD-26	03/10/16	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	27 J	32	80	10	26	46	ND (5)	92	ND (5)	9.4	ND (5)	34	75	34	397.4	46
SD-OS33	12/20/16	1.5 - 2	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.5 J	9.2 J	18 J	ND (5.1)	9.9 J	9.6 J	ND (5.1)	14 J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	14 J	ND	80.2	14
TCS-4	03/25/14	59 - 60	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND	ND	ND (5.8)
	03/25/14	113	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	11	15	7.1	5.1	12	ND (5.1)	19	ND (5.1)	6.1	ND (5.1) J	8.4	14	8.4	100.3	17
TCS4-E	03/01/16	4 - 5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	73 J	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	73	6.1
	03/01/16	4 - 5	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3) J	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	03/01/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	27 J	ND (5.1)	82 J	8.2 J	39 J	65 J	ND (5.1)	80 J	ND (5.1)	ND (5.1)	ND (5.1)	35 J	73 J	35	374.2	17
TCS4-N	03/01/16	4 - 5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.3	9.2	ND (5.3)	ND (5.3)	7.7	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	22.2	9.4
	03/01/16	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
TCS4-S	03/01/16	4 - 5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	03/01/16	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
‡	This location is in an area where soil is transitioning into sediment.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-2e

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)
Interim Screening Level ¹:				2,870	24,000,000
Residential Regional Screening Levels ²:				39,000	78,000,000
Residential DTSC-SL ³:				NE	24,000
Ecological Comparison Values ⁴:				2,870	NE
Background ⁵:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Methyl acetate
Category 1					
AOC1-BCW1	09/20/08	0 - 0.5	N	ND (330)	---
	09/20/08	2 - 3	N	ND (330)	ND (5.2)
AOC1-BCW2	10/04/08	0 - 0.5	N	ND (330)	---
	10/04/08	2 - 3	N	ND (340)	---
	10/04/08	5 - 6	N	ND (330)	---
	10/04/08	9 - 10	N	ND (350)	---
AOC1-BCW3	10/04/08	0 - 0.5	N	ND (340)	---
	10/04/08	2 - 3	N	ND (330)	---
	10/04/08	5 - 6	N	ND (340)	---
	10/04/08	9 - 10	N	ND (350)	---
	10/04/08	9 - 10	FD	ND (350)	---
AOC1-BCW4	10/04/08	0 - 0.5	N	ND (340)	---
	10/04/08	2 - 3	N	ND (330)	---
	10/04/08	5 - 6	N	ND (340)	---
	10/04/08	9 - 10	N	ND (350)	---
AOC1-BCW5	10/04/08	0 - 0.5	N	ND (330)	---
	10/04/08	2 - 3	N	ND (330)	ND (5.2)
	10/04/08	5 - 6	N	ND (340)	---
	10/04/08	9 - 10	N	ND (350)	---
	10/04/08	9 - 10	FD	ND (350)	---
AOC1-BCW6	08/22/08 †	0 - 0.5	N	ND (470)	---
	08/22/08 †	2 - 3	N	ND (480)	ND (6.4)
AOC1-T1a	10/16/08	0 - 0.5	N	ND (330)	---
	10/16/08	2 - 3	N	ND (330)	ND (7)
	10/16/08	5 - 6	N	ND (330)	---
	10/16/08	9 - 10	N	ND (330)	---
AOC1-T1b	10/16/08	0 - 0.5	N	ND (330)	---
	10/16/08	0 - 0.5	FD	ND (330)	---
	10/16/08	2 - 3	N	ND (340)	ND (4.9)
	10/16/08	5 - 6	N	ND (330)	---
	10/16/08	9 - 10	N	ND (330)	---

TABLE 3-2e

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)
Interim Screening Level ¹:				2,870	24,000,000
Residential Regional Screening Levels ²:				39,000	78,000,000
Residential DTSC-SL ³:				NE	24,000
Ecological Comparison Values ⁴:				2,870	NE
Background ⁵:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Methyl acetate
AOC1-T1c	10/16/08	0 - 0.5	N	ND (340)	---
	10/16/08	2 - 3	N	ND (340)	ND (5.2)
	10/16/08	2 - 3	FD	ND (350)	ND (5)
	10/16/08	5 - 6	N	ND (340)	---
	10/16/08	9 - 10	N	ND (340)	---
AOC1-T2a	10/05/08	0 - 0.5	N	ND (330)	---
	10/16/08	2 - 3	N	ND (330)	---
	10/16/08	5 - 6	N	ND (330)	---
	10/16/08	9 - 10	N	ND (340)	---
AOC1-T2b	10/16/08	0 - 0.5	N	ND (340)	---
	10/16/08	2 - 3	N	ND (340)	ND (5.2)
	10/16/08	5 - 6	N	ND (330)	---
	10/16/08	9 - 10	N	ND (340)	---
	10/16/08	9 - 10	FD	ND (340)	---
AOC1-T2c	10/08/08	0 - 0.5	N	ND (330)	---
	10/08/08	2 - 3	N	ND (330)	---
	10/08/08	5 - 6	N	ND (330)	---
	10/08/08	9 - 10	N	ND (340)	---
AOC1-T2d	10/07/08	0 - 0.5	N	ND (340)	---
	10/07/08	2 - 3	N	ND (340)	---
	10/07/08	5 - 6	N	ND (340)	---
	10/07/08	9 - 10	N	ND (340)	---
	10/07/08	19 - 20	N	ND (350)	---
	10/07/08	29 - 30	N	ND (340)	---
	10/07/08	29 - 30	FD	ND (350)	---
	10/07/08	39 - 40	N	ND (350)	---
	10/07/08	49 - 50	N	ND (350)	---
	10/08/08	59 - 60	N	ND (330)	---
	10/08/08	69 - 70	N	ND (360)	---

TABLE 3-2e

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)
Interim Screening Level ¹:				2,870	24,000,000
Residential Regional Screening Levels ²:				39,000	78,000,000
Residential DTSC-SL ³:				NE	24,000
Ecological Comparison Values ⁴:				2,870	NE
Background ⁵:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Methyl acetate
AOC1-T2e	10/16/08	0 - 0.5	N	ND (330)	---
	10/16/08	2 - 3	N	ND (330)	---
	10/16/08	2 - 3	FD	ND (340)	---
	10/16/08	5 - 6	N	ND (330)	---
	10/16/08	9 - 10	N	ND (340)	---
AOC1-T3a	10/05/08	0 - 0.5	N	ND (330)	---
	10/17/08	2 - 3	N	ND (330)	6.6
	10/17/08	5 - 6	N	ND (330)	---
	10/17/08	9 - 10	N	ND (330)	---
AOC1-T3b	10/05/08	0 - 0.5	N	ND (330)	---
	10/17/08	2 - 3	N	ND (350)	---
	10/17/08	5 - 6	N	ND (330)	---
	10/17/08	9 - 10	N	ND (340)	---
	10/17/08	9 - 10	FD	ND (340)	---
AOC1-T3c	10/05/08	0 - 0.5	N	ND (330)	---
	10/05/08	2 - 3	N	ND (330)	---
	10/05/08	5 - 6	N	370	---
	10/05/08	9 - 10	N	ND (330)	---
AOC1-T4a	10/03/08	0 - 0.5	N	ND (330)	---
	10/03/08	2 - 3	N	ND (330)	---
	10/03/08	5 - 6	N	ND (330)	---
	10/03/08	9 - 10	N	ND (330)	---
AOC1-T4b	10/02/08	0 - 0.5	N	ND (330)	---
	10/02/08	2 - 3	N	ND (340)	---
	10/02/08	2 - 3	FD	ND (340)	---
	10/02/08	5 - 6	N	ND (340)	---
	10/02/08	9 - 10	N	ND (340)	---
AOC1-T4c	10/04/08	0 - 0.5	N	ND (330)	---
	10/04/08	2 - 3	N	ND (340)	ND (6.9)
	10/04/08	5 - 6	N	ND (340)	---
	10/04/08	9 - 10	N	ND (340)	---

TABLE 3-2e

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)
Interim Screening Level ¹:				2,870	24,000,000
Residential Regional Screening Levels ²:				39,000	78,000,000
Residential DTSC-SL ³:				NE	24,000
Ecological Comparison Values ⁴:				2,870	NE
Background ⁵:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Methyl acetate
AOC1-T5a	10/04/08	0 - 0.5	N	ND (330)	---
	10/04/08	2 - 3	N	ND (330)	---
	10/04/08	5 - 6	N	ND (330)	---
	10/04/08	9 - 10	N	ND (340)	---
	10/04/08	9 - 10	FD	ND (340)	---
AOC1-T5b	10/04/08	0 - 0.5	N	ND (330)	---
	10/04/08	2 - 3	N	ND (340)	ND (7.4)
	10/04/08	5 - 6	N	ND (330)	---
	10/04/08	9 - 10	N	ND (340)	---
AOC1-T5c	10/04/08	0 - 0.5	N	ND (330)	---
	10/04/08	2 - 3	N	ND (330)	---
	10/04/08	5 - 6	N	ND (330)	---
	10/04/08	9 - 10	N	ND (330)	---
AOC1-T6a	09/30/08	0 - 0.5	N	ND (330)	---
	09/30/08	2.5 - 3	N	ND (340)	---
	09/30/08	2.5 - 3	FD	ND (340)	---
	09/30/08	5.5 - 6	N	ND (340)	---
	09/30/08	9.5 - 10	N	ND (340)	---
AOC1-T6b	09/30/08	0 - 0.5	N	ND (330)	---
	09/30/08	2.5 - 3	N	ND (330)	---
	09/30/08	5.5 - 6	N	ND (330)	---
	09/30/08	9.5 - 10	N	ND (330)	---
	09/30/08	9.5 - 10	FD	ND (330)	---
AOC1-T6c	09/30/08	0 - 0.5	N	ND (330)	---
	09/30/08	2.5 - 3	N	ND (330)	ND (5)
	09/30/08	5.5 - 6	N	ND (330)	---
AOC4-1	10/14/08	0 - 0.5	N	ND (330)	---
	10/14/08	0.5 - 1	N	ND (330)	---
	10/14/08	2 - 3	N	810	12
AOC16-5	02/20/17	0 - 0.5	N	ND (340)	ND (9) J
AOC1-7	01/09/17	0 - 0.5	N	ND (340)	ND (6.3)
AOC1-8	01/05/17	0 - 0.5	N	ND (350)	ND (6.7)
AOC1-T7	02/19/17	0 - 0.5	N	ND (350)	ND (5.3) J

TABLE 3-2e

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)
Interim Screening Level ¹:				2,870	24,000,000
Residential Regional Screening Levels ²:				39,000	78,000,000
Residential DTSC-SL ³:				NE	24,000
Ecological Comparison Values ⁴:				2,870	NE
Background ⁵:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Methyl acetate
Old Well-BCW-1	09/11/13	7 - 8	N	ND (370)	---
PA-01	11/09/15	0 - 1	N	ND (340)	---
PA-03	11/09/15	0 - 1	N	2,000	---
PA-04	11/09/15	0 - 1	N	ND (340)	---
PA-14	01/27/16	0 - 1	N	ND (3,400) *	---
PA-15	01/27/16	0 - 1	N	ND (3,400) *	---
PA-16	01/27/16	0 - 1	N	ND (340)	---
TCS-4	03/25/14	59 - 60	N	ND (330) J	---
	03/25/14	113	N	ND (330) J	---

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Only detected SVOCs and VOCs are presented.

‡	This location is in an area where soil is transitioning into sediment.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
SVOCs	semivolatile organic compounds

¹ The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28 and ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

TABLE 3-2f

Sample Results: Total Petroleum Hydrocarbons

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC1-BCW1	09/20/08	0 - 0.5	N	12.6	31.8
	09/20/08	2 - 3	N	ND (10)	ND (10)
AOC1-BCW2	10/04/08	0 - 0.5	N	ND (10)	31 J
	10/04/08	2 - 3	N	ND (10)	11.1 J
	10/04/08	5 - 6	N	ND (10)	17.6 J
	10/04/08	9 - 10	N	ND (10)	ND (10)
AOC1-BCW3	10/04/08	0 - 0.5	N	ND (10)	21.6 J
	10/04/08	2 - 3	N	ND (10)	10.7 J
	10/04/08	5 - 6	N	ND (10)	ND (10)
	10/04/08	9 - 10	N	ND (10)	ND (10)
	10/04/08	9 - 10	FD	ND (10)	ND (10)
AOC1-BCW4	10/04/08	0 - 0.5	N	15.8	17.8 J
	10/04/08	2 - 3	N	ND (10)	ND (10)
	10/04/08	5 - 6	N	ND (10)	ND (10)
	10/04/08	9 - 10	N	ND (10)	ND (10)
AOC1-BCW5	10/04/08	0 - 0.5	N	28.9	30.1 J
	10/04/08	2 - 3	N	10.5	22.6 J
	10/04/08	5 - 6	N	ND (10)	ND (10)
	10/04/08	9 - 10	N	ND (10)	ND (10)
	10/04/08	9 - 10	FD	ND (10)	ND (10)
AOC1-BCW6	08/22/08	0 - 0.5	N	ND (10)	17.5
	08/22/08	2 - 3	N	ND (10)	16.3
AOC1-T1a	10/16/08	0 - 0.5	N	ND (10)	ND (10)
	10/16/08	2 - 3	N	ND (10)	ND (10)
	10/16/08	5 - 6	N	ND (10)	15.5
	10/16/08	9 - 10	N	ND (10)	ND (10)
AOC1-T1b	10/16/08	0 - 0.5	N	ND (10)	ND (10)
	10/16/08	0 - 0.5	FD	ND (10)	ND (10)
	10/16/08	2 - 3	N	21.3	276
	10/16/08	5 - 6	N	ND (10)	21
	10/16/08	9 - 10	N	ND (10)	34.4
AOC1-T1c	10/16/08	0 - 0.5	N	ND (10)	26.2
	10/16/08	2 - 3	N	11.8	82.8
	10/16/08	2 - 3	FD	15	104
	10/16/08	5 - 6	N	ND (10)	36.5
	10/16/08	9 - 10	N	ND (10)	ND (10)

TABLE 3-2f

Sample Results: Total Petroleum Hydrocarbons

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC1-T2a	10/05/08	0 - 0.5	N	ND (10)	ND (10)
	10/16/08	2 - 3	N	ND (10)	ND (10)
	10/16/08	5 - 6	N	ND (10)	ND (10)
	10/16/08	9 - 10	N	ND (10)	ND (10)
AOC1-T2b	10/16/08	0 - 0.5	N	ND (10)	12.9
	10/16/08	2 - 3	N	ND (10)	14.4
	10/16/08	5 - 6	N	ND (10)	10.9
	10/16/08	9 - 10	N	ND (10)	ND (10)
	10/16/08	9 - 10	FD	ND (10)	ND (10)
AOC1-T2c	10/08/08	0 - 0.5	N	ND (10)	ND (10)
	10/08/08	2 - 3	N	ND (10)	ND (10)
	10/08/08	5 - 6	N	ND (10)	ND (10)
	10/08/08	9 - 10	N	ND (10)	ND (10)
AOC1-T2d	10/07/08	0 - 0.5	N	ND (10)	ND (10)
	10/07/08	2 - 3	N	ND (10)	17.5
	10/07/08	5 - 6	N	ND (10)	ND (10)
	10/07/08	9 - 10	N	21.4	25.2
	10/07/08	19 - 20	N	ND (10)	ND (10)
	10/07/08	29 - 30	N	ND (10)	ND (10)
	10/07/08	29 - 30	FD	ND (10)	ND (10)
	10/07/08	39 - 40	N	ND (10)	ND (10)
	10/07/08	49 - 50	N	ND (10)	ND (10)
	10/08/08	59 - 60	N	ND (10)	ND (10)
	10/08/08	69 - 70	N	ND (10)	ND (10)
AOC1-T2e	10/16/08	0 - 0.5	N	ND (10)	ND (10)
	10/16/08	2 - 3	N	ND (10)	11.9
	10/16/08	2 - 3	FD	ND (10)	10.9
	10/16/08	5 - 6	N	ND (10)	41.1
	10/16/08	9 - 10	N	ND (10)	14.5
AOC1-T3a	10/05/08	0 - 0.5	N	ND (10)	ND (10)
	10/17/08	2 - 3	N	ND (10)	11
	10/17/08	5 - 6	N	ND (10)	14.4
	10/17/08	9 - 10	N	ND (10)	ND (10)
AOC1-T3b	10/05/08	0 - 0.5	N	ND (10)	ND (10)
	10/17/08	2 - 3	N	ND (10)	24.9
	10/17/08	5 - 6	N	ND (10)	17.6
	10/17/08	9 - 10	N	ND (10)	11.1
	10/17/08	9 - 10	FD	ND (10)	ND (10)

TABLE 3-2f

Sample Results: Total Petroleum Hydrocarbons

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC1-T3c	10/05/08	0 - 0.5	N	ND (10)	11.2
	10/05/08	2 - 3	N	ND (10)	ND (10)
	10/05/08	5 - 6	N	ND (10)	19
	10/05/08	9 - 10	N	ND (10)	10
AOC1-T4a	10/03/08	0 - 0.5	N	21	25 J
	10/03/08	2 - 3	N	ND (10)	15.6 J
	10/03/08	5 - 6	N	ND (10)	ND (10)
	10/03/08	9 - 10	N	ND (10)	ND (10)
AOC1-T4b	10/02/08	0 - 0.5	N	ND (10)	ND (10)
	10/02/08	2 - 3	N	ND (10)	ND (10)
	10/02/08	2 - 3	FD	ND (10)	34.3
	10/02/08	5 - 6	N	ND (10)	ND (10)
	10/02/08	9 - 10	N	ND (10)	ND (10)
AOC1-T4c	10/04/08	0 - 0.5	N	ND (10) J	ND (10) J
	10/04/08	2 - 3	N	ND (10) J	ND (10) J
	10/04/08	5 - 6	N	ND (10) J	ND (10) J
AOC1-T5a	10/04/08	0 - 0.5	N	ND (10) J	ND (10) J
	10/04/08	5 - 6	N	ND (10)	ND (10)
	10/04/08	9 - 10	N	ND (10)	ND (10)
	10/04/08	9 - 10	FD	ND (10)	16.5 J
AOC1-T5b	10/04/08	0 - 0.5	N	ND (10)	ND (10)
	10/04/08	2 - 3	N	ND (10)	ND (10)
	10/04/08	5 - 6	N	ND (10)	ND (10)
	10/04/08	9 - 10	N	ND (10) J	ND (10) J
AOC1-T5c	10/04/08	0 - 0.5	N	ND (10)	ND (10)
	10/04/08	2 - 3	N	ND (10)	ND (10)
	10/04/08	5 - 6	N	ND (10)	ND (10)
	10/04/08	9 - 10	N	ND (10)	ND (10)
AOC1-T6a	09/30/08	0 - 0.5	N	ND (10)	21.4
	09/30/08	2.5 - 3	N	ND (10)	13.5
	09/30/08	2.5 - 3	FD	ND (10)	13.7
	09/30/08	5.5 - 6	N	ND (10)	ND (10)
	09/30/08	9.5 - 10	N	ND (10)	10.5
AOC1-T6b	09/30/08	0 - 0.5	N	ND (10)	10.9
	09/30/08	2.5 - 3	N	ND (10)	ND (10)
	09/30/08	5.5 - 6	N	ND (10)	ND (10)
	09/30/08	9.5 - 10	N	ND (10)	ND (10)
	09/30/08	9.5 - 10	FD	ND (10)	ND (10)

TABLE 3-2f

Sample Results: Total Petroleum Hydrocarbons

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC1-T6c	09/30/08	0 - 0.5	N	ND (10)	13.5
	09/30/08	2.5 - 3	N	ND (10)	ND (10)
	09/30/08	5.5 - 6	N	ND (10)	ND (10)
AOC4-1	10/14/08	0 - 0.5	N	ND (10)	ND (10)
	10/14/08	0.5 - 1	N	ND (10)	ND (10)
	10/14/08	2 - 3	N	ND (10)	ND (10)
Old Well-BCW-1	09/11/13	7 - 8	N	ND (11)	20
PA-01	11/09/15	0 - 1	N	ND (10)	13
PA-03	11/09/15	0 - 1	N	ND (10)	41
PA-04	11/09/15	0 - 1	N	ND (10)	16
PA-14	01/27/16	0 - 1	N	ND (10)	50
PA-15	01/27/16	0 - 1	N	12	110
PA-16	01/27/16	0 - 1	N	ND (10)	43
SD-14	01/11/16	0 - 1	N	ND (10)	26
	01/11/16	2 - 3	N	ND (10)	31
	01/11/16	5 - 6	N	300	3,700
	01/11/16	9 - 10	N	ND (10)	31
SD-15	01/12/16	0 - 0.5	N	ND (11)	100
	01/12/16	2 - 3	N	ND (11)	ND (11)
	01/12/16	5 - 6	N	ND (11)	ND (11)
	01/12/16	9 - 10	N	ND (11)	ND (11)
SD-16	01/12/16	0 - 0.5	N	ND (10)	ND (10)
	01/12/16	2 - 3	N	ND (10)	ND (10)
	01/12/16	5 - 6	N	ND (10)	ND (10)
	01/12/16	9 - 10	N	ND (10)	ND (10)
SD-17	12/17/15	0 - 0.5	N	ND (10)	61
	12/17/15	2 - 3	N	ND (10)	64
SD-18	12/17/15	0 - 0.5	N	ND (11)	ND (11)
SD-19	01/13/16	0 - 0.5	N	ND (10)	ND (10)
	01/13/16	0 - 0.5	FD	ND (11)	ND (11)
	01/13/16	2 - 3	N	ND (10)	ND (10)
	01/13/16	5 - 6	N	ND (10)	ND (10)
	01/13/16	8 - 8.5	N	ND (10)	ND (10)
SD-25	03/10/16	0 - 1	N	ND (10)	ND (10)
SD-26	03/10/16	0 - 1	N	ND (10)	21
SD-OS33	12/20/16	1.5 - 2	N	13 J	25 J

TABLE 3-2f

Sample Results: Total Petroleum Hydrocarbons

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

‡	This location is in an area where soil is transitioning into sediment.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
RWQCB	Regional Water Quality Control Board
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency

- 1 The interim screening level is the Regional Water Quality Control Board environmental screening level.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.
- 5 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 6 Background values have not been established for TPHs.

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(µS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
Category 1												
AOC1-BCW1	09/20/08	0 - 0.5	N	---	---	---	---	8.21	---	---	---	---
	09/20/08	2 - 3	N	---	---	---	---	9.02	---	---	---	---
AOC1-BCW2	10/04/08	0 - 0.5	N	---	---	---	---	8.85	---	---	---	---
	10/04/08	2 - 3	N	---	---	---	---	8.35	---	---	---	---
	10/04/08	5 - 6	N	---	---	---	---	8.72	---	---	---	---
	10/04/08	9 - 10	N	---	---	---	---	8.68	---	---	---	---
AOC1-BCW3	10/04/08	0 - 0.5	N	---	---	---	---	8.76	---	---	---	---
	10/04/08	2 - 3	N	---	---	---	---	8.68	---	---	---	---
	10/04/08	5 - 6	N	---	---	---	---	8.58	---	---	---	---
	10/04/08	9 - 10	N	---	---	---	---	9.5	---	---	---	---
	10/04/08	9 - 10	FD	---	---	---	---	9.54	---	---	---	---
AOC1-BCW4	10/04/08	0 - 0.5	N	---	---	---	---	8.06	---	---	---	---
	10/04/08	2 - 3	N	---	---	---	---	8.28	---	---	---	---
	10/04/08	5 - 6	N	---	---	---	---	8.69	---	---	---	---
	10/04/08	9 - 10	N	---	---	---	---	8.94	---	---	---	---
AOC1-BCW5	10/04/08	0 - 0.5	N	---	---	---	---	9.43	---	---	---	---
	10/04/08	2 - 3	N	---	---	---	---	8.58	---	---	---	---
	10/04/08	5 - 6	N	---	---	---	---	8.26	---	---	---	---
	10/04/08	9 - 10	N	---	---	---	---	9.55	---	---	---	---
	10/04/08	9 - 10	FD	---	---	---	---	9.48	---	---	---	---
AOC1-BCW6	08/22/08 [‡]	0 - 0.5	N	---	---	---	---	7.74	---	---	---	---
	08/22/08 [‡]	2 - 3	N	---	---	---	---	7.89	---	---	---	---

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(µS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
AOC1-T1a	10/16/08	0 - 0.5	N	---	---	---	---	8.66	---	---	---	---
	10/16/08	2 - 3	N	---	---	---	---	8.85	---	---	---	---
	10/16/08	5 - 6	N	---	---	---	---	8.83	---	---	---	---
	10/16/08	9 - 10	N	---	---	---	---	9.03	---	---	---	---
AOC1-T1b	10/16/08	0 - 0.5	N	---	---	---	---	9.18	---	---	---	---
	10/16/08	0 - 0.5	FD	---	---	---	---	9.08	---	---	---	---
	10/16/08	2 - 3	N	---	---	---	---	9.04	---	---	---	---
	10/16/08	5 - 6	N	---	---	---	---	8.87	---	---	---	---
	10/16/08	9 - 10	N	---	---	---	---	9.66	---	---	---	---
AOC1-T1c	10/16/08	0 - 0.5	N	---	---	---	---	9.24	---	---	---	---
	10/16/08	2 - 3	N	---	---	---	---	9.47	---	---	---	---
	10/16/08	2 - 3	FD	---	---	---	---	9.44	---	---	---	---
	10/16/08	5 - 6	N	---	---	---	---	8.94	---	---	---	---
	10/16/08	9 - 10	N	---	---	---	---	9.15	---	---	---	---
AOC1-T2a	10/05/08	0 - 0.5	N	---	---	---	---	8.26	---	---	---	---
	10/16/08	2 - 3	N	---	---	---	---	8.63	---	---	---	---
	10/16/08	5 - 6	N	---	---	---	---	8.7	---	---	---	---
	10/16/08	9 - 10	N	---	---	---	---	8.75	---	---	---	---
AOC1-T2b	10/16/08	0 - 0.5	N	---	---	---	---	9.29	---	---	---	---
	10/16/08	2 - 3	N	---	---	---	---	9.18	---	---	---	---
	10/16/08	5 - 6	N	---	---	---	---	9.33	---	---	---	---
	10/16/08	9 - 10	N	---	---	---	---	9.4	---	---	---	---
	10/16/08	9 - 10	FD	---	---	---	---	9.29	---	---	---	---

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(µS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
AOC1-T2c	10/08/08	0 - 0.5	N	---	---	---	---	8.89	---	---	---	---
	10/08/08	2 - 3	N	---	---	---	---	9.15	---	---	---	---
	10/08/08	5 - 6	N	---	---	---	---	9.43	---	---	---	---
	10/08/08	9 - 10	N	---	---	---	---	9.36	---	---	---	---
AOC1-T2d	10/07/08	0 - 0.5	N	---	---	---	---	9.31	---	---	---	---
	10/07/08	2 - 3	N	---	---	---	---	8.86	---	---	---	---
	10/07/08	5 - 6	N	---	---	---	---	8.95	---	---	---	---
	10/07/08	9 - 10	N	---	---	---	---	9.23	---	---	---	---
	10/07/08	19 - 20	N	---	---	---	---	9.68	---	---	---	---
	10/07/08	29 - 30	N	---	---	---	---	9.73	---	---	---	---
	10/07/08	29 - 30	FD	---	---	---	---	9.78	---	---	---	---
	10/07/08	39 - 40	N	---	---	---	---	9.29	---	---	---	---
	10/07/08	49 - 50	N	---	---	---	---	9.35	---	---	---	---
	10/08/08	59 - 60	N	---	---	---	---	9.39	---	---	---	---
10/08/08	69 - 70	N	---	---	---	---	9.5	---	---	---	---	
AOC1-T2e	10/16/08	0 - 0.5	N	---	---	---	---	9.17	---	---	---	---
	10/16/08	2 - 3	N	---	---	---	---	9.28	---	---	---	---
	10/16/08	2 - 3	FD	---	---	---	---	9.26	---	---	---	---
	10/16/08	5 - 6	N	---	---	---	---	9.13	---	---	---	---
	10/16/08	9 - 10	N	---	---	---	---	9.14	---	---	---	---
AOC1-T3a	10/05/08	0 - 0.5	N	---	---	---	---	8.49	---	---	---	---
	10/17/08	2 - 3	N	---	---	---	---	9.32	---	---	---	---
	10/17/08	5 - 6	N	---	---	---	---	8.94	---	---	---	---
	10/17/08	9 - 10	N	---	---	---	---	8.35	---	---	---	---

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(µS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
AOC1-T3b	10/05/08	0 - 0.5	N	---	---	---	---	8.85	---	---	---	---
	10/17/08	2 - 3	N	---	---	---	---	9.11	---	---	---	---
	10/17/08	5 - 6	N	---	---	---	---	8.99	---	---	---	---
	10/17/08	9 - 10	N	---	---	---	---	9.22	---	---	---	---
	10/17/08	9 - 10	FD	---	---	---	---	9.05	---	---	---	---
AOC1-T3c	10/05/08	0 - 0.5	N	---	---	---	---	8.44	---	---	---	---
	10/05/08	2 - 3	N	---	---	---	---	9.2	---	---	---	---
	10/05/08	5 - 6	N	---	---	---	---	9.05	---	---	---	---
	10/05/08	9 - 10	N	---	---	---	---	9.14	---	---	---	---
AOC1-T4a	10/03/08	0 - 0.5	N	---	---	---	---	8.06	---	---	---	---
	10/03/08	2 - 3	N	---	---	---	---	8.7	---	---	---	---
	10/03/08	5 - 6	N	---	---	---	---	8.83	---	---	---	---
	10/03/08	9 - 10	N	---	---	---	---	8.76	---	---	---	---
AOC1-T4b	10/02/08	0 - 0.5	N	---	---	---	---	9.02	---	---	---	---
	10/02/08	2 - 3	N	---	---	---	---	9.13	---	---	---	---
	10/02/08	2 - 3	FD	---	---	---	---	9.11	---	---	---	---
	10/02/08	5 - 6	N	---	---	---	---	9.89	---	---	---	---
	10/02/08	9 - 10	N	---	---	---	---	9.99	---	---	---	---
AOC1-T4c	10/04/08	0 - 0.5	N	---	---	---	---	9.35	---	---	---	---
	10/04/08	2 - 3	N	---	---	---	---	8.9	---	---	---	---
	10/04/08	5 - 6	N	---	---	---	---	9.1	---	---	---	---
	10/04/08	9 - 10	N	---	---	---	---	9.41	---	---	---	---

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(µS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
AOC1-T5a	10/04/08	0 - 0.5	N	---	---	---	---	8.87	---	---	---	---
	10/04/08	2 - 3	N	---	---	---	---	9.17	---	---	---	---
	10/04/08	5 - 6	N	---	---	---	---	9.44	---	---	---	---
	10/04/08	9 - 10	N	---	---	---	---	9.25	---	---	---	---
	10/04/08	9 - 10	FD	---	---	---	---	9.3	---	---	---	---
AOC1-T5b	10/04/08	0 - 0.5	N	---	---	---	---	8.98	---	---	---	---
	10/04/08	2 - 3	N	---	---	---	---	9.13	---	---	---	---
	10/04/08	5 - 6	N	---	---	---	---	9.05	---	---	---	---
	10/04/08	9 - 10	N	---	---	---	---	9.14	---	---	---	---
AOC1-T5c	10/04/08	0 - 0.5	N	---	---	---	---	8.91	---	---	---	---
	10/04/08	2 - 3	N	---	---	---	---	8.82	---	---	---	---
	10/04/08	5 - 6	N	---	---	---	---	9.01	---	---	---	---
	10/04/08	9 - 10	N	---	---	---	---	8.83	---	---	---	---
AOC1-T6a	09/30/08	0 - 0.5	N	---	---	---	---	8.19	---	---	---	---
	09/30/08	2.5 - 3	N	---	---	---	---	8.6	---	---	---	---
	09/30/08	2.5 - 3	FD	---	---	---	---	8.81	---	---	---	---
	09/30/08	5.5 - 6	N	---	---	---	---	8.78	---	---	---	---
	09/30/08	9.5 - 10	N	---	---	---	---	8.71	---	---	---	---
AOC1-T6b	09/30/08	0 - 0.5	N	---	---	---	---	8.54	---	---	---	---
	09/30/08	2.5 - 3	N	---	---	---	---	8.89	---	---	---	---
	09/30/08	5.5 - 6	N	---	---	---	---	8.76	---	---	---	---
	09/30/08	9.5 - 10	N	---	---	---	---	8.59	---	---	---	---
	09/30/08	9.5 - 10	FD	---	---	---	---	8.79	---	---	---	---

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(µS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
AOC1-T6c	09/30/08	0 - 0.5	N	---	---	---	---	8.6	---	---	---	---
	09/30/08	2.5 - 3	N	---	---	---	---	9.42	---	---	---	---
	09/30/08	5.5 - 6	N	---	---	---	---	8.85	---	---	---	---
AOC1-1	01/23/16	0 - 0.5	N	---	---	---	---	9.1	---	---	---	---
	01/23/16	2 - 3	N	---	---	---	---	9.5	---	---	---	---
	01/23/16	5 - 6	N	---	---	---	---	8.5	---	---	---	---
	01/23/16	9 - 10	N	---	---	---	---	9	---	---	---	---
	01/23/16	14 - 15	N	---	---	---	---	9	---	---	---	---
	01/23/16	14 - 15	FD	---	---	---	---	9.1	---	---	---	---
	01/24/16	19 - 20	N	---	---	---	---	9.7	---	---	---	---
	01/24/16	29 - 30	N	---	---	---	---	8.6	---	---	---	---
AOC1-3	01/25/16	0 - 0.5	N	---	---	---	---	9	---	---	---	---
	01/25/16	2 - 3	N	---	---	---	---	9.5	---	---	---	---
	01/25/16	5 - 6	N	---	---	---	---	10	---	---	---	---
	01/25/16	9 - 10	N	---	---	---	---	8.6	---	---	---	---
	01/25/16	14 - 15	N	---	---	---	---	8.5	---	---	---	---
	01/25/16	14 - 15	FD	---	---	---	---	8.4	---	---	---	---
	01/25/16	19 - 20	N	---	---	---	---	8.8	---	---	---	---
	01/25/16	29 - 30	N	---	---	---	---	9.9	---	---	---	---
	01/25/16	39 - 40	N	---	---	---	---	10	---	---	---	---
	01/25/16	49 - 50	N	---	---	---	---	9.8	---	---	---	---
	01/25/16	59 - 60	N	---	---	---	---	9.9	---	---	---	---
	01/26/16	69 - 70	N	---	---	---	---	9.9	---	---	---	---
	01/26/16	79 - 80	N	---	---	---	---	9.9	---	---	---	---

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(μS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
AOC1-4	01/23/16	0 - 0.5	N	---	---	---	---	9.2	---	---	---	---
	01/23/16	2 - 3	N	---	---	---	---	9.2	---	---	---	---
	01/23/16	5 - 6	N	---	---	---	---	9.7	---	---	---	---
	01/23/16	9 - 10	N	---	---	---	---	9.6	---	---	---	---
	01/23/16	14 - 15	N	---	---	---	---	9.5	---	---	---	---
	01/23/16	19 - 20	N	---	---	---	---	9.7	---	---	---	---
	01/23/16	19 - 20	FD	---	---	---	---	9.6	---	---	---	---
	01/23/16	29 - 30	N	---	---	---	---	8.9	---	---	---	---
AOC1-T1e	01/11/16	0 - 1	N	---	---	---	---	9.3	---	---	---	---
	01/11/16	2 - 3	N	---	---	---	---	9.5	---	---	---	---
	01/11/16	5 - 6	N	---	---	---	---	9.5	---	---	---	---
	01/11/16	9 - 10	N	---	---	---	---	9.4	---	---	---	---
	01/11/16	9 - 10	FD	---	---	---	---	9.4	---	---	---	---
	01/11/16	14 - 15	N	---	---	---	---	9.3	---	---	---	---
AOC1-T1f	01/12/16	0 - 1	N	---	---	---	---	9.2	---	---	---	---
	01/12/16	2 - 3	N	---	---	---	---	9.4	---	---	---	---
	01/12/16	5 - 6	N	---	---	---	---	8.9	---	---	---	---
	01/12/16	9 - 10	N	---	---	---	---	9.4	---	---	---	---
	01/12/16	9 - 10	FD	---	---	---	---	9.3	---	---	---	---
	01/12/16	14 - 15	N	---	---	---	---	9.3	---	---	---	---
AOC1-T2f	12/17/15	0 - 1	N	---	---	---	---	9	---	---	---	---
	12/17/15	2 - 3	N	---	---	---	---	9	---	---	---	---

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(µS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
MW-10	06/27/97	1	N	---	---	---	---	9.03	---	---	---	---
	06/27/97	3	N	---	---	---	---	8.84	---	---	---	---
	06/27/97	6	N	---	---	---	---	8.73	---	---	---	---
	06/27/97	10	N	---	---	120	311	8.75	---	9.2 J	ND (0.4)	520
	06/27/97	20	N	---	---	---	---	8.87	---	---	---	---
	06/27/97	25	N	10	---	---	---	9.38	---	---	---	---
	06/27/97	30	N	---	---	---	---	9.85	---	---	---	---
	06/27/97	35	N	---	---	116	271	---	---	35	ND (0.4)	630
	06/27/97	40	N	---	---	---	---	9.2	---	---	---	---
	06/28/97	50	N	10	---	---	---	9.28	---	---	---	---
	06/27/97	60	N	---	---	---	---	9.26	---	---	---	---
	06/27/97	70	N	---	---	115	324	9.28	---	8.5 J	ND (0.4)	420
	06/27/97	75	N	12	---	---	---	8.09	---	---	---	---
	06/27/97	75	FD	---	---	---	---	9.29	---	---	---	---
	06/27/97	82	N	9	---	111	291	9.07	---	25	ND (0.4)	340

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(µS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
MW-11	06/29/97	1	N	---	---	---	---	8.62	---	---	---	---
	06/29/97	3	N	---	---	---	---	9.03	---	---	---	---
	06/29/97	6	N	---	---	---	---	8.83	---	---	---	---
	06/29/97	10	N	---	---	110	299	8.92	---	11	ND (0.4)	410
	06/29/97	20	N	0.7	---	---	---	9.09	---	---	---	---
	06/29/97	30	N	---	---	120	307	9.07	---	17	ND (0.4)	110
	06/29/97	40	N	10	---	---	---	9.03	---	---	---	---
	06/29/97	50	N	---	---	---	---	9.69	---	---	---	---
	06/29/97	60	N	11	---	112	291	9.25	---	18	ND (0.4)	330
	06/29/97	60	FD	---	---	---	---	9.46	---	---	---	---
	06/29/97	69	N	10	---	117	257	9.04	---	20	ND (0.4)	360
MW-13	07/09/97	10	N	---	---	---	---	8.66	---	---	---	---
	07/09/97	20	N	4.07	---	136.6	208	8.44	---	71	ND (0.4)	270
	07/09/97	25	N	4.16	---	138.5	224	---	---	93	ND (0.4)	ND (100)
	07/09/97	30	N	4.01	---	---	---	8.45	---	---	---	---
	07/09/97	40	N	---	---	---	---	8.7	---	---	---	---
	07/09/97	40	FD	---	---	---	---	8.72	---	---	---	---
Old Well-BCW-1	09/11/13	7 - 8	N	---	---	---	---	8.2	---	---	---	---
SS-1	06/29/97 ‡	0.5	N	---	---	---	---	8.56	---	---	---	---
	06/29/97 ‡	1.5	N	---	---	---	---	8.3	---	---	---	---
SS-2	06/29/97	0.5	N	---	---	---	---	8.05	---	---	---	---
	06/29/97	1.5	N	---	---	---	---	8.46	---	---	---	---

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(μS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
SSB-1	06/25/97	1	N	---	---	---	---	8.51	---	---	---	---
	06/25/97	3	N	---	---	---	---	8.79	---	---	---	---
	06/25/97	6	N	---	---	---	---	8.57	---	---	---	---
	06/25/97	10	N	---	---	157	327	8.35	---	20	ND (0.4)	140
SSB-6	06/30/97	1	N	---	---	---	---	8.74	---	---	---	---
	06/30/97	3	N	---	---	---	---	9.04	---	---	---	---
	06/30/97	6	N	---	---	---	---	8.8	---	---	---	---
	06/30/97	10	N	---	---	120	295	8.94	---	22	ND (0.4)	310
SSB-7	06/30/97	1	N	---	---	---	---	8.61	---	---	---	---
	06/30/97	3	N	---	---	---	---	8.76	---	---	---	---
	06/30/97	6	N	---	---	---	---	8.95	---	---	---	---
	06/30/97	10	N	---	---	122	284	9.48	---	34	ND (0.4)	ND (100)
SSB-8	07/10/97	1	N	---	---	---	---	8.46	---	---	---	---
	07/10/97	3	N	---	---	---	---	8.53	---	---	---	---
	07/10/97	6	N	---	---	---	---	8.2	---	---	---	---
	07/10/97	10	N	---	---	147.9	204	8.9	---	12	ND (0.4)	ND (100)
	07/10/97	10	FD	---	---	---	---	8.5	---	---	---	---
SSB-9	07/10/97	1	N	---	---	---	---	7.95	---	---	---	---
	07/10/97	3	N	---	---	---	---	8.52	---	---	---	---
	07/10/97	6	N	---	---	---	---	8.44	---	---	---	---
	07/10/97	10	N	---	---	141.4	252	8.82	---	9.2 J	ND (0.4)	ND (100)

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(meq/100g)	(mg/kg)	(mV)	(mg/kg)	(pH Units)	(µS/cm)	(mg/kg)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Cation Exchange Capacity	Chloride	Electric Conductance	Ortho phosphate	pH	Specific conductance	Sulfate	Sulfide	Total organic carbon
XMW-9	06/25/97	3	N	---	---	---	---	8.47	---	---	---	---
	06/25/97	10	N	---	---	144	359	9.27	---	21	ND (0.4)	140
	06/25/97	10	FD	---	---	---	---	9.13	---	---	---	---
	06/25/97	30	N	16.7	---	140	363	8.53	---	33	ND (0.4)	110
	06/25/97	50	N	---	---	188	305	8.42	---	21	ND (0.4)	260
	06/25/97	70	N	3.4	---	97	238	8.56	---	17	ND (0.4)	ND (100)
Category 2												
Spill04162006_Sam 04/26/06		0	N	---	530	---	---	8.25	320	230	---	---
Spill04162006_Sam 04/26/06		0	N	---	380	---	---	8.41	610	1,700	---	---

TABLE 3-2g

Sample Results: General Chemistry Parameters

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

‡	This location is in an area where soil is transitioning into sediment.
Δ	sediment sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
μS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

- 1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-2h
Sample Results: Pesticides
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC1-BCW1	09/20/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC1-BCW5	10/04/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC1-BCW6 ‡	08/22/08	0 - 0.5	N	ND (2.8) *	ND (2.8) *	ND (2.8) *	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (2.8)	ND (1.4)	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (7.1)	ND (71)
AOC1-T1a	10/16/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC1-T1b	10/16/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	10/16/08	0 - 0.5	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC1-T1c	10/16/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC1-T2b	10/16/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC1-T3a	10/05/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC1-T4c	10/04/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC1-T5b	10/04/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC1-T6c	09/30/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC4-1	10/14/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC16-5	02/20/17	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC1-7	01/09/17	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC1-8	01/05/17	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
AOC1-BCW10	02/04/16	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	02/04/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/04/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/04/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	02/04/16	9 - 10	FD	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
AOC1-BCW11	02/04/16	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1) J	ND (5.3)	ND (53)
	02/04/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/04/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	02/04/16	9 - 10	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54)
AOC1-BCW13	02/04/16	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	02/04/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	02/04/16	5 - 6	N	ND (2.3) *	ND (2.3) *	ND (2.3) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.3)	ND (1.1)	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.6)	ND (56)
	02/04/16	9 - 10	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)
AOC1-BCW16	02/04/16	0 - 0.5	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)
	02/04/16	2 - 3	N	ND (2.4) *	ND (2.4) *	ND (2.4) *	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (2.4)	ND (1.2)	ND (2.4)	ND (2.4)	ND (2.4)	ND (2.4)	---	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (6.1)	ND (61)
	02/04/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	02/04/16	9 - 10	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54)

TABLE 3-2h
Sample Results: Pesticides
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
AOC1-BCW18	02/05/16	0 - 0.5	N	ND (2.6) *	ND (2.6) *	ND (2.6) *	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (2.6)	ND (1.3)	ND (2.6)	ND (2.6)	ND (2.6)	ND (2.6)	---	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (6.6)	ND (66)
	02/05/16	2 - 3	N	ND (2.5) *	ND (2.5) *	ND (2.5) *	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (2.5)	ND (1.2)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	---	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (6.2)	ND (62)
	02/05/16	5 - 6	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)
	02/05/16	9 - 10	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.6)	ND (56)
AOC1-BCW20	02/05/16	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	02/05/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	02/05/16	5 - 6	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.6)	ND (56)
	02/05/16	9 - 10	N	ND (2.3) *	ND (2.3) *	ND (2.3) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.3)	ND (1.1)	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.7)	ND (57)
AOC1-BCW21	02/05/16	0 - 0.5	N	ND (2.3) *	ND (2.3) *	ND (2.3) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.3)	ND (1.1)	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.7)	ND (57)
	02/05/16	2 - 3	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)
	02/05/16	5 - 6	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)
	02/05/16	9 - 10	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)
AOC1-BCW25	02/05/16	0 - 0.5	N	ND (2.6) *	ND (2.6) *	ND (2.6) *	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (2.6)	ND (1.3)	ND (2.6)	ND (2.6)	ND (2.6)	ND (2.6)	---	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (6.5)	ND (65)
	02/05/16	2 - 3	N	ND (2.6) *	ND (2.6) *	ND (2.6) *	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (2.6)	ND (1.3)	ND (2.6)	ND (2.6)	ND (2.6)	ND (2.6)	---	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (6.5)	ND (65)
	02/05/16	5 - 6	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)
	02/05/16	9 - 10	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.6)	ND (56)
AOC1-BCW27	02/05/16	0 - 0.5	N	ND (2.4) *	ND (2.4) *	ND (2.4) *	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (2.4)	ND (1.2)	ND (2.4)	ND (2.4)	ND (2.4)	ND (2.4)	---	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (6)	ND (60)
	02/05/16	2 - 3	N	ND (2.3) *	ND (2.3) *	ND (2.3) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.3)	ND (1.1)	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.6)	ND (56)
	02/05/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	02/05/16	9 - 10	N	ND (2.3) *	ND (2.3) *	ND (2.3) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.3)	ND (1.1)	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.7)	ND (57)
AOC1-BCW28	02/05/16	0 - 0.5	N	ND (2.4) *	ND (2.4) *	ND (2.4) *	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (2.4)	ND (1.2)	ND (2.4)	ND (2.4)	ND (2.4)	ND (2.4)	---	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (6)	ND (60)
	02/05/16	2 - 3	N	ND (2.3) *	ND (2.3) *	ND (2.3) *	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (2.3)	ND (1.2)	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	---	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (5.8)	ND (58)
	02/05/16	5 - 6	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54)
	02/05/16	9 - 10	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.6)	ND (56)
AOC1-BCW29	02/04/16	0 - 0.5	N	ND (2.6) *	ND (2.6) *	ND (2.6) *	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (2.6)	ND (1.3)	ND (2.6)	ND (2.6)	ND (2.6)	ND (2.6)	---	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (6.6)	ND (66)
	02/04/16	2 - 3	N	ND (2.7) *	ND (2.7) *	ND (2.7) *	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (2.7)	ND (1.4)	ND (2.7)	ND (2.7)	ND (2.7)	ND (2.7)	---	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (6.8)	ND (68)
	02/04/16	5 - 6	N	ND (3.1) *	ND (3.1) *	ND (3.1) *	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (3.1)	ND (1.5)	ND (3.1)	ND (3.1)	ND (3.1)	ND (3.1)	---	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (7.7)	ND (77)
	02/04/16	9 - 10	N	ND (2.4) *	ND (2.4) *	ND (2.4) *	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (2.4)	ND (1.2)	ND (2.4)	ND (2.4)	ND (2.4)	ND (2.4)	---	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (6.1)	ND (61)

TABLE 3-2h
Sample Results: Pesticides
AOC 1 – Area around Former Percolation Bed
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PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
AOC1-T2g	03/03/16	9 - 10	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55) J
	03/03/16	14 - 15	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	03/03/16	19 - 20	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	03/03/16	29 - 30	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	03/03/16	39 - 40	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	03/03/16	39 - 40	FD	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	03/03/16	49 - 50	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	03/03/16	59 - 60	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54) J
	03/03/16	69 - 70	N	ND (2.1) *	ND (2.1) *	ND (2.1) J*	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1) J	ND (2.1) J	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1) J	ND (1.1)	ND (5.3) J	ND (53) J
AOC1-T2h	03/04/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/04/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	03/04/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/04/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/04/16	14 - 15	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/04/16	19 - 20	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/04/16	29 - 30	N	ND (2.1) J*	ND (2.1) J*	ND (2.1) J*	ND (1) J	ND (1) J	ND (1) J	ND (1) J	ND (1) J	ND (2.1) J	ND (1) J	ND (2.1) J	ND (2.1) J	ND (2.1) J	ND (2.1) J	---	ND (1) J	ND (1) J	ND (1) J	ND (1) J	ND (5.2) J	ND (52) J
	03/04/16	39 - 40	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
AOC1-T2i	03/05/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/05/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/05/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/05/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/05/16	14 - 15	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/05/16	19 - 20	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
AOC1-T2j	03/05/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/05/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/05/16	2 - 3	FD	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/05/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/05/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/05/16	14 - 15	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	03/05/16	19 - 20	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54) J
	03/05/16	19 - 20	FD	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
AOC1-T7	02/19/17	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
#	This location is in an area where soil is transitioning into sediment.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison values for Additional Chemicals in Soil." July 1.	
5 Background values have not been established for pesticides.	

TABLE 3-2i

Sample Results: Polychlorinated Biphenyls

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC1-BCW1	09/20/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	91	ND (17)	ND (17)	ND (17)	99.5
	09/20/08	2 - 3	N	ND (17) J	ND (33) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17)
AOC1-BCW5	10/04/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC1-BCW6	08/22/08 ‡	0 - 0.5	N	ND (23)	ND (47)	ND (23)	ND (23)	ND (23)	ND (23)	ND (23)	ND (23)	ND (23)	ND (23)
AOC1-T1a	10/16/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC1-T1b	10/16/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
	10/16/08	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC1-T1c	10/16/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	75	ND (17)	ND (17)	ND (17)	83.5
AOC1-T2b	10/16/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC1-T3a	10/05/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	63	ND (17)	ND (17)	ND (17)	71.5
	10/17/08	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC1-T4c	10/04/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC1-T5b	10/04/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC1-T6c	09/30/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC4-1	10/14/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	24	ND (17)	ND (17)	ND (17)	32.5
AOC1-1	01/23/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/23/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	19	ND (17)	---	---	27.5
AOC1-2	01/23/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/23/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC1-3	01/25/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/25/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC1-4	01/23/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/23/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)

TABLE 3-2i

Sample Results: Polychlorinated Biphenyls

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC16-5	02/20/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	440	ND (17)	---	---	465.5
	02/20/17	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	350	ND (17)	---	---	375.5
	02/20/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC1-7	01/09/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17) J	ND (17)	---	---	ND (17)
	01/09/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17) J	ND (17) J	ND (17)	---	---	ND (17)
	01/09/17	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17) J	ND (17)	---	---	ND (17)
	01/09/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17) J	ND (17)	---	---	ND (17)
	01/09/17	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17) J	ND (17)	---	---	ND (17)
	01/09/17	14 - 15	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17) J	ND (17) J	ND (17)	---	---	ND (17)
AOC1-BCW10	02/04/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/04/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	530	160	---	---	690
	02/04/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/04/16	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/04/16	9 - 10	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC1-BCW11	02/04/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	02/04/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/04/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/04/16	9 - 10	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
AOC1-BCW12	02/04/16	0 - 0.5	N	ND (18) J	ND (37) J	ND (18) J	ND (18) J	ND (18) J	33 J	26 J	---	---	59
	02/04/16	2 - 3	N	ND (18) J	ND (37) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	---	---	ND (18)
AOC1-BCW13	02/04/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/04/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	02/04/16	5 - 6	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (19)
	02/04/16	9 - 10	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)

TABLE 3-2i

Sample Results: Polychlorinated Biphenyls

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC1-BCW16	02/04/16	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	02/04/16	2 - 3	N	ND (20)	ND (40)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	---	---	ND (20)
	02/04/16	5 - 6	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/04/16	9 - 10	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
AOC1-BCW18	02/05/16	0 - 0.5	N	ND (22)	ND (43)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	---	---	ND (22)
	02/05/16	2 - 3	N	ND (20)	ND (41)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	---	---	ND (20)
	02/05/16	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	02/05/16	9 - 10	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
AOC1-BCW20	02/05/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/05/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/05/16	5 - 6	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (19)
	02/05/16	9 - 10	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (19)
AOC1-BCW21	02/05/16	0 - 0.5	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (19)
	02/05/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	02/05/16	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	02/05/16	9 - 10	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
AOC1-BCW25	02/05/16	0 - 0.5	N	ND (21)	ND (43)	ND (21)	ND (21)	ND (21)	ND (21)	ND (21)	---	---	ND (21)
	02/05/16	2 - 3	N	ND (21)	ND (43)	ND (21)	ND (21)	ND (21)	ND (21)	ND (21)	---	---	ND (21)
AOC1-BCW27	02/05/16	0 - 0.5	N	ND (20)	ND (40)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	---	---	ND (20)
	02/05/16	2 - 3	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (19)
AOC1-BCW28	02/05/16	0 - 0.5	N	ND (20)	ND (39)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	---	---	ND (20)
	02/05/16	2 - 3	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (19)
AOC1-BCW29	02/04/16	0 - 0.5	N	ND (22)	ND (43)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	---	---	ND (22)
	02/04/16	2 - 3	N	ND (22)	ND (45)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	---	---	ND (22)

TABLE 3-2i

Sample Results: Polychlorinated Biphenyls

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC1-BCW7	02/05/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/05/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/05/16	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/05/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/05/16	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/05/16	14 - 15	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/05/16	19 - 20	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/05/16	19 - 20	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC1-BCW9	02/04/16	0 - 0.5	N	ND (18) J	ND (36) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	---	---	ND (18)
	02/04/16	2 - 3	N	ND (18) J	ND (35) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	---	---	ND (18)
AOC1-T1e	01/11/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/11/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC1-T1f	01/12/16	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/12/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC1-T2f	12/17/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	12/17/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC1-T2g	03/03/16	9 - 10	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	03/03/16	14 - 15	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	03/03/16	19 - 20	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	03/03/16	29 - 30	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/03/16	39 - 40	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	03/03/16	39 - 40	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/03/16	49 - 50	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	03/03/16	59 - 60	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	03/03/16	69 - 70	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)

TABLE 3-2i

Sample Results: Polychlorinated Biphenyls

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC1-T2h	03/04/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/04/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	21	ND (17)	---	---	29.5
	03/04/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/04/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/04/16	14 - 15	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/04/16	19 - 20	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/04/16	29 - 30	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	---	---	ND (17)
	03/04/16	39 - 40	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC1-T2i	03/05/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/05/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	18	ND (17)	---	---	26.5
	03/05/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/05/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	39	ND (17)	---	---	47.5
	03/05/16	14 - 15	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/05/16	19 - 20	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC1-T2j	03/05/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/05/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/05/16	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/05/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/05/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/05/16	14 - 15	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	03/05/16	19 - 20	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	03/05/16	19 - 20	FD	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
AOC1-T5D	01/12/16	0 - 1	N	ND (17) J	ND (34)	ND (17)	ND (17)	ND (17)	97	ND (17)	---	---	105.5
	01/12/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	110 J	ND (18)	---	---	119
	01/12/16	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	240 J	ND (17)	---	---	248.5
AOC1-T6D	02/09/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/09/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)

TABLE 3-2i

Sample Results: Polychlorinated Biphenyls

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC4-GB10	02/10/10	0 - 0.5	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	350	ND (18)	---	---	359
AOC4-GB11	02/10/10	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	350 J	ND (18)	---	---	359
	02/10/10	0 - 0.5	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	900 J	ND (18)	---	---	909
AOC4-GB12	02/10/10	0 - 0.5	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	420	ND (18)	---	---	429
Old Well-BCW-1	09/11/13	7 - 8	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
PA-01	11/09/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	260	ND (17)	---	---	285.5
PA-03	11/09/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	89	89	---	---	195
PA-04	11/09/15	0 - 1	N	ND (17) J	ND (34)	ND (17)	ND (17)	ND (17)	17	ND (17) J	---	---	42.5
PA-14	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	120	ND (17)	---	---	145.5
PA-15	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	70	ND (17)	---	---	95.5
PA-16	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	300	ND (17)	---	---	325.5
SD-14	01/11/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	1,000	320	ND (17)	ND (17)	1,337
	01/11/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	85	50	ND (17)	ND (17)	152
	01/11/16	5 - 6	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (38)
	01/11/16	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
SD-15	01/12/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	67	65	ND (18)	ND (18)	150
	01/12/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	01/12/16	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	01/12/16	9 - 10	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
SD-16	01/12/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/12/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/12/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/12/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
SD-17	12/17/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/17/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-18	12/17/15	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)

TABLE 3-2i

Sample Results: Polychlorinated Biphenyls

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
SD-19	01/13/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/13/16	0 - 0.5	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/13/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/13/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/13/16	8 - 8.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-25	03/10/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	300	ND (17)	---	---	325.5
SD-26	03/10/16	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	180	ND (17)	---	---	205.5
SD-OS33	12/20/16	1.5 - 2	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
TCS-4	03/25/14	59 - 60	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/25/14	113	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
TCS4-E	03/01/16	4 - 5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/01/16	4 - 5	FD	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	03/01/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
TCS4-N	03/01/16	4 - 5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/01/16	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
TCS4-S	03/01/16	4 - 5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	03/01/16	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

‡ This location is in an area where soil is transitioning into sediment.

* Reporting limits greater than or equal to the interim screening level.

--- not analyzed

µg/kg micrograms per kilogram

ft bgs feet below ground surface

TABLE 3-2i

Sample Results: Polychlorinated Biphenyls

AOC 1 – Area around Former Percolation Bed

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

JR estimated value, one or more input values is "R" qualified.

NE not established

N primary sample

ND not detected at the listed reporting limit

ND The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

5 Background values have not been established for polychlorinated biphenyls.

TABLE 3-2j
Sample Results: Dioxins and Furans
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals	
Category 1																								
AOC1-BCW6	08/22/08	0 - 0.5	N	2,100 J	210 J	ND (8.4) J	14 J	14 J	75 J	14 J	25 J	ND (5.5) J	ND (5.3) J*	ND (4) J	ND (350) J	ND (5.5) J	ND (0.31) J	ND (2) J	16,000 J	510 J	37	64	64	
	08/22/08	2 - 3	N	570 J	85 J	ND (6.7) J	3.1 J	ND (2) J	ND (0.79) J	ND (5.2) J	7.9 J	ND (2.3) J	ND (0.37) J	ND (1.5) J	ND (2.5) J	ND (1.5) J	ND (0.1) J	ND (0.2) J	8,000 J	200 J	5	11	11	
AOC1-1	01/23/16	0 - 0.5	N	5,600 J	410 J	31 J	43 J	44 J	180 J	20 J	100 J	ND (8) J	23 J	6.4 J	ND (2,900) J	13 J	1.1 J	ND (0.18) J	87,000 J	700 J	220	300	300	
	01/23/16	2 - 3	N	3,700 J	370 J	28 J	20 J	23 J	120 J	13 J	49 J	5.7 J	11 J	3.8 J	ND (1,900) J	7.1 J	ND (0.12) J	ND (1.2) J	66,000 J	810 J	140	190	190	
AOC1-2	01/23/16	0 - 0.5	N	41	4.2 J	ND (0.68)	ND (0.66)	ND (0.41)	1.5 J	ND (0.45)	1.1 J	ND (0.23)	ND (1.4)	ND (0.4)	ND (5.3)	ND (0.16)	ND (0.08)	ND (0.14)	300	8.1 J	1.5	1.9	1.9	
	01/23/16	2 - 3	N	ND (1.3)	ND (0.32)	ND (0.093)	ND (0.17)	ND (0.11)	ND (0.15)	ND (0.095)	ND (0.15)	0.29 J	ND (0.064)	ND (0.057)	ND (0.11)	ND (0.057)	ND (0.046)	ND (0.053)	21 J	ND (0.83)	0.17	0.15	0.15	
AOC1-3	01/25/16	0 - 0.5	N	6,200 J	670 J	ND (35)	62 J	ND (40)	230 J	ND (35)	140 J	ND (47)	37 J	ND (3.4)	ND (3,100)	15 J	ND (0.47)	ND (3.4)	45,000 J	730 J	250	330	330	
	01/25/16	2 - 3	N	3,600	300	ND (15)	31	ND (18)	120	26	76	ND (3.3)	15	ND (10)	ND (1,700)	ND (11)	ND (0.33)	ND (0.95)	33,000 J	480	130	180	180	
	01/25/16	5 - 6	N	13 J	1.3 J	ND (0.32) J	ND (0.25) J	ND (0.39) J	ND (0.23) J	ND (0.18) J	ND (0.23) J	ND (0.29) J	ND (0.27) J	ND (0.21) J	ND (5.4) J	ND (0.22) J	ND (0.14) J	ND (0.073) J	200 J	ND (3.6)	0.74	0.8	0.8	
	01/25/16	9 - 10	N	5.2 J	ND (0.82) J	ND (0.36) J	ND (0.19) J	ND (0.13) J	ND (0.098) J	ND (0.24) J	0.5 J	ND (0.15) J	ND (0.29) J	ND (0.1) J	ND (1.3) J	ND (0.11) J	ND (0.22) J	ND (0.2) J	72 J	ND (2.1)	0.58	0.52	0.52	
AOC1-4	01/23/16	0 - 0.5	N	24 J	ND (2.4) J	ND (0.6) J	ND (0.9) J	ND (0.59) J	ND (0.46) J	ND (0.55) J	ND (0.47) J	ND (0.71) J	ND (0.27) J	ND (0.14) J	ND (3.8) J	ND (0.15) J	ND (0.1) J	ND (0.15) J	240 J	ND (5)	0.74	0.92	0.92	
	01/23/16	2 - 3	N	18 J	2 J	ND (2.4) J	ND (0.23) J	ND (0.31) J	ND (0.22) J	ND (0.29) J	ND (0.22) J	ND (0.37) J	ND (0.16) J	ND (0.091) J	ND (2.7) J	ND (0.096) J	ND (0.081) J	ND (0.084) J	310 J	ND (5.6)	0.5	0.66	0.66	
AOC1-5	01/09/17	0 - 0.5	N	120	ND (9.5)	ND (1.4)	ND (0.37)	ND (0.44)	ND (0.47)	ND (0.58)	ND (1.6)	ND (0.25)	ND (0.47)	ND (0.11)	ND (6)	ND (0.12)	ND (0.087)	ND (0.098)	1,300	28	1.2	2.4	2.4	
	01/09/17	2 - 3	N	6.5 J	ND (0.2)	ND (0.24)	ND (0.11)	ND (0.053)	ND (0.17)	ND (0.048)	ND (0.16)	ND (0.063)	ND (0.07)	ND (0.064)	ND (0.2)	ND (0.067)	ND (0.071)	ND (0.1)	ND (44)	ND (1.3)	0.2	0.2	0.2	
	01/09/17	5 - 6	N	280	45	ND (2.5)	1.3 J	ND (1.2)	ND (0.22)	ND (1.7)	ND (2.2)	ND (0.52)	ND (0.49)	ND (0.24)	ND (53)	ND (0.25)	ND (0.077)	ND (0.12)	4,200	280	4.7	8	8	
	01/09/17	9 - 10	N	8.1 J	ND (1.6)	ND (1.1)	ND (0.29)	ND (0.14)	ND (0.19)	ND (0.13)	ND (1.1)	ND (0.56)	ND (0.14)	ND (0.11)	0.77 J	ND (0.11)	ND (0.071)	ND (0.27)	83	ND (4.4)	0.51	0.45	0.45	
	01/09/17	14 - 15	N	1.8 J	ND (0.13)	ND (0.39)	ND (0.3)	ND (0.067)	ND (0.09)	ND (0.061)	0.27 J	ND (0.079)	ND (0.064)	ND (0.043)	ND (0.069)	ND (0.046)	ND (0.12)	ND (0.18)	ND (9.2)	ND (0.73)	0.26	0.19	0.19	
AOC1-6	01/09/17	0 - 0.5	N	440	42	ND (4.5)	ND (1.6)	ND (1.3)	12 J	ND (2.8)	5.1 J	ND (1.6)	ND (1)	ND (0.52)	ND (110)	ND (0.55)	ND (0.18)	ND (0.25)	4,500	94	8.8	14	14	
	01/09/17	2 - 3	N	77	ND (10)	ND (0.72)	ND (0.49)	ND (0.51)	2.4 J	ND (0.46)	ND (0.79)	ND (0.6)	ND (0.19)	ND (0.39)	ND (20)	ND (0.41)	ND (0.092)	ND (0.13)	750	26	1.8	2.7	2.7	
	01/09/17	5 - 6	N	ND (8.9)	ND (1.1)	ND (0.24)	ND (0.12)	ND (0.13)	ND (0.14)	ND (0.32)	ND (0.28)	ND (0.15)	ND (0.06)	ND (0.051)	1.2 J	ND (0.053)	ND (0.044)	ND (0.039)	ND (75)	ND (1.5)	0.28	0.3	0.3	
	01/09/17	9 - 10	N	ND (3.5)	ND (0.37)	ND (0.38)	ND (0.052)	ND (0.092)	ND (0.051)	ND (0.084)	ND (0.05)	ND (0.11)	ND (0.098)	ND (0.11)	ND (0.095)	ND (0.11)	ND (0.069)	ND (0.063)	ND (41)	ND (1.5)	ND (0.21)	ND (0.16)	ND (0.16)	
	01/09/17	14 - 15	N	3.5 J	ND (0.34)	ND (0.13)	ND (0.11)	ND (0.14)	ND (0.11)	ND (0.097)	ND (0.11)	ND (0.13)	ND (0.21)	ND (0.047)	ND (0.31)	ND (0.049)	ND (0.067)	ND (0.048)	ND (30)	ND (1.6)	0.24	0.24	0.24	
AOC16-5	02/20/17	0 - 0.5	N	820 J	54	5.9 J	3.8 J	9 J	26	ND (3.1)	8.4 J	ND (1.6)	ND (2.4)	ND (0.23)	ND (370)	ND (2.8)	ND (0.095)	ND (0.16)	6,800 J	100	26	36	36	
	02/20/17	0 - 0.5	FD	440 J	28	3.1 J	2.1 J	5.3 J	15	ND (4.1)	4.9 J	1.3 J	ND (1.3)	ND (0.27)	ND (260)	ND (2.1)	ND (0.075)	ND (0.68)	3,700 J	45	18	23	23	
	02/20/17	2 - 3	N	ND (7.9)	ND (0.57)	ND (0.18)	ND (0.069)	ND (0.081)	ND (0.34)	ND (0.078)	ND (0.11)	ND (0.094)	ND (0.065)	ND (0.047)	ND (5.9)	ND (0.049)	ND (0.031)	ND (0.036)	ND (66)	ND (0.91)	ND (0.42)	ND (0.44)	ND (0.44)	
AOC1-7	01/09/17	0 - 0.5	N	480	38 J	ND (0.85)	1.4 J	1.8 J	7.7 J	ND (1.8)	ND (0.29)	ND (0.8)	ND (0.8)	ND (0.13)	ND (61)	ND (0.65)	ND (0.33)	0.38 J	5,100	130 J	6.2	12	12	
	01/09/17	2 - 3	N	190 J	19	ND (1.3)	ND (0.8)	ND (1.1)	5 J	ND (0.95)	ND (1.8)	ND (0.43)	ND (0.28)	ND (0.33)	ND (41)	ND (0.35)	ND (0.075)	ND (0.11)	2,200 J	69	3.4	5.8	5.8	
	01/09/17	2 - 3	FD	97 J	9.8 J	ND (0.79)	ND (0.64)	ND (0.45)	2.8 J	ND (0.41)	1.6 J	ND (0.53)	ND (0.57)	ND (0.14)	ND (30)	ND (0.14)	ND (0.073)	ND (0.12)	980 J	24 J	2.5	3.8	3.8	
	01/09/17	5 - 6	N	4 J	ND (1.3)	1.2 J	ND (0.32)	ND (0.11)	ND (0.061)	ND (0.099)	ND (0.63)	ND (0.41)	ND (0.36)	ND (0.2)	0.84 J	ND (0.16)	ND (0.068)	ND (0.24)	51	2.5 J	0.61	0.49	0.49	
	01/09/17	9 - 10	N	ND (0.27)	ND (0.42)	ND (0.59)	ND (0.19)	ND (0.28)	ND (0.083)	ND (0.07)	ND (0.24)	ND (0.53)	ND (0.048)	ND (0.1)	ND (0.079)	ND (0.056)	ND (0.055)	ND (0.077)	17 J	ND (1.2)	0.2	0.15	0.15	
	01/09/17	14 - 15	N	1.1 J	ND (0.11)	ND (0.33)	ND (0.068)	ND (0.032)	ND (0.067)	ND (0.03)	ND (0.066)	ND (0.038)	ND (0.079)	ND (0.059)	ND (0.26)	ND (0.062)	ND (0.096)	ND (0.12)	12 J	ND (0.66)	0.21	0.15	0.15	

TABLE 3-2j
Sample Results: Dioxins and Furans
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals	
AOC1-8	01/05/17	0 - 0.5	N	130	18	ND (1.9)	ND (1.2)	ND (0.54)	5.4 J	1.9 J	2.9 J	ND (4.4)	ND (0.84)	ND (0.35)	ND (41)	ND (0.26)	ND (0.19)	ND (0.35)	1,200	41	4.1	5.8	5.8	
	01/05/17	2 - 3	N	200	ND (1.5)	ND (1.8)	ND (2)	ND (1.9)	8.5 J	ND (1.6)	5.1 J	ND (2.1)	ND (0.95)	ND (0.97)	ND (78)	ND (0.98)	ND (0.3)	ND (0.44)	1,800	64	6.6	9	9	
AOC1-BCW10	02/04/16	0 - 0.5	N	5,100	ND (240)	27	ND (7.1)	ND (1.1)	88	ND (45)	23	ND (1.3)	ND (4.2)	ND (0.58)	ND (570)	5.1 J	ND (0.4)	2.3 J	42,000	1,700	55	110	110	
	02/04/16	2 - 3	N	670	ND (0.21)	ND (4)	3.5 J	ND (0.21)	17	ND (7.7)	7 J	1.6 J	ND (1)	ND (1.1)	ND (110)	ND (1.2)	ND (0.08)	ND (0.077)	6,700	120	9.7	18	18	
	02/04/16	5 - 6	N	17	ND (0.091)	ND (0.12)	ND (0.2)	ND (0.16)	0.78 J	ND (1.5)	ND (0.19)	ND (0.24)	ND (0.16)	ND (1.5)	ND (0.27)	ND (1.6)	ND (0.045)	ND (0.069)	130	2.2 J	1.2	0.79	0.79	
	02/04/16	9 - 10	N	ND (1.7)	0.38 J	ND (0.094)	ND (0.064)	ND (0.15)	ND (0.12)	ND (0.14)	ND (0.06)	ND (0.18)	ND (0.074)	ND (0.074)	ND (0.42)	ND (0.08)	ND (0.049)	ND (0.11)	ND (14)	ND (0.14)	0.22	0.15	0.15	
	02/04/16	9 - 10	FD	ND (0.88)	ND (0.03)	ND (0.067)	ND (0.046)	ND (0.052)	ND (0.036)	ND (0.048)	ND (0.034)	ND (0.061)	ND (0.052)	ND (0.062)	ND (0.21)	ND (0.067)	ND (0.025)	0.1 J	ND (3.8)	ND (0.047)	0.2	0.089	0.089	
AOC1-BCW11	02/04/16	0 - 0.5	N	380	ND (1.3)	ND (1.6)	1.9 J	ND (2.8)	8.6 J	ND (4.9)	3.7 J	ND (1.1)	ND (0.35)	ND (0.19)	ND (58)	ND (0.21)	ND (0.36)	ND (0.36)	4,700	52	5.4	10	10	
	02/04/16	2 - 3	N	830	ND (1.9)	ND (8)	4 J	ND (2.3)	25	ND (19)	9.3 J	ND (2.7)	ND (2.4)	ND (0.53)	ND (2.4)	2.7 J	ND (0.19)	ND (0.96)	9,700	320 J	9.1	19	19	
	02/04/16	5 - 6	N	1,800	110	12 J	7.8 J	ND (2.1)	50	4.6 J	18	ND (2.4)	ND (3.8)	ND (1.4)	ND (340)	ND (1.6)	0.5 J	1 J	16,000	440	29	52	52	
	02/04/16	9 - 10	N	ND (2.2)	ND (0.055)	ND (0.07)	ND (0.13)	ND (0.15)	ND (0.13)	ND (0.14)	ND (0.15)	ND (0.18)	ND (0.1)	ND (0.06)	ND (0.76)	ND (0.065)	ND (0.061)	ND (0.16)	ND (13)	ND (0.56)	ND (0.27)	ND (0.19)	ND (0.19)	
AOC1-BCW12	02/04/16	0 - 0.5	N	1,400	160	ND (11)	13	ND (7.7)	41	ND (6.8)	15	ND (8.7)	4.4 J	ND (7.5)	ND (380)	5.8 J	ND (0.32)	2.5 J	15,000	590	41	54	54	
	02/04/16	2 - 3	N	2,900	410	ND (41)	ND (3.3)	ND (45)	70	ND (40)	15	ND (51)	ND (2.9)	ND (23)	ND (670)	ND (23)	ND (0.52)	ND (0.84)	50,000	2,300	70	100	100	
	02/04/16	5 - 6	N	36 J	ND (1.8) J	ND (0.22) J	ND (0.39) J	ND (0.48) J	ND (0.37) J	ND (0.44) J	ND (0.37) J	ND (0.57) J	ND (0.28) J	ND (0.12) J	ND (15) J	ND (0.13) J	ND (0.063) J	ND (0.088) J	120 J	ND (3.2) J	1.2	1.5	1.5	
AOC1-BCW13	02/04/16	0 - 0.5	N	550	36	5.4 J	2.6 J	5 J	16	ND (10)	ND (5.4)	ND (0.78)	ND (0.3)	ND (0.26)	ND (140)	2.1 J	0.27 J	0.9 J	5,200	260	14	19	19	
	02/04/16	2 - 3	N	8.3 J	ND (0.39)	ND (0.19)	ND (0.29)	ND (0.21)	ND (0.088)	ND (0.22)	ND (0.23)	ND (0.25)	ND (0.13)	ND (0.07)	ND (1.9)	ND (0.075)	ND (0.051)	ND (0.047)	70	ND (0.96)	0.32	0.37	0.37	
	02/04/16	5 - 6	N	ND (1.8)	0.21 J	ND (0.079)	0.14 J	ND (0.066)	ND (0.1)	ND (0.084)	ND (0.055)	ND (0.35)	ND (0.072)	ND (0.1)	ND (0.072)	ND (0.11)	ND (0.13)	0.26 J	ND (12)	ND (0.4)	0.46	0.21	0.21	
	02/04/16	9 - 10	N	ND (2.3)	ND (0.2)	ND (0.093)	ND (0.074)	ND (0.098)	ND (0.22)	ND (0.091)	ND (0.069)	ND (0.12)	ND (0.18)	ND (0.069)	ND (0.6)	ND (0.074)	ND (0.075)	0.25 J	ND (7.6)	ND (0.26)	0.47	0.24	0.24	
AOC1-BCW14	02/04/16	0 - 0.5	N	530	51	ND (2.8)	3.8 J	3.1 J	ND (0.4)	1.5 J	7.4 J	ND (3.7)	ND (1)	ND (1.6)	1.1 J	ND (1.6)	ND (0.52)	0.9 J	6,600	120	6	11	11	
	02/04/16	2 - 3	N	47	6.2 J	ND (0.46)	ND (0.39)	ND (0.24)	1.5 J	ND (0.21)	0.78 J	ND (2.3)	ND (0.075)	ND (0.11)	ND (8.9)	ND (0.12)	ND (0.062)	ND (0.3)	680	14 J	1.1	1.7	1.7	
AOC1-BCW15	02/04/16	0 - 0.5	N	260 J	24 J	2.4 J	1.8 J	1.5 J	7.4 J	ND (1.1) J	3.6 J	ND (0.42) J	ND (0.26) J	0.71 J	ND (81) J	ND (0.89) J	ND (0.064) J	0.56 J	2,700 J	80 J	6.8	9.6	9.6	
AOC1-BCW16	02/04/16	0 - 0.5	N	580	53 J	4.8 J	4.5 J	ND (7.1)	24 J	ND (2)	9.4 J	ND (2.4)	3.8 J	ND (1.1)	ND (190)	ND (1.2)	ND (0.48)	ND (0.3)	5,400	190 J	18	26	26	
	02/04/16	2 - 3	N	300	43	4.7 J	22	ND (0.16)	ND (1.1)	2 J	5 J	1.5 J	3.8 J	ND (0.7)	ND (130)	ND (0.73)	0.34 J	ND (0.46)	3,100	120	14	18	18	
	02/04/16	5 - 6	N	26	2.3 J	ND (0.47)	ND (0.33)	0.63 J	ND (1.1)	ND (0.77)	ND (0.67)	ND (0.26)	ND (0.11)	ND (0.38)	ND (8.5)	ND (0.3)	ND (4.8) *	0.39 J	200	4.7 J	3.7	3.5	3.5	
	02/04/16	9 - 10	N	ND (1.9)	ND (0.18)	ND (0.11)	ND (0.15)	ND (0.084)	ND (0.11)	ND (0.082)	0.22 J	ND (0.098)	ND (0.1)	ND (0.16)	ND (0.29)	ND (0.17)	ND (0.1)	ND (0.15)	ND (6.4)	ND (0.41)	0.32	0.21	0.21	
AOC1-BCW17	02/04/16	0 - 0.5	N	15	1.7 J	ND (0.59)	ND (0.24)	ND (0.26)	ND (0.21)	ND (0.23)	ND (0.21)	ND (0.3)	ND (0.13)	ND (0.28)	ND (0.26)	ND (0.12)	ND (0.06)	ND (0.17)	120	3 J	0.37	0.42	0.42	
	02/04/16	2 - 3	N	2 J	ND (0.49)	ND (0.052)	ND (0.1)	ND (0.1)	ND (0.086)	ND (0.089)	ND (0.12)	ND (0.11)	ND (0.061)	ND (0.069)	ND (0.2)	ND (0.069)	ND (0.051)	ND (0.091)	ND (24)	ND (0.37)	0.18	0.14	0.14	
AOC1-BCW18	02/05/16	0 - 0.5	N	1,300	57 J	ND (6.7)	ND (2.8)	6.8 J	21	ND (0.46)	7.4 J	ND (1.2)	ND (1.7)	1.1 J	ND (110)	ND (0.8)	ND (0.21)	ND (0.49)	15,000	230 J	12	29	29	
	02/05/16	2 - 3	N	4.1 J	ND (0.13)	ND (0.1)	ND (0.4)	ND (0.17)	ND (0.39)	ND (0.15)	ND (0.37)	ND (0.19)	ND (0.087)	ND (0.2)	ND (1.4)	ND (0.22)	ND (0.053)	ND (0.22)	ND (9.5)	0.39 J	0.43	0.31	0.31	
	02/05/16	5 - 6	N	ND (0.29)	ND (0.05)	ND (0.036)	ND (0.056)	ND (0.032)	ND (0.055)	ND (0.03)	ND (0.072)	ND (0.084)	ND (0.073)	ND (0.09)	ND (0.1)	ND (0.097)	ND (0.076)	ND (0.3)	ND (0.66)	ND (0.068)	ND (0.3)	ND (0.13)	ND (0.13)	
	02/05/16	9 - 10	N	ND (0.19)	ND (0.028)	ND (0.036)	ND (0.06)	ND (0.034)	ND (0.049)	ND (0.031)	ND (0.1)	ND (0.04)	ND (0.058)	ND (0.062)	ND (0.035)	ND (0.067)	ND (0.069)	ND (0.2)	ND (0.9)	ND (0.052)	ND (0.21)	ND (0.1)	ND (0.1)	
AOC1-BCW19	02/05/16	0 - 0.5	N	7,100 J	470 J	29 J	28 J	41 J	160 J	14 J	57 J	13 J	13 J	10 J	ND (1,000) J	15 J	ND (0.82) J	4 J	97,000 J	1,200 J	120	210	210	

TABLE 3-2j
Sample Results: Dioxins and Furans
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals	
AOC1-BCW20	02/05/16	0 - 0.5	N	160	ND (0.2)	1.2 J	1.3 J	ND (0.24)	6.1 J	ND (3.1)	2.7 J	ND (0.28)	ND (0.26)	ND (0.32)	ND (42)	ND (0.34)	ND (0.068)	ND (0.064)	1,600	35	3.4	5.6	5.6	
	02/05/16	2 - 3	N	4.4 J	ND (0.13)	ND (0.16)	ND (0.17)	ND (0.056)	ND (0.039)	ND (0.052)	ND (0.037)	ND (0.065)	ND (0.074)	ND (0.086)	ND (1.5)	ND (0.1)	ND (0.041)	ND (0.11)	ND (21)	ND (0.41)	0.26	0.22	0.22	
	02/05/16	5 - 6	N	ND (3.1)	ND (0.088)	ND (0.068)	ND (0.17)	ND (0.075)	ND (0.069)	ND (0.069)	ND (0.14)	ND (0.087)	ND (0.054)	ND (0.1)	ND (1.1)	ND (0.11)	ND (0.06)	0.15 J	ND (13)	0.31 J	0.35	0.19	0.19	
	02/05/16	9 - 10	N	ND (0.61)	ND (0.084)	ND (0.038)	ND (0.04)	ND (0.064)	ND (0.05)	ND (0.059)	ND (0.047)	ND (0.075)	ND (0.097)	ND (0.085)	ND (0.2)	ND (0.091)	ND (0.041)	ND (0.14)	ND (2)	ND (0.031)	ND (0.21)	ND (0.12)	ND (0.12)	
AOC1-BCW21	02/05/16	0 - 0.5	N	2,000	ND (9.8)	ND (12)	5.2 J	14	44	ND (23)	16	3.8 J	4.6 J	ND (0.2)	5.5 J	3.5 J	ND (0.29)	ND (0.48)	20,000	440	18	42	42	
	02/05/16	2 - 3	N	12 J	ND (0.086)	ND (0.11)	ND (0.13)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.12)	ND (0.14)	ND (0.12)	ND (0.075)	ND (0.12)	ND (0.081)	ND (0.053)	ND (0.14)	110	3.1 J	0.26	0.31	0.31	
	02/05/16	5 - 6	N	ND (1)	ND (0.04)	ND (0.05)	ND (0.047)	ND (0.067)	ND (0.046)	ND (0.057)	ND (0.044)	ND (0.078)	ND (0.073)	ND (0.08)	ND (0.43)	ND (0.086)	ND (0.047)	ND (0.1)	ND (5.6)	ND (0.17)	ND (0.19)	ND (0.12)	ND (0.12)	
	02/05/16	9 - 10	N	ND (0.73)	ND (0.069)	ND (0.087)	ND (0.03)	ND (0.05)	ND (0.062)	ND (0.12)	ND (0.034)	ND (0.058)	ND (0.074)	ND (0.052)	ND (0.39)	ND (0.056)	ND (0.055)	ND (0.04)	ND (3.4)	ND (0.19)	ND (0.15)	ND (0.12)	ND (0.12)	
AOC1-BCW22	02/05/16	0 - 0.5	N	190 J	22 J	2.3 J	ND (0.63) J	ND (1.2) J	5.5 J	ND (0.99) J	2.1 J	ND (0.77) J	ND (0.87) J	ND (0.4) J	ND (49) J	ND (0.88) J	ND (0.15) J	ND (0.097) J	2,500 J	63 J	4.6	7	7	
AOC1-BCW23	02/05/16	0 - 0.5	N	540	63	5.2 J	ND (4)	ND (3.4)	16	ND (4.5)	ND (4.9)	ND (1.5)	ND (2.3)	5.7 J	ND (170)	ND (2.3)	ND (0.34)	3.1 J	5,900	180	17	21	21	
	02/05/16	2 - 3	N	16	1.9 J	ND (0.57)	ND (0.22)	ND (0.13)	ND (0.5)	ND (0.11)	ND (0.5)	0.67 J	ND (0.16)	ND (0.23)	ND (1.7)	ND (0.23)	ND (0.16)	ND (0.17)	120	2.3 J	0.62	0.65	0.65	
AOC1-BCW24	02/05/16	0 - 0.5	N	830	58	ND (15)	4.9 J	ND (4.7)	20	ND (4.1)	12 J	ND (5.3)	1.7 J	ND (2)	ND (160)	ND (2)	ND (0.15)	ND (0.93)	10,000	150	16	27	27	
	02/05/16	2 - 3	N	510	110	ND (28)	ND (1.5)	ND (8.3)	23	5.4 J	ND (5.7)	ND (1.7)	1.5 J	ND (3.5)	ND (250)	ND (3.5)	ND (0.068)	ND (0.2)	5,500	310	20	26	26	
	02/05/16	5 - 6	N	ND (1.6) J	ND (0.079) J	ND (0.12) J	ND (0.11) J	ND (0.061) J	ND (0.1) J	ND (0.057) J	ND (0.1) J	ND (0.073) J	ND (0.11) J	ND (0.073) J	ND (0.55) J	ND (0.078) J	ND (0.086) J	ND (0.046) J	ND (8.3)	ND (0.13) J	ND (0.21)	ND (0.18)	ND (0.18)	
AOC1-BCW25	02/05/16	0 - 0.5	N	1,700	110 J	12 J	7.8 J	ND (1.7)	50 J	ND (29)	16	ND (2)	4.7 J	ND (1)	ND (400)	ND (1.1)	ND (0.16)	1.4 J	17,000	620 J	36	58	58	
	02/05/16	2 - 3	N	38	3.4 J	ND (0.32)	1.4 J	ND (0.16)	ND (0.3)	ND (1.6)	ND (0.56)	ND (0.18)	ND (0.2)	ND (0.15)	ND (17)	ND (0.16)	ND (0.056)	ND (0.12)	510	17 J	1.4	1.9	1.9	
	02/05/16	5 - 6	N	7.2 J	ND (0.69)	ND (0.33)	ND (0.13)	ND (0.18)	ND (0.13)	ND (0.17)	ND (0.12)	ND (0.21)	ND (0.084)	ND (0.78)	ND (4.5)	ND (0.84)	ND (0.03)	ND (0.26)	73	6.6 J	0.93	0.58	0.58	
	02/05/16	9 - 10	N	ND (0.36)	ND (0.032)	ND (0.04)	ND (0.03)	ND (0.057)	ND (0.03)	ND (0.053)	ND (0.055)	ND (0.066)	ND (0.042)	ND (0.036)	ND (0.15)	ND (0.039)	ND (0.023)	ND (0.076)	ND (1.8)	ND (0.037)	ND (0.11)	ND (0.067)	ND (0.067)	
AOC1-BCW26	02/04/16	0 - 0.5	N	4,100	250	ND (18)	16	18	95	15	30	ND (13)	ND (1.7)	ND (3.1)	ND (540)	7.8 J	ND (0.5)	2.6 J	39,000	710	58	100	100	
	02/04/16	2 - 3	N	ND (19)	3 J	ND (1.7)	ND (0.76)	ND (0.21)	ND (1.2)	ND (0.4)	ND (1.7)	ND (0.76)	ND (0.37)	0.26 J	ND (1.4)	ND (0.24)	ND (0.083)	ND (0.2)	ND (120)	ND (3.4)	0.78	0.75	0.75	
AOC1-BCW27	02/05/16	0 - 0.5	N	91	ND (0.57)	ND (0.73)	ND (0.68)	ND (0.14)	3.5 J	ND (2.9)	1.3 J	ND (0.25)	ND (0.82)	ND (0.18)	ND (25)	ND (2)	ND (0.19)	0.7 J	660	21 J	4	3.9	3.9	
	02/05/16	2 - 3	N	ND (0.2)	ND (0.095)	ND (0.035)	ND (0.055)	ND (0.041)	ND (0.054)	ND (0.038)	ND (0.052)	ND (0.048)	ND (0.071)	ND (0.084)	ND (0.066)	ND (0.091)	ND (0.052)	0.24 J	ND (1.2)	ND (0.095)	0.37	0.12	0.12	
	02/05/16	5 - 6	N	0.6 J	ND (0.068)	ND (0.086)	ND (0.055)	ND (0.058)	ND (0.055)	ND (0.15)	ND (0.052)	ND (0.068)	ND (0.089)	ND (0.058)	ND (0.34)	ND (0.063)	ND (0.04)	ND (0.069)	4.4 J	ND (0.56)	0.17	0.13	0.13	
	02/05/16	9 - 10	N	0.27 J	ND (0.028)	ND (0.035)	ND (0.08)	ND (0.022)	ND (0.029)	ND (0.02)	ND (0.027)	ND (0.026)	ND (0.037)	ND (0.032)	ND (0.29)	ND (0.035)	ND (0.053)	ND (0.19)	ND (1.5)	ND (0.076)	0.18	0.088	0.088	
AOC1-BCW28	02/05/16	0 - 0.5	N	5,700	ND (28)	ND (35)	23	ND (74)	180	ND (68)	53	ND (86)	14	8.9 J	ND (1,000)	15	ND (1)	2.7 J	47,000	1,500	110	180	180	
	02/05/16	2 - 3	N	16	ND (0.16)	ND (0.2)	ND (0.19)	ND (0.21)	ND (0.19)	ND (1.2)	ND (0.27)	ND (0.24)	ND (0.094)	ND (0.13)	ND (8.2)	ND (0.14)	ND (0.056)	ND (0.11)	130	4.7 J	0.75	0.83	0.83	
	02/05/16	5 - 6	N	8 J	ND (0.71)	ND (0.14)	ND (0.2)	ND (0.19)	ND (0.19)	ND (0.33)	ND (0.18)	ND (0.22)	ND (0.097)	ND (0.12)	ND (4.8)	ND (0.13)	ND (0.19)	0.23 J	82	4 J	0.76	0.6	0.6	
	02/05/16	9 - 10	N	ND (0.65)	ND (0.076)	ND (0.097)	ND (0.034)	ND (0.044)	ND (0.033)	ND (0.041)	ND (0.032)	ND (0.051)	ND (0.072)	ND (0.064)	ND (0.15)	ND (0.069)	ND (0.066)	ND (0.15)	ND (1.8)	ND (0.23)	ND (0.2)	ND (0.11)	ND (0.11)	
AOC1-BCW29	02/04/16	0 - 0.5	N	2,900	280	ND (5)	ND (13)	ND (12)	68	ND (12)	ND (12)	ND (14)	ND (2.4)	10 J	ND (600)	ND (4.1)	ND (0.39)	ND (1.2)	30,000	1,300	47	84	84	
	02/04/16	2 - 3	N	2.8 J	ND (0.12)	ND (0.14)	0.74 J	ND (0.13)	ND (0.14)	ND (0.13)	ND (0.13)	ND (0.27)	ND (0.095)	ND (0.15)	ND (2.5)	ND (0.16)	ND (0.084)	ND (1.1)	24 J	ND (0.8)	0.93	0.45	0.45	
	02/04/16	5 - 6	N	2.7 J	0.69 J	ND (0.29)	ND (0.2)	0.3 J	ND (0.072)	ND (0.36)	ND (0.18)	ND (0.26)	ND (0.2)	ND (0.14)	ND (1)	ND (0.15)	ND (0.27)	1.2 J	29	ND (1.1)	1.7	0.56	0.56	
	02/04/16	9 - 10	N	17	ND (0.75)	ND (0.11)	ND (0.15)	ND (0.072)	ND (0.23)	ND (0.14)	ND (0.15)	ND (0.084)	ND (0.09)	ND (0.092)	ND (1.3)	ND (0.17)	ND (0.12)	ND (0.61)	370	2.4 J	0.65	0.55	0.55	

TABLE 3-2j
Sample Results: Dioxins and Furans
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
AOC1-BCW30	02/04/16	0 - 0.5	N	5,200	460	24	22	34	ND (5.8)	32	49	ND (9.1)	12 J	ND (8.8)	ND (890)	13	0.5 J	7	14,000	980	100	140	140
	02/04/16	2 - 3	N	ND (0.77)	2.4 J	ND (0.22)	ND (0.46)	ND (0.63)	ND (0.32)	ND (0.49)	ND (0.64)	ND (0.93)	0.87 J	ND (0.23)	ND (7.8)	ND (0.46)	ND (1.1)	0.65 J	98	3.6 J	2.9	2.2	2.2
AOC1-BCW31	02/20/17	0 - 0.5	N	9.3 J	1.1 J	ND (0.13)	ND (0.11)	ND (0.19)	0.43 J	ND (0.18)	ND (0.33)	ND (0.22)	ND (0.11)	ND (0.092)	ND (3)	ND (0.095)	ND (0.11)	ND (0.27)	ND (88)	ND (1.3)	0.53	0.5	0.5
	02/20/17	2 - 3	N	ND (0.46)	ND (0.049)	ND (0.058)	ND (0.039)	ND (0.042)	ND (0.04)	ND (0.04)	ND (0.053)	ND (0.048)	ND (0.054)	ND (0.037)	ND (0.21)	ND (0.039)	ND (0.03)	ND (0.034)	ND (7.4)	ND (0.16)	ND (0.1)	ND (0.078)	ND (0.078)
AOC1-BCW32	02/20/17	0 - 0.5	N	20	2.9 J	0.32 J	ND (0.11)	ND (0.12)	1.2 J	ND (0.2)	ND (0.43)	ND (0.14)	ND (0.064)	0.27 J	14	ND (0.056)	ND (0.035)	ND (0.087)	190	5.5 J	1.7	1.9	1.9
	02/20/17	2 - 3	N	ND (2.9)	ND (0.38)	ND (0.083)	ND (0.076)	ND (0.054)	ND (0.076)	ND (0.098)	ND (0.12)	ND (0.062)	ND (0.06)	ND (0.043)	ND (0.58)	ND (0.045)	ND (0.035)	ND (0.023)	ND (40)	0.93 J	0.14	0.13	0.13
AOC1-BCW7	02/05/16	0 - 0.5	N	200	16	2.1 J	0.87 J	1.8 J	5.6 J	ND (3.2)	ND (2)	0.59 J	ND (0.35)	ND (0.19)	ND (37)	ND (0.39)	0.17 J	0.26 J	2,600	74	3.9	6.4	6.4
	02/05/16	2 - 3	N	100	8.2 J	1.1 J	0.85 J	0.94 J	2.9 J	ND (0.27)	1.2 J	ND (0.26)	ND (0.21)	ND (0.24)	ND (18)	ND (0.26)	ND (0.051)	0.19 J	1,100	32	2	3.1	3.1
	02/05/16	2 - 3	FD	90	ND (0.15)	ND (0.68)	0.54 J	ND (0.24)	ND (2.5)	ND (0.88)	1.3 J	ND (0.28)	ND (0.15)	ND (0.12)	ND (17)	ND (0.13)	ND (0.052)	ND (0.074)	870	30	1.5	2.5	2.5
	02/05/16	5 - 6	N	ND (2.7)	ND (0.094)	ND (0.12)	0.24 J	ND (0.081)	ND (0.074)	ND (0.075)	ND (0.071)	ND (0.094)	ND (0.095)	ND (0.038)	ND (0.28)	ND (0.041)	ND (0.068)	ND (0.052)	ND (23)	ND (0.6)	0.18	0.17	0.17
	02/05/16	9 - 10	N	5 J	ND (0.36)	ND (0.15)	ND (0.075)	ND (0.084)	ND (0.074)	ND (0.078)	ND (0.07)	ND (0.098)	ND (0.085)	ND (0.12)	ND (1)	ND (0.13)	ND (0.05)	ND (0.037)	54	1.5 J	0.24	0.23	0.23
AOC1-BCW8	02/04/16	0 - 0.5	N	730	55	ND (2.8)	ND (3.2)	ND (4.9)	15	ND (4.3)	5.9 J	ND (5.6)	ND (1.5)	ND (0.73)	ND (120)	ND (0.63)	ND (0.18)	ND (0.66)	9,900	170	11	21	21
	02/04/16	2 - 3	N	1,400	110	7.6 J	6.9 J	6.4 J	30	6 J	14	2.5 J	ND (1.8)	ND (2.9)	ND (180)	ND (3.7)	ND (0.33)	3 J	18,000	270	23	38	38
	02/04/16	5 - 6	N	240 J	53 J	8.8 J	ND (0.5) J	ND (0.55) J	6.7 J	ND (0.51) J	ND (1.2) J	ND (0.66) J	ND (0.23) J	ND (0.26) J	ND (81) J	ND (0.64) J	ND (0.072) J	ND (0.08) J	2,600 J	170 J	5.9	9	9
AOC1-BCW9	02/04/16	0 - 0.5	N	920	78	ND (6.7)	3.7 J	ND (11)	22	ND (9.7)	7.7 J	ND (1.8)	ND (0.23)	ND (1.2)	ND (220)	ND (1.9)	ND (0.13)	1.5 J	10,000	220	19	29	29
	02/04/16	2 - 3	N	17	ND (1.8)	ND (0.19)	ND (0.33)	ND (0.41)	ND (0.71)	ND (0.36)	ND (0.29)	ND (0.47)	ND (0.13)	ND (0.15)	ND (3.9)	ND (0.15)	ND (0.067)	ND (0.096)	150	5.1 J	0.55	0.68	0.68
AOC1-T1e	01/11/16	0 - 1	N	670	68	ND (4.3)	4 J	ND (3)	15	4 J	8.9 J	ND (3.5)	2.1 J	ND (0.8)	ND (84)	ND (0.31)	0.23 J	ND (0.12)	6,300	120	11	19	19
	01/11/16	2 - 3	N	29	ND (3)	ND (0.52)	ND (0.65)	ND (0.85)	ND (0.58)	ND (0.72)	ND (0.62)	ND (31)	ND (0.25)	ND (0.4)	2.7 J	ND (0.28)	ND (0.13)	ND (0.14)	190	ND (2.2)	2.4	2.6	2.6
	01/11/16	5 - 6	N	4.5 J	ND (0.79)	ND (0.14)	ND (0.26)	ND (0.18)	ND (0.3)	ND (0.16)	ND (0.31)	ND (0.21)	ND (0.16)	ND (0.095)	ND (0.18)	ND (0.074)	ND (0.062)	ND (0.1)	51	ND (1.2)	0.28	0.27	0.27
	01/11/16	9 - 10	N	28	ND (3.6)	ND (2)	ND (0.38)	ND (0.34)	ND (0.34)	ND (0.29)	ND (0.8)	ND (0.4)	ND (0.16)	ND (0.17)	ND (3.6)	ND (0.18)	ND (0.12)	ND (0.14)	240	ND (4.9)	0.67	0.86	0.86
AOC1-T1f	01/12/16	0 - 1	N	550	74	ND (5.5)	3.6 J	ND (11)	13	ND (9.1)	ND (0.54)	ND (12)	ND (0.76)	ND (0.66)	ND (140)	ND (0.69)	ND (0.11)	ND (0.51)	6,800	230	12	19	19
	01/12/16	2 - 3	N	2.5 J	ND (0.27)	ND (0.071)	ND (0.037)	ND (0.055)	ND (0.032)	ND (0.048)	ND (0.032)	ND (0.099)	ND (0.024)	ND (0.059)	ND (0.055)	ND (0.059)	ND (0.03)	ND (0.034)	29	ND (0.43)	0.099	0.092	0.092
	01/12/16	5 - 6	N	7.7 J	ND (0.12)	ND (0.15)	ND (0.25)	ND (0.4)	ND (0.22)	ND (0.29)	ND (0.17)	ND (0.2)	ND (0.19)	ND (0.14)	ND (0.17)	ND (0.15)	ND (0.2)	ND (0.76)	22 J	ND (0.5)	0.74	0.43	0.43
	01/12/16	9 - 10	N	9.6 J	ND (0.56)	0.74 J	ND (0.33)	ND (0.16)	ND (0.3)	ND (0.15)	ND (0.32)	ND (0.43)	ND (0.27)	ND (0.14)	ND (0.24)	ND (0.15)	ND (0.1)	ND (0.17)	30	ND (0.29)	0.45	0.43	0.43
AOC1-T1g	02/17/17	0 - 0.5	N	260 J	17	1.5 J	1.4 J	1.1 J	ND (6.1)	0.79 J	2.3 J	ND (0.38)	ND (0.56)	0.34 J	ND (36)	ND (0.5)	ND (0.067)	ND (0.06)	2,000 J	35	3.6	6.5	6.5
	02/17/17	0 - 0.5	FD	650 J	21	1.5 J	ND (1)	1.2 J	7.7 J	0.73 J	2.7 J	ND (0.31)	ND (0.55)	ND (0.46)	ND (28)	ND (0.57)	ND (0.066)	ND (0.34)	6,900 J	34	4.3	12	12
	02/17/17	2 - 3	N	590	78	6 J	2.7 J	3.6 J	16	2.7 J	5.6 J	1.1 J	1.5 J	ND (1.3)	ND (110)	ND (0.66)	ND (0.12)	ND (0.2)	7,300	250	11	19	19
	02/17/17	5 - 6	N	160	34	2.3 J	ND (0.37)	ND (0.7)	5.7 J	ND (0.37)	ND (1.4)	ND (0.58)	0.45 J	ND (0.29)	ND (44)	ND (0.42)	ND (0.05)	ND (0.045)	1,600	95	3.8	6	6
	02/17/17	9 - 10	N	91	9.1 J	ND (0.7)	ND (0.34)	ND (0.27)	2.7 J	ND (0.26)	0.78 J	ND (0.31)	ND (0.14)	ND (0.082)	ND (14)	ND (0.085)	ND (0.027)	ND (0.032)	610	25	1.3	2.4	2.4
AOC1-T2g	03/03/16	9 - 10	N	3,100 J	820 J	ND (31)	12 J	ND (21)	85	ND (89) J	16	ND (25)	3.6 J	ND (0.62)	ND (1,200)	ND (0.65)	ND (0.13)	ND (0.2)	35,000	4,200	89	130	130
	03/03/16	14 - 15	N	310	ND (0.22)	6.5 J	ND (0.91)	ND (0.46)	12 J	ND (17)	2.1 J	ND (0.53)	ND (0.42)	ND (0.73)	ND (220)	ND (0.76)	ND (0.22)	ND (0.16)	3,300	170	14	18	18
	03/03/16	19 - 20	N	59	11 J	ND (1.2)	ND (0.23)	ND (0.39)	2.1 J	ND (3.8)	ND (0.22)	ND (0.46)	ND (0.039)	ND (0.11)	ND (44)	ND (0.12)	ND (0.037)	0.14 J	640	43	3	3.6	3.6

TABLE 3-2j
Sample Results: Dioxins and Furans
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE			
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE			
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE			
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE			
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE			
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
AOC1-T2h	03/04/16	0 - 1	N	930	150	ND (4.3)	3.4 J	ND (1.1)	23	ND (27)	5.9 J	ND (1.3)	ND (0.86)	ND (0.66)	ND (290) J	ND (0.59)	ND (0.13)	ND (0.18)	11,000	720 J	21	34	34
	03/04/16	2 - 3	N	570	56	5.3 J	2.8 J	ND (0.22)	14	1.6 J	5.8 J	ND (0.91)	ND (1.3)	ND (0.81)	ND (130)	1.1 J	0.2 J	ND (0.38)	6,700	200	12	19	19
	03/04/16	5 - 6	N	69	5.7 J	ND (0.19)	0.97 J	ND (0.12)	ND (1.9)	ND (0.26)	0.9 J	ND (0.14)	ND (0.23)	ND (0.18)	ND (11)	ND (0.19)	ND (0.035)	ND (0.17)	420	10 J	1.2	1.9	1.9
	03/04/16	9 - 10	N	460	44	6.4 J	ND (2.3)	ND (0.23)	13	ND (0.67)	4.7 J	ND (0.68)	ND (0.75)	ND (0.24)	ND (240)	0.86 J	ND (0.13)	0.23 J	5,400	250	16	21	21
AOC1-T2i	03/05/16	0 - 1	N	670	88	10 J	1.7 J	ND (0.62)	14	ND (20)	ND (2.6)	ND (0.72)	ND (0.12)	ND (0.42)	ND (220)	ND (0.13)	ND (0.044)	ND (0.22)	9,800	610	15	25	25
	03/05/16	2 - 3	N	420	37	3.4 J	2.8 J	4.1 J	13	1.1 J	4.5 J	ND (0.81)	ND (1.2)	ND (0.34)	ND (80)	ND (0.79)	ND (0.12)	ND (0.18)	5,800	150	7.9	14	14
	03/05/16	5 - 6	N	16	ND (1.6)	ND (0.3)	ND (0.15)	0.72 J	0.88 J	0.87 J	ND (0.36)	ND (0.72)	ND (0.08)	ND (0.091)	ND (6)	ND (0.096)	ND (0.029)	ND (0.14)	170	9.4 J	0.75	0.91	0.91
	03/05/16	9 - 10	N	910	110	ND (12)	ND (1.8)	ND (0.27)	21	1.1 J	4.7 J	1.3 J	1.2 J	ND (0.92)	ND (280)	ND (0.47)	ND (0.039)	0.28 J	10,000	730	20	32	32
AOC1-T2j	03/05/16	0 - 1	N	190	8.7 J	ND (1.5)	0.93 J	ND (0.31)	4.6 J	ND (0.3)	ND (1.4)	ND (0.36)	ND (0.25)	ND (0.098)	ND (21)	ND (0.26)	ND (0.052)	ND (0.1)	2,900	21 J	2.2	4.8	4.8
	03/05/16	2 - 3	N	380 J	37	3.6 J	2.4 J	ND (0.16)	11 J	1.9 J	4.7 J	ND (0.86)	1.5 J	ND (0.15)	ND (78)	ND (1.3)	0.28 J	ND (0.31)	4,000 J	120	8.6	13	13
	03/05/16	2 - 3	FD	170 J	16	ND (0.58)	1.1 J	2.4 J	6.4 J	1.2 J	2.6 J	0.79 J	ND (0.82)	ND (0.23)	ND (41)	0.68 J	ND (0.09)	ND (0.19)	1,400 J	33	4.6	6.5	6.5
	03/05/16	5 - 6	N	120	19	1.8 J	ND (0.38)	ND (0.6)	3.5 J	ND (0.59)	1.2 J	ND (0.7)	ND (0.12)	ND (0.097)	ND (42)	ND (0.22)	ND (0.11)	0.55 J	1,700	99	3.6	4.8	4.8
	03/05/16	9 - 10	N	17	1.9 J	ND (0.37)	ND (0.16)	ND (0.12)	0.56 J	ND (0.4)	ND (0.25)	ND (0.14)	ND (0.045)	ND (0.092)	ND (5.2)	ND (0.097)	ND (0.065)	ND (0.33)	190	10 J	0.65	0.71	0.71
AOC1-T5D	01/12/16	0 - 1	N	280	30	ND (2.2)	ND (1.4)	ND (1.2)	ND (9.1)	ND (1.1)	3.7 J	ND (1.4)	ND (0.19)	ND (0.6)	ND (96)	ND (1.3)	ND (0.1)	ND (0.54)	2,700	94	7.4	10	10
	01/12/16	2 - 3	N	21,000 J	2,800	130 J	79	360	880	ND (66)	190	ND (83)	ND (40) *	ND (22)	ND (6,300)	ND (24)	4.9 J	12	270,000	11,000 J	520	830	830
	01/12/16	2 - 3	FD	44,000 J	3,700	ND (250) J	ND (96)	360	1,200	89	260	ND (52)	ND (23) *	ND (2.9)	ND (5,900)	68	6.2	14	340,000	18,000 J	600	1,100	1,100
	01/12/16	5 - 6	N	2,500	420	39	5.9 J	ND (9.8)	57	ND (9.1)	ND (13)	ND (11)	ND (2.1)	ND (0.41)	ND (860)	ND (1)	0.59 J	ND (0.34)	28,000	2,200	58	92	92
	01/12/16	9 - 10	N	500	86	ND (4.3)	ND (2.8)	ND (0.66)	15	ND (0.61)	ND (3.6)	ND (0.77)	ND (0.77)	ND (0.28)	ND (230)	ND (0.3)	ND (0.11)	ND (0.22)	5,000	290	15	21	21
	01/12/16	14 - 15	N	1,700	120	10 J	7.7 J	13	38	ND (2.6)	15	ND (2.3)	3.2 J	ND (1.3)	ND (340)	ND (1.4)	ND (0.52)	0.73 J	22,000	380	31	53	53
	01/12/16	19 - 20	N	590	130	20	4 J	ND (7.1)	22	ND (6.6)	7.1 J	ND (8.2)	ND (0.27)	ND (0.3)	ND (370)	ND (0.32)	ND (0.083)	ND (0.12)	5,300	410	24	32	32
	01/12/16	19 - 20	FD	620	120	18	ND (3.5)	ND (5.7)	24	ND (5.3)	7 J	ND (6.6)	ND (0.45)	ND (0.15)	ND (380)	ND (0.45)	ND (0.087)	ND (0.067)	5,400	400	24	33	33
AOC1-T6D	02/09/16	0 - 0.5	N	240	13	1.4 J	ND (0.84)	ND (0.051)	3.8 J	ND (0.34)	1.7 J	0.34 J	ND (0.49)	ND (0.23)	ND (58)	ND (0.27)	ND (0.4)	0.31 J	2,100	48	4.7	7.3	7.3
	02/09/16	2 - 3	N	17	0.66 J	ND (0.25)	ND (0.18)	ND (0.089)	0.49 J	ND (0.087)	ND (0.11)	ND (0.1)	ND (0.17)	ND (0.076)	ND (1.7)	ND (0.14)	ND (3.5)	ND (0.2)	100	1.5 J	2.2	2.2	2.2
	02/09/16	5 - 6	N	5.1 J	ND (0.24)	ND (0.08)	ND (0.046)	ND (0.059)	ND (0.15)	ND (0.048)	ND (0.14)	ND (0.069)	ND (0.04)	ND (0.062)	ND (0.49)	ND (0.056)	ND (2.6)	ND (0.14)	41	ND (0.32)	1.5	1.5	1.5
	02/09/16	9 - 10	N	ND (0.74)	ND (0.093)	0.11 J	ND (0.071)	ND (0.066)	ND (0.023)	ND (0.051)	ND (0.022)	ND (0.061)	ND (0.063)	ND (0.029)	ND (0.18)	ND (0.03)	ND (0.94)	0.17 J	ND (4.5)	ND (0.13)	0.71	0.55	0.55
	02/09/16	9 - 10	FD	ND (1.1)	ND (0.32)	0.27 J	ND (0.087)	ND (0.092)	ND (0.064)	ND (0.09)	ND (0.12)	ND (0.37)	ND (0.067)	ND (0.14)	ND (0.096)	ND (0.15)	ND (2.4)	ND (0.25)	ND (4.6)	ND (0.18)	1.5	1.3	1.3
AOC1-T7	02/19/17	0 - 0.5	N	210 J	21	ND (1.5)	0.65 J	0.81 J	4 J	ND (0.44)	ND (0.66)	ND (0.43)	ND (0.32)	ND (0.088)	ND (37)	ND (0.069)	ND (0.13)	ND (0.038)	2,100 J	68 J	3	5.7	5.7
	02/19/17	2 - 3	N	310	34	2.5 J	1.9 J	2.2 J	10 J	ND (1.6)	4.1 J	ND (0.63)	ND (0.65)	0.6 J	ND (56)	ND (0.64)	ND (0.15)	ND (0.094)	3,600	65	5.6	9.8	9.8
	02/19/17	5 - 6	N	690	150	8.6 J	1.1 J	ND (1.4)	19	ND (0.64)	2.5 J	ND (0.93)	ND (0.22)	ND (0.16)	ND (190)	ND (0.17)	ND (0.051)	ND (0.1)	7,600	610	14	23	23
	02/19/17	9 - 10	N	93	15	ND (1)	ND (0.15)	0.38 J	3.1 J	ND (0.26)	ND (0.63)	ND (0.11)	ND (0.099)	ND (0.078)	ND (26)	ND (0.081)	ND (0.041)	ND (0.045)	1,000	51	1.9	3.2	3.2

TABLE 3-2j
Sample Results: Dioxins and Furans
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals	
AOC1-T8	02/18/17	0 - 0.5	N	360	48	3.4 J	2.2 J	2.2 J	11 J	ND (1.2)	4.9 J	0.69 J	ND (1.2)	1 J	ND (110)	ND (0.64)	ND (0.17)	0.25 J	4,000	130	9.2	14	14	
	02/18/17	2 - 3	N	330	46	3.4 J	2.4 J	2.8 J	12 J	ND (1.1)	4.7 J	0.75 J	ND (1.4)	ND (0.79)	ND (100)	ND (0.86)	ND (0.072)	ND (0.25)	3,100	110	8.6	13	13	
	02/18/17	5 - 6	N	80	4.3 J	0.83 J	ND (0.26)	ND (0.18)	1.5 J	ND (0.33)	ND (0.13)	0.36 J	ND (0.2)	ND (0.19)	ND (7.8)	ND (0.047)	ND (0.025)	ND (0.036)	470	14 J	0.82	1.7	1.7	
	02/18/17	9 - 10	N	49	5.8 J	0.69 J	ND (0.15)	ND (0.11)	1.3 J	ND (0.069)	ND (0.4)	ND (0.12)	ND (0.18)	ND (0.082)	ND (14)	ND (0.085)	ND (0.046)	ND (0.042)	590	18 J	1.1	1.7	1.7	
	02/18/17	9 - 10	FD	110	14	ND (0.86)	ND (0.2)	ND (0.34)	3.1 J	ND (0.45)	0.92 J	ND (0.13)	0.17 J	ND (0.089)	ND (33)	ND (0.093)	ND (0.029)	ND (0.024)	1,300	39	2.5	4	4	
AOC4-GB10	02/10/10	0 - 0.5	N	4,200	140	14	16	ND (21)	88	ND (13)	29	ND (12.5)	ND (12.5) *	ND (12.5)	ND (12.5)	6.5 J	ND (5) *	ND (5)	52,000	260	37	87	87	
AOC4-GB11	02/10/10	0 - 0.5	N	4,700	180	ND (12.5)	ND (13)	ND (28)	110	ND (17)	34	ND (12.5)	ND (12.5) *	3.7 J	ND (14)	6.7 J	1.2 J	ND (5)	33,000	610	35	87	87	
	02/10/10	0 - 0.5	FD	5,300	230	ND (12.5)	21	ND (43)	160	ND (23)	39	ND (12.5)	ND (12.5) *	ND (12.5)	22	14	1.7 J	ND (5)	30,000	440	48	110	110	
AOC4-GB12	02/10/10	0 - 0.5	N	490	26	ND (12.5)	5.5 J	ND (12.5)	14	ND (12.5)	ND (12.5)	ND (12.5)	ND (12.5) *	ND (12.5)	ND (12.5)	1.4 J	ND (5) *	ND (5)	4,400	66	18	21	21	
Old Well-BCW-1	09/11/13	7 - 8	N	7,000	ND (1.2)	170	21	64	200	ND (280)	40	ND (2)	8.8 J	ND (0.42)	ND (4,000)	ND (4.8)	ND (0.17)	0.46 J	53,000	8,400	250	350	350	
Old Well-BCW-2	09/11/13	4 - 5	N	8,300	ND (1.9)	170	50	110	380	ND (450)	97	ND (5.6)	18	ND (2.4)	63	ND (10)	ND (0.23)	1.6	100,000	11,000	100	230	230	
PA-14	01/27/16	0 - 1	N	660 J	49 J	4.1 J	7.1 J	ND (3.2) J	20 J	4.3 J	14 J	ND (0.51) J	4.9 J	ND (1.4) J	ND (64) J	2.1 J	ND (0.53) J	3.2 J	5,300 J	92 J	18	23	23	
PA-15	01/27/16	0 - 1	N	2,600 J	320 J	15 J	21 J	19 J	85 J	25 J	43 J	4.5 J	10 J	4 J	ND (340) J	6.7 J	ND (0.93) J	4.2 J	22,000 J	370 J	58	86	86	
PA-16	01/27/16	0 - 1	N	880 J	74 J	5.1 J	7.2 J	6 J	24 J	7.1 J	12 J	1.6 J	ND (0.95) J	2.1 J	ND (110) J	2.3 J	ND (0.63) J	ND (1.2) J	7,300 J	140 J	15	25	25	
SD-14	01/11/16	0 - 1	N	5,500	340	45	49	ND (1.4)	170	15	85	9 J	24	ND (1.4)	ND (1,200)	9.1 J	3.1 J	2.7 J	40,000	1,100	130	190	190	
	01/11/16	2 - 3	N	3,100	240	ND (9.4)	14	ND (1.9)	71	ND (5.2)	29	ND (2.3)	ND (5.8) *	ND (0.91)	ND (490)	4.2 J	ND (1.4)	ND (1.4)	25,000	1,100	46	83	83	
	01/11/16	5 - 6	N	1,500	ND (27)	ND (34)	ND (3.8)	ND (7)	35	ND (8.8)	12 J	ND (4.6)	ND (4.5)	ND (0.76)	ND (190)	ND (1.7)	ND (1.2)	ND (0.68)	20,000	400	20	40	40	
	01/11/16	9 - 10	N	6.3 J	ND (0.59)	ND (0.3)	ND (0.19)	ND (0.16)	ND (0.18)	ND (0.15)	ND (0.17)	ND (0.19)	ND (0.14)	ND (0.045)	ND (0.81)	ND (0.049)	ND (0.094)	ND (0.32)	55	ND (1.3)	0.4	0.32	0.32	
SD-15	01/12/16	0 - 0.5	N	1,300	120	11 J	7.1 J	ND (0.71)	36	2.9 J	14	ND (0.83)	3.6 J	ND (0.9)	ND (240)	2.5 J	ND (0.56)	ND (1)	13,000	390	25	41	41	
	01/12/16	2 - 3	N	50	5.1 J	ND (0.38)	ND (0.26)	0.61 J	ND (1.4)	ND (1.6)	ND (0.43)	ND (0.15)	ND (0.065)	ND (0.091)	ND (18)	ND (0.098)	ND (0.099)	ND (0.2)	450	13 J	1.5	2	2	
	01/12/16	5 - 6	N	51	3.7 J	ND (0.5)	ND (0.34)	ND (0.28)	ND (1.4)	ND (1.2)	ND (0.22)	ND (0.33)	ND (0.11)	ND (0.071)	ND (12)	ND (0.12)	ND (0.043)	ND (0.085)	430	7.2 J	1	1.6	1.6	
	01/12/16	9 - 10	N	8.4 J	ND (0.59)	ND (0.29)	ND (0.15)	ND (0.14)	ND (0.23)	ND (0.13)	ND (0.38)	ND (0.17)	ND (0.11)	ND (0.076)	ND (0.76)	ND (0.041)	ND (0.04)	ND (0.38)	36	0.67 J	0.39	0.3	0.3	
SD-16	01/12/16	0 - 0.5	N	6.2 J	ND (0.52)	ND (0.19)	ND (0.1)	ND (0.11)	ND (0.3)	ND (0.098)	ND (0.097)	ND (0.12)	ND (0.069)	ND (0.052)	1.1 J	ND (0.056)	ND (0.041)	ND (0.3)	44	1.2 J	0.39	0.31	0.31	
	01/12/16	2 - 3	N	1.6 J	ND (0.2)	ND (0.071)	ND (0.097)	ND (0.04)	ND (0.096)	ND (0.037)	ND (0.091)	ND (0.047)	ND (0.065)	ND (0.073)	0.26 J	ND (0.078)	ND (0.024)	ND (0.18)	7.5 J	ND (0.21)	0.22	0.13	0.13	
	01/12/16	5 - 6	N	0.57 J	ND (0.12)	ND (0.075)	ND (0.04)	ND (0.07)	ND (0.04)	ND (0.065)	ND (0.038)	ND (0.092)	ND (0.051)	ND (0.059)	ND (0.11)	ND (0.064)	ND (0.059)	0.27 J	2.5 J	0.15 J	0.38	0.12	0.12	
	01/12/16	9 - 10	N	0.32 J	ND (0.11)	ND (0.15)	ND (0.039)	ND (0.035)	ND (0.038)	ND (0.043)	ND (0.011)	ND (0.037)	ND (0.029)	ND (0.063)	ND (0.22)	ND (0.068)	ND (0.036)	ND (0.095)	ND (1.5)	ND (0.092)	0.14	0.074	0.074	
SD-25	03/10/16	0 - 1	N	140 J	9.5 J	0.82 J	ND (0.61) J	ND (1.4) J	3.5 J	1.7 J	2 J	ND (0.28) J	ND (0.24) J	ND (0.97) J	ND (9.4) J	2.4 J	ND (0.099) J	1.7 J	990 J	13 J	5.6	4.2	4.2	
SD-26	03/10/16	0 - 1	N	1,400 J	99 J	6.9 J	14 J	8.3 J	36 J	8.2 J	21 J	2.6 J	6.2 J	2.2 J	ND (93) J	4.2 J	ND (0.68) J	ND (2.4) J	13,000 J	170 J	26	41	41	
TCS-4	03/25/14	59 - 60	N	4,200	740	53	8.1 J	ND (21)	79	ND (19)	16	ND (25)	2.3 J	ND (1.5)	ND (1,400)	ND (1.6)	ND (0.09)	ND (0.15)	46,000	3,800	96	150	150	
	03/25/14	113	N	1,000	200	20	ND (4.5)	ND (5.7)	26	ND (5.3)	10 J	ND (6.7)	ND (1.2)	ND (0.87)	ND (490)	18	ND (0.45)	ND (0.3)	11,000	920	50	51	51	

TABLE 3-2j
Sample Results: Dioxins and Furans
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
TCS4-E	03/01/16	4 - 5	N	10,000 J	ND (550)	ND (650) J	54 J	230	630	ND (770)	110	ND (16)	26	ND (1.1)	ND (9,100)	ND (5.2)	3.2 J	1.9 J	140,000 J	19,000	600	780	780
	03/01/16	4 - 5	FD	19,000 J	ND (2.5)	430 J	ND (170) J	250	680	ND (810)	ND (160)	ND (17)	19	ND (1.1)	ND (8,600)	ND (4.6)	2.4 J	1.3 J	220,000 J	18,000	590	870	870
	03/01/16	5 - 6	N	150	ND (0.24)	ND (1.1)	ND (0.3)	1.2 J	ND (3.2)	ND (3.3)	ND (1.1)	ND (0.41)	ND (0.13)	ND (0.22)	ND (38)	ND (0.23)	0.23 J	ND (0.065)	1,000	35	3	4.6	4.6
TCS4-N	03/01/16	4 - 5	N	2,600	ND (0.45)	36	9.5 J	20	70	ND (90)	15	ND (5.6)	3.1 J	ND (0.81)	ND (1,100)	ND (0.86)	ND (0.32)	0.46 J	26,000	1,800	74	110	110
	03/01/16	5 - 6	N	4,200	ND (750)	96	9.6 J	ND (12)	140	ND (180)	23	ND (14)	3.6 J	ND (0.58)	ND (2,300)	ND (2.9)	0.34 J	ND (0.49)	48,000	4,300	150	210	210
TCS4-S	03/01/16	4 - 5	N	3,300	ND (0.47)	77	18	41	120	ND (160)	36	ND (2.8)	9 J	ND (0.88)	ND (1,800)	ND (1.5)	ND (0.37)	0.48 J	39,000	3,300	130	180	180
	03/01/16	5 - 6	N	940	130	21	1.8 J	ND (0.32)	23	ND (37)	4.3 J	ND (0.38)	0.8 J	ND (1.2)	ND (530)	ND (1.3)	ND (0.23)	ND (0.066)	10,000	1,100	34	47	47

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

‡ This location is in an area where soil is transitioning into sediment.

-- not analyzed

ft bgs feet below ground surface

ng/kg nanograms per kilogram

DTSC-SL DTSC Screening Levels

DTSC California Department of Toxic Substances Control

FD Field Duplicate

J concentration or reporting limit estimated by laboratory or data validation

JR estimated value, one or more input values is "R" qualified.

N Primary Sample

NA NA = not applicable

NE not established

ND not detected at the listed reporting limit

R The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA USEPA = United States Environmental Protection Agency

1 For individual dioxins and furans, selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher. For TEQ values, selected value is the DTSC-SL.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. JanuaryCalifornia Department of Toxic Substances Control (DTSC). 2017. Human Health Risk Assessment (HHRA) Note 2, Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites. April.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Dected Chemicals in Soil." July 1.

5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

Calculations:

TEQ = Sum of Result xToxic equivalency factor (TEF), 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQ Avian = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQMammals = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TABLE 3-2j
Sample Results: Dioxins and Furans
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Teq Humans = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TABLE 3-2k

Sample Results: Asbestos

AOC 1 – Area around Former Percolation Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Asbestos		
				CARB435/ ²		TEM ³
Location	Date	Depth (ft bgs)	Sample Type	PLM/BULK ¹	PLM (%)	
Category 1						
AOC4-1	10/14/08	0 - 0.5	N	Not Present	---	---
	10/14/08	0.5 - 1	N	Not Present	---	---
	10/14/08	2 - 3	N	Not Present	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

--- not analyzed

ft bgs feet below ground surface

FD field duplicate

N primary sample

1 Polarized light microscopy of bulk samples

2 California Air Resource Board Method 435 / polarized light microscopy of bulk samples

3 Transmission electron microscopy

TABLE 3-2I
Constituent Concentrations in Soil Compared to Screening Values
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
Parameter	Units				# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Dioxins and Furans																
TEQ Avian	ng/kg	64	170 / 182 (93%)	600	75	(5.98)	50	(16)	NA	(NE)	NA	(NA)	NA	(NE)	50	(16)
TEQ Human	ng/kg	64	170 / 182 (93%)	1,100	89	(5.58)	NA	(NE)	32	(50)	NA	(NA)	6	(220)	32	(50)
TEQ Mammals	ng/kg	64	170 / 182 (93%)	1,100	89	(5.58)	89	(1.6)	NA	(NE)	NA	(NA)	NA	(NE)	89	(5.58)
Metals																
Antimony	mg/kg	98	7 / 366 (1.9%)	10	NA	(NE)	7	(0.285)	0	(31)	NA	(NA)	0	(470)	7	(0.285)
Arsenic	mg/kg	98	333 / 366 (91%)	20	5	(11)	5	(11.4)	5	(0.11) *	NA	(NA)	5	(0.36) *	5	(11)
Barium	mg/kg	107	385 / 385 (100%)	1,580	6	(410)	6	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	6	(410)
Beryllium	mg/kg	98	2 / 366 (0.55%)	1	1	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	1	(0.672)
Cadmium	mg/kg	98	19 / 366 (5.2%)	1.4	8	(1.1)	8	(0.0151) *	0	(5.2)	NA	(NA)	0	(7.3)	8	(1.1)
Chromium, Hexavalent	mg/kg	113	113 / 426 (27%)	80	38	(0.83)	0	(139.6)	38	(0.3)	NA	(NA)	11	(6.3)	38	(0.83)
Chromium, Hexavalent-SPLP	mg/L	1	2 / 2 (100%)	0.0188	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)
Chromium, total	mg/kg	109	422 / 422 (100%)	4,400	60	(39.8)	60	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	60	(39.8)
Chromium-SPLP	mg/L	1	2 / 2 (100%)	0.238	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)
Cobalt	mg/kg	98	366 / 366 (100%)	31	2	(12.7)	2	(13)	1	(23)	NA	(NA)	0	(350)	2	(12.7)
Copper	mg/kg	109	421 / 422 (100%)	580	45	(16.8)	20	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	45	(16.8)
Lead	mg/kg	107	366 / 385 (95%)	120	60	(8.39)	60	(0.0166) *	1	(80)	NA	(NA)	0	(320)	60	(8.39)
Mercury	mg/kg	98	21 / 365 (5.8%)	0.26	NA	(NE)	21	(0.0125)	0	(1)	NA	(NA)	0	(4.5)	21	(0.0125)
Molybdenum	mg/kg	107	53 / 385 (14%)	35	35	(1.37)	22	(2.25)	0	(390)	NA	(NA)	0	(5,800)	35	(1.37)
Nickel	mg/kg	109	422 / 422 (100%)	300	5	(27.3)	5	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	5	(27.3)
Selenium	mg/kg	98	5 / 366 (1.4%)	42	3	(1.47)	3	(0.177) *	0	(390)	NA	(NA)	0	(5,800)	3	(1.47)
Silver	mg/kg	98	2 / 366 (0.55%)	1	NA	(NE)	0	(5.15)	0	(390)	NA	(NA)	0	(1,500)	0	(5.15)
Thallium	mg/kg	98	7 / 366 (1.9%)	10	NA	(NE)	5	(2.32)	7	(0.78)	NA	(NA)	0	(12)	7	(0.78)
Vanadium	mg/kg	107	385 / 385 (100%)	70	3	(52.2)	3	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	3	(52.2)
Zinc	mg/kg	109	422 / 422 (100%)	660	56	(58)	56	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	56	(58)
Contract Laboratory Program Inorganics																
Aluminum	mg/kg	19	28 / 28 (100%)	14,000	0	(16,400)	NA	(NE)	0	(77,000)	NA	(NA)	0	(1,100,000)	0	(16,400)
Calcium	mg/kg	19	28 / 28 (100%)	67,000	1	(66,500)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	1	(66,500)
Iron	mg/kg	28	47 / 47 (100%)	29,000	0	(29,303)	NA	(NE)	0	(55,000)	NA	(NA)	0	(820,000)	0	(29,303)
Magnesium	mg/kg	19	28 / 28 (100%)	11,000	0	(12,100)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(12,100)
Manganese	mg/kg	28	47 / 47 (100%)	720	2	(402)	2	(220)	0	(1,800)	NA	(NA)	0	(6,900)	2	(402)
Manganese Extractable	mg/kg	9	19 / 19 (100%)	224	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)
Potassium	mg/kg	19	28 / 28 (100%)	4,000	0	(4,400)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(4,400)
Sodium	mg/kg	19	24 / 28 (86%)	2,700	1	(2,070)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	1	(2,070)
Cyanide	mg/kg	17	0 / 26 (0%)	ND (6.69) ‡	NA	(NE)	0	(0.9)	0	(23)	NA	(NA)	0	(150)	0	(0.9)
Semivolatile Organic Compounds																
bis (2-ethylhexyl) phthalate	µg/kg	39	3 / 121 (2.5%)	2,000	NA	(NE)	0	(2,870)	0	(39,000)	NA	(NA)	0	(160,000)	0	(2,870)
Volatile Organic Compounds																
Methyl acetate	µg/kg	16	2 / 16 (13%)	12	NA	(NE)	NA	(NE)	0	(24,000)	NA	(NA)	0	(130,000,000)	0	(24,000,000)
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	µg/kg	67	4 / 244 (1.6%)	6.2	NA	(NE)	NA	(NE)	0	(18,000)	NA	(NA)	0	(73,000)	0	(18,000)
2-Methyl naphthalene	µg/kg	70	5 / 247 (2.0%)	6.2	NA	(NE)	NA	(NE)	0	(240,000)	NA	(NA)	0	(3,000,000)	0	(240,000)

TABLE 3-2I
Constituent Concentrations in Soil Compared to Screening Values
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
					# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	µg/kg	70	4 / 247 (1.6%)	6.2	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)
Acenaphthylene	µg/kg	70	4 / 247 (1.6%)	6.2	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)
Anthracene	µg/kg	70	12 / 247 (4.9%)	32	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Benzo (a) anthracene	µg/kg	70	42 / 247 (17%)	380	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (a) pyrene	µg/kg	70	43 / 247 (17%)	350	NA	(NE)	NA	(NE)	2	(110)	NA	(NA)	0	(2,100)	2	(110)
Benzo (b) fluoranthene	µg/kg	70	55 / 247 (22%)	720	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (ghi) perylene	µg/kg	70	41 / 247 (17%)	180	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
Benzo (k) fluoranthene	µg/kg	70	38 / 247 (15%)	240	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)
Chrysene	µg/kg	70	54 / 247 (22%)	400	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)
Dibenzo (a,h) anthracene	µg/kg	70	11 / 247 (4.5%)	37	NA	(NE)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Fluoranthene	µg/kg	70	62 / 247 (25%)	560	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Fluorene	µg/kg	70	5 / 247 (2.0%)	7.9	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Indeno (1,2,3-cd) pyrene	µg/kg	70	36 / 247 (15%)	180	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Naphthalene	µg/kg	70	5 / 247 (2.0%)	6.2	NA	(NE)	NA	(NE)	0	(3,800)	NA	(NA)	0	(17,000)	0	(3,800)
Phenanthrene	µg/kg	70	40 / 247 (16%)	150	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Pyrene	µg/kg	70	57 / 247 (23%)	560	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
PAH Low molecular weight	µg/kg	70	247 / 247 (100%)	182	7	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	70	247 / 247 (100%)	2,866	14	(267.4)	3	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	3	(1,160)
B(a)P Equivalent	µg/kg	1	1 / 3 (33%)	19	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)
		70	70 / 247 (28%)	490	14	(55)			5	(110)			0	(2,100)	5	(110)
Polychlorinated biphenyls																
Aroclor 1254	µg/kg	64	27 / 153 (18%)	1,000	NA	(NE)	NA	(NE)	10	(240)	NA	(NA)	1	(970)	10	(240)
Aroclor 1260	µg/kg	64	6 / 153 (3.9%)	320	NA	(NE)	NA	(NE)	1	(240)	NA	(NA)	0	(990)	1	(240)
Total PCBs	µg/kg	64	27 / 153 (18%)	1,337	NA	(NE)	11	(204)	10	(230)	NA	(NA)	1	(940)	11	(204)
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	43	11 / 135 (8.1%)	300	NA	(NE)	NA	(NE)	1	(230)	1	(230)	0	(1,100)	1	(230)
TPH as motor oil	mg/kg	43	59 / 135 (44%)	3,700	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

TABLE 3-2I
Constituent Concentrations in Soil Compared to Screening Values
AOC 1 – Area around Former Percolation Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RSL	esidential screening level
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

- 1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.
- 2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1
- 3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.
- 4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr
- 5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.
- 6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).
- 8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-3a
Sample Results: Metals
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC4-19	11/20/15	0 - 1	N	ND (2) J*	7.9	470	ND (1) *	ND (1) J	---	46	7.9	13	7.6	ND (0.1) *	ND (1) J	29 J	ND (1) J	ND (1) J	ND (2) J*	36	49
	11/20/15	2 - 3	N	ND (2) *	8.5	500	ND (1) *	ND (1)	---	28	7.3	12	5.9	ND (0.1) *	ND (1)	26	ND (1)	ND (1)	ND (2) *	36	34
AOC4-20	11/20/15	0 - 1	N	ND (2) *	7.1	380	ND (1) *	ND (1)	---	26	7.1	12	8.8	ND (0.1) *	ND (1)	28	ND (1)	ND (1)	ND (2) *	33	41
AOC4-21	11/20/15	0 - 1	N	ND (2) *	3.4	160	ND (1) *	ND (1)	---	16	6.4	11	7.4	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	23	34
AOC4-22	11/20/15	0 - 1	N	ND (2) *	4	170	ND (1) *	ND (1)	---	16	6.3	15	8.7	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	22	40
AOC4-A01	03/02/10	0	N	ND (2.3) J*	ND (1.1)	230 J	ND (1.1) *	ND (1.1) *	0.49	73 J	17	33	5.3	ND (0.11) *	ND (1.1) J	55 J	ND (1.1) J	ND (1.1)	ND (2.3) *	95 J	52 J
AOC4-A01minus	03/02/10	0	N	ND (2.2) *	2.5	330	ND (1.1) *	ND (1.1) *	0.5	24	5.3	14	11	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.2) *	26	46
AOC4-A01S	04/21/10	0	N	ND (2.1) *	4.3	360	ND (1.1) *	ND (1.1) *	ND (0.43)	49	12	56	2.7	ND (0.11) *	ND (1.1)	30	ND (1.1)	ND (1.1)	ND (2.1) *	56	49
AOC4-A02	02/24/10	0	N	ND (2.3) *	3.6	350	ND (1.1) *	ND (1.1) *	ND (0.45)	21	5.8	36	8.4	ND (0.11) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.3) *	32	38
AOC4-A03	03/01/10	0	N	ND (2.4) *	5	270 J	ND (1.2) *	ND (1.2) *	ND (0.47)	41	9.3	24	6.3 J	ND (0.11) *	ND (1.2)	34	ND (1.2)	ND (1.2)	ND (2.4) *	50	53
	03/01/10	0	FD	ND (2.4) *	4.2	220 J	ND (1.2) *	ND (1.2) *	ND (0.47)	40	9	24	8.2 J	ND (0.11) *	ND (1.2)	34	ND (1.2)	ND (1.2)	ND (2.4) *	46	52
AOC4-A04	07/27/10	0	N	ND (2) *	1.2	140	ND (1) *	ND (1)	ND (0.4)	13	5.1	7.4	7.6	ND (0.099) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	25	35
AOC4-A05	07/26/10	0	N	ND (2) *	1.4	130	ND (1) *	ND (1)	ND (0.4)	11	4.4	7.8	7.4	ND (0.1) *	ND (1)	9.8	ND (1)	ND (1)	ND (2) *	19	32
AOC4-A06	07/26/10	0	N	ND (2) *	ND (1)	150	ND (1) *	ND (1)	ND (0.4)	22	6.2	7.8	6.8	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2) *	29	33
AOC4-A06_A07	08/10/10	0	N	ND (2) J*	ND (1)	180 J	ND (1) *	ND (1)	ND (0.4)	31 J	8.8	10	8.3	ND (0.098) *	ND (1) J	26 J	ND (1)	ND (1)	ND (2) J*	35 J	40 J
AOC4-B01	03/03/10	0	N	ND (2.4) *	5.5	450	ND (1.2) *	ND (1.2) *	ND (0.47)	26	9.3	17	2.4	ND (0.11) *	ND (1.2)	22	ND (1.2)	ND (1.2)	ND (2.4) *	60	47
AOC4-B01S	04/21/10	0	N	ND (2.2) *	4.7	250	ND (1.1) *	ND (1.1) *	ND (0.44)	24	8	24	8.4	ND (0.11) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.2) *	35	45
	04/21/10	0	FD	ND (2.2) *	4.9	240	ND (1.1) *	ND (1.1) *	ND (0.44)	24	8.3	25	8.6	ND (0.11) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.2) *	34	46
AOC4-B02	03/17/10	0	N	ND (11) J*	ND (5.4) J	770 J	ND (5.4) J*	ND (5.4) J*	1.9	58 J	12 J	81 J	44 J	0.29	ND (5.4) J*	36 J	ND (5.4) J*	ND (5.4) J*	ND (11) J*	65 J	160 J
AOC4-B03	03/03/10	0	N	2.5	4.2	1,300	ND (1.1) *	1.7	9.7	100	5.4	790	220	0.52	ND (1.1)	24	ND (1.1)	ND (1.1)	ND (2.2) *	26	410
AOC4-B04	03/12/10	0	N	ND (2.2) J*	ND (1.1)	390 J	ND (1.1) *	ND (1.1) *	0.67	35 J	9.4	7.8	4	ND (0.11) *	ND (1.1) J	33 J	ND (1.1)	ND (1.1)	ND (2.2) *	38 J	46 J
AOC4-B05	07/26/10	0	N	ND (2) *	ND (1)	180	ND (1) *	ND (1)	ND (0.4)	22	6.4	8.4	7.9	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2) *	30	36
AOC4-B06	07/26/10	0	N	ND (2) *	ND (1)	190	ND (1) *	ND (1)	ND (0.4)	24	6.4	9	9.7	ND (0.099) *	ND (1)	17	ND (1)	ND (1)	ND (2) *	31	40
AOC4-B06_B07	08/10/10	0	N	ND (2) *	ND (1)	220	ND (1) *	ND (1)	ND (0.4)	53	13	17	6.9	ND (0.1) *	ND (1)	40	ND (1)	ND (1)	ND (2) *	53	45
AOC4-BCW1	01/06/16	0 - 1	N	ND (2.1) *	ND (1)	87	ND (1) *	ND (1)	ND (0.21)	14	7.1	9.8	2	ND (0.1) *	ND (1)	9.8	ND (1)	ND (1)	ND (2.1) *	29	30
	01/06/16	2 - 3	N	ND (2.1) *	ND (1)	82	ND (1) *	ND (1)	ND (0.2)	11	7	6.2	1.6	ND (0.1) *	ND (1)	7.8	ND (1)	ND (1)	ND (2.1) *	26	27
	01/06/16	5 - 6	N	ND (2) *	ND (1)	85	ND (1) *	ND (1)	ND (0.2)	11	6.1	6.1	1	ND (0.1) *	ND (1)	7.2	ND (1)	ND (1)	ND (2) *	24	26
	01/06/16	9 - 10	N	ND (2.1) *	1.2	100	ND (1) *	ND (1)	ND (0.21)	30	9.9	7	1.5	ND (0.1) *	ND (1)	23	ND (1)	ND (1)	ND (2.1) *	37	33
AOC4-BCW2	01/06/16	0 - 1	N	ND (2.1) *	1.4	71	ND (1) *	ND (1)	ND (0.21)	14	6.2	8.1	1.5	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	25	29
	01/06/16	2 - 3	N	ND (2.1) *	ND (1)	99	ND (1) *	ND (1)	ND (0.21)	13	6.2	6.8	1.3	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	22	28
	01/06/16	5 - 6	N	ND (2) J*	1.1	95 J	ND (1) *	ND (1) J	ND (0.21)	13	7.6	7.9	1.6	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) J*	30	32 J
	01/06/16	9 - 10	N	ND (2.1) *	ND (1)	110	ND (1) *	ND (1)	ND (0.2)	13	6.7	7.3	1.1	ND (0.1) *	ND (1)	8.6 J	ND (1)	ND (1)	ND (2.1) *	24	34
	01/06/16	9 - 10	FD	ND (2) *	ND (1)	96	ND (1) *	ND (1)	ND (0.2)	11	6	7.4	1.5	ND (0.1) *	ND (1)	6.9 J	ND (1)	ND (1)	ND (2) *	21	30

TABLE 3-3a
Sample Results: Metals
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC4-BCW3	01/06/16	0 - 1	N	ND (2.2) *	1.8	92 J	ND (1.1) *	ND (1.1) *	0.4 J	18 J	6.1 J	13 J	4.6 J	ND (0.11) *	ND (1.1)	11 J	ND (1.1)	ND (1.1)	ND (2.2) *	24 J	32 J
	01/06/16	0 - 1	FD	ND (2.1) *	2.3	170 J	ND (1.1) *	ND (1.1) *	2.3 J	48 J	8.8 J	85 J	11 J	ND (0.11) *	ND (1.1)	21 J	ND (1.1)	ND (1.1)	ND (2.1) *	31 J	58 J
	01/06/16	2 - 3	N	ND (2.1) *	ND (1.1)	98	ND (1.1) *	ND (1.1) *	ND (0.21)	11	6.7	9	1.3	ND (0.11) *	ND (1.1)	8.4	ND (1.1)	ND (1.1)	ND (2.1) *	27	31
	01/06/16	5 - 6	N	ND (2.1) *	1.2	92	ND (1.1) *	ND (1.1) *	ND (0.21)	28	8.6	12	1.6	ND (0.1) *	ND (1.1)	21	ND (1.1)	ND (1.1)	ND (2.1) *	28	31
	01/06/16	9 - 10	N	ND (2.1) *	1.1	57	ND (1.1) *	ND (1.1) *	ND (0.21)	9.4	5	4.9	1.2	ND (0.11) *	ND (1.1)	7	ND (1.1)	ND (1.1)	ND (2.1) *	18	22
AOC4-BCW4	01/06/16	0 - 1	N	ND (2.1) J*	1.2	100 J	ND (1) *	ND (1)	ND (0.21)	28	11	9.8	2.4	ND (0.1) *	ND (1)	21	ND (1) J	ND (1)	ND (2.1) *	41	39
	01/06/16	2 - 3	N	ND (2) *	ND (1)	71	ND (1) *	ND (1)	ND (0.2)	17	6.6	6.7	1.3	ND (0.1) *	ND (1)	9.4	ND (1)	ND (1)	ND (2) *	24	31
	01/06/16	5 - 6	N	ND (2.1) *	1.2	82	ND (1.1) *	ND (1.1) *	ND (0.21)	15	8.2	10	1.7	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1) *	34	32
	01/06/16	9 - 10	N	ND (2.1) *	1.2	77	ND (1.1) *	ND (1.1) *	ND (0.21)	12	6.2	9.2	1.4	ND (0.11) *	ND (1.1)	8.9	ND (1.1)	ND (1.1)	ND (2.1) *	25	25
AOC4-BCW5	01/06/16	0 - 1	N	ND (2.2) *	1.9	86	ND (1.1) *	ND (1.1) *	ND (0.22)	18	6.8	12	2.2	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.2) *	26	31
	01/06/16	0 - 1	FD	ND (2.2) *	1.8	78	ND (1.1) *	ND (1.1) *	ND (0.22)	18	6.1	13	2.4	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2) *	23	28
	01/06/16	2 - 3	N	ND (2.2) *	ND (1.1)	110	ND (1.1) *	ND (1.1) *	ND (0.22)	19	7.3	7.6	1.2	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2) *	28	30
	01/06/16	5 - 6	N	ND (2.1) *	1.7	110	ND (1.1) *	ND (1.1) *	ND (0.21)	36	12	9.9	1.2	ND (0.11) *	ND (1.1)	30	ND (1.1)	ND (1.1)	ND (2.1) *	46	35
	01/06/16	9 - 10	N	ND (2.3) *	4.9	420	ND (1.2) *	ND (1.2) *	ND (0.23)	36	9.5	22	4	ND (0.12) *	ND (1.2)	27	ND (1.2)	ND (1.2)	ND (2.3) *	44	40
AOC4-BCW6	01/06/16	0 - 1	N	ND (2) *	ND (1)	100	ND (1) *	ND (1)	ND (0.2)	13	8	9.2	1.5	ND (0.1) *	ND (1)	9	ND (1)	ND (1)	ND (2) *	30	33
	01/06/16	2 - 3	N	ND (2.1) *	1.7	110	ND (1.1) *	ND (1.1) *	ND (0.21)	24	8	9.2	3	ND (0.11) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.1) *	32	32
	01/06/16	5 - 6	N	ND (2) *	ND (1)	72	ND (1) *	ND (1)	ND (0.2)	11	6.8	7.7	1.1	ND (0.1) *	ND (1)	8.7	ND (1)	ND (1)	ND (2) *	28	31
	01/06/16	9 - 10	N	ND (2) *	ND (1)	78	ND (1) *	ND (1)	ND (0.2)	13	6.3	7.7	1.4	ND (0.1) *	ND (1)	9.6	ND (1)	ND (1)	ND (2) *	28	27
AOC4-C01	03/02/10	0	N	ND (2.3) *	3.6	340	ND (1.2) *	ND (1.2) *	0.73	84	7.3	45	5.7	ND (0.11) *	ND (1.2)	23	ND (1.2)	ND (1.2)	ND (2.3) *	39	55
AOC4-C01S	04/22/10	0	N	ND (2.1) *	3	200	ND (1) *	ND (1)	ND (0.41)	15	6.1	11	7	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	26	32
AOC4-C02	03/29/10	0	N	ND (4.2) *	7.6	520	ND (2.1) *	ND (2.1) *	ND (0.42)	64	6	26	5.1	ND (0.1) *	ND (2.1) *	25	ND (2.1) *	ND (2.1)	ND (4.2) *	56	50
AOC4-C03	03/18/10	0	N	2.1	1.4	700	ND (1) *	1.1	5.3	73	5.9	90	76	0.25	ND (1)	20	ND (1)	ND (1)	ND (2) *	28	260
AOC4-C04	03/18/10	0	N	ND (2.2) *	5.5	500	ND (1.1) *	ND (1.1) *	ND (0.44)	17	4.4	13	5.4	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2) *	31	33
AOC4-C05	07/26/10	0	N	ND (2) *	2	140	ND (1) *	ND (1)	ND (0.4)	18	6.2	18	12	ND (0.099) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	28	45
AOC4-C06	07/26/10	0	N	ND (2) *	ND (1)	170	ND (1) *	ND (1)	ND (0.4)	29	7.4	9.1	6.8	ND (0.1) *	ND (1)	22	ND (1)	ND (1)	ND (2) *	38	36
AOC4-C06_C07	08/10/10	0	N	ND (2) *	ND (1)	190	ND (1) *	ND (1)	ND (0.4)	47	12	14	8.2	ND (0.099) *	ND (1)	36	ND (1)	ND (1)	ND (2) *	48	47
	08/10/10	0	FD	ND (2) *	ND (1)	210	ND (1) *	ND (1)	ND (0.4)	51	13	16	7.3	ND (0.1) *	ND (1)	41	ND (1)	ND (1)	ND (2) *	52	47
AOC4-D01	03/24/10	0	N	ND (2.2) *	ND (1.1)	570	ND (1.1) *	ND (1.1) *	ND (0.44)	140	13	16	3.1	ND (0.11) *	ND (1.1)	60	ND (1.1)	ND (1.1)	ND (2.2) *	72	49
AOC4-D01S	04/12/10	0	N	ND (2.1) J*	ND (1)	160 J	ND (1) *	ND (1) J	ND (0.41)	42 J	11 J	26	4.9 J	ND (0.1) *	ND (1) J	33 J	ND (1) J	ND (1)	ND (2.1) J*	51 J	45 J
AOC4-D02	03/19/10	0	N	ND (11) *	ND (5.5)	430	ND (5.5) *	ND (5.5) *	ND (0.44)	150	19	34	ND (5.5)	ND (0.11) *	ND (5.5) *	75	ND (5.5) *	ND (5.5) *	ND (11) *	100	86
AOC4-D03	03/19/10	0	N	ND (2.3) *	ND (1.2)	400	ND (1.2) *	ND (1.2) *	1.1	72	20	15	3.4	ND (0.12) *	ND (1.2)	35	ND (1.2)	ND (1.2)	ND (2.3) *	74	50
AOC4-D04	03/19/10	0	N	ND (2.2) *	ND (1.1)	280	ND (1.1) *	ND (1.1) *	ND (0.44) J	160	15	5.9	2.4	ND (0.11) *	ND (1.1)	65	ND (1.1)	ND (1.1)	ND (2.2) *	78	48
AOC4-D05	07/26/10	0	N	ND (2) *	ND (1)	160	ND (1) *	ND (1)	ND (0.4)	18	4.4	9.8	10	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	23	45
AOC4-D06	07/27/10	0	N	ND (2) *	ND (1)	190	ND (1) *	ND (1)	ND (0.4)	33	8.7	12	6.2	ND (0.099) *	ND (1)	26	ND (1)	ND (1)	ND (2) *	43	38
AOC4-D06_D07	08/10/10	0	N	ND (2) *	ND (1)	190	ND (1) *	ND (1)	ND (0.4)	32	8.5	13	6.2	ND (0.098) *	ND (1)	24	ND (1)	ND (1)	ND (2) *	36	40
AOC4-DAM-OS1	02/22/17	0 - 0.2	N	ND (2.2) *	2.4 J	170	ND (1.1) *	1.5 J	ND (0.22)	32	8.7 J	18	5.6 J	ND (0.11) *	ND (1.1)	25 J	ND (1.1) J	ND (1.1)	ND (2.2) J*	29	40 J
	02/22/17	1 - 1.5	N	ND (2.2) *	2.4	130	ND (1.1) *	1.6	ND (0.22)	39	9 J	27	6.8 J	ND (0.11) *	ND (1.1)	27	ND (1.1) J	ND (1.1)	ND (2.2) J*	29	39
AOC4-DAM-OS2	02/22/17	0 - 0.2	N	ND (2.1) *	2.4	150	ND (1.1) *	1.2	ND (0.21)	23	6.5 J	14	7.4 J	0.74	ND (1.1)	17	ND (1.1) J	ND (1.1)	ND (2.1) J*	22	35
	02/22/17	1 - 1.5	N	ND (2.2) *	2.1	140	ND (1.1) *	1.7	ND (0.22)	43	10 J	21	4.4 J	ND (0.11) *	ND (1.1)	29	ND (1.1) J	ND (1.1)	ND (2.2) J*	31	41

TABLE 3-3a
Sample Results: Metals
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC4-E01S	04/22/10	0	N	ND (2.2) *	3.1	460	ND (1.1) *	ND (1.1) *	0.92	43	8.2	22	4.8	ND (0.11) *	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.2) *	40	44
AOC4-E02	04/16/10	0	N	ND (4.3) *	3.8	360	ND (2.2) *	ND (2.2) *	0.94	55	13	13	2.9	ND (0.11) *	ND (2.2) *	38	ND (2.2) *	ND (2.2)	ND (4.3) *	73	55
AOC4-E03	03/25/10	0	N	ND (2.1) *	1.8	190	ND (1.1) *	ND (1.1) *	1.4	67	12	5.7	3.3	ND (0.11) *	ND (1.1)	33	ND (1.1)	ND (1.1)	ND (2.1) *	66	50
AOC4-E04	03/25/10	0	N	ND (2.1) *	ND (1.1)	210	ND (1.1) *	ND (1.1) *	ND (0.42)	21	5.8	8.7	5.3	ND (0.11) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1) *	28	31
AOC4-E05	07/27/10	0	N	ND (2) J*	ND (1)	130 J	ND (1) *	ND (1) J	ND (0.4)	23	6.5 J	11	7.5 J	ND (0.099) *	ND (1) J	17 J	ND (1) J	ND (1)	ND (2) J*	29	35 J
	07/27/10	0	FD	ND (2) J*	ND (1)	130 J	ND (1) *	ND (1) J	ND (0.4)	24	6.7 J	11	7.1 J	ND (0.1) *	ND (1) J	18 J	ND (1) J	ND (1)	ND (2) J*	29 J	35 J
AOC4-E06	07/27/10	0	N	ND (2) *	ND (1)	170	ND (1) *	ND (1)	ND (0.4)	28	9.2	11	6	ND (0.1) *	ND (1)	21	ND (1)	ND (1)	ND (2) *	34	34
AOC4-E06_E07	08/10/10	0	N	ND (2) *	ND (1)	190	ND (1) *	ND (1)	ND (0.41)	45	11	18	6.1	ND (0.1) *	ND (1)	31	ND (1)	ND (1)	ND (2) *	42	40
AOC4-F01S	04/22/10	0	N	ND (2.2) *	2.2	360	ND (1.1) *	ND (1.1) *	ND (0.43)	51	13	19	3.7	ND (0.11) *	ND (1.1)	34	ND (1.1)	ND (1.1)	ND (2.2) *	58	37
AOC4-F02	03/31/10	0	N	ND (2.1) J*	2.9 J	310 J	ND (1.1) J*	ND (1.1) J*	ND (0.42)	28 J	6.7 J	14 J	4.5 J	ND (0.1) *	ND (1.1) J	19 J	ND (1.1) J	ND (1.1) J	ND (2.1) J*	32 J	41 J
AOC4-F03	03/31/10	0	N	ND (11) *	ND (5.3)	300	ND (5.3) *	ND (5.3) *	ND (0.42)	51	10	33	6.4	ND (0.11) *	ND (5.3) *	20	ND (5.3) *	ND (5.3) *	ND (11) *	74	74
AOC4-F04	03/31/10	0	N	ND (2.1) *	ND (1.1)	250	ND (1.1) *	ND (1.1) *	ND (0.43)	83	9.4	18	4.5	ND (0.11) *	ND (1.1)	23	ND (1.1)	ND (1.1)	ND (2.1) *	64	48
AOC4-F05	08/09/10	0	N	ND (2) *	ND (1)	190	ND (1) *	ND (1)	ND (0.41)	29	7.5	14	4	ND (0.1) *	ND (1)	19	ND (1)	ND (1)	ND (2) *	35	29
AOC4-G01S	04/22/10	0	N	ND (2.1) *	1.7	260	ND (1) *	ND (1)	ND (0.42)	36	8.3	12	4.3	ND (0.1) *	ND (1)	22	ND (1)	ND (1)	ND (2.1) *	40	34
AOC4-G04	08/04/10	0	N	ND (2) J*	ND (1)	170 J	ND (1) *	ND (1) J	ND (0.41)	26 J	5.9	11	11 J	ND (0.1) *	ND (1) J	14 J	ND (1) J	ND (1)	ND (2) J*	28 J	50 J
AOC4-G05	08/05/10	0	N	ND (2.1) *	ND (1)	400	ND (1) *	ND (1)	ND (0.41)	61	14	19	4.4	ND (0.1) *	ND (1)	46	ND (1)	ND (1)	ND (2.1) *	62	46
AOC4-G06	08/09/10	0	N	ND (2) *	ND (1)	210	ND (1) *	ND (1)	ND (0.4)	33	9	16	6	ND (0.1) *	ND (1)	22	ND (1)	ND (1)	ND (2) *	40	39
AOC4-H04	07/27/10	0	N	ND (2) *	ND (1)	210	ND (1) *	ND (1)	ND (0.4)	38	9	11	5.2	ND (0.1) *	ND (1)	27	ND (1)	ND (1)	ND (2) *	41	34
AOC4-H05	08/05/10	0	N	ND (2.1) *	ND (1.1)	300	ND (1.1) *	ND (1.1) *	ND (0.42)	58	13	26	4.2	ND (0.1) *	ND (1.1)	37	ND (1.1)	ND (1.1)	ND (2.1) *	57	42
AOC4-I04	05/19/10	0	N	ND (2.2) *	ND (1.1)	300	ND (1.1) *	ND (1.1) *	ND (0.45)	33	8.8	12	6.5	ND (0.11) *	ND (1.1)	25	ND (1.1)	ND (1.1)	ND (2.2) *	46	35
AOC4-I05	05/24/10	0	N	ND (2.2) *	ND (1.1)	310	ND (1.1) *	ND (1.1) *	ND (0.44)	60	15	33	9.3	ND (0.11) *	ND (1.1)	43	ND (1.1)	ND (1.1)	ND (2.2) *	73	52
AOC4-I06	08/11/10	0	N	ND (2.1) *	ND (1.1)	290	ND (1.1) *	ND (1.1) *	ND (0.43)	44	11	33	5.9	ND (0.11) *	ND (1.1)	32	ND (1.1)	ND (1.1)	ND (2.1) *	58	47
AOC4-I06_I07	08/13/10	0	N	ND (2.1) *	ND (1.1)	360	ND (1.1) *	ND (1.1) *	ND (0.43)	41	10	34	5.5	ND (0.11) *	ND (1.1)	31	ND (1.1)	ND (1.1)	ND (2.1) *	55	52
AOC4-J02	05/10/10	0	N	ND (2.2) *	1.2	230	ND (1.1) *	ND (1.1) *	ND (0.44)	25	7.2	15	5.7	ND (0.11) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.2) *	34	34
AOC4-J03	05/17/10	0	N	ND (2.3) J*	5	780 J	ND (1.1) *	ND (1.1) J*	ND (0.45)	42 J	7.1 J	26	5.5 J	ND (0.11) *	ND (1.1) J	22 J	ND (1.1)	ND (1.1)	ND (2.3) J*	46 J	41 J
AOC4-J04	06/15/10	0	N	ND (2) J*	1.2	160 J	ND (1) *	ND (1) J	ND (0.4)	20	4.3 J	26	9.7 J	ND (0.1) *	ND (1) J	10 J	ND (1) J	ND (1)	ND (2) J*	23	38 J
AOC4-J05	06/07/10	0	N	ND (2.3) *	ND (1.1)	230	ND (1.1) *	ND (1.1) *	ND (0.45)	60	15	29	4.6	ND (0.11) *	ND (1.1)	42	ND (1.1)	ND (1.1)	ND (2.3) *	66	47
AOC4-J06	06/07/10	0	N	ND (2.2) *	ND (1.1)	360	ND (1.1) *	ND (1.1) *	3.1	74	12	39	24	ND (0.11) *	ND (1.1)	34	ND (1.1)	ND (1.1)	ND (2.2) *	54	92
AOC4-J06_J07	08/13/10	0	N	ND (2.1) *	ND (1.1)	390	ND (1.1) *	ND (1.1) *	0.9	59	13	37	5.7	ND (0.11) *	ND (1.1)	40	ND (1.1)	ND (1.1)	ND (2.1) *	59	58
AOC4-K02	05/17/10	0	N	ND (2) J*	ND (1)	230 J	ND (1) J*	ND (1) J	ND (0.41)	59 J	14 J	24	3.9 J	ND (0.1) *	ND (1) J	42 J	ND (1) J	ND (1)	ND (2) J*	62 J	46 J
	05/17/10	0	FD	ND (2.1) *	ND (1)	270	ND (1) *	ND (1)	ND (0.41)	60	15	26	4.2	ND (0.1) *	ND (1)	41	ND (1)	ND (1)	ND (2.1) *	62	45
AOC4-K03	05/17/10	0	N	ND (2.1) *	ND (1.1)	210	ND (1.1) *	ND (1.1) *	ND (0.42)	41	9.7	17	7	ND (0.1) *	ND (1.1)	27	ND (1.1)	ND (1.1)	ND (2.1) *	43	41
AOC4-K04	06/16/10	0	N	ND (2) *	ND (1)	230	ND (1) *	ND (1)	2.7	52	8.5	39	71	0.22	ND (1)	26	ND (1)	ND (1)	ND (2) *	39	130
AOC4-K05	06/15/10	0	N	2.7	ND (1)	720	ND (1) *	1.5	16	140	11	210	96	0.51	ND (1)	43	ND (1)	ND (1)	ND (2.1) *	57	290
AOC4-K06	06/15/10	0	N	ND (2.2) *	ND (1.1)	140	ND (1.1) *	ND (1.1) *	ND (0.45)	52	12	20	4.8	ND (0.11) *	ND (1.1)	35	ND (1.1)	ND (1.1)	ND (2.2) *	59	41
AOC4-K07	06/15/10	0	N	ND (2.2) *	ND (1.1)	170	ND (1.1) *	ND (1.1) *	ND (0.44)	49	11	18	5.7	ND (0.11) *	ND (1.1)	33	ND (1.1)	ND (1.1)	ND (2.2) *	50	41
AOC4-L04	05/18/10	0	N	ND (2.2) *	ND (1.1)	210	ND (1.1) *	ND (1.1) *	ND (0.43)	46	12	18	5.2	ND (0.11) *	ND (1.1)	33	ND (1.1)	ND (1.1)	ND (2.2) *	49	41

TABLE 3-3a
Sample Results: Metals
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC4-L05	06/28/10	0	N	ND (2.1) J*	ND (1.1)	63 J	ND (1.1) *	ND (1.1) J*	ND (0.43)	54 J	12 J	25	7 J	ND (0.11) *	ND (1.1) J	34 J	ND (1.1) J	ND (1.1)	ND (2.1) J*	54 J	43 J
AOC4-L06	06/28/10	0	N	ND (2.1) *	ND (1)	160	ND (1) *	ND (1)	ND (0.41)	47	11	32	5.6	ND (0.1) *	ND (1)	34	ND (1)	ND (1)	ND (2.1) *	55	46
	06/28/10	0	FD	ND (2.1) *	ND (1)	150	ND (1) *	ND (1)	ND (0.42)	50	12	32	5.8	ND (0.1) *	ND (1)	37	ND (1)	ND (1)	ND (2.1) *	57	48
AOC4-L07	09/16/10	0	N	ND (2.2) J*	ND (1.1) J	270 J	ND (1.1) J*	ND (1.1) J*	ND (0.44)	58	15	36	8.1	ND (0.11) *	ND (1.1) J	45 J	ND (1.1) J	ND (1.1)	ND (2.2) J*	67 J	61 J
	09/16/10	0	FD	ND (2.2) J*	ND (1.1) J	230 J	ND (1.1) J*	ND (1.1) J*	ND (0.44)	48	11	32	6.1	ND (0.11) *	ND (1.1) J	36 J	ND (1.1) J	ND (1.1)	ND (2.2) J*	53 J	49 J
AOC4-L07_L08	09/20/10	0	N	ND (2.1) *	ND (1.1)	160	ND (1.1) *	ND (1.1) *	ND (0.42)	61	13	30	5.2	ND (0.11) *	ND (1.1)	43	ND (1.1)	ND (1.1)	ND (2.1) *	59	51
AOC4-M05	09/20/10	0	N	ND (2.1) *	ND (1)	140	ND (1) *	ND (1)	ND (0.41)	34	8.9	14	4.6	ND (0.1) *	ND (1)	27	ND (1)	ND (1)	ND (2.1) *	42	34
AOC4-M06	07/08/10	0	N	ND (2) *	ND (1)	170	ND (1) *	ND (1)	ND (0.41)	31	8.3	10	5.1	ND (0.1) *	ND (1)	23	ND (1)	ND (1)	ND (2) *	38	34
AOC4-M07	09/22/10	0	N	ND (2.1) *	ND (1)	160	ND (1) *	ND (1)	ND (0.41)	45	11	21	5	ND (0.1) *	ND (1)	34	ND (1)	ND (1)	ND (2.1) *	48	43
AOC4-M07_M08	09/22/10	0	N	ND (2.1) *	ND (1)	120	ND (1) *	ND (1)	1.6	48	11	26	5.8	ND (0.1) *	ND (1)	36	ND (1)	ND (1)	ND (2.1) *	52	49
AOC4-M08	09/22/10	0	N	ND (2.1) *	ND (1)	280	ND (1) *	ND (1)	ND (0.41)	47	12	29	5.5	ND (0.1) *	ND (1)	35	ND (1)	ND (1)	ND (2.1) *	52	46
AOC4-M08_M09	09/23/10	0	N	ND (2) *	ND (1)	140	ND (1) *	ND (1)	0.75	39	9	24	7.3	ND (0.1) *	ND (1)	26	ND (1)	ND (1)	ND (2) *	42	49
AOC4-M10	10/01/10	0	N	ND (2) *	ND (1)	160	ND (1) *	ND (1)	1.8	69	11	200	6.2	ND (0.1) *	ND (1)	32	ND (1)	ND (1)	ND (2) *	44	50
AOC4-N05_N06	07/08/10	0	N	ND (2) *	ND (1)	170	ND (1) *	ND (1)	ND (0.4)	38	8.6	12	4.9	ND (0.1) *	ND (1)	27	ND (1)	ND (1)	ND (2) *	41	33
AOC4-N06	09/23/10	0	N	ND (2.1) *	ND (1.1)	190	ND (1.1) *	ND (1.1) *	ND (0.42)	33	8.8	13	5.3	ND (0.11) *	ND (1.1)	27	ND (1.1)	ND (1.1)	ND (2.1) *	40	34
AOC4-N07	09/23/10	0	N	ND (2.1) *	ND (1)	140	ND (1) *	ND (1)	ND (0.42)	31	8.1	9.8	5.2	ND (0.1) *	ND (1)	25	ND (1)	ND (1)	ND (2.1) *	36	33
AOC4-N08	09/23/10	0	N	ND (2.1) *	ND (1.1)	120	ND (1.1) *	ND (1.1) *	0.5	26	7.4	9.5	5.4	ND (0.11) *	ND (1.1)	23	ND (1.1)	ND (1.1)	ND (2.1) *	35	33
AOC4-O07	10/01/10	0	N	ND (2) *	ND (1)	130	ND (1) *	ND (1)	ND (0.4)	34	8.8	15	4.1	ND (0.1) *	ND (1)	29	ND (1)	ND (1)	ND (2) *	39	33
AOC4-O08	10/01/10	0	N	ND (2) *	ND (1)	140	ND (1) *	ND (1)	ND (0.41)	25	6.9	15	5.3	ND (0.1) *	ND (1)	21	ND (1)	ND (1)	ND (2) *	35	43
PA-17	01/27/16	0 - 1	N	ND (2.1) *	4	130	ND (1) *	ND (1)	ND (0.21)	25	7.8	13	4.4	ND (0.1) *	ND (1)	21	ND (1)	ND (1)	ND (2.1) *	32	47

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

- 1 Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-3b
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
Category 1																								
AOC4-19	11/20/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	47	42	81	29	23	50	ND (5.1)	110	ND (5.1)	27	ND (5.1)	11	100	11	509	60
	11/20/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	59 J	48 J	88 J	30 J	24 J	61 J	ND (5.1)	140 J	ND (5.1)	28 J	ND (5.1)	23 J	120 J	23	598	68
AOC4-20	11/20/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	21	18	34	12	11	22	ND (5.1)	49	ND (5.1)	11	ND (5.1)	5.1	46	5.1	224	27
AOC4-21	11/20/15	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.7	5	11	ND (5)	ND (5)	6.7	ND (5)	14	ND (5)	ND (5)	ND (5)	ND (5)	13	ND	55.4	9.5
AOC4-22	11/20/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.8	ND (5.1)	ND (5.1)	5.7	ND (5.1)	10	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.8	ND	34.3	6.5
AOC4-33	02/14/17	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	11	28	9.8	5.7	15	ND (5.1)	31	ND (5.1)	8.4	ND (5.1)	8.4	29	8.4	149.9	18
	02/14/17	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC4-34	02/14/17	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC4-35	02/14/17	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.1	6.8	18	6.5	ND (5.1)	9.9	ND (5.1)	20	ND (5.1)	5.4	ND (5.1)	6.5	18	6.5	91.7	12
AOC4-A01	03/02/10	0	N	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	190 J	110 J	220 J	82 J	82 J	160 J	21 J	480 J	ND (5.6) J	78 J	ND (5.6) J	30 J	470 J	30	1,893	180
AOC4-A01minus	03/02/10	0	N	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	130 J	82 J	170 J	66 J	39 J	110 J	17 J	310 J	ND (5.4) J	62 J	ND (5.4) J	39 J	260 J	39	1,246	140
AOC4-A01S	04/21/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.7	130 J	70	190	49	44	97	11	290	ND (5.3)	40	ND (5.3)	31	240	36.7	1,161	120
AOC4-A02	02/24/10	0	N	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	110 J	71 J	160 J	59 J	39 J	110 J	18 J	190 J	ND (5.7) J	57 J	ND (5.7) J	20 J	190 J	20	1,004	120
AOC4-A03	03/01/10	0	N	ND (5.9) J	ND (5.9) J	ND (5.9) J	ND (5.9) J	12 J	420 J	190 J	520 J	140 J	100 J	260 J	37 J	760 J	ND (5.9) J	130 J	ND (5.9) J	70 J	700 J	82	3,257	340
	03/01/10	0	FD	ND (5.9) J	ND (5.9) J	ND (5.9) J	ND (5.9) J	10 J	290 J	170 J	490 J	120 J	90 J	240 J	33 J	720 J	ND (5.9) J	120 J	ND (5.9) J	55 J	650 J	65	2,923	290
AOC4-A04	07/27/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.7	ND (5)	ND (5)	ND (5)	ND (5)	7	ND (5)	ND (5)	ND (5)	ND (5)	6.3	ND	20	6.2
AOC4-A05	07/26/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC4-A06	07/26/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC4-A06_A07	08/10/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC4-B01	03/03/10	0	N	ND (5.9) J	ND (5.9) J	ND (5.9) J	ND (5.9) J	13 J	410 J	170 J	510 J	110 J	97 J	250 J	30 J	770 J	ND (5.9) J	110 J	ND (5.9) J	110 J	640 J	123	3,097	300
AOC4-B01S	04/21/10	0	N	ND (5.6)	ND (5.6)	5.9	ND (5.6)	33 J	160 J	64 J	160 J	40 J	36 J	120 J	8.5	490 J	ND (5.6)	32 J	ND (5.6)	240 J	360 J	278.9	1,471	110
	04/21/10	0	FD	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5) J	5.5 J	ND (5.5) J	ND (5.5) J	ND (5.5) J	ND (5.5) J	5.9 J	ND (5.5)	18 J	ND (5.5)	ND (5.5) J	ND (5.5)	20 J	13 J	20	42.4	6.6
AOC4-B02	03/17/10	0	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	24	810	620	1,200	550	1,400	750	93	2,100	ND (5.4)	440	ND (5.4)	140	2,200	164	10,163	970
AOC4-B03	03/03/10	0	N	ND (5.5) J	ND (5.5) J	ND (5.5) J	ND (5.5) J	10 J	250 J	140 J	430 J	97 J	73 J	220 J	31 J	600 J	ND (5.5) J	97 J	ND (5.5) J	54 J	550 J	64	2,488	250
AOC4-B04	03/12/10	0	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	14	12	24	10	9	17	ND (5.6)	35	ND (5.6)	7.5	ND (5.6)	ND (5.6)	34	ND	162.5	19
AOC4-B05	07/26/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7	8	19	8.7	6.7	10	ND (5)	21	ND (5)	7	ND (5)	ND (5)	19	ND	106.4	14
AOC4-B06	07/26/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	21	18	41	18	16	24	5	54	ND (5)	15	ND (5)	12	45	12	257	31
AOC4-B06_B07	08/10/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC4-BCW1	01/06/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/06/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/06/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/06/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)

TABLE 3-3b
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																					
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110	
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent	
AOC4-BCW2	01/06/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	01/06/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	01/06/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	01/06/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	01/06/16	9 - 10	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC4-BCW3	01/06/16	0 - 1	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	9.3	ND (5.4)	ND (5.4)	6.1	ND (5.4)	9.3	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	8.6	ND	33.3	6.9	
	01/06/16	0 - 1	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	12	12	22	ND (5.3)	9.2	12	ND (5.3)	23	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	21	ND	111.2	18	
	01/06/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	01/06/16	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	01/06/16	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
AOC4-BCW4	01/06/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	01/06/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	01/06/16	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	01/06/16	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
AOC4-BCW5	01/06/16	0 - 1	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND	ND	ND (6.5)	
	01/06/16	0 - 1	FD	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)	
	01/06/16	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)	
	01/06/16	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	01/06/16	9 - 10	N	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND	ND	ND (6.7)	
AOC4-BCW6	01/06/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	01/06/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	01/06/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	01/06/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC4-C01	03/02/10	0	N	ND (5.6) J	ND (5.6) J	22 J	6 J	95 J	1,000 J	750 J	1,400 J	190 J	380 J	1,200 J	63 J	2,400 J	14 J	200 J	ND (5.6) J	1,200 J	2,100 J	1,337	9,683	1,100	
AOC4-C01S	04/22/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	25	14	31	12	8.9	20	ND (5.1)	46	ND (5.1)	8.9	ND (5.1)	6.5	39	6.5	204.8	23	
AOC4-C02	03/29/10	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	44	380	180	280	87	80	360	24	800	ND (5.5)	79	ND (5.5)	210	740	254	3,010	280	
AOC4-C03	03/18/10	0	N	8.8	12	ND (5.1)	ND (5.1)	5.8	170	140	240	94	80	160	22	530	ND (5.1)	76	6.5	37	480	70.1	1,992	210	
AOC4-C04	03/18/10	0	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	6.3	6.3	11	ND (5.6)	ND (5.6)	6.7	ND (5.6)	16	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	16	ND	62.3	11	
AOC4-C05	07/26/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	12	11	27	10	10	15	ND (5)	32	ND (5)	8.7	ND (5)	ND (5)	31	ND	156.7	18	
AOC4-C06	07/26/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.7	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.3	ND	13	5.8
AOC4-C06_C07	08/10/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5	ND (5)	10	ND (5)	ND (5)	7	ND (5)	15	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	12	ND	49	6.8
	08/10/10	0	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7.7	ND (5)	ND (5)	6.7	ND (5)	16	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	13	ND	43.4	6.3
AOC4-D01	03/24/10	0	N	ND (5.5) J	ND (5.5) J	ND (5.5) J	ND (5.5) J	36 J	870 J	550 J	860 J	390 J	190 J	630 J	90 J	1,200 J	ND (5.5) J	330 J	ND (5.5) J	130 J	1,100 J	166	6,210	850	
AOC4-D01S	04/12/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	11 J	6.2	11	5.2	ND (5.2)	9.6	ND (5.2)	17	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	16	ND	76	11
AOC4-D02	03/19/10	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)	
AOC4-D03	03/19/10	0	N	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	25	21	31	14	14	19	ND (5.8)	25	ND (5.8)	10	ND (5.8)	ND (5.8)	27	ND	186	31	

TABLE 3-3b
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC4-D04	03/19/10	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
AOC4-D05	07/26/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	12	11	28	12	10	15	ND (5)	33	ND (5)	9.7	ND (5)	5.3	30	5.3	160.7	19
AOC4-D06	07/27/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.7	ND (5)	ND (5)	ND (5)	ND (5)	7	ND (5)	ND (5)	ND (5)	ND (5)	6	ND	18.7	6.1
AOC4-D06_D07	08/10/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8	5.7	15	5.3	ND (5)	9.3	ND (5)	19	ND (5)	ND (5)	ND (5)	ND (5)	20	ND	82.3	11
AOC4-DAM-OS	02/22/17	0 - 0.2	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	6	5.6	6	5.6	6.5
	02/22/17	1 - 1.5	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	34 J	22	52	8.8	14	27	ND (5.5)	64	ND (5.5)	9.2	ND (5.5)	14	55	14	286	34
AOC4-DAM-OS	02/22/17	0 - 0.2	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	11 J	8.8	23	ND (5.3)	6.7	13	ND (5.3)	25	ND (5.3)	ND (5.3)	ND (5.3)	8.8	24	8.8	111.5	15
	02/22/17	1 - 1.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	14 J	11	26	5.4	6.9	14	ND (5.4)	30	ND (5.4)	ND (5.4)	ND (5.4)	9.1	28	9.1	135.3	18
AOC4-E01S	04/22/10	0	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	66	41	90	36	25	57	7.1	130	ND (5.6)	27	ND (5.6)	23	110	23	589.1	67
AOC4-E02	04/16/10	0	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
AOC4-E03	03/25/10	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	9.5	8.8	12	7.7	6.6	9.5	ND (5.5)	16	ND (5.5)	6.2	ND (5.5)	ND (5.5)	15	ND	91.3	14
AOC4-E04	03/25/10	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	17	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	13	ND	30	6.4
AOC4-E05	07/27/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	07/27/10	0	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8.3	ND (5)	ND (5)	ND (5)	ND (5)	8.7	ND (5)	ND (5)	ND (5)	ND (5)	8	ND	25	6.4
AOC4-E06	07/27/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC4-E06_E07	08/10/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC4-F01S	04/22/10	0	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
AOC4-F02	03/31/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	36	30	65	21	16	36	5.2	77	ND (5.2)	19	ND (5.2)	9.8	62	9.8	367.2	47
AOC4-F03	03/31/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	19	120	59	110	28	26	100	8.5	200	ND (5.3)	26	ND (5.3)	65	190	84	867.5	93
AOC4-F04	03/31/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	8.9	5.7	14	ND (5.3)	ND (5.3)	7.5	ND (5.3)	17	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	15	ND	68.1	11
AOC4-F05	08/09/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC4-G01S	04/22/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	88	49	98	40	31	78	8.3	140	ND (5.2)	30	ND (5.2)	23	120	23	682.3	79
AOC4-G04	08/04/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	34	27	63	31	23	46	6.8	100	ND (5.1)	25	ND (5.1)	15	92	15	447.8	46
AOC4-G05	08/05/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC4-G06	08/09/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	39	23	45	18	18	37	ND (5)	82	ND (5)	16	ND (5)	13	71	13	349	36
AOC4-H04	07/27/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	11	6	ND (5)	6.7	ND (5)	16	ND (5)	ND (5)	ND (5)	ND (5)	13	ND	52.7	6.6
AOC4-H05	08/05/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC4-I04	05/19/10	0	N	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND	ND	ND (6.5)
AOC4-I05	05/24/10	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	8	ND (5.5)	ND (5.5)	7.7	ND (5.5)	ND (5.5)	7.3	ND (5.5)	ND (5.5)	ND (5.5)	ND	23	12
AOC4-I06	08/11/10	0	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
AOC4-I06_I07	08/13/10	0	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	5.4	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	5.4	ND	10.8	6.2
AOC4-J02	05/10/10	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
AOC4-J03	05/17/10	0	N	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	5.6 J	ND (5.6) J	9 J	12 J	ND (5.6) J	7.9 J	8.2 J	16 J	ND (5.6) J	9.7 J	ND (5.6) J	6 J	13 J	6	81.4	13
AOC4-J04	06/15/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	17	15	32	13	11	18	ND (5)	42	ND (5)	11	ND (5)	8.3	36	8.3	195	24
AOC4-J05	06/07/10	0	N	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND	ND	ND (6.6)

TABLE 3-3b
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC4-J06	06/07/10	0	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	9.3	7.9	23	9	5.7	13	ND (5.4)	23	ND (5.4)	7.2	ND (5.4)	7.5	20	7.5	118.1	15
AOC4-J06_J07	08/13/10	0	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	6.4	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	6.8	ND	13.2	6.2
AOC4-K02	05/17/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	05/17/10	0	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC4-K03	05/17/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.3	6	13	6.3	5.6	9.5	ND (5.3)	18	ND (5.3)	5.3	ND (5.3)	ND (5.3)	17	ND	87	11
AOC4-K04	06/16/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	34	36	86	34	28	50	7.4	96	ND (5)	28	ND (5)	32	82	32	481.4	59
AOC4-K05	06/15/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	18	17	34	18	9.9	21	ND (5.1)	32	ND (5.1)	14	ND (5.1)	13	28	13	191.9	26
AOC4-K06	06/15/10	0	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND	ND	ND (6.5)
AOC4-K07	06/15/10	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
AOC4-L04	05/18/10	0	N	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND (5.6) J	ND	ND	ND (6.5)
AOC4-L05	06/28/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC4-L06	06/28/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	06/28/10	0	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC4-L07	09/16/10	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
	09/16/10	0	FD	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
AOC4-L07_L08	09/20/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC4-M05	09/20/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC4-M06	07/08/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC4-M07	09/22/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC4-M07_M08	09/22/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.8	ND (5.1)	ND (5.1)	5.5	ND (5.1)	12	ND (5.1)	ND (5.1)	ND (5.1)	5.8	9.2	5.8	32.5	6.2
AOC4-M08	09/22/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	16	13	22	7.2	6.5	15	ND (5.2)	35	ND (5.2)	6.2	ND (5.2)	15	30	15	150.9	20
AOC4-M08_M09	09/23/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (5.1)	8.8	ND (5.1)	ND (5.1)	6.1	ND (5.1)	13	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	ND	44	6.8
AOC4-M10	10/01/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	7.8	15	5.8	5.1	10	ND (5.1)	23	ND (5.1)	5.1	ND (5.1)	5.4	21	5.4	103.8	14
AOC4-N05_N06	07/08/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC4-N06	09/23/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.3	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.6	ND	11.9	6.1
AOC4-N07	09/23/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC4-N08	09/23/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC4-O07	10/01/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.7	ND	13.8	5.9
AOC4-O08	10/01/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.4	ND (5.1)	7.1	ND (5.1)	ND (5.1)	6.8	ND (5.1)	13	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	ND	44.3	6.6
PA-17	01/27/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (58)

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-3c

Sample Results: Total Petroleum Hydrocarbons

AOC 4 – Debris Ravine, Outside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)
Interim Screening Level ¹ :				11,000
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
RWQCB Environmental Screening Levels ⁴ :				11,000
Ecological Comparison Values ⁵ :				NE
Background ⁶ :				NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as motor oil
PA-17	01/27/16	0 - 1	N	31

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Levels

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

N primary sample

ND not detected at the listed reporting limit

NE not established

RWQCB Regional Water Quality Control Board

TPH total petroleum hydrocarbon

USEPA United States Environmental Protection Agency

¹ The interim screening level is the Regional Water Quality Control Board environmental screening level.² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.⁴ California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.⁵ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.⁶ Background values have not been established for TPHs.

TABLE 3-3d

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Outside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC4-19	11/20/15	0 - 1	N	ND (17) J	ND (33)	ND (17)	ND (17)	ND (17)	78	38 J	---	---	133
	11/20/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	57	ND (17)	---	---	82.5
AOC4-20	11/20/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	110	87	---	---	214
AOC4-21	11/20/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	57	48	---	---	122
AOC4-22	11/20/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	49	37	---	---	103
AOC4-33	02/14/17	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	70	58	---	---	145
	02/14/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-34	02/14/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	26	ND (17)	---	---	51.5
AOC4-35	02/14/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	83	65	---	---	165
AOC4-A01	03/02/10	0	N	ND (19) J	ND (37) J	ND (19) J	ND (19) J	ND (19) J	120 J	ND (19) J	---	---	148.5
AOC4-A01minus	03/02/10	0	N	ND (18) J	ND (36) J	ND (18) J	ND (18) J	ND (18) J	150 J	ND (18) J	---	---	177
AOC4-A01S	04/21/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	170	ND (18)	---	---	58
AOC4-A02	02/24/10	0	N	ND (19) J	ND (37) J	ND (19) J	ND (19) J	ND (19) J	23 J	ND (19) J	---	---	51.5
AOC4-A03	03/01/10	0	N	ND (20) J	ND (39) J	ND (20) J	ND (20) J	ND (20) J	90 J	ND (20) J	---	---	120
	03/01/10	0	FD	ND (19) J	ND (39) J	ND (19) J	ND (19) J	ND (19) J	75 J	ND (19) J	---	---	103.5
AOC4-A04	07/27/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	19	ND (17)	ND (17)	ND (17)	46.5
AOC4-A05	07/26/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-A06	07/26/10	0	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (34)
AOC4-A06_A07	08/10/10	0	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (32)
AOC4-B01	03/03/10	0	N	ND (19) J	ND (39) J	ND (19) J	ND (19) J	ND (19) J	310 J	ND (19) J	---	---	338.5
AOC4-B01S	04/21/10	0	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	04/21/10	0	FD	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC4-B02	03/17/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	220	ND (18)	---	---	267
AOC4-B03	03/03/10	0	N	ND (18) J	ND (36) J	ND (18) J	ND (18) J	ND (18) J	100 J	ND (18) J	---	---	157

TABLE 3-3d

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Outside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC4-B04	03/12/10	0	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (38)
AOC4-B05	07/26/10	0	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	22	ND (16)	ND (16)	ND (16)	46
AOC4-B06	07/26/10	0	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	53	ND (16)	ND (16)	ND (16)	80
AOC4-B06_B07	08/10/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-BCW1	01/06/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-BCW2	01/06/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	9 - 10	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-BCW3	01/06/16	0 - 1	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	110	ND (18)	---	---	137
	01/06/16	0 - 1	FD	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	71	ND (18)	---	---	98
	01/06/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/06/16	9 - 10	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC4-BCW4	01/06/16	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/06/16	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

TABLE 3-3d

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Outside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC4-BCW5	01/06/16	0 - 1	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/06/16	0 - 1	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/06/16	2 - 3	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/06/16	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/06/16	9 - 10	N	ND (19)	ND (39)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (38)
AOC4-BCW6	01/06/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-C01	03/02/10	0	N	ND (19) J	ND (38) J	ND (19) J	ND (19) J	ND (19) J	410 J	ND (19) J	---	---	438.5
AOC4-C01S	04/22/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-C02	03/29/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	170	ND (17)	---	---	195.5
AOC4-C03	03/18/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	400	ND (17)	---	---	565.5
AOC4-C04	03/18/10	0	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	37	ND (18)	---	---	64
AOC4-C05	07/26/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	120 J	ND (17)	ND (17)	ND (17)	145.5
AOC4-C06	07/26/10	0	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	18	ND (16)	ND (16)	ND (16)	44
AOC4-C06_C07	08/10/10	0	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (32)
	08/10/10	0	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-D01	03/24/10	0	N	ND (18) J	ND (36) J	ND (18) J	ND (18) J	ND (18) J	340 J	ND (18) J	---	---	377
AOC4-D01S	04/12/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	21	ND (17)	---	---	ND (34)
AOC4-D02	03/19/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC4-D03	03/19/10	0	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	160	ND (19)	---	---	398.5
AOC4-D04	03/19/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	25	ND (18)	---	---	71
AOC4-D05	07/26/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	140	ND (17)	ND (17)	ND (17)	165.5
AOC4-D06	07/27/10	0	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (34)

TABLE 3-3d

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Outside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC4-D06_D07	08/10/10	0	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (32)
AOC4-DAM-OS1	02/22/17	0 - 0.2	N	ND (18)	ND (37)	ND (18)	ND (18) J	ND (18)	280	ND (18)	---	---	307
	02/22/17	1 - 1.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	1,200	380	---	---	1,598
AOC4-DAM-OS2	02/22/17	0 - 0.2	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	230 J	ND (17)	---	---	255.5
	02/22/17	1 - 1.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	320	ND (18)	---	---	347
AOC4-E01S	04/22/10	0	N	48	ND (37)	ND (18)	ND (18)	ND (18)	2,500	ND (18)	---	---	2,566
AOC4-E02	04/16/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	510	ND (18)	---	---	537
AOC4-E03	03/25/10	0	N	31	ND (35)	ND (18)	ND (18)	ND (18)	1,800	ND (18)	---	---	1,849
AOC4-E04	03/25/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	500	ND (17)	---	---	927
AOC4-E05	07/27/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	42.5
	07/27/10	0	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	66	ND (17)	ND (17)	ND (17)	96.5
AOC4-E06	07/27/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	17	ND (17)	ND (17)	ND (17)	45
AOC4-E06_E07	08/10/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-F01S	04/22/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	34	ND (18)	---	---	ND (36)
AOC4-F02	03/31/10	0	N	42	ND (35)	ND (17)	ND (17)	ND (17)	1,600	ND (17)	---	---	2,876
AOC4-F03	03/31/10	0	N	38	ND (35)	ND (18)	ND (18)	ND (18)	1,900	ND (18)	---	---	1,956
AOC4-F04	03/31/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	710	ND (18)	---	---	737
AOC4-F05	08/09/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-G01S	04/22/10	0	N	42	ND (34)	ND (17)	ND (17)	ND (17)	2,900	ND (17)	---	---	3,158
AOC4-G04	08/04/10	0	N	25	ND (34)	ND (17)	ND (17)	ND (17)	2,500	ND (17)	ND (17)	ND (17)	2,638
AOC4-G05	08/05/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-G06	08/09/10	0	N	30	ND (33)	ND (17)	ND (17)	ND (17)	2,100	640	ND (17)	ND (17)	2,779
AOC4-H04	07/27/10	0	N	60	ND (33)	ND (16)	ND (16)	ND (16)	5,900	ND (16)	ND (16)	ND (16)	6,281
AOC4-H05	08/05/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	280	ND (17)	ND (17)	ND (17)	325.5
AOC4-I04	05/19/10	0	N	ND (19) J	ND (37) J	ND (19) J	ND (19) J	ND (19) J	1,200 J	ND (19) J	ND (19) J	ND (19) J	1,229

TABLE 3-3d

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Outside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC4-I05	05/24/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC4-I06	08/11/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC4-I06_I07	08/13/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	77	53	ND (18)	ND (18)	148
AOC4-J02	05/10/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	78	ND (18)	---	---	112
AOC4-J03	05/17/10	0	N	ND (19) J	ND (37) J	ND (19) J	ND (19) J	ND (19) J	320 J	ND (19) J	ND (19) J	ND (19) J	348.5
AOC4-J04	06/15/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	300	ND (17)	ND (17)	ND (17)	325.5
AOC4-J05	06/07/10	0	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (38)
AOC4-J06	06/07/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	66	ND (18)	ND (18)	ND (18)	93
AOC4-J06_J07	08/13/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	75	49	ND (18)	ND (18)	142
AOC4-K02	05/17/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	05/17/10	0	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-K03	05/17/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-K04	06/16/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	250	ND (17)	ND (17)	ND (17)	275.5
AOC4-K05	06/15/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	160	ND (17)	ND (17)	ND (17)	185.5
AOC4-K06	06/15/10	0	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (38)
AOC4-K07	06/15/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC4-L04	05/18/10	0	N	ND (18) J	ND (36) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (36)
AOC4-L05	06/28/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC4-L06	06/28/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	06/28/10	0	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-L07	09/16/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	09/16/10	0	FD	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	19	ND (18)	ND (18)	ND (18)	46
AOC4-L07_L08	09/20/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-M05	09/20/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-M06	07/08/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)

TABLE 3-3d

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Outside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC4-M07	09/22/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-M07_M08	09/22/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	28	ND (17)	ND (17)	ND (17)	53.5
AOC4-M08	09/22/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	36	ND (17)	ND (17)	ND (17)	61.5
AOC4-M08_M09	09/23/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	43	ND (17)	ND (17)	ND (17)	68.5
AOC4-M10	10/01/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	140	29	ND (17)	ND (17)	186
AOC4-N05_N06	07/08/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-N06	09/23/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	58	ND (17)	ND (17)	ND (17)	83.5
AOC4-N07	09/23/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-N08	09/23/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC4-O07	10/01/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	28	ND (17)	ND (17)	ND (17)	54.5
AOC4-O08	10/01/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	100	25	ND (17)	ND (17)	142
PA-17	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.

TABLE 3-3d

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Outside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

NE not established

N primary sample

ND not detected at the listed reporting limit

ND The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

¹ Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ Background values have not been established for polychlorinated biphenyls.

TABLE 3-3e
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58	
Residential Regional Screening Levels ² : Residential DTSC-SL ³ : Ecological Comparison Values ⁴ : Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE	
				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals	
Category 1																								
AOC4-19	11/20/15	0 - 1	N	180	17	ND (2.3)	2.3 J	2.3 J	5.7 J	ND (1.8)	4.5 J	ND (0.36)	ND (3.1)	0.94 J	ND (6)	ND (1.1)	ND (0.51)	ND (0.45)	1,200	28	4.4	6.3	6.3	
	11/20/15	2 - 3	N	20	3.3 J	ND (0.26)	ND (0.63)	ND (0.3)	ND (0.63)	ND (0.29)	ND (0.6)	ND (0.33)	ND (0.49)	ND (0.13)	ND (4.1)	ND (0.17)	ND (0.25)	0.67 J	160	9.5 J	1.5	1.1	1.1	
AOC4-20	11/20/15	0 - 1	N	290	21	2.3 J	3.7 J	ND (2.2)	8.1 J	2.3 J	5.8 J	ND (1.5)	ND (1.7)	1.2 J	ND (13)	1.6 J	ND (0.22)	ND (1.2)	2,000	48	5.9	8.1	8.1	
AOC4-21	11/20/15	0 - 1	N	130	8.2 J	ND (0.78)	1.9 J	1.2 J	3.8 J	ND (0.76)	3.1 J	ND (0.31)	ND (2)	ND (0.15)	ND (4.4)	0.53 J	ND (0.12)	ND (0.55)	820	13 J	3	4.2	4.2	
AOC4-22	11/20/15	0 - 1	N	66	4.4 J	ND (0.48)	1.5 J	ND (0.55)	ND (3)	0.58 J	ND (2)	ND (0.097)	ND (0.72)	ND (0.25)	ND (2.9)	ND (0.26)	ND (0.13)	ND (0.23)	370	6.8 J	1.3	1.9	1.9	
AOC4-33	02/14/17	0 - 0.5	N	84	4.2 J	ND (0.64)	ND (1.5)	ND (0.87)	3.3 J	ND (1.2)	ND (2.1)	ND (0.3)	ND (0.79)	ND (0.24)	ND (5.6)	ND (0.25)	ND (0.16)	ND (0.29)	670	6.5 J	1.5	2.5	2.5	
	02/14/17	2 - 3	N	4 J	0.21 J	ND (0.086)	ND (0.15)	ND (0.1)	ND (0.15)	ND (0.087)	ND (0.19)	ND (0.099)	ND (0.14)	ND (0.17)	0.46 J	ND (0.18)	ND (0.04)	ND (0.053)	25	0.55 J	0.3	0.26	0.26	
AOC4-34	02/14/17	0 - 0.5	N	270	19	2.9 J	5.8 J	2 J	10 J	ND (2.3)	10 J	1.2 J	2.8 J	ND (0.94)	ND (10)	ND (0.91)	ND (0.16)	0.73 J	2,000	30	7.1	10	10	
AOC4-35	02/14/17	0 - 0.5	N	230	13	1.5 J	ND (3.4)	1.3 J	9.2 J	1.9 J	7.4 J	ND (0.42)	ND (1.7)	ND (0.46)	ND (11)	ND (0.37)	ND (0.14)	ND (0.23)	1,800	21 J	3.6	6.7	6.7	
AOC4-A01	03/02/10	0	N	270	19	ND (2.1)	ND (3.2)	ND (3.4)	8.4 J	2.6 J	6.2 J	ND (1.4)	ND (2.1)	ND (1.7)	ND (3.1)	ND (2.2)	ND (0.39)	ND (1.5)	3,700	38	5.5	8	8	
AOC4-A01minus	03/02/10	0	N	470	41	ND (2.2)	7 J	ND (6.2)	17	ND (2.7)	14	ND (1.8)	ND (3.9)	ND (1.5)	ND (5.4)	ND (4)	ND (0.96)	ND (2.9)	5,300	39	10	15	15	
AOC4-A01S	04/21/10	0	N	ND (27)	ND (2.5)	ND (0.38)	ND (1.1)	ND (0.6)	ND (1.1)	ND (0.34)	ND (1.1)	ND (0.41)	ND (1.4)	ND (0.38)	ND (0.39)	ND (0.37)	ND (0.21)	ND (1.1)	180	ND (3.6)	1.8	1.4	1.4	
AOC4-A02	02/24/10	0	N	520	58	ND (1.3)	ND (1.7)	8.4 J	ND (7.4)	ND (2)	ND (2.5)	ND (2.3)	ND (1.2)	ND (1.8)	ND (4.1)	ND (1.5)	ND (0.21)	ND (1)	10,000	46	5.6	12	12	
AOC4-A03	03/01/10	0	N	200	23	2.5 J	4.3 J	ND (4.4)	9.1 J	2.7 J	7.7 J	ND (1.3)	ND (2.3)	2.5 J	4.8 J	ND (3.1)	0.59 J	ND (1.8)	1,800	29	7.2	8.3	8.3	
	03/01/10	0	FD	150	ND (11)	1.8 J	3.2 J	ND (3.4)	6.6 J	3.1 J	5.5 J	ND (0.36)	ND (1.9)	1.9 J	3.2 J	2.4 J	0.47 J	ND (1.5)	1,300	22 J	6.7	6.6	6.6	
AOC4-A04	07/27/10	0	N	68	5.4 J	0.99 J	ND (1)	ND (0.83)	3.2 J	0.87 J	2.2 J	0.62 J	ND (0.21)	0.47 J	ND (3.1)	ND (0.26)	ND (0.33)	ND (0.9)	430	7.6 J	1.7	2.2	2.2	
AOC4-A05	07/26/10	0	N	55	3.6 J	ND (0.29)	ND (0.78)	0.62 J	2.1 J	0.47 J	1.5 J	0.2 J	ND (0.13)	ND (0.3)	ND (2.5)	ND (0.29)	0.11 J	0.63 J	450	5.4 J	1.5	1.7	1.7	
AOC4-A06	07/26/10	0	N	530	28	1.7 J	ND (2)	ND (1.6)	9.2 J	ND (0.79)	4.3 J	0.6 J	ND (0.21)	0.46 J	ND (5.3)	0.42 J	ND (0.078)	0.65 J	10,000 J	83	4.1	11	11	
AOC4-A06_A07	08/10/10	0	N	33	ND (2.5)	ND (0.17)	ND (0.25)	ND (0.17)	1.5 J	ND (0.33)	1.3 J	ND (0.19)	ND (0.3)	ND (0.14)	ND (2.6)	ND (0.14)	ND (0.12)	ND (0.32)	280	4 J	0.84	1.1	1.1	
AOC4-B01	03/03/10	0	N	110	9.6 J	0.84 J	ND (1.8)	2.5 J	4.4 J	ND (1.9)	3.1 J	ND (0.99)	ND (1)	2.1 J	1.8 J	ND (4.8)	ND (0.16)	2.1 J	1,000	10 J	6.6	4.5	4.5	
AOC4-B01S	04/21/10	0	N	ND (0.98)	ND (0.16)	ND (0.19)	ND (0.29)	ND (0.19)	ND (0.29)	ND (0.17)	ND (0.29)	ND (0.35)	ND (0.42)	ND (0.3)	ND (0.2)	ND (0.3)	ND (0.18)	ND (0.55)	ND (7.5)	ND (0.35)	ND (0.81)	ND (0.47)	ND (0.47)	
	04/21/10	0	FD	ND (1.2)	ND (0.29)	ND (0.35)	ND (0.53)	ND (0.25)	ND (0.36)	ND (0.23)	ND (0.36)	ND (0.45)	ND (0.44)	ND (0.33)	ND (0.33)	ND (0.32)	ND (0.17)	ND (0.25)	ND (11)	ND (0.34)	ND (0.71)	ND (0.51)	ND (0.51)	
AOC4-B02	03/17/10	0	N	1,400	160	13	22	ND (43)	59	33	43	11 J	ND (16) *	21	48	36	3 J	16	11,000	120	87	67	67	
AOC4-B03	03/03/10	0	N	5,000	ND (490)	48	87	ND (130)	220	100	170	39	56	67	140	100	14	34	35,000	330	280	250	250	
AOC4-B04	03/12/10	0	N	48	ND (3.7)	ND (0.31)	ND (0.93)	ND (1.1)	2.5 J	0.83 J	ND (1.1) J	ND (0.58)	ND (0.76)	ND (0.91)	ND (0.88)	1.3 J	ND (0.19)	0.89 J	330	3.1 J	3.1	2.1	2.1	
AOC4-B05	07/26/10	0	N	140	8.7 J	0.9 J	ND (2.2)	1.1 J	6 J	0.87 J	4.3 J	ND (0.47)	ND (0.15)	0.59 J	ND (7)	0.56 J	ND (0.37)	0.94 J	1,100	17 J	3.3	4.1	4.1	
AOC4-B06	07/26/10	0	N	350	33	4.1 J	ND (0.14)	4.7 J	ND (10)	2.8 J	ND (7.1)	1.3 J	ND (0.32)	1.3 J	ND (18)	1.8 J	ND (0.087)	ND (1.7)	2,700	55	6.2	8.2	8.2	
AOC4-B06_B07	08/10/10	0	N	27	2.1 J	ND (0.21)	ND (0.35)	ND (0.33)	ND (1.2)	ND (0.14)	0.91 J	ND (0.19)	ND (0.32)	ND (0.14)	0.22 J	ND (0.14)	ND (0.13)	ND (0.3)	190	ND (2.7)	0.68	0.84	0.84	

TABLE 3-3e
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
AOC4-BCW1	01/06/16	0 - 1	N	15	1.1 J	ND (0.33)	ND (0.18)	ND (0.27)	ND (0.48)	ND (0.16)	ND (0.17)	ND (0.14)	ND (0.17)	ND (0.1)	ND (1.5)	ND (0.11)	ND (0.029)	ND (0.046)	130	2.5 J	0.34	0.47	0.47
	01/06/16	2 - 3	N	5 J	ND (0.27)	ND (0.22)	ND (0.1)	ND (0.12)	ND (0.078)	ND (0.22)	ND (0.074)	ND (0.14)	ND (0.11)	ND (0.059)	ND (0.48)	ND (0.063)	ND (0.045)	ND (0.08)	44	ND (0.61)	0.22	0.22	0.22
	01/06/16	5 - 6	N	2.1 J	ND (0.12)	ND (0.15)	ND (0.07)	ND (0.034)	ND (0.069)	ND (0.032)	ND (0.066)	ND (0.04)	ND (0.028)	ND (0.075)	ND (0.19)	ND (0.081)	ND (0.037)	ND (0.024)	14 J	ND (0.13)	0.11	0.099	0.099
	01/06/16	9 - 10	N	ND (0.77)	ND (0.17)	ND (0.19)	ND (0.11)	ND (0.037)	ND (0.052)	ND (0.055)	ND (0.07)	0.24 J	ND (0.043)	ND (0.05)	ND (0.18)	ND (0.097)	ND (0.61)	0.3 J	ND (4.4)	ND (0.11)	0.72	0.43	0.43
AOC4-BCW2	01/06/16	0 - 1	N	35	1.9 J	ND (0.37)	ND (0.2)	ND (0.16)	1.5 J	ND (0.15)	0.77 J	ND (0.18)	ND (0.15)	ND (0.13)	ND (4.4)	ND (0.14)	ND (0.22)	ND (0.26)	240	3.6 J	0.81	1.1	1.1
	01/06/16	2 - 3	N	0.45 J	ND (0.18)	ND (0.065)	ND (0.068)	ND (0.042)	ND (0.034)	ND (0.042)	ND (0.033)	ND (0.038)	ND (0.049)	ND (0.15)	ND (0.19)	ND (0.16)	ND (0.068)	ND (0.029)	ND (0.99)	ND (0.085)	0.18	0.11	0.11
	01/06/16	5 - 6	N	ND (1.2)	ND (0.092)	ND (0.056)	ND (0.079)	ND (0.052)	ND (0.048)	ND (0.049)	ND (0.046)	ND (0.061)	ND (0.069)	ND (0.11)	ND (0.18)	ND (0.12)	ND (0.038)	ND (0.077)	ND (6.8)	ND (0.051)	ND (0.18)	ND (0.11)	ND (0.11)
	01/06/16	9 - 10	N	ND (0.79)	ND (0.073)	ND (0.093)	ND (0.041)	ND (0.095)	ND (0.06)	ND (0.088)	ND (0.029)	ND (0.11)	ND (0.033)	ND (0.1)	ND (0.36)	ND (0.14)	ND (0.05)	ND (0.047)	7 J	ND (0.082)	0.18	0.11	0.11
	01/06/16	9 - 10	FD	ND (0.5)	ND (0.038)	ND (0.048)	ND (0.036)	ND (0.027)	ND (0.036)	ND (0.025)	ND (0.034)	ND (0.031)	ND (0.043)	ND (0.054)	ND (0.027)	ND (0.058)	ND (0.021)	ND (0.1)	6.6 J	ND (0.14)	0.12	0.062	0.062
AOC4-BCW3	01/06/16	0 - 1	N	4,500 J	340 J	ND (34)	17	ND (30)	110 J	ND (28)	39	ND (35)	8.9 J	5 J	ND (750)	8 J	ND (1.6)	3 J	36,000	1,200 J	81	130	130
	01/06/16	0 - 1	FD	7,500 J	660 J	ND (480)	ND (14)	ND (2.8)	170 J	ND (9.2)	46	ND (3.2)	ND (0.61)	ND (1.1)	ND (1,400)	7.7 J	ND (0.89)	2.2 J	35,000	2,500 J	110	190	190
	01/06/16	2 - 3	N	12 J	ND (0.67)	ND (0.4)	ND (0.12)	ND (0.21)	ND (0.12)	ND (0.2)	ND (0.12)	ND (0.25)	ND (0.08)	ND (0.13)	ND (2.7)	ND (0.14)	ND (0.046)	ND (0.12)	93	ND (1.8)	0.4	0.43	0.43
	01/06/16	5 - 6	N	17	ND (0.78)	ND (0.21)	ND (0.23)	ND (0.29)	ND (0.28)	ND (0.27)	ND (0.078)	ND (0.33)	ND (0.063)	ND (0.075)	ND (1.8)	ND (0.081)	ND (0.25)	ND (0.075)	160	ND (2.1)	0.42	0.56	0.56
	01/06/16	9 - 10	N	4.7 J	ND (0.15)	ND (0.19)	ND (0.13)	ND (0.22)	ND (0.22)	ND (0.2)	ND (0.12)	ND (0.25)	ND (0.042)	ND (0.11)	ND (0.22)	ND (0.12)	ND (0.04)	ND (0.069)	31	ND (0.085)	0.21	0.19	0.19
AOC4-BCW4	01/06/16	0 - 1	N	310	18	ND (0.57)	ND (1.7)	ND (0.51)	9.2 J	ND (0.47)	4 J	ND (0.59)	0.86 J	ND (0.87)	ND (58)	ND (0.94)	ND (0.15)	ND (0.31)	2,700	50	5.9	9.6	9.6
	01/06/16	2 - 3	N	350	22	ND (3.6)	2 J	ND (0.41)	8.4 J	ND (0.99)	3.6 J	ND (0.48)	ND (0.62)	ND (0.68)	ND (41)	ND (0.31)	ND (0.27)	0.47 J	3,000	57	4.7	8.7	8.7
	01/06/16	5 - 6	N	13	ND (0.73)	ND (0.16)	ND (0.19)	ND (0.12)	ND (0.53)	ND (0.11)	ND (0.15)	ND (0.13)	ND (0.096)	ND (0.13)	ND (1.9)	ND (0.14)	ND (0.045)	ND (0.31)	120	1.7 J	0.46	0.44	0.44
	01/06/16	9 - 10	N	ND (0.067)	ND (0.043)	ND (0.055)	ND (0.05)	ND (0.065)	ND (0.049)	ND (0.06)	ND (0.096)	ND (0.075)	ND (0.13)	ND (0.11)	ND (0.22)	ND (0.12)	ND (0.14)	ND (0.11)	6 J	ND (0.028)	0.28	0.19	0.19
AOC4-BCW5	01/06/16	0 - 1	N	ND (1.8)	ND (0.062)	ND (0.079)	0.11 J	ND (0.062)	ND (0.036)	ND (0.057)	ND (0.033)	ND (0.1)	ND (0.073)	ND (0.083)	ND (0.39)	ND (0.071)	ND (0.26)	ND (0.42)	20 J	ND (0.19)	0.46	0.26	0.26
	01/06/16	0 - 1	FD	ND (1.1)	ND (0.056)	ND (0.071)	ND (0.045)	ND (0.061)	ND (0.044)	ND (0.056)	ND (0.042)	ND (0.071)	ND (0.067)	ND (0.057)	ND (0.5)	ND (0.061)	ND (0.053)	ND (0.089)	9.2 J	ND (0.24)	0.18	0.12	0.12
	01/06/16	2 - 3	N	2.5 J	ND (0.15)	ND (0.083)	0.18 J	ND (0.07)	ND (0.069)	ND (0.065)	ND (0.065)	ND (0.081)	ND (0.071)	ND (0.069)	ND (0.072)	ND (0.074)	ND (0.21)	ND (0.12)	20 J	ND (0.34)	0.27	0.23	0.23
	01/06/16	5 - 6	N	13	0.89 J	ND (0.074)	ND (0.087)	ND (0.061)	ND (0.35)	ND (0.057)	ND (0.082)	ND (0.071)	ND (0.068)	ND (0.12)	ND (1.8)	ND (0.13)	ND (0.27)	ND (0.081)	150	2.1 J	0.43	0.5	0.5
	01/06/16	9 - 10	N	11 J	ND (0.37)	ND (0.18)	ND (0.11)	ND (0.11)	0.33 J	ND (0.099)	ND (0.049)	ND (0.12)	ND (0.1)	ND (0.068)	ND (0.11)	ND (0.073)	ND (0.085)	0.15 J	110	ND (0.82)	0.34	0.33	0.33
AOC4-BCW6	01/06/16	0 - 1	N	73	4.5 J	ND (0.52)	ND (0.43)	ND (0.18)	1.8 J	ND (0.26)	ND (1)	ND (0.21)	ND (0.32)	0.54 J	ND (8.9)	ND (0.14)	ND (0.031)	ND (0.17)	820	15 J	1.1	2	2
	01/06/16	2 - 3	N	23	ND (1.4)	0.39 J	0.33 J	ND (0.22)	0.85 J	ND (0.21)	0.44 J	ND (0.26)	ND (0.066)	ND (0.097)	ND (3.3)	ND (0.1)	ND (0.26)	ND (0.34)	190	3.3 J	0.71	0.86	0.86
	01/06/16	5 - 6	N	1.2 J	ND (0.12)	ND (0.049)	ND (0.029)	ND (0.042)	ND (0.053)	ND (0.039)	ND (0.068)	ND (0.049)	ND (0.074)	ND (0.04)	ND (0.2)	ND (0.044)	ND (0.048)	0.23 J	8.3 J	ND (0.093)	0.34	0.13	0.13
	01/06/16	9 - 10	N	ND (0.21)	ND (0.044)	ND (0.056)	ND (0.028)	ND (0.035)	ND (0.028)	ND (0.033)	ND (0.027)	ND (0.041)	ND (0.05)	ND (0.095)	ND (0.17)	ND (0.1)	ND (0.14)	ND (0.081)	ND (1)	ND (0.067)	ND (0.21)	ND (0.14)	ND (0.14)
AOC4-C01	03/02/10	0	N	1,100	45	6.2 J	17	ND (12)	40	6.5 J	29	3.5 J	ND (7.1) *	4.5 J	7.3 J	ND (10)	1.2 J	4.1 J	7,500	65	23	32	32
AOC4-C01S	04/22/10	0	N	12 J	ND (1.4)	ND (0.15)	ND (0.21)	ND (0.3)	ND (0.6)	ND (0.15)	0.53 J	ND (0.22)	ND (0.34)	ND (0.18)	ND (0.96)	ND (0.24)	ND (0.23)	0.58 J	160	2.5 J	1.2	0.73	0.73
AOC4-C02	03/29/10	0	N	690	37	2.2 J	ND (3.9)	ND (5.7)	20	ND (2.9)	9 J	ND (1.2)	2.7 J	2.4 J	3 J	ND (0.86)	ND (0.72)	ND (1.8)	6,700	54	8.4	17	17
AOC4-C03	03/18/10	0	N	8,000	340	28	120	ND (69)	310	36	240	17	ND (71) *	22	51	34	15	10	46,000	310	160	240	240
AOC4-C04	03/18/10	0	N	120	7.8 J	ND (0.58)	3.1 J	1.9 J	6 J	1.3 J	5.3 J	0.88 J	ND (1.6)	ND (0.78)	1.3 J	1.1 J	ND (0.33)	0.93 J	810	7.1 J	4.6	4.9	4.9
AOC4-C05	07/26/10	0	N	370	20	2 J	3.9 J	2.5 J	12 J	2.1 J	6.7 J	2 J	ND (0.15)	1.1 J	ND (17)	ND (1.1)	ND (0.052)	ND (1.2)	2,900	29	4.7	8.9	8.9

TABLE 3-3e
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
AOC4-C06	07/26/10	0	N	91	5 J	0.64 J	1.4 J	0.82 J	3.7 J	0.66 J	ND (2.4)	1.5 J	ND (0.16)	ND (0.51)	ND (3.8)	ND (0.41)	ND (0.21)	0.85 J	530	7.5 J	2.2	2.6	2.6
AOC4-C06_C07	08/10/10	0	N	67	3.5 J	ND (0.22)	ND (0.61)	ND (0.4)	2.5 J	ND (0.43)	ND (1.3)	ND (0.21)	ND (0.34)	ND (0.18)	ND (4.4)	ND (0.18)	ND (0.14)	ND (0.19)	570	5.6 J	0.97	1.8	1.8
	08/10/10	0	FD	57	4.5 J	ND (0.29)	ND (0.51)	ND (0.67)	ND (0.52)	ND (0.3)	ND (0.49)	ND (0.38)	ND (0.54)	ND (0.26)	ND (5.1)	ND (0.26)	ND (0.14)	ND (0.45)	440	6.6 J	1.2	1.6	1.6
AOC4-D01	03/24/10	0	N	330 J	32 J	3.1 J	5.5 J	4.5 J	14 J	ND (2) J	ND (5.6) J	ND (1.1) J	ND (2.9) J	ND (1.3) J	ND (78) J	2.8 J	ND (0.66) J	ND (2.5) J	2,900 J	76 J	12	14	14
AOC4-D01S	04/12/10	0	N	ND (6.6)	ND (0.35)	ND (0.42)	ND (0.6)	ND (0.4)	ND (0.4)	ND (0.35)	ND (0.4)	ND (0.43)	ND (0.89)	ND (0.57)	ND (1.5)	ND (0.55)	ND (0.18)	ND (0.33)	51	ND (0.98)	1.2	0.9	0.9
AOC4-D02	03/19/10	0	N	74	ND (6.2)	0.59 J	0.81 J	ND (0.62)	2.8 J	ND (0.2)	ND (0.68)	ND (0.29)	ND (0.31)	ND (0.21)	ND (0.25)	ND (0.2)	ND (0.13)	ND (0.46)	870	18 J	0.93	1.8	1.8
AOC4-D03	03/19/10	0	N	470	39	3.7 J	3.1 J	4.5 J	15 J	1.5 J	6.8 J	ND (0.34)	ND (1.5)	ND (0.81)	ND (2.1)	1.2 J	ND (0.3)	1.6 J	5,800	110	6.9	12	12
AOC4-D04	03/19/10	0	N	150	13	1.2 J	1.4 J	1.6 J	ND (5)	0.68 J	ND (2)	ND (0.24)	ND (0.7)	ND (0.56)	ND (1.5)	ND (0.66)	ND (0.11)	1.4 J	1,300	26	3.1	3.5	3.5
AOC4-D05	07/26/10	0	N	7,100	490	22	39	37	210	11 J	85	18	ND (0.3)	3.1 J	25	4 J	0.89 J	1.9 J	66,000	240	48	140	140
AOC4-D06	07/27/10	0	N	140	9 J	0.69 J	1.9 J	1.2 J	5.2 J	0.91 J	2.9 J	ND (0.45)	ND (0.8)	0.7 J	ND (5.5)	ND (0.62)	0.21 J	0.74 J	1,700	10 J	3.1	4.3	4.3
AOC4-D06_D07	08/10/10	0	N	180	11 J	ND (0.62)	2.9 J	ND (1.8)	7.4 J	ND (1.3)	4.6 J	ND (0.42)	ND (0.47)	ND (0.28)	ND (8.3)	ND (0.69)	ND (0.19)	ND (0.61)	1,500	17 J	2.7	4.9	4.9
AOC4-DAM-OS1	02/22/17	0 - 0.2	N	79	6.9 J	1 J	ND (1.1)	0.96 J	2.6 J	ND (1.3)	ND (1.9)	ND (0.28)	ND (0.68)	ND (0.74)	ND (10)	ND (0.98)	ND (0.097)	ND (0.87)	900	16 J	2.4	2.8	2.8
	02/22/17	1 - 1.5	N	200	16	ND (1.5)	3 J	2.4 J	7.9 J	3.1 J	4.9 J	ND (0.39)	1.4 J	2 J	ND (30)	ND (2.1)	ND (0.3)	ND (0.92)	1,700	29	6.6	8.3	8.3
AOC4-DAM-OS2	02/22/17	0 - 0.2	N	280	17	1.2 J	2.8 J	2.1 J	6.7 J	1.9 J	4.9 J	ND (0.17)	ND (1.7)	0.81 J	ND (14)	1.3 J	ND (0.055)	ND (1.1)	4,300	27	5.5	8.2	8.2
	02/22/17	1 - 1.5	N	180	12 J	1.4 J	2.1 J	1.8 J	6.4 J	2.3 J	ND (3.2)	ND (0.65)	ND (1.3)	ND (1.3)	ND (22)	1.7 J	ND (0.088)	ND (1.7)	1,700	17 J	5.7	6.3	6.3
AOC4-E01S	04/22/10	0	N	1,400 J	160 J	ND (13) J	ND (9.1)	ND (20) J	ND (48) J	ND (7.1) J	ND (12) J	ND (0.56) J	ND (1.2) J	ND (12)	ND (310) J	ND (19)	ND (1.1) J	13 J	13,000 J	520 J	47	46	46
AOC4-E02	04/16/10	0	N	1,100	58	7.6 J	3.2 J	3.2 J	14	ND (2.2)	ND (4.4)	ND (0.18)	ND (0.22)	ND (1.3)	ND (64)	3 J	ND (0.12)	3.2 J	74,000 J	240	20	41	41
AOC4-E03	03/25/10	0	N	4,800	360	32	ND (20)	32	110	13	34	ND (0.41)	ND (8) *	8 J	29	14	ND (1.1)	15	42,000 J	630	60	98	98
AOC4-E04	03/25/10	0	N	82 J	15	ND (1.2)	ND (1.3)	ND (3.8)	ND (2.4)	ND (1.9)	---	ND (0.43)	ND (0.51)	6.9 J	1.6 J	4.2 J	ND (0.11)	3.8 J	520	19 J	9.9	4.1	4.1
AOC4-E05	07/27/10	0	N	250 J	23	1.5 J	1.7 J	2.9 J	5.8 J	1.3 J	3.1 J	1.1 J	ND (0.25)	ND (0.67)	ND (3.3)	ND (0.55)	ND (0.13)	0.76 J	4,700 J	26	3.4	6.3	6.3
	07/27/10	0	FD	99 J	7.4 J	0.56 J	1.5 J	1.3 J	4 J	1.1 J	2.9 J	ND (0.53)	ND (0.2)	ND (0.57)	ND (5.1)	ND (0.62)	0.17 J	2.9 J	780 J	8.5 J	4.7	3.3	3.3
AOC4-E06	07/27/10	0	N	120	8.2 J	0.88 J	2.1 J	1.3 J	5.1 J	1 J	3.1 J	2.6 J	ND (0.2)	0.96 J	ND (2.9)	ND (0.57)	ND (0.21)	ND (0.81)	1,000	9.1 J	2.4	3.6	3.6
AOC4-E06_E07	08/10/10	0	N	76	5.7 J	ND (0.21)	1.2 J	1 J	2.8 J	0.64 J	ND (1.6)	ND (0.15)	ND (0.31)	ND (0.15)	ND (5.6)	ND (0.3)	ND (0.081)	0.54 J	580	7.2 J	1.7	2.2	2.2
AOC4-F01S	04/22/10	0	N	ND (11)	2.6 J	0.34 J	ND (0.34)	ND (0.68)	0.83 J	ND (0.63)	ND (0.36)	ND (0.17)	ND (0.17)	ND (0.14)	ND (2.2)	ND (0.81)	0.41 J	ND (1.2)	120	5.1 J	1.8	1.1	1.1
AOC4-F02	03/31/10	0	N	810	81	10 J	ND (3.5)	ND (13)	ND (5.7)	ND (4.4)	ND (6.7)	ND (0.6)	ND (1.6)	8.1 J	ND (5.7)	12 J	ND (0.28)	8.8	11,000	230	27	20	20
AOC4-F03	03/31/10	0	N	710	90	ND (10)	ND (5.4)	ND (19)	ND (18)	10 J	---	ND (3.3)	ND (2.7)	15	9.5 J	26	ND (0.58)	17	6,700	240	52	26	26
AOC4-F04	03/31/10	0	N	250 J	38	ND (4.5)	ND (1.7)	5.9 J	ND (8.9)	4.2 J	---	ND (0.91)	ND (0.96)	ND (3.3)	ND (2.5)	ND (13)	ND (0.25)	11	1,500	82	20	8.9	8.9
AOC4-F05	08/09/10	0	N	4.7 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	30	ND (0.01)	0.031	0.072	0.072
AOC4-G01S	04/22/10	0	N	800	120	9.3 J	ND (0.73)	ND (24)	ND (0.77)	19	ND (0.72)	ND (0.43)	ND (2)	12 J	7.7 J	48	ND (0.51)	27	8,100	280	84	35	35
AOC4-G04	08/04/10	0	N	1,300	170	13	23	35	48	ND (0.01)	ND (0.01)	5.2 J	ND (0.01)	ND (0.01)	ND (0.01)	48	ND (0.01)	35	9,300	210	93	47	47
AOC4-G05	08/05/10	0	N	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	18 J	0.53 J	0.025	0.021	0.021

TABLE 3-3e
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
AOC4-G06	08/09/10	0	N	430	67	7.3 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	6.6 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	3,300	190	2.2	6.3	6.3
AOC4-H04	07/27/10	0	N	190	110	11 J	ND (0.27)	38	ND (0.29)	35	ND (0.26)	ND (0.22)	ND (0.83)	22	18	67	ND (0.075)	49	1,600	110	130	39	39
AOC4-H05	08/05/10	0	N	12 J	6.8 J	0.89 J	ND (0.01)	2 J	ND (0.01)	1.6 J	ND (0.01)	ND (0.01)	ND (0.01)	1.1 J	0.93 J	2.7 J	ND (0.01)	2.4 J	90	8.1 J	5.8	1.8	1.8
AOC4-I04	05/19/10	0	N	110	25	ND (3)	ND (0.47)	8.6 J	ND (0.52)	9.4 J	ND (0.51)	ND (0.42)	ND (0.74)	5.9 J	3.7 J	22	ND (1)	11	920	43	37	13	13
AOC4-I05	05/24/10	0	N	27	ND (5.6)	ND (3.9)	1.8 J	1.7 J	ND (2.9)	ND (1.4)	2.9 J	ND (4.2)	ND (1)	ND (0.76)	2 J	ND (1)	1.9 J	ND (2.5)	250	ND (12)	5.3	4.3	4.3
AOC4-I06	08/11/10	0	N	29	3.1 J	0.43 J	ND (0.01)	ND (0.01)	ND (0.01)	0.51 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.63 J	ND (0.01)	0.98 J	330	6.1 J	1.8	0.78	0.78
AOC4-I06_I07	08/13/10	0	N	160	14	ND (1.2)	1.9 J	ND (0.27)	6.2 J	ND (1.2)	2.9 J	ND (0.31)	ND (0.55)	ND (1.4)	ND (28)	1.8 J	0.25 J	1.5 J	1,500	34	6.3	6	6
AOC4-J02	05/10/10	0	N	210	21	2.6 J	1.4 J	ND (1.4)	6 J	ND (3.2)	3.1 J	ND (0.96)	ND (0.48)	ND (0.4)	ND (0.78)	0.59 J	0.33 J	ND (0.47)	2,500	120	2.9	5.3	5.3
AOC4-J03	05/17/10	0	N	4,400	390	34	26	ND (26)	110	ND (63)	42	ND (0.4)	ND (0.7)	ND (0.35)	ND (770)	ND (8.2)	1.9 J	ND (3.9)	50,000	1,900	72	130	130
AOC4-J04	06/15/10	0	N	1,400	140	ND (7.7)	17	ND (10)	47	ND (4.5)	29	ND (0.48)	ND (14) *	ND (0.78)	ND (140)	ND (0.65)	ND (0.64)	3 J	12,000	370	27	44	44
AOC4-J05	06/07/10	0	N	55	ND (6.5)	ND (0.81)	ND (0.43)	ND (0.91)	1.8 J	ND (0.95)	1.3 J	ND (0.4)	ND (0.28)	ND (0.25)	0.62 J	ND (0.25)	ND (0.32)	ND (0.63)	580	20 J	1.2	1.6	1.6
AOC4-J06	06/07/10	0	N	1,600	150	13	12 J	ND (19)	57	ND (8.5)	27	ND (0.53)	ND (0.4)	ND (0.39)	14	ND (0.38)	ND (0.48)	ND (5.3)	14,000	450	15	35	35
AOC4-J06_J07	08/13/10	0	N	340	23	ND (1.8)	3.6 J	ND (0.27)	12 J	1.6 J	7.4 J	ND (0.31)	ND (0.63)	ND (0.28)	ND (49)	ND (1.4)	ND (0.17)	ND (1.4)	2,900	57	6.4	10	10
AOC4-K02	05/17/10	0	N	120 J	26	2.7 J	ND (0.93)	2.1 J	5.8 J	ND (1.3)	ND (2.1)	ND (0.28)	ND (0.92)	ND (0.37)	ND (1.6)	ND (0.21)	ND (0.29)	0.54 J	960 J	54	2.3	3.6	3.6
	05/17/10	0	FD	440 J	43	5.3 J	6 J	4.5 J	17	3 J	11 J	ND (2.6)	ND (0.4)	3 J	3 J	4.3 J	1 J	3.8 J	5,100 J	110	14	14	14
AOC4-K03	05/17/10	0	N	110	26	2.9 J	ND (1.1)	1.8 J	ND (4.8)	ND (1.7)	ND (2)	ND (1.2)	ND (0.91)	ND (0.28)	ND (44)	0.82 J	ND (0.14)	ND (0.5)	910	55	4.8	5.4	5.4
AOC4-K04	06/16/10	0	N	1,300	81	7.8 J	11 J	9.8 J	42	7.2 J	24	ND (1.2)	ND (0.82)	5.5 J	6.7 J	ND (0.84)	0.94 J	4.7 J	8,600	200	16	29	29
AOC4-K05	06/15/10	0	N	1,700	350	32	19	ND (46)	68	32	34	12 J	ND (0.54)	24	50	ND (0.57)	ND (1.7)	ND (19)	14,000	770	37	52	52
AOC4-K06	06/15/10	0	N	53	ND (2.8)	ND (0.47)	ND (0.63)	ND (0.49)	1.8 J	ND (0.34)	ND (0.98)	ND (0.33)	ND (0.36)	ND (0.21)	ND (10)	ND (0.31)	ND (0.37)	ND (0.32)	450	15 J	1.4	1.9	1.9
AOC4-K07	06/15/10	0	N	210	18	ND (1.2)	ND (1.6)	ND (1.7)	7.9 J	1 J	ND (3.9)	ND (0.4)	ND (0.93)	ND (0.42)	ND (29)	ND (0.42)	ND (0.25)	ND (0.88)	1,900	48	3.8	6.3	6.3
AOC4-L04	05/18/10	0	N	67	ND (6.3)	ND (2)	ND (1.1)	ND (0.87)	ND (3.1)	0.71 J	ND (1.8)	ND (2)	ND (0.48)	ND (0.75)	ND (1)	ND (0.8)	ND (0.67)	ND (1)	630	24 J	2.1	2.2	2.2
AOC4-L05	06/28/10	0	N	58	ND (5.4)	ND (0.62)	0.7 J	0.82 J	ND (2.2)	ND (0.3)	ND (1.2)	ND (0.42)	ND (0.26)	ND (0.3)	ND (7.2)	ND (0.3)	ND (0.097)	ND (0.067)	990	ND (11)	1.1	1.9	1.9
AOC4-L06	06/28/10	0	N	760 J	61	ND (0.43)	ND (1.2)	ND (5.7)	24	ND (2.8)	3.9 J	2.8 J	ND (0.21)	ND (0.61)	ND (100)	ND (1.6)	ND (0.24)	ND (0.71)	17,000 J	160	11	22	22
	06/28/10	0	FD	340 J	32	ND (0.3)	ND (0.53)	ND (1.5)	7.7 J	ND (0.89)	ND (1.5)	ND (0.28)	ND (0.15)	ND (0.41)	ND (41)	0.7 J	ND (0.13)	ND (0.92)	7,000 J	180	5	9.3	9.3
AOC4-L07	09/16/10	0	N	290	20	ND (0.74)	0.82 J	ND (0.26)	9.3 J	ND (1.9)	ND (1.4)	ND (0.32)	ND (0.18)	ND (0.21)	ND (57)	ND (0.61)	ND (0.16)	ND (0.24)	4,900	60	4.8	8.9	8.9
	09/16/10	0	FD	410	25	ND (0.38)	ND (0.61)	ND (0.29)	11 J	ND (1.9)	1.8 J	ND (0.35)	ND (0.23)	ND (0.26)	ND (65)	ND (0.26)	ND (0.12)	ND (0.33)	7,100	74	5.5	11	11
AOC4-L07_L08	09/20/10	0	N	1,400	100	8.2 J	2 J	9.2 J	35	ND (4.9)	5.4 J	5.1 J	ND (0.35)	ND (0.3)	ND (210)	ND (2)	ND (0.13)	ND (0.25)	25,000	310	20	40	40
AOC4-M05	09/20/10	0	N	41	2.5 J	ND (0.26)	0.33 J	ND (0.24)	1.2 J	ND (0.15)	ND (0.21)	ND (0.2)	ND (0.14)	ND (0.059)	ND (4.5)	ND (0.057)	ND (0.091)	ND (0.2)	680	5.9 J	0.68	1.2	1.2
AOC4-M06	07/08/10	0	N	1,600	110	6 J	2.3 J	9.6 J	39	ND (0.12)	5.9 J	5 J	0.5 J	1.1 J	ND (160)	2.6 J	ND (0.19)	0.59 J	38,000	270	21	44	44
	02/07/17	2 - 3	N	43	2.7 J	ND (0.5)	ND (0.25)	ND (0.16)	ND (0.96)	ND (0.15)	ND (0.45)	ND (0.19)	0.21 J	ND (0.096)	ND (6)	ND (0.1)	ND (0.14)	ND (0.086)	590	ND (6)	0.87	1.3	1.3
AOC4-M07	09/22/10	0	N	140	8.4 J	ND (0.35)	ND (0.33)	ND (0.24)	3.3 J	ND (0.76)	ND (0.38)	ND (0.29)	ND (0.24)	ND (0.11)	ND (22)	ND (0.11)	ND (0.16)	ND (0.27)	2,900	26	2.1	4.1	4.1

TABLE 3-3e
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
AOC4-M07_M08	09/22/10	0	N	1,900	100	ND (0.73)	3.8 J	ND (8.9)	46	ND (5.5)	ND (9.2)	ND (0.43)	ND (0.34)	ND (1.5)	ND (170)	ND (2.3)	ND (0.3)	0.61 J	33,000	230	19	45	45
AOC4-M08	09/22/10	0	N	2,600	160	13	3.5 J	ND (16)	62	ND (9.7)	ND (8.7)	7.8 J	ND (0.45)	1.4 J	ND (310)	3.4 J	ND (0.31)	ND (0.45)	41,000	400	31	66	66
AOC4-M08_M09	09/23/10	0	N	1,600	74	6.7 J	7 J	ND (6.9)	38	2.4 J	13	ND (0.5)	ND (0.48)	ND (1.5)	ND (140)	2.1 J	ND (0.22)	ND (0.88)	27,000	210	18	39	39
AOC4-M10	10/01/10	0	N	2,200	97	14	18	ND (14)	77	ND (13)	ND (21)	ND (1.1)	ND (1.2)	ND (0.77)	ND (0.94)	5.1 J	ND (0.85)	ND (1.4)	22,000	230	17	44	44
AOC4-N05_N06	07/08/10	0	N	1,100	87	ND (0.27)	2.3 J	6.9 J	30	ND (0.087)	4.8 J	3.3 J	ND (0.16)	ND (0.89)	ND (120)	2.2 J	ND (0.14)	ND (0.49)	34,000	290	16	34	34
AOC4-N06	09/23/10	0	N	2,300	170	ND (0.86)	5.8 J	ND (13)	62	ND (6.8)	13	6.8 J	ND (0.36)	1.6 J	ND (270)	3.2 J	ND (0.36)	ND (0.77)	50,000	410	31	64	64
AOC4-N07	09/23/10	0	N	200	12 J	ND (0.53)	ND (0.46)	ND (0.51)	4.7 J	ND (0.99)	ND (1.1)	ND (0.61)	ND (0.27)	ND (0.18)	ND (29)	ND (0.27)	ND (0.16)	0.49 J	3,500	57	3.2	5.6	5.6
AOC4-N08	09/23/10	0	N	20	ND (0.97)	ND (0.34)	ND (0.25)	ND (0.43)	ND (0.38)	ND (0.12)	ND (0.25)	ND (0.17)	ND (0.19)	ND (0.085)	ND (3.4)	ND (0.082)	ND (0.1)	ND (0.36)	240	3.4 J	0.65	0.71	0.71
AOC4-O07	10/01/10	0	N	570	36	ND (1.1)	1.1 J	4.4 J	17	ND (4.7)	ND (2.3)	ND (0.41)	ND (0.38)	ND (0.43)	ND (0.36)	ND (0.42)	ND (0.19)	ND (0.29)	9,300	120	3.6	12	12
AOC4-O08	10/01/10	0	N	390	23	2.3 J	ND (0.68)	ND (0.27)	11 J	ND (2)	ND (2.4)	ND (0.32)	ND (0.25)	ND (0.53)	ND (67)	ND (0.68)	ND (0.17)	ND (0.34)	6,900	84	5.8	11	11
PA-17	01/27/16	0 - 1	N	330 J	11 J	ND (0.79) J	ND (1.2) J	ND (0.51) J	6.5 J	ND (0.84) J	3.1 J	ND (0.59) J	ND (0.86) J	ND (0.98) J	ND (19) J	ND (0.25) J	ND (0.091) J	ND (0.77) J	2,300 J	24 J	3.2	6.7	6.7

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

-- not analyzed

ft bgs feet below ground surface

ng/kg nanograms per kilogram

DTSC-SL DTSC Screening Levels

DTSC California Department of Toxic Substances Control

FD Field Dupliicate

J concentration or reporting limit estimated by laboratory or data validation

JR estimated value, one or more input values is "R" qualified.

N Primary Sample

NA NA = not applicable

NE not established

ND not detected at the listed reporting limit

R The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA USEPA = United States Environmental Protection Agency

1 For individual dioxins and furans, selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher. For TEQ values, selected value is the DTSC-SL.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. JanuaryCalifornia Department of Toxic Substances Control (DTSC). 2017. Human Health Risk Assessment (HHRA) Note 2, Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites. April.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Decteded Chemicals in Soil." July 1.

TABLE 3-3e
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

Calculations:

TEQ = Sum of Result xToxic equivalency factor (TEF), 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQ Avian = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQMammals = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

Teq Humans = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TABLE 3-3f
Constituent Concentrations in Soil Compared to Screening Values
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶			
Parameter	Units				# of ⁷		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸	
					Exceedences	(BK)	Exceedences ⁸	(ECV)	Exceedences ⁸	(RSL)	Exceedences ⁸	(ESL)	Exceedences ⁸	(CSL)	Exceedences ⁸	(ISL)		
Dioxins and Furans																		
TEQ Avian	ng/kg	101	121 / 124 (98%)	280	43	(5.98)	28	(16)	NA	(NE)	NA	(NA)	NA	(NE)	28	(16)		
TEQ Human	ng/kg	101	121 / 124 (98%)	250	60	(5.58)	NA	(NE)	10	(50)	NA	(NA)	2	(220)	10	(50)		
TEQ Mammals	ng/kg	101	121 / 124 (98%)	250	60	(5.58)	60	(1.6)	NA	(NE)	NA	(NA)	NA	(NE)	60	(5.58)		
Metals																		
Antimony	mg/kg	98	3 / 119 (2.5%)	2.7	NA	(NE)	3	(0.285)	0	(31)	NA	(NA)	0	(470)	3	(0.285)		
Arsenic	mg/kg	98	47 / 119 (39%)	8.5	0	(11)	0	(11.4)	0	(0.11) *	NA	(NA)	0	(0.36) *	0	(11)		
Barium	mg/kg	98	119 / 119 (100%)	1,300	14	(410)	14	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	14	(410)		
Beryllium	mg/kg	98	0 / 119 (0%)	ND (5.5) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)		
Cadmium	mg/kg	98	7 / 119 (5.9%)	1.7	6	(1.1)	6	(0.0151) *	0	(5.2)	NA	(NA)	0	(7.3)	6	(1.1)		
Chromium, Hexavalent	mg/kg	94	20 / 114 (18%)	16	14	(0.83)	0	(139.6)	14	(0.3)	NA	(NA)	2	(6.3)	14	(0.83)		
Chromium, total	mg/kg	98	119 / 119 (100%)	160	49	(39.8)	49	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	49	(39.8)		
Cobalt	mg/kg	98	119 / 119 (100%)	20	17	(12.7)	9	(13)	0	(23)	NA	(NA)	0	(350)	17	(12.7)		
Copper	mg/kg	98	119 / 119 (100%)	790	51	(16.8)	39	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	51	(16.8)		
Lead	mg/kg	98	118 / 119 (99%)	220	17	(8.39)	17	(0.0166) *	2	(80)	NA	(NA)	0	(320)	17	(8.39)		
Mercury	mg/kg	98	6 / 119 (5.0%)	0.74	NA	(NE)	6	(0.0125)	0	(1)	NA	(NA)	0	(4.5)	6	(0.0125)		
Molybdenum	mg/kg	98	0 / 119 (0%)	ND (5.5) ‡	0	(1.37)	0	(2.25)	0	(390)	NA	(NA)	0	(5,800)	0	(1.37)		
Nickel	mg/kg	98	119 / 119 (100%)	75	42	(27.3)	42	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	42	(27.3)		
Selenium	mg/kg	98	0 / 119 (0%)	ND (5.5) ‡	0	(1.47)	0	(0.177) *	0	(390)	NA	(NA)	0	(5,800)	0	(1.47)		
Silver	mg/kg	98	0 / 119 (0%)	ND (5.5) ‡	NA	(NE)	0	(5.15)	0	(390)	NA	(NA)	0	(1,500)	0	(5.15)		
Thallium	mg/kg	98	0 / 119 (0%)	ND (11) ‡	NA	(NE)	0	(2.32)	0	(0.78)	NA	(NA)	0	(12)	0	(0.78)		
Vanadium	mg/kg	98	119 / 119 (100%)	100	30	(52.2)	30	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	30	(52.2)		
Zinc	mg/kg	98	119 / 119 (100%)	410	9	(58)	9	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	9	(58)		
Polycyclic Aromatic Hydrocarbons																		
1-Methyl naphthalene	µg/kg	101	1 / 123 (0.81%)	8.8	NA	(NE)	NA	(NE)	0	(18,000)	NA	(NA)	0	(73,000)	0	(18,000)		
2-Methyl naphthalene	µg/kg	101	1 / 123 (0.81%)	12	NA	(NE)	NA	(NE)	0	(240,000)	NA	(NA)	0	(3,000,000)	0	(240,000)		
Acenaphthene	µg/kg	101	2 / 123 (1.6%)	22	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)		
Acenaphthylene	µg/kg	101	1 / 123 (0.81%)	6	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)		
Anthracene	µg/kg	101	11 / 123 (8.9%)	95	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)		
Benzo (a) anthracene	µg/kg	101	52 / 123 (42%)	1,000	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)		
Benzo (a) pyrene	µg/kg	101	48 / 123 (39%)	750	NA	(NE)	NA	(NE)	9	(110)	NA	(NA)	0	(2,100)	9	(110)		
Benzo (b) fluoranthene	µg/kg	101	58 / 123 (47%)	1,400	NA	(NE)	NA	(NE)	2	(1,100)	NA	(NA)	0	(21,000)	2	(1,100)		
Benzo (ghi) perylene	µg/kg	101	46 / 123 (37%)	550	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)		
Benzo (k) fluoranthene	µg/kg	101	42 / 123 (34%)	1,400	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)		
Chrysene	µg/kg	101	55 / 123 (45%)	1,200	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)		
Dibenzo (a,h) anthracene	µg/kg	101	22 / 123 (18%)	93	NA	(NE)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)		
Fluoranthene	µg/kg	101	64 / 123 (52%)	2,400	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)		
Fluorene	µg/kg	101	1 / 123 (0.81%)	14	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)		
Indeno (1,2,3-cd) pyrene	µg/kg	101	42 / 123 (34%)	440	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)		
Naphthalene	µg/kg	101	1 / 123 (0.81%)	6.5	NA	(NE)	NA	(NE)	0	(3,800)	NA	(NA)	0	(17,000)	0	(3,800)		
Phenanthrene	µg/kg	101	39 / 123 (32%)	1,200	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)		
Pyrene	µg/kg	101	65 / 123 (53%)	2,200	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)		

TABLE 3-3f
Constituent Concentrations in Soil Compared to Screening Values
AOC 4 – Debris Ravine, Outside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
					# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Polycyclic Aromatic Hydrocarbons																
PAH Low molecular weight	µg/kg	101	123 / 123 (100%)	1,337	11	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	101	123 / 123 (100%)	10,163	23	(267.4)	12	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	12	(1,160)
B(a)P Equivalent	µg/kg	101	66 / 123 (54%)	1,100	19	(55)	NA	(NE)	13	(110)	NA	(NA)	0	(2,100)	13	(110)
Polychlorinated biphenyls																
Aroclor 1016	µg/kg	101	8 / 123 (6.5%)	60	NA	(NE)	NA	(NE)	0	(4,100)	NA	(NA)	0	(27,000)	0	(4,100)
Aroclor 1254	µg/kg	101	67 / 123 (54%)	5,900	NA	(NE)	NA	(NE)	23	(240)	NA	(NA)	10	(970)	23	(240)
Aroclor 1260	µg/kg	101	12 / 123 (9.8%)	640	NA	(NE)	NA	(NE)	2	(240)	NA	(NA)	0	(990)	2	(240)
Total PCBs	µg/kg	101	70 / 123 (57%)	6,281	NA	(NE)	27	(204)	26	(230)	NA	(NA)	10	(940)	27	(204)
Total Petroleum Hydrocarbons																
TPH as motor oil	mg/kg	1	1 / 1 (100%)	31	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg milligrams per kilogram
µg/kg micrograms per kilogram
ng/kg nanograms per kilogram
BK Background Value
CSL Commercial Screening Level
DTSC California Department of Toxic Substances Control
DTSC-SL DTSC Screening Level
ISL Interim Screening Level
NA not applicable
ND not detected in any of the samples
NE not established
RSL esidential screening level
RWQCB Regional Water Quality Control Board
SL screening level
USEPA United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1

3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.

4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.

6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-4a
Sample Results: Metals
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC4-30-OS3	10/17/13	2 - 3	N	ND (2)	5.1	180	ND (1)	ND (1)	ND (0.4)	15	4.5	6.5	2.7	ND (0.1)	ND (1)	11	ND (1)	ND (1)	ND (2)	26	20
AOC4-17-OS1	10/17/13	2 - 3	N	ND (2) J	5.2	150	ND (1)	ND (1)	ND (0.41)	16	5.5	11	5.1	ND (0.1)	ND (1) J	13	ND (1)	ND (1) J	ND (2) J	28	27
AOC4-32-OS5	10/17/13	2 - 3	N	ND (2)	4.2	180	ND (1)	ND (1)	ND (0.4)	21	5.7	9.8	4.9	ND (0.1)	ND (1)	16	ND (1)	ND (1)	ND (2)	29	26
AOC4-18-OS2	10/17/13	2 - 3	N	ND (2)	5	210	ND (1)	ND (1)	ND (0.41)	28	7	11	5.5	ND (0.1)	ND (1)	21	ND (1)	ND (1)	ND (2)	37	30
AOC4-31-OS4	10/17/13	2 - 3	N	ND (2)	4.6	210	ND (1)	ND (1)	ND (0.41)	20	6.3	14	5.4	ND (0.1)	ND (1)	16	ND (1)	ND (1)	ND (2)	31	29
AOC4-32-OS5	10/17/13	5 - 6	N	ND (2)	4.8	230	ND (1)	ND (1)	ND (0.4)	26	6.4	11	5.2	ND (0.1)	ND (1)	19	ND (1)	ND (1)	ND (2)	35	29
AOC4-31-OS4	10/17/13	5 - 6	N	ND (2)	5.1	150	ND (1)	ND (1)	ND (0.41)	26	7.4	13	5.2	ND (0.1)	ND (1)	21	ND (1)	ND (1)	ND (2)	36	31
AOC4-30-OS3	10/17/13	5 - 6	N	ND (2)	4.7	260	ND (1)	ND (1)	ND (0.41)	36	9.1	17	4.2	ND (0.1)	ND (1)	26	ND (1)	ND (1)	ND (2)	41	34
AOC4-18-OS2	10/17/13	5 - 6	N	ND (2)	4.5	140	ND (1)	ND (1)	ND (0.4)	16	5.1	8.7	5.3	ND (0.1)	ND (1)	12	ND (1)	ND (1)	ND (2)	26	26
AOC4-17-OS1	10/17/13	5 - 6	N	ND (2)	4.2	300 J	ND (1)	ND (1)	ND (0.4)	37	13	27	2.4	ND (0.1)	ND (1)	33	ND (1)	ND (1)	ND (2)	57	36
	10/17/13	5 - 6	FD	ND (2)	3.9	230 J	ND (1)	ND (1)	ND (0.41)	38	13	28	2.4	ND (0.1)	ND (1)	33	ND (1)	ND (1)	ND (2)	58	36
AOC4-17	12/01/15	2 - 3	N	ND (2.2)	4.8	170	ND (1.1)	ND (1.1)	---	41	12	19	3.9	ND (0.11)	ND (1.1)	35	ND (1.1)	ND (1.1)	ND (2.2)	48	39
AOC4-18	12/01/15	2 - 3	N	ND (2.1)	4	150	ND (1)	ND (1)	---	20	6.5	12	8.3	ND (0.1)	ND (1)	17	ND (1)	ND (1)	ND (2.1)	29	39
AOC4-23	12/06/15	0 - 1	N	ND (2)	3.5	130	ND (1)	ND (1)	---	22	6.8	17	5.1	ND (0.1)	ND (1)	18	ND (1)	ND (1)	ND (2)	27	42
	12/06/15	2 - 3	N	ND (2)	2.5	110	ND (1)	ND (1)	---	40	9	16	4.4	ND (0.1)	ND (1)	26	ND (1)	ND (1)	ND (2)	35	35
AOC4-24	12/06/15	0 - 1	N	ND (2)	2.6	130	ND (1)	ND (1)	---	40	8.2	17	7.4	ND (0.1)	ND (1)	20	ND (1)	ND (1)	ND (2)	34	42
	12/06/15	2 - 3	N	ND (2)	5	450	ND (1)	ND (1)	---	22	5.1	9.1	3.8	ND (0.1)	ND (1)	14	ND (1)	ND (1)	ND (2)	29	27
AOC4-25	11/20/15	0 - 1	N	ND (2)	4.9	120	ND (1)	ND (1)	---	13	4.4	15	6.7	ND (0.1)	ND (1)	8.6	ND (1)	ND (1)	ND (2)	17	30
AOC4-26	11/20/15	0 - 1	N	ND (2)	5.4	160	ND (1)	ND (1)	---	34	9.4	21	6.5	ND (0.1)	ND (1)	24	ND (1)	ND (1)	ND (2)	38	44
	11/20/15	2 - 3	N	ND (2)	5.8	360	ND (1)	ND (1)	---	56	17	54	5.3	ND (0.1)	ND (1)	40	ND (1)	ND (1)	ND (2)	59	50
	02/01/17	5 - 6	N	ND (2)	4.9	280	ND (1)	1.3	ND (0.2)	51	14	38	1.9	ND (0.1)	ND (1)	38	ND (1) J	ND (1)	ND (2)	47	45
AOC4-27	11/20/15	0 - 1	N	ND (2)	5.3	220	ND (1)	ND (1)	---	69	12	31	22	ND (0.1)	ND (1)	33	ND (1)	ND (1)	ND (2)	47	61
	11/20/15	2 - 3	N	ND (2)	5.9	290	ND (1)	ND (1)	---	72	19	38	6.4	ND (0.1)	ND (1)	43	1.1	ND (1)	ND (2)	63	50
	02/01/17	5 - 5.5	N	ND (2.1)	4.2	260	ND (1)	1.3	ND (0.21)	59	12	270	1.8	ND (0.1)	ND (1)	40	ND (1) J	ND (1)	ND (2.1)	41	41
AOC4-28	11/20/15	0 - 1	N	ND (2)	4.3	190	ND (1)	ND (1)	---	34	5.2	17	26	ND (0.1)	ND (1)	13	ND (1)	ND (1)	ND (2)	20	65
AOC4-29	12/02/15	0 - 1	N	ND (2) J	3.6	110	ND (1)	ND (1)	ND (0.2)	31	7.6	18	6.5	ND (0.1)	ND (1)	22	ND (1) J	ND (1) J	ND (2)	31	170
	12/03/15	2 - 3	N	ND (2.1)	3.8	170	ND (1)	ND (1)	ND (0.21)	30	8.7	16	3.9	ND (0.1)	ND (1)	26	ND (1)	ND (1)	ND (2.1)	36	33
	12/03/15	5 - 6	N	ND (2.1)	4.2	150	ND (1)	ND (1)	ND (0.21)	16	5.4	9.3	3.4	ND (0.1)	ND (1)	15	ND (1)	ND (1)	ND (2.1)	24	25
AOC4-30	12/02/15	0 - 1	N	ND (2)	4.5	95	ND (1)	ND (1)	ND (0.2)	27	7.9	16	4.2	ND (0.1)	ND (1)	24	ND (1)	ND (1)	ND (2)	32	40
	12/03/15	2 - 3	N	ND (2)	3.6	81	ND (1)	ND (1)	ND (0.2)	12	4.3	6.7	2.7	ND (0.1)	ND (1)	12	ND (1)	ND (1)	ND (2)	22	20
	12/03/15	5 - 6	N	ND (2)	3.8	140	ND (1)	ND (1)	ND (0.2)	25	5.2	6.3	2.3	ND (0.1)	ND (1)	20	ND (1)	ND (1)	ND (2)	24	24
AOC4-31	12/02/15	0 - 1	N	ND (2)	3.3	140	ND (1)	ND (1)	ND (0.2)	28	7.9	14	4.3	ND (0.1)	ND (1)	20	ND (1)	ND (1)	ND (2)	31	39
	12/02/15	2 - 3	N	ND (2.1)	3.3	140	ND (1.1)	ND (1.1)	ND (0.21)	26	7.2	16	4	ND (0.1)	ND (1.1)	21	ND (1.1)	ND (1.1)	ND (2.1)	31	30
	12/02/15	5 - 6	N	ND (2.1)	3.7	150	ND (1)	ND (1)	ND (0.21)	5.4	2.8	3.9	3	ND (0.1)	ND (1)	5.7	ND (1)	ND (1)	ND (2.1)	13	15
AOC4-32	12/02/15	0 - 1	N	ND (2)	3.6	220	ND (1)	ND (1)	0.37	45	7.7	25	9.8	ND (0.1)	ND (1)	24	ND (1)	ND (1)	ND (2)	34	440
	12/02/15	2 - 3	N	ND (2.1)	3.5	160	ND (1)	ND (1)	ND (0.21)	26	7.7	16	4.2	ND (0.1)	ND (1)	26	ND (1)	ND (1)	ND (2.1)	33	36
	12/02/15	5 - 6	N	ND (2.1)	3.5	140	ND (1)	ND (1)	ND (0.21)	28	7.4	12	4.3	ND (0.1)	ND (1)	22	ND (1)	ND (1)	ND (2.1)	31	37
AOC4-36	01/05/17	0 - 0.5	N	ND (2.1)	2.8	160	ND (1)	ND (1)	0.23	33	9.2	14	3.1	ND (0.1)	ND (1)	22	ND (1) J	ND (1)	ND (2.1) J	33	36
	01/05/17	0.9 - 1	N	ND (2.2)	5.8	310	ND (1.1)	ND (1.1)	ND (0.22)	16	5	7.6	2.2	ND (0.11)	ND (1.1)	13	ND (1.1) J	ND (1.1)	ND (2.2) J	24	27

TABLE 3-4a
Sample Results: Metals
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC4-37	02/04/17	0 - 0.5	N	ND (2.1)	10	1,100	ND (1)	ND (1)	ND (0.21)	22	7.1	8.3	3.8	ND (0.1)	ND (1)	21	ND (1) J	ND (1)	ND (2.1)	31	31
AOC4-38	02/02/17	0 - 0.5	N	ND (2.1)	3.9	130	ND (1.1)	ND (1.1)	0.44	38	8.8	28	4.7	ND (0.11)	ND (1.1)	21	ND (1.1) J	ND (1.1)	ND (2.1)	33	44
	02/02/17	2 - 2.2	N	ND (2.1)	3.9	130	ND (1.1)	1.2	0.33	34	10	16	1.9	ND (0.11)	ND (1.1)	28	ND (1.1) J	ND (1.1)	ND (2.1)	36	41
AOC4-39	01/05/17	0 - 0.5	N	ND (2.3)	5.2	290	ND (1.1)	ND (1.1)	0.7	62	8.9	56 J	23	ND (0.11)	ND (1.1)	22	ND (1.1) J	ND (1.1)	ND (2.3) J	31	53
	01/05/17	0 - 0.5	FD	ND (2.2)	4.6	270	ND (1.1)	ND (1.1)	0.78	58	9.4	30 J	27	ND (0.11)	ND (1.1)	23	ND (1.1) J	ND (1.1)	ND (2.2) J	33	51
	01/05/17	1.5 - 1.7	N	ND (2.2)	11	840	ND (1.1)	ND (1.1)	ND (0.22)	18	5.2	24	3.5	ND (0.11)	ND (1.1)	10	ND (1.1) J	ND (1.1)	ND (2.2) J	28	22
AOC4-40	02/06/17	0 - 0.5	N	ND (2.1)	2.7	140	ND (1)	1.2	0.39	58 J	12	19	26 J	ND (0.1)	ND (1)	32 J	ND (1) J	ND (1)	ND (2.1)	31 J	47
	02/06/17	0 - 0.5	FD	ND (2.1)	4.8	160	ND (1)	1.5	0.47	98 J	13	16	110 J	ND (0.1)	ND (1)	43 J	ND (1) J	ND (1)	ND (2.1)	41 J	52
	02/06/17	0.5 - 1	N	ND (2.2)	ND (1.1) *	330	ND (1.1)	2.1	ND (0.22)	120	28	12	15	ND (0.11)	ND (1.1)	69	ND (1.1) J	ND (1.1)	ND (2.2) J	82	60
AOC4-41	02/02/17	0 - 0.5	N	ND (2.1)	3.2	110	ND (1)	ND (1)	ND (0.21)	40	8.8	19	5.6	ND (0.1)	ND (1)	24	ND (1) J	ND (1)	ND (2.1)	29	53
AOC4-42	02/04/17	0 - 0.5	N	ND (2.1) J	4.2	140	ND (1)	ND (1)	ND (0.21)	24 J	5.6	12	7.9	ND (0.1)	ND (1)	12	ND (1) J	ND (1)	ND (2.1) J	20	33
	02/04/17	2 - 3	N	ND (2.1)	2.8	130	ND (1)	1	ND (0.21)	35	9.3	13	2	ND (0.1)	ND (1)	30	ND (1) J	ND (1)	ND (2.1)	33	33
	02/04/17	5 - 6	N	ND (2)	3.3	130	ND (1)	ND (1)	ND (0.2)	29	8.3	14	1.8	ND (0.1)	ND (1)	26	ND (1) J	ND (1)	ND (2)	31	30
	02/04/17	7 - 7.5	N	ND (2.1)	3.3	90	ND (1)	ND (1)	ND (0.21)	28	8.6	15	2.3	ND (0.1)	ND (1)	25	ND (1) J	ND (1)	ND (2.1)	31	31
AOC4-L01	05/14/10	0	N	ND (2.1)	ND (1.1) *	230	ND (1.1)	ND (1.1)	ND (0.43)	54	14	24	4.2	ND (0.1)	ND (1.1)	37	ND (1.1)	ND (1.1)	ND (2.1)	63	42
AOC4-L02	05/14/10	0	N	ND (2.1)	ND (1.1) *	340	ND (1.1)	ND (1.1)	ND (0.42)	53	13	25	4.4	ND (0.11)	ND (1.1)	37	ND (1.1)	ND (1.1)	ND (2.1)	61	44
AOC4-L03	05/13/10	0	N	ND (2.1)	ND (1.1) *	160	ND (1.1)	ND (1.1)	ND (0.43)	53	12	28	4.5	ND (0.1)	ND (1.1)	36	ND (1.1)	ND (1.1)	ND (2.1)	60	43
AOC4-M01	09/30/10	0	N	ND (2.2)	ND (1.1) *	180	ND (1.1)	ND (1.1)	ND (0.43)	51	12	23	4.6	ND (0.11)	ND (1.1)	37	ND (1.1)	ND (1.1)	ND (2.2)	53	43
AOC4-M02	09/30/10	0	N	ND (2.1)	ND (1) *	230	ND (1)	ND (1)	ND (0.42)	47	11	22	4.1	ND (0.1)	ND (1)	32	ND (1)	ND (1)	ND (2.1)	51	38
AOC4-M03	10/04/10	0	N	ND (2.1)	ND (1.1) *	650	ND (1.1)	ND (1.1)	ND (0.43)	51	12	24	3.2	ND (0.1)	ND (1.1)	38	ND (1.1)	ND (1.1)	ND (2.1)	54	39
AOC4-M04	10/05/10	0	N	ND (2.1) J	ND (1.1) *	240 J	ND (1.1) J	ND (1.1) J	ND (0.42)	30	7.9 J	11	3.6 J	ND (0.1)	ND (1.1) J	25	ND (1.1) J	ND (1.1)	ND (2.1) J	38	33
AOC4-N01	09/30/10	0	N	ND (2)	ND (1) *	130	ND (1)	ND (1)	ND (0.4)	22	5.2	9.5	5.4	ND (0.1)	ND (1)	15	ND (1)	ND (1)	ND (2)	26	32
AOC4-N02	09/30/10	0	N	ND (2.1)	ND (1) *	200	ND (1)	ND (1)	ND (0.41)	31	8.5	13	3.3	ND (0.1)	ND (1)	24	ND (1)	ND (1)	ND (2.1)	39	30
AOC4-N03	10/04/10	0	N	ND (2.1)	ND (1.1) *	170	ND (1.1)	ND (1.1)	ND (0.43)	23	6.4	11	5	ND (0.11)	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.1)	28	30
AOC4-N04	10/05/10	0	N	ND (2.1)	ND (1.1) *	150	ND (1.1)	ND (1.1)	ND (0.42)	36	9	15	3.9	ND (0.11)	ND (1.1)	27	ND (1.1)	ND (1.1)	ND (2.1)	42	32
AOC4-N05	10/05/10	0	N	ND (2.1)	ND (1) *	240	ND (1)	ND (1)	ND (0.41)	34	8.9	14	4.1	ND (0.1)	ND (1)	27	ND (1)	ND (1)	ND (2.1)	41	32
AOC4-O02	10/04/10	0	N	ND (2.1)	ND (1) *	150	ND (1)	ND (1)	ND (0.42)	20	5.6	8.7	4.4	ND (0.1)	ND (1)	15	ND (1)	ND (1)	ND (2.1)	28	43
AOC4-O03	10/26/10	0	N	ND (2)	ND (1) *	220	ND (1)	ND (1)	ND (0.41)	33	9.2	9	7	ND (0.1)	ND (1)	28	ND (1)	ND (1)	ND (2)	44	38
	10/26/10	0	FD	ND (2)	ND (1) *	220	ND (1)	ND (1)	ND (0.41)	32	9	9.7	7.1	ND (0.1)	ND (1)	28	ND (1)	ND (1)	ND (2)	44	38
AOC4-O04	10/26/10	0	N	ND (2.1)	ND (1.1) *	190	ND (1.1)	ND (1.1)	0.66	48	12	12	6	ND (0.11)	ND (1.1)	36	ND (1.1)	ND (1.1)	ND (2.1)	52	45
AOC4-O05	10/27/10	0	N	ND (2.1)	2.4	230	ND (1)	ND (1)	ND (0.41)	31	9	12	6.5	ND (0.1)	ND (1)	26	ND (1)	ND (1)	ND (2.1)	46	38
	10/27/10	0	FD	ND (2.1)	2.3	200	ND (1)	ND (1)	ND (0.41)	32	9.2	13	6.6	ND (0.1)	ND (1)	27	ND (1)	ND (1)	ND (2.1)	45	37
AOC4-O06	10/07/10	0	N	ND (2)	ND (1) *	230	ND (1)	ND (1)	ND (0.41)	34	8.1	15	34	ND (0.1)	ND (1)	24	ND (1)	ND (1)	ND (2)	35	59
AOC4-P03	10/04/10	0	N	ND (2.1)	ND (1) *	160	ND (1)	ND (1)	ND (0.41)	27	6.8	11	4.6	ND (0.1)	ND (1)	18	ND (1)	ND (1)	ND (2.1)	34	30
AOC4-P04	11/19/10	0	N	ND (2.1) J	ND (1) *	140	ND (1)	ND (1) J	11	43	8.3	10	5.3	ND (0.1)	ND (1) J	25	ND (1) J	ND (1)	ND (2.1) J	37	33
AOC4-P05	10/27/10	0	N	ND (2.1)	1.8	190	ND (1)	ND (1)	ND (0.41)	25	8.1	13	6.9	ND (0.1)	ND (1)	23	ND (1)	ND (1)	ND (2.1)	39	35
	10/27/10	0	FD	ND (2.1)	ND (1) *	200	ND (1)	ND (1)	ND (0.41)	24	8.1	12	6.9	ND (0.1)	ND (1)	23	ND (1)	ND (1)	ND (2.1)	39	36
AOC4-P06	10/25/10	0	N	ND (2)	ND (2) *	220	ND (1)	ND (1)	ND (0.41)	35	9.5	13	7.5	ND (0.1)	ND (1)	29	ND (1)	ND (1)	ND (2)	49	41
AOC4-P07	10/22/10	0	N	ND (2.1) J	ND (1.1) *	240 J	ND (1.1) J	ND (1.1) J	ND (0.43)	40	11	13	7.2	ND (0.11)	ND (1.1) J	32	ND (1.1) J	ND (1.1)	ND (2.1) J	52	43

TABLE 3-4a
Sample Results: Metals
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC4-P08	10/22/10	0	N	ND (2.1)	ND (1) *	200	ND (1)	ND (1)	ND (0.41)	26	8.4	10	7.3	ND (0.1)	ND (1)	24	ND (1)	ND (1)	ND (2.1)	43	39
AOC4-Q04	10/07/10	0	N	ND (2)	ND (1) *	140	ND (1)	ND (1)	2.7	65	6.9	16	13	ND (0.1)	ND (1)	18	ND (1)	ND (1)	ND (2)	28	77
AOC4-Q05	10/07/10	0	N	ND (2)	ND (1) *	130	ND (1)	ND (1)	0.42	22	7.2	19	11	ND (0.099)	ND (1)	14	ND (1)	ND (1)	ND (2)	26	61 J
	10/07/10	0	FD	ND (2)	ND (1) *	130	ND (1)	ND (1)	0.56	23	5.8	19	8.6	ND (0.099)	ND (1)	13	ND (1)	ND (1)	ND (2)	25	48 J
AOC4-Q06	10/25/10	0	N	ND (2)	ND (1) *	280	ND (1)	ND (1)	ND (0.41)	37	11	11	6.6	ND (0.1)	ND (1)	30	ND (1)	ND (1)	ND (2)	50	39
AOC4-Q07	10/25/10	0	N	ND (2.1)	ND (1) *	310	ND (1)	ND (1)	ND (0.41)	46	12	14	8.2	ND (0.1)	ND (1)	35	ND (1)	ND (1)	ND (2.1)	54	45
AOC4-Q08	10/22/10	0	N	ND (2.1)	ND (1.1) *	260	ND (1.1)	ND (1.1)	ND (0.43)	37	11	15	6.6	ND (0.11)	ND (1.1)	32	ND (1.1)	ND (1.1)	ND (2.1)	54	40
AOC4-R05	10/29/10	0	N	ND (2)	3.6	300	ND (1)	ND (1)	ND (0.41)	35	11	13	6	ND (0.1)	ND (1)	30	ND (1)	ND (1)	ND (2)	53	42
	10/29/10	0	FD	ND (2.1)	3.4	290	ND (1)	ND (1)	ND (0.41)	38	11	14	5.9	ND (0.1)	ND (1)	30	ND (1)	ND (1)	ND (2.1)	52	40
AOC4-R06	10/07/10	0	N	ND (2)	ND (1) *	93	ND (1)	ND (1)	ND (0.4)	13	3.9	11	8.8	ND (0.1)	ND (1)	9	ND (1)	ND (1)	ND (2)	20	37
AOC4-R07	10/08/10	0	N	ND (2) J	ND (1) *	140 J	ND (1)	ND (1) J	ND (0.4)	31	8.5	11	4.5	ND (0.099)	ND (1) J	27	ND (1)	ND (1)	ND (2) J	36	33
AOC4-tar	02/06/17 Ψ		N	ND (2)	5.6	52	ND (1)	ND (1)	ND (0.2)	75	4.9	7.5	19	ND (0.1)	ND (1)	21	ND (1) J	ND (1)	2.1	9.4	35
BH-69	03/18/11	0 - 0.5	N	ND (2.1)	3.1	140	ND (1)	ND (1)	0.72	58	12	20	9.6	ND (0.1)	ND (1)	35	ND (1)	ND (1)	ND (2.1)	50	73
	03/18/11	2 - 3	N	ND (2.2)	2.7	89	ND (1.1)	ND (1.1)	ND (0.45)	49	11	14	7.4	ND (0.11)	ND (1.1)	33	ND (1.1)	ND (1.1)	ND (2.2)	45	61
	05/31/11	5 - 6	N	ND (2)	1.7	250	ND (1)	ND (1)	ND (0.41)	63	11	29	3.9	ND (0.1)	1	46	ND (1)	ND (1)	ND (2)	55	49
	05/31/11	9 - 10	N	ND (2.1)	2.2	150	ND (1)	ND (1)	ND (0.42)	57	12	25	4.3	ND (0.1)	ND (1)	45	ND (1)	ND (1)	ND (2.1)	59	53
	05/31/11	14 - 15	N	ND (2)	1.9	170	ND (1)	ND (1)	ND (0.41)	45	10	42	4	ND (0.1)	ND (1)	42	ND (1)	ND (1)	ND (2)	58	48
	05/31/11	19 - 20	N	ND (2)	1.6	280	ND (1)	ND (1)	ND (0.41)	55	12	32	4.2	ND (0.1)	ND (1)	43	ND (1)	ND (1)	ND (2)	57	49
	05/31/11	29 - 30	N	ND (2)	1.9	120	ND (1)	ND (1)	ND (0.4)	57	11	46	3.6	ND (0.1)	ND (1)	50	ND (1)	ND (1)	ND (2)	74	50
	05/31/11	39 - 40	N	ND (2.1)	2.8	170	ND (1.1)	ND (1.1)	ND (0.43)	48	8.4	21	4.1	ND (0.11)	ND (1.1)	35	ND (1.1)	ND (1.1)	ND (2.1)	59	42
PA-OS2	04/06/11	0 - 0.5	FD	ND (2)	5.5	200	ND (1)	ND (1)	ND (0.4) J	35	12	16	4.9	ND (0.1) J	5.2	26	ND (1)	ND (1)	ND (2)	46	39
	04/06/11	11.5 - 12	N	ND (2)	3.7	100	ND (1)	ND (1)	ND (0.4) J	24	5.6	10	3.3	ND (0.1) J	2.9	19	ND (1)	ND (1)	ND (2)	25	25

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.	
ψ	tar sample
*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-4b

Sample Results: Contract Laboratory Program Inorganics

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC4-37	02/04/17	0 - 0.5	N	13,000	100,000	19,000	10,000	320	1,800 J	140 J	ND (0.209) J
AOC4-42	02/04/17	0 - 0.5	N	6,400	24,000	14,000	5,700	220	1,800 J	750 J	ND (0.207) J
BH-69	03/18/11	2 - 3	N	17,000	28,000	23,000	12,000	360	3,800	1,700	---
	05/31/11	5 - 6	N	20,000	62,000	30,000	16,000	520	3,400	1,500	ND (0.26)
	05/31/11	9 - 10	N	20,000	40,000	31,000	16,000	420	4,000	1,700	ND (0.26)
	05/31/11	14 - 15	N	19,000	71,000	29,000	15,000	430	3,400	1,500	ND (0.26)
	05/31/11	19 - 20	N	20,000	67,000	31,000	15,000	440	3,600	1,500	ND (0.26)
	05/31/11	29 - 30	N	19,000	30,000	32,000	16,000	410	5,500	1,000	ND (0.25)
	05/31/11	39 - 40	N	16,000	34,000	26,000	13,000	320	4,500	1,100	ND (0.27)

TABLE 3-4b

Sample Results: Contract Laboratory Program Inorganics
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

- Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-4c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
AOC4-23	12/06/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.8	7.1	14	5.7	ND (5.1)	9.1	ND (5.1)	12	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	12
	12/06/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.8	7.8	17	6.5	5.1	11	ND (5.1)	16	ND (5.1)	5.4	ND (5.1)	ND (5.1)	16	13
AOC4-24	12/06/15	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	8	160	120	260	28	100	190	ND (5)	430	ND (5)	32	ND (5)	79	390	170
	12/06/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	56	1,300	800	1,600	79	460	1,700	ND (5.1)	3,600	ND (5.1)	100	ND (5.1)	850	3,400	1,100
AOC4-25	11/20/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	19	21	46	14	12	28	ND (5.1)	53	ND (5.1)	13	ND (5.1)	10	53	31
AOC4-26	11/20/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.8	ND (5.1)	ND (5.1)	5.4	ND (5.1)	9.8	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.1	6.4
	11/20/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	02/01/17	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC4-27	11/20/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	92	95	220	32	69	140	ND (5.1)	460	ND (5.1)	34	ND (5.1)	210	360	130
	11/20/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	52	52	94	31	26	62	ND (5.1)	80	ND (5.1)	29	ND (5.1)	13	83	72
	02/01/17	5 - 5.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.6	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.2	6
AOC4-28	11/20/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	52	2,200	1,700	3,400	530	1,100	2,200	ND (5.1)	5,200	ND (5.1)	590	ND (5.1)	710	4,800	2,300
AOC4-36	01/05/17	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	12	12	28	12	6	15	ND (5.3)	27	ND (5.3)	9.8	ND (5.3)	5.6	26	20
	01/05/17	0.9 - 1	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	6.2	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	6.9	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	6.6	6.7
AOC4-37	02/04/17	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.8 J	7.7	18	5.3	ND (5.3)	9.5	ND (5.3)	21	ND (5.3)	ND (5.3)	ND (5.3)	5.3	20	13
AOC4-38	02/02/17	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	21	15	32	10	8.6	22	ND (5.3)	44	ND (5.3)	9.6	ND (5.3)	12	39	24
	02/02/17	2 - 2.2	N	ND (5.3)	ND (5.3)	18	ND (5.3)	73	1,200	580	1,300	220	160	940	ND (5.3)	2,500	ND (5.3)	230	ND (5.3)	960	2,000	860
AOC4-39	01/05/17	0 - 0.5	N	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	10	390	240	600	140	140	390	ND (5.7)	820	ND (5.7)	140	ND (5.7)	140	730	360
	01/05/17	0 - 0.5	FD	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	7.8	280	210	490	110	100	250	ND (5.6)	580	ND (5.6)	110	ND (5.6)	100	550	300
	01/05/17	1.5 - 1.7	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	13	7.8	18	6.3	ND (5.6)	11	ND (5.6)	27	ND (5.6)	5.6	ND (5.6)	5.6	22	14
AOC4-40	02/06/17	0 - 0.5	N	ND (5.2)	ND (5.2)	17	ND (5.2)	200 J	4,600 J	1,900 J	4,400 J	1,000 J	940 J	3,500 J	ND (5.2)	9,400 J	ND (5.2)	1,000 J	ND (5.2)	2,500 J	7,700 J	2,900
	02/06/17	0 - 0.5	FD	ND (5.2)	ND (5.2)	7.9	ND (5.2)	94 J	1,200 J	620 J	1,500 J	180 J	360 J	890 J	ND (5.2)	3,000 J	ND (5.2)	200 J	ND (5.2)	1,100 J	2,400 J	920
	02/06/17	0.5 - 1	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	78	2,900	1,800	3,500	470	880	2,400	ND (5.5)	4,200	ND (5.5)	520	ND (5.5)	560	4,800	2,500
AOC4-41	02/02/17	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	110 J	56 J	180 J	11 J	69 J	300 J	ND (5.2)	88 J	ND (5.2)	11 J	ND (5.2)	100 J	89 J	90
AOC4-42	02/04/17	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	16 J	19	46	8.3	12	21	ND (5.2)	30	ND (5.2)	8	ND (5.2)	9.7	30	29
	02/04/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	02/04/17	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	14	ND (5.1)	5.9
	02/04/17	7 - 7.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
AOC4-L01	05/14/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC4-L02	05/14/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC4-L03	05/13/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC4-M01	09/30/10	0	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)
AOC4-M02	09/30/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.2	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6
AOC4-M03	10/04/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC4-M04	10/05/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC4-N01	09/30/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7.7	9	19	10	ND (5)	14	ND (5)	29	ND (5)	8.4	ND (5)	7	24	15
AOC4-N02	09/30/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)

TABLE 3-4c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
AOC4-N03	10/04/10	0	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)
AOC4-N04	10/05/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.6	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	10	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.8	6.4
AOC4-N05	10/05/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC4-O02	10/04/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.9	6
AOC4-O03	10/26/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	10/26/10	0	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC4-O04	10/26/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC4-O05	10/27/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	10/27/10	0	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC4-O06	10/07/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC4-P03	10/04/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.9	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	9.3	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7.9	6.4
AOC4-P04	11/19/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
AOC4-P05	10/27/10	0	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	10/27/10	0	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.6	ND (5.2)	ND (5.2)	ND (5.2)	5.2	5.8	6
AOC4-P06	10/25/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.8	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.9
AOC4-P07	10/22/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.2	7.5	16	8.2	5.3	12	ND (5.3)	24	ND (5.3)	6.8	ND (5.3)	12	18	13
AOC4-P08	10/22/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC4-Q04	10/07/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	22	27	61	29	21	40	ND (5.1)	46	ND (5.1)	24	ND (5.1)	14	40	40
AOC4-Q05	10/07/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	10	9	20	8	6	15	ND (5)	22	ND (5)	6.7	ND (5)	6.4	18	15
	10/07/10	0	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	11	10	21	8.1	6.4	16	ND (5)	28	ND (5)	6.7	ND (5)	13	23	16
AOC4-Q06	10/25/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC4-Q07	10/25/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.5	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.2
AOC4-Q08	10/22/10	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC4-R05	10/29/10	0	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	10/29/10	0	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC4-R06	10/07/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.7	5.7	19	5.4	5	17	ND (5)	27	ND (5)	ND (5)	ND (5)	8.7	18	11
AOC4-R07	10/08/10	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	14	9	21	6	6	18	ND (5)	42	ND (5)	5.7	ND (5)	23	30	16
AOC4-tar	02/06/17 Ψ		N	230 J	250 J	43,000	4,800	2,700,000	6,900,000	3,000,000	6,700,000	990,000	2,900,000	6,900,000	210,000 J	27,000,000	37,000	1,000,000	140 J	21,000,000	20,000,000	4,700,000
BH-69	03/18/11	0 - 0.5	N	ND (5.2)	6.3 J	ND (5.2)	ND (5.2)	ND (5.2)	12	17	29	17	10	19	ND (5.2)	350	ND (5.2)	15	ND (5.2)	9.4	28	25
	03/18/11	2 - 3	N	ND (5.6)	10 J	ND (5.6)	ND (5.6)	ND (5.6)	7.4	10	20	12	7.4	12	ND (5.6)	20	ND (5.6)	10	5.6	6.3	18	17
	05/31/11	5 - 6	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.5)	ND (5.1)	ND (5.1)	ND (5.9)
	05/31/11	9 - 10	N	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.4)	ND (5.3)	ND (5.3)	ND (6.1)
	05/31/11	14 - 15	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.3)	ND (5.1)	ND (5.1)	ND (5.9)
	05/31/11	19 - 20	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5)	ND (5.1)	ND (5.1)	ND (5.9)
	05/31/11	29 - 30	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (6.4)	ND (5.1)	ND (5.1)	ND (5.9)
	05/31/11	39 - 40	N	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6)	ND (5.3)	ND (5.3)	ND (6.1)

TABLE 3-4c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
PA-OS2	04/06/11	0 - 0.5	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	7.1	6.4	11	ND (5.1)	ND (5.1)	8.1	ND (5.1)	7.1	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	8.4	11
	04/06/11	0 - 0.5	FD	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.9)
	04/06/11	2.5 - 3	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.9)
	04/06/11	5.5 - 6	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	ND (5.8)
	04/06/11	9.5 - 10	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.9)
	04/06/11	11.5 - 12	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	5	ND (5)	ND (5)	ND (5)	ND (5)	20	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (5)	10	6

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

ψ	tar sample
*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-4d

Sample Results: Semivolatile and Volatile Organic Compounds
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)
Commercial Screening Level ¹ :				1,000,000	130,000,000
Background ² :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Dibenzofuran	Methyl acetate
Category 1					
AOC4-37	02/04/17	0 - 0.5	N	ND (350)	ND (9.7) J
AOC4-42	02/04/17	0 - 0.5	N	ND (340)	28 J
AOC4-tar	02/06/17 ^ψ		N	130,000	---
BH-69	03/18/11	0 - 0.5	N	ND (350)	---
	03/18/11	2 - 3	N	ND (370)	ND (4.9)
	05/31/11	5 - 6	N	ND (340)	ND (4.7)
	05/31/11	9 - 10	N	ND (350)	ND (5)
	05/31/11	14 - 15	N	ND (340)	ND (5.5)
	05/31/11	19 - 20	N	ND (340)	ND (4.8)
	05/31/11	29 - 30	N	ND (340)	ND (5.8)
	05/31/11	39 - 40	N	ND (350)	ND (4.6)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level or RWQCB ESL are circled.

Only detected SVOCs and VOCs are presented.

ψ	tar sample
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency
SVOCs	semivolatile organic compounds
VOCs	volatile organic compounds

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for SVOCs and VOCs.

TABLE 3-4e

Sample Results: Total Petroleum Hydrocarbons

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
BH-69	03/18/11	0 - 0.5	N	83	150
	03/18/11	2 - 3	N	14	33
	05/31/11	5 - 6	N	ND (10)	ND (10)
	05/31/11	9 - 10	N	ND (10)	ND (10)
	05/31/11	14 - 15	N	ND (10)	ND (10)
	05/31/11	19 - 20	N	ND (10)	ND (10)
	05/31/11	29 - 30	N	ND (10)	ND (10)
	05/31/11	39 - 40	N	ND (11)	ND (11)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.
- 3 Background values have not been established for TPHs.

TABLE 3-4f

Sample Results: General Chemistry Parameters

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry	
				(pH units)	(mg/kg)
Commercial Regional Screening Levels¹:				NE	NE
DTSC-SL²:				NE	NE
Background³:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	pH	Total organic carbon
Category 1					
AOC4-18-OS2	10/17/13	2 - 3	N	9.9	---
	10/17/13	5 - 6	N	8.7	---
BH-69	03/18/11	0 - 0.5	N	9	7,700
	03/18/11	2 - 3	N	9.1	4,900
	05/31/11	5 - 6	N	9.7	18,000
	05/31/11	9 - 10	N	9.6	10,000
	05/31/11	14 - 15	N	9.6	8,300
	05/31/11	19 - 20	N	9.4	6,600
	05/31/11	29 - 30	N	9.7	6,700
	05/31/11	39 - 40	N	9.8	7,900
PA-OS2	04/06/11	0 - 0.5	N	7.8	---
	04/06/11	0 - 0.5	FD	8.3	---
	04/06/11	2.5 - 3	N	7.9	---
	04/06/11	5.5 - 6	N	8	---
	04/06/11	9.5 - 10	N	8.8	---
	04/06/11	11.5 - 12	N	8.1	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-4g
Sample Results: Pesticides
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC4-37	02/04/17	0 - 0.5	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
AOC4-42	02/04/17	0 - 0.5	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg micrograms per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- NE not established
- N primary sample
- ND not detected at the listed reporting limit
- USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for pesticides.

TABLE 3-4h

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC4-17-OS1	10/17/13	2 - 3	N	ND (17) J	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17) J	---	---	ND (34)
AOC4-18-OS2	10/17/13	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-17-OS1	10/17/13	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-18-OS2	10/17/13	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-17-OS1	10/17/13	5 - 6	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-17	12/01/15	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC4-18	12/01/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-23	12/06/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	140	110	---	---	267
	12/06/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	380	210	---	---	607
AOC4-24	12/06/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	1,600	3,700	2,300	---	---	7,609
	12/06/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	420	1,200	590	---	---	2,219
AOC4-25	11/20/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	1,600	3,500	2,100	---	---	7,209
AOC4-26	11/20/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	85	ND (17)	---	---	110.5
	11/20/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	140	73	---	---	230
	02/01/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-27	11/20/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	4,400	2,700	---	---	7,117
	11/20/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	810	380	---	---	1,207
	02/01/17	5 - 5.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	230	170	---	---	417
AOC4-28	11/20/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	2,900	6,600	4,300	---	---	13,809
AOC4-30	12/02/15	0 - 1	N	17 R	33 R	17 R	17 R	17 R	17 R	17 R	---	---	34 R
AOC4-32	12/02/15	0 - 1	N	17 R	33 R	17 R	17 R	17 R	17 R	17 R	---	---	34 R
AOC4-36	01/05/17	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	870	710	---	---	1,597
	01/05/17	0.9 - 1	N	ND (18)	ND (36)	ND (18)	ND (18) J	ND (18)	95	77	---	---	190
AOC4-37	02/04/17	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17)	64	44	---	---	125
AOC4-38	02/02/17	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	160	140	---	---	318
	02/02/17	2 - 2.2	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	39	ND (17)	---	---	64.5

TABLE 3-4h

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC4-39	01/05/17	0 - 0.5	N	ND (19)	ND (37)	ND (19)	ND (19) J	ND (19) J	620 J	480 J	---	---	1,119
	01/05/17	0 - 0.5	FD	ND (18)	ND (37)	ND (18)	ND (18) J	ND (18) J	1,600 J	1,300 J	---	---	2,918
	01/05/17	1.5 - 1.7	N	ND (18)	ND (37)	ND (18)	ND (18) J	ND (18) J	92	ND (18)	---	---	119
AOC4-40	02/06/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	2,000	1,100 J	---	---	3,117
	02/06/17	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	1,300	600 J	---	---	1,917
	02/06/17	0.5 - 1	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	1,700	1,500	---	---	3,218
AOC4-41	02/02/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	300	230	---	---	547
AOC4-42	02/04/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	41	41	---	---	99
	02/04/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	02/04/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	02/04/17	7 - 7.5	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC4-L01	05/14/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC4-L02	05/14/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC4-L03	05/13/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	33	ND (18)	---	---	61
AOC4-M01	09/30/10	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC4-M02	09/30/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-M03	10/04/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC4-M04	10/05/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	19	ND (17)	ND (17)	ND (17)	44.5
AOC4-N01	09/30/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	160	34	ND (17)	ND (17)	224
AOC4-N02	09/30/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-N03	10/04/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	20	ND (18)	ND (18)	ND (18)	47
AOC4-N04	10/05/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-N05	10/05/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	33	ND (17)	ND (17)	ND (17)	58.5
AOC4-O02	10/04/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-O03	10/26/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	10/26/10	0	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-O04	10/26/10	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	110	22	ND (17)	ND (17)	149

TABLE 3-4h

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC4-O05	10/27/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	10/27/10	0	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-O06	10/07/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-P03	10/04/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	24	ND (17)	ND (17)	ND (17)	49.5
AOC4-P04	11/19/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-P05	10/27/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	10/27/10	0	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-P06	10/25/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-P07	10/22/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC4-P08	10/22/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-Q04	10/07/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	400	120	ND (17)	ND (17)	727
AOC4-Q05	10/07/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	290	88	ND (17)	ND (17)	405
	10/07/10	0	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	380	100	ND (17)	ND (17)	627
AOC4-Q06	10/25/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-Q07	10/25/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-Q08	10/22/10	0	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC4-R05	10/29/10	0	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	10/29/10	0	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	19	ND (17)	ND (17)	ND (17)	ND (34)
AOC4-R06	10/07/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	110	34	ND (17)	ND (17)	161
AOC4-R07	10/08/10	0	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	51	17	ND (17)	ND (17)	85
AOC4-tar	02/06/17 Ψ		N	ND (34)	ND (67)	ND (34)	ND (34)	ND (34)	ND (34)	ND (34)	---	---	ND (68)

TABLE 3-4h

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
BH-69	03/18/11	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	67	ND (17)	ND (17)	ND (17)	92.5
	03/18/11	2 - 3	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	51	ND (18)	ND (18)	ND (18)	78
	05/31/11	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	05/31/11	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	05/31/11	14 - 15	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	05/31/11	19 - 20	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	05/31/11	29 - 30	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	05/31/11	39 - 40	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
PA-OS2	04/06/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/06/11	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	21	ND (17)	---	---	46.5
	04/06/11	2.5 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	18	ND (17)	---	---	43.5
	04/06/11	5.5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/06/11	9.5 - 10	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/06/11	11.5 - 12	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	48	ND (17)	---	---	73.5

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

ψ	tar sample
*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit

TABLE 3-4h

Sample Results: Polychlorinated Biphenyls

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

NE not established

R The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-4i
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC4-32-OS5	10/17/13	2 - 3	N	ND (0.27)	ND (0.25)	ND (0.4)	ND (0.27)	ND (0.069)	ND (0.25)	ND (0.061)	ND (0.16)	ND (0.095)	ND (0.46)	ND (0.067)	ND (0.074)	ND (0.07)	ND (0.12)	ND (0.061)	ND (0.8)	ND (0.39)	ND (0.36)
AOC4-17-OS1	10/17/13	2 - 3	N	ND (0.86)	ND (0.096)	ND (0.14)	ND (0.17)	ND (0.083)	ND (0.17)	ND (0.078)	ND (0.16)	ND (0.11)	ND (0.5)	ND (0.08)	ND (0.087)	ND (0.087)	ND (0.25)	ND (0.051)	ND (9)	ND (0.41)	ND (0.44)
AOC4-18-OS2	10/17/13	2 - 3	N	ND (5.9)	ND (0.13)	ND (0.19)	ND (0.17)	ND (0.13)	ND (0.16)	ND (0.21)	ND (0.16)	ND (0.17)	ND (0.4)	ND (0.12)	ND (0.14)	ND (0.14)	ND (0.19)	ND (0.14)	50	ND (1.6)	0.43
AOC4-31-OS4	10/17/13	2 - 3	N	ND (0.69)	ND (0.16)	ND (0.23)	ND (0.2)	ND (0.12)	ND (0.19)	ND (0.11)	ND (0.19)	ND (0.16)	ND (0.13)	ND (0.12)	ND (0.13)	ND (0.13)	ND (0.22)	ND (0.052)	17 J	ND (0.27)	0.26
AOC4-30-OS3	10/17/13	2 - 3	N	ND (0.55)	ND (0.15)	ND (0.22)	ND (0.17)	ND (0.096)	ND (0.16)	ND (0.089)	ND (0.16)	ND (0.12)	ND (0.19)	ND (0.094)	ND (0.1)	ND (0.072)	ND (0.17)	ND (0.047)	ND (0.53)	ND (0.39)	ND (0.24)
AOC4-17-OS1	10/17/13	5 - 6	N	ND (0.85)	ND (0.23)	ND (0.33)	ND (0.21)	ND (0.15)	ND (0.21)	ND (0.14)	ND (0.2)	ND (0.2)	ND (0.31)	ND (0.066)	ND (0.11)	ND (0.11)	ND (0.26)	ND (0.076)	7 J	ND (0.32)	0.38
AOC4-18-OS2	10/17/13	5 - 6	N	ND (2.8)	ND (0.6)	ND (0.18)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.083)	ND (0.12)	ND (0.11)	ND (0.54)	ND (0.11)	ND (0.19)	ND (0.11)	21 J	ND (0.26)	0.26
AOC4-30-OS3	10/17/13	5 - 6	N	ND (0.25)	ND (0.2)	ND (0.29)	ND (0.15)	ND (0.076)	ND (0.14)	ND (0.07)	ND (0.14)	ND (0.12)	ND (0.1)	ND (0.11)	ND (0.11)	ND (0.12)	ND (0.14)	ND (0.054)	ND (0.86)	ND (0.23)	ND (0.19)
AOC4-31-OS4	10/17/13	5 - 6	N	2.7 J	ND (0.73)	ND (0.56)	ND (0.45)	ND (0.13)	ND (0.42)	ND (0.12)	ND (0.44)	ND (0.18)	ND (0.17)	ND (0.1)	ND (0.14)	ND (0.097)	ND (0.11)	ND (0.07)	16 J	ND (1.3)	0.29
AOC4-32-OS5	10/17/13	5 - 6	N	21	ND (0.56)	ND (0.91)	ND (0.61)	ND (0.55)	ND (0.45)	ND (0.49)	ND (0.61)	ND (0.76)	ND (1)	ND (0.14)	ND (0.59)	ND (0.16)	ND (0.13)	ND (0.26)	140	2.9 J	1.1
AOC4-17-OS1	10/17/13	5 - 6	FD	ND (0.98)	ND (0.12)	ND (0.17)	ND (0.12)	ND (0.072)	ND (0.11)	ND (0.091)	ND (0.11)	ND (0.093)	ND (0.12)	ND (0.067)	ND (0.075)	ND (0.072)	ND (0.18)	ND (0.058)	ND (4.7)	ND (0.39)	ND (0.21)
AOC4-17	12/01/15	2 - 3	N	0.94 J	ND (0.18)	ND (0.067)	ND (0.05)	ND (0.17)	ND (0.049)	ND (0.15)	ND (0.078)	ND (0.19)	ND (0.096)	ND (0.094)	ND (0.48)	ND (0.1)	ND (0.081)	ND (0.06)	ND (5.8)	0.54 J	0.18
AOC4-18	12/01/15	2 - 3	N	140	13	ND (0.87)	1.4 J	ND (0.54)	4.8 J	1.2 J	2.6 J	ND (0.63)	ND (0.37)	ND (0.45)	ND (15)	ND (0.77)	ND (0.073)	0.58 J	1,100	21 J	4.1
AOC4-23	12/06/15	0 - 1	N	88	12 J	ND (1.8)	ND (1.8)	ND (2.8)	3.5 J	ND (2.3)	ND (2.2)	1 J	1.2 J	2.1 J	ND (7.1)	ND (2.5)	ND (0.43)	ND (1.8)	820	20 J	4.5
	12/06/15	2 - 3	N	54	12 J	ND (2)	ND (1.4)	ND (4.8)	2.3 J	ND (6.2)	1.5 J	1.3 J	ND (0.74)	4.5 J	1.4 J	5.8 J	ND (0.49)	3.4 J	510	16 J	4.9
AOC4-24	12/06/15	0 - 1	N	4,600	490	41	30	52	99	41	55	7 J	ND (6.8)	30	ND (460)	43	ND (1.4)	30	45,000	1,400	140
	12/06/15	2 - 3	N	1,500	150	14	10 J	17	33	16	18	3.2 J	5.1 J	13	ND (180)	12 J	ND (0.62)	8.4	13,000	430	50
AOC4-25	11/20/15	0 - 1	N	270	81	12 J	4.4 J	17	10 J	9.2 J	7.2 J	ND (1.7)	ND (38) *	ND (6.6)	ND (29)	25	ND (1.5)	14	2,000	140	39
AOC4-26	11/20/15	0 - 1	N	62	14	ND (1.3)	ND (0.67)	ND (2)	2.5 J	1.8 J	ND (1.6)	ND (0.51)	ND (1.3)	ND (0.38)	ND (5)	ND (2.3)	ND (0.68)	2.3 J	450	18 J	3.4
	11/20/15	2 - 3	N	ND (13)	3.2 J	ND (0.34)	ND (0.42)	0.6 J	ND (0.35)	ND (0.46)	ND (0.33)	ND (0.36)	ND (3.2)	ND (0.35)	ND (1.2)	ND (0.9)	ND (0.25)	0.67 J	87	5.2 J	2.3
	02/01/17	5 - 6	N	ND (3.6)	ND (0.5)	ND (0.16)	ND (0.12)	ND (0.12)	ND (0.28)	ND (0.44)	ND (0.12)	ND (0.14)	ND (0.095)	1.1 J	ND (0.71)	ND (0.14)	ND (0.05)	ND (0.075)	ND (31)	ND (0.86)	0.25
AOC4-27	11/20/15	0 - 1	N	810	180	21	7.7 J	45	24	39	12 J	ND (4.4)	ND (64) *	24	ND (16)	100	ND (3.1)	38	6,500	310	94
	11/20/15	2 - 3	N	150	45	ND (5.1)	ND (0.88)	9.4 J	4.5 J	ND (7.4)	ND (0.83)	ND (0.98)	ND (58) *	ND (4.3)	ND (18)	19	ND (1.6)	10	1,300	69	42
	02/01/17	5 - 5.5	N	20	2.9 J	ND (0.32)	ND (0.31)	ND (0.89)	ND (0.69)	ND (1.3)	ND (0.21)	ND (0.19)	ND (0.22)	1.8 J	ND (1.8)	ND (1.1)	ND (0.036)	ND (0.42)	210	ND (4)	0.93
AOC4-28	11/20/15	0 - 1	N	1,400	260	33	19	52	45	ND (30)	30	ND (11)	ND (7.1)	ND (3.2)	25	37	ND (3.5)	ND (13)	9,400	370	56
AOC4-29	12/02/15	0 - 1	N	26	ND (1.8)	ND (0.17)	ND (0.27)	ND (0.2)	0.95 J	ND (0.19)	0.84 J	ND (0.23)	ND (0.11)	ND (0.12)	ND (1.1)	ND (0.13)	ND (0.058)	1 J	210	3.7 J	0.82
	12/03/15	2 - 3	N	1.6 J	ND (0.22)	ND (0.12)	ND (0.057)	ND (0.065)	ND (0.14)	ND (0.06)	ND (0.054)	ND (0.076)	ND (0.075)	0.26 J	ND (0.2)	ND (0.13)	ND (0.11)	ND (0.21)	ND (8.3)	ND (0.33)	0.18
	12/03/15	5 - 6	N	ND (1.7)	ND (0.21)	ND (0.083)	ND (0.029)	ND (0.086)	ND (0.029)	ND (0.079)	ND (0.099)	ND (0.1)	ND (0.099)	ND (0.045)	ND (0.062)	ND (0.045)	ND (0.068)	ND (0.075)	ND (12)	ND (0.3)	ND (0.13)
AOC4-30	12/02/15	0 - 1	N	1,200	100	8.1 J	14	11 J	38	9.6 J	23	ND (0.73)	ND (5.4)	4.3 J	ND (71)	13	ND (0.55)	7.7	8,200	150	37
	12/03/15	2 - 3	N	3.6 J	ND (0.36)	ND (0.12)	ND (0.12)	ND (0.096)	ND (0.061)	ND (0.089)	ND (0.057)	ND (0.11)	ND (0.062)	ND (0.076)	ND (0.28)	ND (0.082)	ND (0.045)	ND (0.082)	ND (20)	0.88 J	0.15
	12/03/15	5 - 6	N	2.4 J	ND (0.28)	ND (0.1)	ND (0.066)	ND (0.062)	0.25 J	ND (0.057)	ND (0.13)	ND (0.072)	ND (0.077)	ND (0.055)	ND (0.064)	ND (0.059)	ND (0.058)	ND (0.22)	ND (15)	ND (0.35)	0.16
AOC4-31	12/02/15	0 - 1	N	110	10 J	ND (0.92)	ND (0.62)	1.2 J	2.9 J	ND (0.56)	ND (1.2)	ND (0.33)	ND (0.5)	ND (0.36)	ND (14)	ND (0.91)	ND (0.076)	0.85 J	970	23 J	3.3
	12/02/15	2 - 3	N	140	12 J	ND (1.1)	ND (0.83)	ND (1.3)	4.5 J	ND (0.62)	2 J	ND (0.3)	ND (0.46)	1.6 J	ND (21)	ND (1.4)	ND (0.069)	ND (0.89)	1,100	29	4.3
	12/02/15	5 - 6	N	6.4 J	ND (0.64)	ND (0.069)	0.23 J	ND (0.06)	ND (0.059)	ND (0.056)	ND (0.099)	ND (0.13)	ND (0.11)	ND (0.1)	ND (1.2)	ND (0.074)	ND (0.054)	ND (0.073)	ND (55)	1.5 J	0.28

TABLE 3-4i
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human			
AOC4-32	12/02/15	0 - 1	N	2,900	280	ND (8.5)	14	ND (1.8)	79	9.3 J	27	6.4 J	ND (7.6)	ND (6.2)	ND (640)	ND (6.7)	0.9 J	3.4 J	26,000	750	92			
	12/02/15	2 - 3	N	86	6.4 J	ND (0.82)	ND (0.58)	0.86 J	2.5 J	ND (0.32)	ND (1.1)	ND (0.38)	ND (0.26)	ND (0.28)	ND (16)	0.47 J	ND (0.12)	ND (0.47)	670	20 J	2.7			
	12/02/15	5 - 6	N	41	3.6 J	ND (0.2)	ND (0.4)	ND (0.22)	ND (1.2)	ND (0.2)	ND (0.53)	ND (0.25)	ND (0.2)	ND (0.17)	ND (8.1)	ND (0.29)	ND (0.083)	ND (0.22)	300	8.3 J	1.3			
AOC4-36	01/05/17	0 - 0.5	N	340	39	6.4 J	6 J	5.3 J	12 J	6.8 J	ND (8.5)	ND (0.43)	ND (7.4)	56	ND (34)	5.6 J	ND (0.8)	13	3,000	90	19			
	01/05/17	0.9 - 1	N	53 J	6.9 J	ND (1.6)	ND (0.67)	ND (0.76)	ND (2)	11 J	ND (2.3)	ND (0.87)	ND (3.2)	76	ND (2.3)	ND (1.7)	ND (0.38)	ND (0.5)	390	ND (12)	6.6			
AOC4-37	02/04/17	0 - 0.5	N	43	3.7 J	ND (0.35)	ND (0.58)	ND (0.45)	1.9 J	4.9 J	1.3 J	ND (0.52)	ND (0.5)	ND (0.83)	ND (3.3)	ND (0.17)	ND (0.24)	ND (0.42)	330	5.6 J	2.1			
AOC4-38	02/02/17	0 - 0.5	N	930	100	8.6 J	5.2 J	3.7 J	22	ND (2.4)	9.6 J	1.3 J	ND (2.9)	ND (1.3)	ND (200)	ND (1.9)	ND (0.08)	1.3 J	9,700	270	30			
	02/02/17	2 - 2.2	N	560	92	6.7 J	1.7 J	3.6 J	15	ND (2.6)	3.8 J	ND (0.57)	ND (0.82)	1.8 J	ND (140)	ND (0.95)	ND (0.11)	ND (0.21)	6,300	230	19			
AOC4-39	01/05/17	0 - 0.5	N	420 J	76	10 J	ND (33)	14	ND (28)	14	ND (29)	ND (3.1)	ND (900) *	52	ND (64)	ND (3)	ND (0.4)	ND (3.4)	2,800 J	120 J	470			
	01/05/17	0 - 0.5	FD	890 J	79	ND (9.5)	13	14	24	ND (17)	19	ND (5.6)	ND (630) *	ND (2.5)	ND (80)	13	ND (0.97)	ND (7.2)	8,400 J	230 J	340			
	01/05/17	1.5 - 1.7	N	27	ND (2.8)	ND (1.3)	ND (0.63)	ND (0.52)	ND (0.9)	2.2 J	ND (0.32)	ND (0.59)	ND (1.7)	ND (1.2)	ND (0.52)	ND (1.2)	ND (0.21)	ND (2)	ND (130)	2.9 J	2			
AOC4-40	02/06/17	0 - 0.5	N	360	140 J	22	5.2 J	32	11 J	21	9.1 J	6.8 J	ND (2.5)	26	ND (42)	37	ND (0.67)	38	3,100	240 J	34			
	02/06/17	0 - 0.5	FD	390	86 J	10 J	6 J	35	13	29	10 J	3.8 J	ND (3.5)	26	ND (37)	43	ND (0.15)	45	3,000	110 J	37			
	02/06/17	0.5 - 1	N	210	39	ND (4.2)	2.9 J	10 J	7 J	7.3 J	5.4 J	ND (1.3)	ND (1.8)	8.1 J	ND (22)	20	ND (0.15)	16	1,700	57	16			
AOC4-41	02/02/17	0 - 0.5	N	1,400	ND (230)	ND (12)	ND (9.4)	ND (9.7)	ND (9.4)	ND (9.2)	ND (9.2)	ND (11)	ND (52) *	ND (7.9)	ND (9.9)	ND (8.2)	ND (6.4)	ND (5.1)	13,000	180	53			
AOC4-42	02/04/17	0 - 0.5	N	710	50	ND (3.7)	ND (4.5)	4.2 J	18	ND (2.8)	11 J	ND (1.5)	ND (3.7)	ND (1.2)	ND (69)	ND (1.9)	ND (0.18)	1.5 J	6,400	96	19			
	02/04/17	2 - 3	N	61	5.2 J	ND (0.37)	ND (0.27)	ND (0.29)	ND (1.7)	ND (0.28)	ND (0.86)	ND (0.34)	ND (0.16)	ND (0.22)	ND (6.7)	ND (0.23)	ND (0.17)	ND (0.36)	560	ND (9.1)	1.6			
	02/04/17	5 - 6	N	4.1 J	ND (0.076)	ND (0.092)	ND (0.096)	ND (0.068)	ND (0.096)	ND (0.065)	ND (0.094)	ND (0.031)	ND (0.072)	ND (0.054)	ND (0.61)	ND (0.057)	ND (0.076)	ND (0.071)	35	1.1 J	0.19			
	02/04/17	7 - 7.5	N	14	ND (1.1)	ND (0.13)	ND (0.12)	ND (0.15)	ND (0.5)	ND (0.14)	0.38 J	ND (0.17)	ND (0.11)	ND (0.083)	ND (1.7)	ND (0.086)	ND (0.071)	ND (0.067)	120	2.2 J	0.47			
AOC4-L01	05/14/10	0	N	44	ND (5.6)	ND (2.7)	1.3 J	ND (1.1)	ND (2.1)	ND (1.3)	ND (1.9)	ND (2.6)	ND (0.16)	1 J	1 J	1.2 J	1.3 J	1.7 J	430	15 J	3.2			
AOC4-L02	05/14/10	0	N	25	4.4 J	2.9 J	1.3 J	1.2 J	ND (2)	ND (0.87)	2.1 J	ND (3.2)	ND (0.17)	1.2 J	1.4 J	1.3 J	1.4 J	ND (1.6)	210	10 J	3.3			
AOC4-L03	05/13/10	0	N	81	8 J	ND (1.4)	1.6 J	1.4 J	3.6 J	ND (0.99)	3.5 J	ND (1.1)	ND (0.44)	1 J	ND (0.6)	ND (0.79)	ND (0.18)	ND (1)	780	17 J	2.8			
AOC4-M01	09/30/10	0	N	15	2.7 J	ND (0.15)	ND (0.18)	ND (0.32)	ND (0.73)	ND (0.38)	ND (0.17)	ND (0.19)	ND (0.17)	ND (0.22)	ND (3.5)	ND (0.085)	ND (0.11)	ND (0.38)	140	9.8 J	0.67			
AOC4-M02	09/30/10	0	N	95	ND (1.2)	ND (1.8)	ND (0.58)	ND (0.57)	ND (0.6)	ND (0.51)	ND (0.57)	ND (0.68)	ND (0.39)	ND (0.4)	ND (0.6)	ND (0.38)	ND (0.26)	ND (0.39)	960	ND (1.9)	1.9			
AOC4-M03	10/04/10	0	N	12 J	ND (1)	ND (0.32)	ND (0.37)	ND (0.18)	ND (0.38)	ND (0.16)	ND (0.36)	ND (0.21)	ND (0.31)	ND (0.17)	ND (1.3)	ND (0.17)	ND (0.095)	ND (0.26)	120	ND (2.8)	0.55			
AOC4-M04	10/05/10	0	N	45	4.1 J	0.6 J	ND (0.47)	0.82 J	2.8 J	ND (0.29)	1.6 J	ND (0.39)	ND (0.49)	ND (0.38)	ND (4.3)	ND (0.36)	ND (0.17)	ND (0.38)	450	ND (6.4)	1.8			
AOC4-N01	09/30/10	0	N	510	37	3.1 J	5.1 J	ND (3.3)	17	2.6 J	10 J	ND (0.73)	ND (0.72)	ND (0.56)	ND (37)	1.5 J	ND (0.23)	ND (1.3)	4,500	65	13			
AOC4-N02	09/30/10	0	N	5.3 J	ND (0.14)	ND (0.23)	ND (0.23)	ND (0.15)	ND (0.23)	ND (0.14)	ND (0.22)	ND (0.18)	ND (0.24)	ND (0.089)	ND (1.3)	ND (0.086)	ND (0.18)	ND (0.12)	50	ND (1.3)	0.42			
AOC4-N03	10/04/10	0	N	140	ND (9.1)	ND (1.3)	ND (0.78)	ND (1.2)	5.1 J	ND (0.58)	ND (1.7)	ND (0.34)	ND (0.43)	ND (0.35)	ND (23)	ND (0.58)	ND (0.2)	ND (0.55)	1,400	31	4.2			
AOC4-N04	10/05/10	0	N	230	15	ND (0.58)	ND (0.64)	ND (1.8)	8.3 J	ND (0.89)	ND (0.62)	ND (0.59)	ND (0.48)	ND (0.28)	ND (0.52)	ND (0.78)	ND (0.39)	ND (0.44)	2,700	43	4.9			
AOC4-N05	10/05/10	0	N	140	15	ND (0.32)	ND (1)	ND (1.4)	4.6 J	ND (0.47)	2.1 J	ND (0.48)	ND (0.5)	ND (0.32)	ND (0.37)	ND (0.31)	ND (0.42)	0.54 J	1,700	40	3.5			
AOC4-O02	10/04/10	0	N	67	7.1 J	ND (0.95)	ND (1)	ND (0.68)	ND (2.4)	ND (0.6)	ND (1.1)	ND (0.81)	ND (0.39)	ND (0.46)	ND (6.6)	ND (0.45)	ND (0.33)	ND (0.34)	630	11 J	2			
AOC4-O03	10/26/10	0	N	38	5.3 J	ND (1.2)	ND (2.4)	ND (1.7)	ND (2.8)	ND (1.6)	ND (2.8)	ND (2)	ND (1.1)	ND (0.58)	ND (1.2)	ND (1.1)	ND (0.82)	ND (0.72)	370	ND (11)	2.4			
	10/26/10	0	FD	33	ND (3.5)	2 J	ND (1.6)	ND (1.7)	ND (2.2)	ND (1.3)	ND (1.6)	ND (1.3)	ND (0.67)	ND (0.63)	ND (0.66)	ND (0.94)	ND (0.59)	ND (0.36)	330	ND (9.9)	1.8			
AOC4-O04	10/26/10	0	N	480	49	ND (4.2)	ND (5.1)	4.2 J	16	ND (2.9)	9.7 J	ND (0.99)	ND (0.62)	ND (0.63)	ND (2.1)	ND (2.1)	0.77 J	1.4 J	4,200	100	12			

TABLE 3-4i
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human			
AOC4-O05	10/27/10	0	N	5 J	2.1 J	ND (1.1)	ND (0.34)	ND (0.63)	ND (0.58)	ND (0.34)	ND (0.61)	1.2 J	ND (0.29)	ND (0.41)	ND (0.28)	ND (0.12)	ND (0.23)	ND (0.65)	35	2.5 J	0.66			
	10/27/10	0	FD	4.3 J	1.9 J	ND (1.1)	ND (0.43)	ND (0.36)	0.63 J	ND (0.32)	ND (0.95)	ND (0.61)	ND (0.36)	ND (0.41)	ND (0.1)	ND (0.31)	ND (0.14)	ND (0.51)	35	2.5 J	0.61			
AOC4-O06	10/07/10	0	N	680	21	2.6 J	6.4 J	2.7 J	17	1.8 J	11 J	2.2 J	ND (0.23)	ND (0.35)	ND (37)	ND (0.34)	0.17 J	0.41 J	5,900	41	15			
AOC4-P03	10/04/10	0	N	170	11 J	ND (0.73)	ND (1)	ND (1.4)	5 J	1.6 J	2.8 J	ND (0.37)	ND (0.44)	ND (0.46)	ND (14)	ND (0.44)	ND (0.22)	ND (0.48)	1,900	27	4.6			
AOC4-P04	11/19/10	0	N	4.4 J	ND (2.5)	1.5 J	0.82 J	ND (0.87)	ND (1.1)	ND (1.1)	ND (1.4)	1.3 J	0.91 J	1.2 J	ND (0.75)	ND (0.5)	ND (0.36)	ND (0.95)	ND (23)	3.2 J	1.8			
AOC4-P05	10/27/10	0	N	32	ND (0.092)	0.93 J	0.93 J	ND (0.87)	1.5 J	0.74 J	ND (1.4)	0.92 J	ND (0.24)	ND (0.52)	ND (0.42)	ND (0.26)	ND (0.16)	ND (0.56)	270	6.5 J	1.2			
	10/27/10	0	FD	43	ND (0.21)	ND (2.2)	ND (1)	ND (1.4)	ND (1.7)	1.1 J	ND (1.4)	1.7 J	ND (0.41)	ND (0.81)	0.69 J	ND (0.43)	ND (0.091)	ND (0.91)	320	9.2 J	1.5			
AOC4-P06	10/25/10	0	N	25	3 J	ND (0.55)	ND (1.9)	ND (1.1)	ND (1.4)	ND (1.2)	ND (1.2)	ND (1.4)	1.7 J	1.6 J	ND (0.65)	ND (1)	ND (0.45)	0.53 J	190	5.8 J	3			
AOC4-P07	10/22/10	0	N	390	ND (19)	4.7 J	62	ND (0.98)	17	ND (5.2)	ND (6.9)	ND (1.5)	5.6 J	ND (0.97)	ND (93)	ND (1.7)	ND (3.9)	ND (1.1)	3,900	57	26			
AOC4-P08	10/22/10	0	N	37	3.6 J	ND (1.3)	ND (1.5)	ND (0.66)	ND (0.98)	ND (0.58)	ND (1.1)	ND (1)	ND (1.3)	ND (1.1)	ND (0.71)	1.3 J	ND (0.53)	0.7 J	560	ND (2.5)	2.3			
AOC4-Q04	10/07/10	0	N	2,000	140	12 J	25	14	64	9.3 J	42	ND (0.35)	ND (0.48)	4.5 J	ND (140)	11 J	ND (0.6)	8.9	15,000	280	53			
AOC4-Q05	10/07/10	0	N	2,400	150	14	24	15	66	8.1 J	36	ND (0.43)	ND (0.56)	3.4 J	ND (210)	7.8 J	ND (0.59)	3.9 J	12,000	380	58			
	10/07/10	0	FD	2,300	150	ND (12)	21	15	66	ND (6.8)	36	ND (0.27)	ND (0.53)	3.9 J	ND (200)	ND (6.3)	ND (0.82)	4 J	14,000	370	55			
AOC4-Q06	10/25/10	0	N	15	2.6 J	ND (2.1)	ND (1.1)	1.5 J	ND (2)	ND (2)	ND (2.2)	ND (0.73)	ND (1)	0.94 J	2 J	1.3 J	0.71 J	0.67 J	89	ND (0.77)	2.7			
AOC4-Q07	10/25/10	0	N	970	36	ND (3.5)	12 J	5.1 J	34	ND (3.6)	19	ND (0.94)	ND (3.4)	ND (2)	ND (53)	ND (1.7)	ND (0.96)	1.7 J	5,700	ND (53)	24			
AOC4-Q08	10/22/10	0	N	69	6.5 J	ND (1.8)	ND (1.7)	ND (1.8)	ND (4.1)	ND (1.3)	ND (1.8)	ND (1.5)	ND (0.3)	ND (1.8)	ND (1.6)	ND (1.2)	ND (1.1)	0.95 J	760	ND (13)	2.7			
AOC4-R05	10/29/10	0	N	20	ND (2.6)	ND (1.8)	1.5 J	ND (3.6)	ND (2.5)	ND (1.9)	2.9 J	ND (3)	ND (2.8)	ND (6.5)	1.3 J	ND (3.3)	ND (1.6)	ND (2)	160	9.8 J	4.3			
	10/29/10	0	FD	31	13	ND (7.2)	3.1 J	ND (0.26)	4.8 J	3.6 J	ND (6.8)	7.2 J	2.5 J	3.3 J	2.3 J	ND (1.1)	ND (0.25)	ND (0.68)	180	27	5.9			
AOC4-R06	10/07/10	0	N	710 J	41	4.2 J	13	5.3 J	24	4 J	19 J	1.1 J	ND (0.43)	1.5 J	ND (29)	2.3 J	ND (0.79)	2.1 J	5,200	80	19			
AOC4-R07	10/08/10	0	N	1,600	67	5.2 J	24	6.8 J	55	ND (6.9)	39	2.3 J	ND (0.46)	3 J	ND (44)	ND (2.7)	1.2 J	2 J	11,000	90	37			
AOC4-tar	02/06/17		N	130 SJ	15 SJ	8.2 R	6.7 R	8.7 SJ	11 R	8.9 R	15 R	9.6 R	12 R	15 R	14 R	1.8 R	3.2 R	2.2 R	6,300 SJ	200 R	16 SJR			
BH-69	03/18/11	0 - 0.5	N	1,900	ND (300)	12 J	16	12 J	55	ND (17)	27	2.7 J	6.6 J	ND (0.12)	12 J	3.8 J	ND (0.78)	2.4 J	16,000	270	47			
	03/18/11	2 - 3	N	930	ND (140)	5.2 J	8.2 J	6.8 J	28	ND (9.4)	14	1.9 J	3.9 J	ND (0.053)	6.7 J	2.8 J	ND (0.34)	ND (1.4)	8,200	94	25			
	05/31/11	5 - 6	N	1.5 J	1.3 J	ND (0.64)	ND (0.45)	ND (0.37)	ND (0.61)	ND (0.34)	ND (0.58)	0.88 J	ND (0.16)	ND (0.36)	0.59 J	ND (0.11)	ND (0.13)	ND (0.59)	ND (6.3) J	4.4 J	0.49			

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

ψ tar sample
* Reporting limits greater than or equal to the interim screening level.
--- not analyzed
µg/kg micrograms per kilogram
ft bgs feet below ground surface
ng/kg nanograms per kilogram
DTSC California Department of Toxic Substances Control
DTSC-SL DTSC Screening Level

TABLE 3-4i
Sample Results: Dioxins and Furans
AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are not established or not applicable.

TABLE 3-4j

Constituent Concentrations in Soil Compared to Screening Values

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	56	79 / 84 (94%)	470	29	(5.58)	NA	(NA)	1	(220)
Metals										
Antimony	mg/kg	57	0 / 91 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	57	62 / 91 (68%)	11	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	57	91 / 91 (100%)	1,100	4	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	57	0 / 91 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	57	6 / 91 (6.6%)	2.1	5	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	51	11 / 79 (14%)	11	2	(0.83)	NA	(NA)	1	(6.3)
Chromium, total	mg/kg	57	91 / 91 (100%)	120	32	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	57	91 / 91 (100%)	28	8	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	57	91 / 91 (100%)	270	33	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	57	91 / 91 (100%)	34	11	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	57	0 / 91 (0%)	ND (0.11) ‡	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	57	3 / 91 (3.3%)	5.2	2	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	57	91 / 91 (100%)	69	33	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	57	1 / 91 (1.1%)	1.1	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	57	0 / 91 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	57	0 / 91 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	57	91 / 91 (100%)	82	18	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	57	91 / 91 (100%)	440	10	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	3	9 / 9 (100%)	20,000	6	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	3	9 / 9 (100%)	100,000	3	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	3	9 / 9 (100%)	32,000	4	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	3	9 / 9 (100%)	16,000	6	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	3	9 / 9 (100%)	520	5	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	3	9 / 9 (100%)	5,500	2	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-4j

Constituent Concentrations in Soil Compared to Screening Values

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	3	9 / 9 (100%)	1,700	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	3	0 / 8 (0%)	ND (0.27)	NA	(NE)	NA	(NA)	0	(150)
Volatile Organic Compounds										
Methyl acetate	µg/kg	3	1 / 9 (11%)	28	NA	(NE)	NA	(NA)	0	(130,000,000)
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	µg/kg	46	2 / 70 (2.9%)	10	NA	(NE)	NA	(NA)	0	(3,000,000)
Acenaphthene	µg/kg	46	2 / 70 (2.9%)	18	NA	(NE)	NA	(NA)	0	(45,000,000)
Anthracene	µg/kg	46	7 / 70 (10%)	94	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	46	28 / 70 (40%)	4,600	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	46	27 / 70 (39%)	1,800	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	46	32 / 70 (46%)	4,400	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	46	26 / 70 (37%)	530	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	46	22 / 70 (31%)	1,100	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	46	29 / 70 (41%)	2,400	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	46	37 / 70 (53%)	9,400	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	46	23 / 70 (33%)	590	NA	(NE)	NA	(NA)	0	(21,000)
Naphthalene	µg/kg	46	1 / 70 (1.4%)	5.6	NA	(NE)	NA	(NA)	0	(17,000)
Phenanthrene	µg/kg	46	26 / 70 (37%)	2,500	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	46	35 / 70 (50%)	7,700	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	46	39 / 70 (56%)	2,900	10	(55)	NA	(NA)	3	(2,100)
Polychlorinated biphenyls										
Aroclor 1016	µg/kg	52	2 / 78 (2.6%)	17	NA	(NE)	NA	(NA)	0	(27,000)
Aroclor 1221	µg/kg	52	2 / 78 (2.6%)	33	NA	(NE)	NA	(NA)	0	(830)
Aroclor 1232	µg/kg	52	2 / 78 (2.6%)	17	NA	(NE)	NA	(NA)	0	(720)
Aroclor 1242	µg/kg	52	2 / 78 (2.6%)	17	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1248	µg/kg	52	6 / 78 (7.7%)	2,900	NA	(NE)	NA	(NA)	3	(950)
Aroclor 1254	µg/kg	52	41 / 78 (53%)	6,600	NA	(NE)	NA	(NA)	7	(970)

TABLE 3-4j

Constituent Concentrations in Soil Compared to Screening Values

AOC 4 – Debris Ravine, Inside Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Polychlorinated biphenyls										
Aroclor 1260	µg/kg	52	27 / 78 (35%)	4,300	NA	(NE)	NA	(NA)	5	(990)
Total PCBs	µg/kg	52	43 / 78 (55%)	13,809	NA	(NE)	NA	(NA)	10	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	1	2 / 8 (25%)	83	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	1	2 / 8 (25%)	150	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	1	0 / 8 (0%)	ND (1.1)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-4j
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 4 – Debris Ravine, Inside Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-5a
Sample Results: Metals
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC9-1	10/01/08	0 - 0.5	N	ND (2) *	6.2	93	ND (1) *	ND (1)	1.03	23	5.4	9.1	19	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	26	46
	10/01/08	2 - 3	N	ND (2) *	4.1	89	ND (1) *	ND (1)	ND (0.478)	9.7	4.3	5	4.5	ND (0.1) *	ND (1)	7.4	ND (1)	ND (1)	ND (2) *	17	17
AOC9-2	09/18/08	0 - 0.5	N	ND (2) *	3.2	120	ND (2) *	ND (1)	ND (0.401)	16	4.7	11	9.6	ND (0.099) *	ND (2) *	11	ND (1)	ND (2)	ND (4) *	25	33
	09/18/08	2 - 3	N	ND (2) *	3.3	150	ND (2) *	ND (1)	ND (0.406)	11	3	5.9	4.9	ND (0.1) *	ND (2) *	6.9	ND (1)	ND (2)	ND (4) *	20	20
AOC9-3	09/18/08	0 - 0.5	N	ND (2) *	3.2	110	ND (2) *	ND (1)	ND (0.402)	25	4.1	17	9	ND (0.1) *	ND (2) *	12	ND (1)	ND (2)	ND (4) *	24	49
	09/18/08	2 - 3	N	ND (2) *	3.5	130	ND (2) *	ND (1)	ND (0.454)	15	3.8	7.3	23	ND (0.1) *	ND (2) *	10	ND (1)	ND (2)	ND (4.1) *	23	92
AOC9-4	09/18/08	0 - 0.5	N	ND (2) *	3.7	120	ND (2) *	ND (1)	1.06	22	5	12	13	ND (0.1) *	ND (2) *	12	ND (1)	ND (2)	ND (4) *	29	53
	09/18/08	2 - 3	N	ND (2) *	3.9	110	ND (2) *	ND (1)	ND (0.402)	19	4.6	11	11	ND (0.1) *	ND (2) *	11	ND (1)	ND (2)	ND (4) *	25	42
AOC9-5	10/01/08	0 - 0.5	N	ND (2) *	4.9	90	ND (1) *	ND (1)	0.726	35	7.1	19	28	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2) *	30	100
	10/01/08	2 - 3	N	ND (2) *	6	130	ND (2) *	ND (1)	1	38	7.6	21	25	0.27	ND (2) *	20	ND (1)	ND (2)	ND (4) *	31	76
	10/01/08	2 - 3	FD	ND (2) *	7	120	ND (2) *	ND (1)	0.791	43	7.7	19	24	0.23	ND (2) *	19	ND (1)	ND (2)	ND (4) *	34	85
AOC9-6	09/18/08	0 - 0.5	N	ND (2) *	3.8	180	ND (2) *	ND (1)	0.789	25	5.4	12	23	0.14	ND (2) *	13	ND (1)	ND (2)	ND (4) *	31	68
	09/18/08	2 - 3	N	ND (2.1) *	3.8	120	ND (2.1) *	ND (1)	ND (0.458)	16	5	9.3	5	ND (0.1) *	ND (2.1) *	14	ND (1)	ND (2.1)	ND (4.2) *	25	31
AOC9-7	09/18/08	0 - 0.5	N	ND (2) *	2.2	94	ND (2) *	ND (1)	4.37	72	4.2	14	15	ND (0.1) *	ND (2) *	11	ND (1)	ND (2)	ND (4) *	22	120
	09/18/08	2 - 3	N	ND (2) *	4.3	83	ND (1) *	ND (1)	ND (0.411)	13	2.9	6.7	20	ND (0.1) *	ND (1)	6.7	ND (1)	ND (1)	ND (2) *	18	29
AOC9-8	10/01/08	0 - 0.5	N	ND (2) *	3.6	100	ND (1) *	ND (1)	48.6 J	230	4.4	11	20	ND (0.1) *	1	10	ND (1)	ND (1)	ND (2) *	20	1,000
	10/01/08	2.5 - 3	N	ND (2.1) *	6.3	130	ND (2.1) *	ND (1)	2.41	41	5.3	13	59	ND (0.1) *	4.5	12	ND (1)	ND (2.1)	4.1	25	130
	10/01/08	5.5 - 6	N	ND (2) *	4	87	ND (1) *	ND (1)	1.32	13	3.7	5.5	4.4	ND (0.1) *	ND (1)	8.1	ND (1)	ND (1)	ND (2) *	17	21
AOC9-9	10/01/08	0 - 0.5	N	ND (2) *	5	120	ND (1) *	ND (1)	ND (0.404)	14	3.9	8	7	ND (0.1) *	ND (1)	8.1	ND (1)	ND (1)	ND (2) *	19	34
	10/01/08	2.5 - 3	N	ND (2.1) *	4.8	91	ND (1) *	ND (1)	ND (0.415)	21	6.9	10	3.8	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	32	41
	10/01/08	5.5 - 6	N	ND (2.1) *	4.9	97	ND (1) *	ND (1)	1.53	28	7.1	11	4.9	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	31	53
	10/01/08	5.5 - 6	FD	ND (2.1) *	4.5	87	ND (1) *	ND (1)	1.28	27	7.3	10	4.4	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	30	50
AOC9-10	10/01/08	0 - 0.5	N	ND (2) *	5.1	76	ND (1) *	ND (1)	0.418	28	6.8	11	18	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	30	49
	10/01/08	2 - 3	N	ND (2) *	7.3	110	ND (2) *	ND (1)	0.494	30	8.1	15	15	0.11	ND (2) *	19	ND (1)	ND (2)	ND (4) *	35	110
AOC9-11	09/18/08	0 - 0.5	N	ND (2.1) *	3.6	130	ND (2.1) *	ND (1.1) *	ND (0.418)	18	4.5	8.5	7.7	0.13	ND (2.1) *	11	ND (1.1)	ND (2.1)	ND (4.3) *	25	35
	09/18/08	2 - 3	N	ND (2) *	3.4	120	ND (2) *	ND (1)	ND (0.406)	20	4.3	9.7	7.1	ND (0.1) *	ND (2) *	11	ND (1)	ND (2)	ND (4) *	24	30
AOC9-12	10/01/08	0 - 0.5	N	ND (2) J*	7.3	190 J	ND (2) *	ND (1)	0.727	34	9.4	19	13	ND (0.1) *	ND (2) *	24	ND (1)	ND (2)	ND (4.1) *	38	57
	10/01/08	2 - 3	N	ND (2.1) *	6.6	220	ND (2.1) *	ND (1)	ND (0.415)	40	11	17	11	ND (0.1) *	ND (2.1) *	29	ND (1)	ND (2.1)	ND (4.1) *	40	50
AOC9-13	09/19/08	0 - 0.5	N	ND (2) J*	5.2	180	ND (2) *	ND (1)	ND (0.404)	18	4.7	13	8.3	ND (0.099) *	ND (2) *	11	ND (1)	ND (2)	ND (4) *	27	36
	09/19/08	2 - 3	N	ND (2) *	3.8	130	ND (2) *	ND (1)	ND (0.409)	23 J	4.7	9.8	10	ND (0.1) *	ND (2) *	13	ND (1)	ND (2)	ND (4.1) *	27	35
	09/19/08	2 - 3	FD	ND (2) *	3.6	110	ND (2) *	ND (1)	ND (0.41)	18 J	4.5	9.6	5.6	ND (0.1) *	ND (2) *	13	ND (1)	ND (2)	ND (4.1) *	24	32
AOC9-14	10/02/08 ^Θ	0 - 0.5	N	ND (2.1) *	12	170	ND (5.4) *	ND (1.1) *	1.7	31	ND (5.4)	24	34	ND (0.11) *	ND (5.4) *	10	ND (1.1)	ND (5.4) *	ND (11) *	19	81
	10/02/08	2 - 3	N	ND (2) *	7.1	160	ND (2) *	ND (1)	ND (0.412)	38	8.8	17	13	ND (0.1) *	ND (2) *	22	ND (1)	ND (2)	ND (4.1) *	33	61
AOC9-15	12/06/15	0 - 1	N	ND (2.2) *	2.6 J	160	ND (1.1) *	ND (1.1) *	ND (0.21)	24 J	5.5 J	17 J	15 J	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1) J	ND (2.2) *	25 J	52
	12/06/15	2 - 3	N	ND (2.1) *	3.1	170	ND (1) *	ND (1)	0.58	25	5	14	23	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	23	46

TABLE 3-5a
Sample Results: Metals
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC9-16	01/13/16	0 - 0.5	N	ND (2.1) *	3.3	72	ND (1) *	ND (1)	4.4	48	5.6	11	22	0.14	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	23	69
	01/13/16	2 - 3	N	ND (2) *	2.9	89	ND (1) *	ND (1)	ND (0.2)	17	5	18	6.8	0.11	ND (1)	11	ND (1)	ND (1)	ND (2) *	22	34
	01/13/16	5 - 6	N	ND (2) *	3.3	91	ND (1) *	ND (1)	ND (0.2)	14	4.5	6.3	7.1	ND (0.11) *	ND (1)	9.1	ND (1)	ND (1)	ND (2) *	19	26
	01/13/16	9 - 10	N	ND (2) *	3.3	84	ND (1) *	ND (1)	ND (0.2)	12	4	6.2	2.9	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	ND (2) *	17	21
AOC9-17	01/10/16	9 - 10	N	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---
	01/14/16	14 - 15	N	---	---	---	---	---	ND (0.21)	---	---	---	---	---	---	---	---	---	---	---	---
AOC9-18	01/10/16	5 - 6	N	ND (2) *	5.9	120	ND (1) *	ND (1)	0.55	25	7.4	17	14	0.18	ND (1)	15	ND (1)	ND (1)	ND (2) *	31	57
	01/10/16	9 - 10	N	ND (2.1) *	3.8	110	ND (1) *	ND (1)	0.94	20	5.3	11	28	0.75	ND (1)	9.9	ND (1)	ND (1)	ND (2.1) *	22	53
AOC9-19	01/13/16	0 - 0.5	N	ND (2.1) J*	4.2	110	ND (1) *	ND (1)	---	19	5.1	9.3	9.4	0.15	ND (1)	12	ND (1) J	ND (1)	ND (2.1) J*	21	42
	01/13/16	2 - 3	N	ND (2) *	3.7	89	ND (1) *	ND (1)	---	13	4	15	13	ND (0.1) *	ND (1)	7.8	ND (1)	ND (1)	ND (2) *	17	35
	01/13/16	5 - 6	N	ND (2) *	4.1	73	ND (1) *	ND (1)	---	13	4.5	7.6	7.4	0.12	ND (1)	9.9	ND (1)	ND (1)	ND (2) *	17	33
	01/13/16	9 - 10	N	ND (2) *	3.9	98	ND (1) *	ND (1)	---	17	5.5	14	5.1	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	21	29
AOC9-20	01/13/16	0 - 0.5	N	---	---	---	---	---	---	---	---	---	7.1	0.11	---	---	---	---	---	---	---
	01/13/16	2 - 3	N	---	---	---	---	---	---	---	---	---	11	0.12	---	---	---	---	---	---	---
	01/13/16	2 - 3	FD	---	---	---	---	---	---	---	---	---	9.3	ND (0.1) *	---	---	---	---	---	---	---
	01/13/16	5 - 6	N	---	---	---	---	---	---	---	---	---	47	0.16	---	---	---	---	---	---	---
	01/13/16	9 - 10	N	---	---	---	---	---	---	---	---	---	2.2	ND (0.1) *	---	---	---	---	---	---	---
AOC9-21	01/08/17	0 - 0.5	N	ND (2.1) *	3.4	130 J	ND (1) *	ND (1)	---	34	7.2	11	3.8	ND (0.1) *	ND (1)	17	ND (1) J	ND (1)	ND (2.1) J*	30 J	47 J
	01/08/17	0 - 0.5	FD	ND (2.1) *	3.6	170 J	ND (1.1) *	ND (1.1) *	---	33	8.2	13	4	ND (0.1) *	ND (1.1)	18	ND (1.1) J	ND (1.1)	ND (2.1) J*	31	45 J
	01/08/17	2 - 3	N	ND (2.1) *	3.1	200	ND (1) *	1.1	---	48	15	23	2.7	ND (0.1) *	ND (1)	38	ND (1) J	ND (1)	ND (2.1) J*	46	44
	01/08/17	5 - 6	N	ND (2.1) *	3	220	ND (1) *	1.1	---	57	12	22	2.4	ND (0.1) *	ND (1)	38	ND (1) J	ND (1)	ND (2.1) J*	47	42
AOC9-22	01/04/17	0 - 0.5	N	ND (2.4) *	4.6	190	ND (1.2) *	ND (1.2) *	---	30	8.2	23	17	ND (0.12) *	ND (1.2)	18	ND (1.2) J	ND (1.2)	ND (2.4) J*	32	60
	01/04/17	2 - 3	N	ND (2.1) *	5.1	140	ND (1) *	ND (1)	---	62	6.8	27	20	0.17	ND (1)	16	ND (1) J	ND (1)	ND (2.1) J*	28	42
	01/04/17 ^Y	2.5 - 2.6	N	ND (2.9) *	4.6	220	ND (1.4) *	ND (1.4) *	0.79	64	14	16	5.4	ND (0.14) *	ND (1.4) *	39	ND (1.4) J	ND (1.4)	ND (2.9) J*	48	48
	01/04/17	4.5 - 5	N	ND (2.2) *	1.5	130	ND (1.1) *	ND (1.1) *	---	41	2.6	13	6.4	ND (0.11) *	ND (1.1)	5.9	ND (1.1) J	ND (1.1)	ND (2.2) J*	18	18
PA-05	11/09/15	0 - 1	N	ND (2) *	3.6	130	ND (1) *	ND (1)	0.42	27	6.9	16	7.4	ND (0.1) *	ND (1)	19	ND (1)	ND (1)	ND (2) *	33	83
PA-23	01/27/16	0 - 1	N	ND (2.1) *	11	64	ND (1.1) *	ND (1.1) *	0.52	8.9	3.3	6.7	5.1	ND (0.11) *	ND (1.1)	6.3	ND (1.1)	ND (1.1)	ND (2.1) *	18	49
#4	04/06/00	0 - 3	N	---	---	---	---	---	4.2	53.2	---	12.4	---	---	---	13.5	---	---	---	---	343
#5	04/06/00	0 - 3	N	---	---	---	---	---	2.7	29	---	13.8	---	---	---	16.3	---	---	---	---	64
#6	04/06/00	0 - 3	N	---	---	---	---	---	2.6	33	---	12.4	---	---	---	13.2	---	---	---	---	92.7
#7	04/06/00	0 - 3	N	---	---	---	---	---	1.3	32.1	---	15.3	---	---	---	16.3	---	---	---	---	68
#8	04/06/00	0 - 3	N	---	---	---	---	---	2.8	28.8	---	12.9	---	---	---	16.4	---	---	---	---	61.1
#9	04/06/00	0 - 3	N	---	---	---	---	---	2.7	92.7	---	50.4	---	---	---	10.1	---	---	---	---	215
#10	04/06/00	0 - 3	N	---	---	---	---	---	114	398	---	17.9	---	---	---	14.8	---	---	---	---	744
#11	04/06/00	0 - 3	N	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	80.3
#12	04/06/00	0 - 3	N	---	---	---	---	---	0.8	38.3	---	35.6	---	---	---	21.1	---	---	---	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Ø	white powder sample.
Y	debris sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

- 1 Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-5b

Sample Results: Contract Laboratory Program Inorganics

AOC 9 – Southeast Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Interim Screening Level ¹ :				16,400	66,500	29,303	12,100	402	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	1,800	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	1,800	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	220	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC9-5	10/01/08	0 - 0.5	N	10,000	26,000	17,000	7,400	250	2,300	810	ND (1.01) *
AOC9-11	09/18/08	0 - 0.5	N	6,900	26,000	12,000	5,700	210	1,500	450	ND (1.04) *
AOC9-12	10/01/08	0 - 0.5	N	13,000	38,000	22,000 J	9,600 J	310 J	2,500	620	ND (1.04) *
AOC9-21	01/08/17	0 - 0.5	N	9,100	25,000	19,000	6,800 J	230	1,900 J	260	---

TABLE 3-5b

Sample Results: Contract Laboratory Program Inorganics

AOC 9 – Southeast Fence Line

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California***Notes:**

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-5c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																						
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110		
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110		
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE		
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE		
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55		
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent		
Category 1																										
AOC9-1	10/01/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)	13	18	21	16	20	24	ND (5)	34	ND (5)	16	ND (5)	12	32	12	194	26		
	10/01/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)		
AOC9-2	09/18/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.6	9.5	6.2	ND (5)	7.4	ND (5)	10	ND (5)	5.5	ND (5)	ND (5)	9.7	ND	54.9	11		
	09/18/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)		
AOC9-3	09/18/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	12	16	24	14	11	20	ND (5)	32	ND (5)	14	ND (5)	9.1	29	9.1	172	24		
	09/18/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)		
AOC9-4	09/18/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	19	23	32	19	14	27	ND (5)	44	ND (5)	18	ND (5)	13	41	13	237	33		
	09/18/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	18	22	31	18	14	28	ND (5)	44	ND (5)	18	ND (5)	15	41	15	234	31		
AOC9-5	10/01/08	0 - 0.5	N	160	120	5.1	ND (5) J	ND (5)	60	73	77	58	90	95	17	140	ND (5)	52	16	46	130	347.1	792	110		
	10/01/08	2 - 3	N	220 J	240 J	ND (5.1)	ND (5.1) J	ND (5.1)	57	75	75	62	94	93	18	130	ND (5.1)	53	32	39	120	531	777	110		
	10/01/08	2 - 3	FD	120 J	81 J	ND (5.1)	ND (5.1) J	ND (5.1)	44	60	63	53	81	73	15	100	ND (5.1)	48	13	31	100	245	637	91		
AOC9-6	09/18/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	54	77	120	50	36	87	12	130	ND (5.1)	43	ND (5.1)	26	130	26	739	110		
	09/18/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.8	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.2	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.2	ND	18.2	6.3		
AOC9-7	09/18/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	17	21	33	20	9.3	26	5.1	44	ND (5)	18	ND (5)	11	38	11	231.4	33		
	09/18/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.3	10	15	6.7	7.4	11	ND (5)	14	ND (5)	6.4	ND (5)	ND (5)	14	ND	90.8	15		
AOC9-8	10/01/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	36	46	50	36	62	64	12	97	ND (5.1)	35	ND (5.1)	30	88	30	526	71		
	10/01/08	2.5 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	16	22	23	18	27	27	6.8	38	ND (5.1)	16	ND (4.8)	14	36	14	229.8	35		
	10/01/08	5.5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	13	10	12	6.5	12	15	ND (5.1)	27	ND (5.1)	6.1	ND (3.5)	7.5	25	7.5	126.6	16		
AOC9-9	10/01/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	8.2	15	16	15	18	17	ND (5.1)	21	ND (5.1)	13	ND (5.1)	6.8	20	6.8	143.2	21		
	10/01/08	2.5 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	7.2	7.2	7.4	9	7.1	ND (5.2)	7.2	ND (5.2)	6.5	ND (4.4)	ND (5.2)	7.5	ND	59.1	12		
	10/01/08	5.5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	9	13	14	12	16	15	ND (5.2)	19	ND (5.2)	10	ND (4.6)	5.5	18	5.5	126	19		
	10/01/08	5.5 - 6	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	6.3	9	11	9	11	10	ND (5.2)	12	ND (5.2)	7.7	ND (4.1)	ND (5.2)	12	ND	88	14		
AOC9-10	10/01/08	0 - 0.5	N	5.9	ND (5)	ND (5)	ND (5) J	ND (5)	30	34	40	33	34	40	11	71	ND (5)	29	ND (5)	22	63	27.9	385	55		
	10/01/08	2 - 3	N	51	36	ND (5.1)	ND (5.1) J	ND (5.1)	30	45	46	41	53	54	14	74	ND (5.1)	36	5.8	21	71	113.8	464	71		
AOC9-11	09/18/08	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	11	16	21	13	10	17	ND (5.3)	25	ND (5.3)	12	ND (5.3)	5.5	23	5.5	148	23		
	09/18/08	2 - 3	N	45	56	ND (5.1)	ND (5.1)	ND (5.1)	13	15	21	12	9.2	18	ND (5.1)	28	ND (5.1)	12	9	8.4	26	118.4	154.2	22		
AOC9-12	10/01/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	8.8	14	18	14	15	17	ND (5.1)	24	ND (5.1)	12	ND (5.1)	7.2	22	7.2	144.8	21		
	10/01/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.3	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6	ND	12.3	6		
AOC9-13	09/19/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	31	45	41	25	53	60	9.8	87	ND (5)	27	ND (5)	26	81	26	459.8	65		
	09/19/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	20	8.1	5.9	ND (5.1)	39 J	ND (5.1)	10	ND (5.1)	ND (5.1)	ND (5.1)	49 J	19	49	102	24		
	09/19/08	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.1	14	14	8.6	14	18 J	ND (5.1)	27	ND (5.1)	8.7	ND (4.9)	9 J	24	9	137.4	20		
AOC9-14	10/02/08 ^Θ	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)		
	10/02/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.5 J	15 J	15 J	19 J	17 J	15 J	16 J	17 J	10 J	ND (5.1)	17 J	ND (5.1)	ND (5.1)	11 J	6.5	152	37		
AOC9-15	12/06/15	0 - 1	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	40	68	130	65	ND (54)	70	ND (54)	140	ND (5.4)	57	ND (5.4)	34	130	34	700	120		
	12/06/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	100	120	270	29	69	120	9.1	270	ND (5.3)	33	ND (5.3)	56	250	56	1,270	170		

TABLE 3-5c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC9-16	01/13/16	0 - 0.5	N	ND (5.2)	9.8	ND (5.2)	ND (5.2)	ND (5.2)	32	ND (52)	110	ND (52)	ND (52)	30	ND (52)	55	ND (5.2)	ND (52)	ND (5.2)	18	50	27.8	277	69
	01/13/16	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7.7	11	23	ND (5)	9.4	10	ND (5)	19	ND (5)	ND (5)	ND (5)	ND (5)	18	ND	98.1	17
	01/13/16	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	01/13/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC9-18	01/10/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	31	57 J	88 J	ND (51)	ND (51)	54	ND (51)	76	ND (5.1)	ND (51)	ND (5.1)	17	76	17	382	97
	01/10/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	73 J	120	250	ND (52)	90 J	130 J	ND (52)	140	ND (5.2)	ND (52)	ND (5.2)	43	130	43	933	180
AOC9-19	01/13/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	16	32	7.9	8.5	20	ND (5.1)	28	ND (5.1)	7.2	ND (5.1)	6.8	27	6.8	157.6	24
	01/13/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	15	23	44	10	13	27	ND (5.1)	39	ND (5.1)	9.8	ND (5.1)	9.1	41	9.1	221.8	33
	01/13/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/13/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC9-20	01/13/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.2	7.3	17	ND (5.2)	7.3	8	ND (5.2)	16	ND (5.2)	ND (5.2)	ND (5.2)	5.9	15	5.9	76.8	13
	01/13/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	74 J	72 J	110 J	19	42 J	58	ND (5.2)	110 J	ND (5.2)	19	ND (5.2)	41 J	100 J	41	604	95
	01/13/16	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	28 J	ND (52)	100	ND (52)	ND (52)	26	ND (52)	51 J	ND (5.2)	ND (52)	ND (5.2)	14 J	47 J	14	252	68
	01/13/16	5 - 6	N	ND (5.1)	ND (5.1)	9.9	ND (5.1)	23	260	240	380	75	170	190	ND (51)	540	5.1	72	ND (5.1)	220	470	258	2,397	340
	01/13/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC9-21	01/08/17	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	13	11	28 J	ND (5.2)	8.4	19	ND (5.2)	24 J	ND (5.2)	ND (5.2)	ND (5.2)	8.4	24 J	8.4	127.4	18
	01/08/17	0 - 0.5	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	24	13	26 J	7.7	6.3	21	ND (5.3)	37 J	ND (5.3)	6.7	ND (5.3)	14	39 J	14	180.7	21
	01/08/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/08/17	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC9-22	01/04/17	0 - 0.5	N	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	5.9	140	130	300	57	61	150	ND (5.9)	290	ND (5.9)	59	ND (5.9)	93	270	98.9	1,457	180
	01/04/17	2 - 3	N	ND (5.3)	ND (5.3)	5.3	ND (5.3)	41	1,000	730	1,300	150	270	830	ND (5.3)	1,800	ND (5.3)	160	ND (5.3)	460	1,600	506.3	7,840	980
	01/04/17	4.5 - 5	N	ND (5.5)	ND (5.5)	53	ND (5.5)	190	860	410	780	210	190	660	ND (5.5)	2,200	29	190	ND (5.5)	1,500	1,700	1,772	7,200	600
PA-05	11/09/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.1	16	7.4	ND (5.1)	11	ND (5.1)	15	ND (5.1)	6.1	ND (5.1)	ND (5.1)	14	ND	77.6	13
PA-23	01/27/16	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	43	65	98	69	44	68	ND (5.3)	84	ND (5.3)	53	ND (5.3)	28	79	28	603	88

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
Θ	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-5d

Sample Results: Total Petroleum Hydrocarbons

AOC 9 – Southeast Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC9-1	10/01/08	0 - 0.5	N	ND (10)	ND (10)
	10/01/08	2 - 3	N	ND (10)	14.2
AOC9-2	09/18/08	0 - 0.5	N	ND (10)	ND (10)
	09/18/08	2 - 3	N	ND (10)	ND (10)
AOC9-3	09/18/08	0 - 0.5	N	ND (10)	24.4
	09/18/08	2 - 3	N	ND (10)	17.3
AOC9-4	09/18/08	0 - 0.5	N	ND (10)	11.8
	09/18/08	2 - 3	N	ND (10)	11.7
AOC9-5	10/01/08	0 - 0.5	N	ND (10)	61.6
	10/01/08	2 - 3	N	ND (10)	55.4
	10/01/08	2 - 3	FD	ND (10)	59.4
AOC9-6	09/18/08	0 - 0.5	N	ND (101)	ND (101)
	09/18/08	2 - 3	N	ND (10)	ND (10)
AOC9-7	09/18/08	0 - 0.5	N	ND (10)	31.1
	09/18/08	2 - 3	N	ND (10)	ND (10)
AOC9-8	10/01/08	0 - 0.5	N	ND (10)	42.7
	10/01/08	2.5 - 3	N	ND (10)	48.8
	10/01/08	5.5 - 6	N	ND (10)	15.5
AOC9-9	10/01/08	0 - 0.5	N	ND (10)	20.3
	10/01/08	2.5 - 3	N	ND (10)	ND (10)
	10/01/08	5.5 - 6	N	ND (10)	ND (10)
	10/01/08	5.5 - 6	FD	ND (10)	ND (10)
AOC9-10	10/01/08	0 - 0.5	N	ND (10)	12.1
	10/01/08	2 - 3	N	ND (10)	22
AOC9-11	09/18/08	0 - 0.5	N	ND (10)	51.8
	09/18/08	2 - 3	N	ND (10)	46.7
AOC9-12	10/01/08	0 - 0.5	N	ND (10)	19.9
	10/01/08	2 - 3	N	ND (10)	ND (10)
AOC9-13	09/19/08	0 - 0.5	N	ND (10)	19.2 J
	09/19/08	2 - 3	N	13	77.9 J
	09/19/08	2 - 3	FD	12.9	62 J
AOC9-14	10/02/08	0 - 0.5	N	ND (10) J	48.4 J
	10/02/08	2 - 3	N	34.8	702 J
PA-05	11/09/15	0 - 1	N	ND (10)	ND (10)
PA-23	01/27/16	0 - 1	N	77	110

TABLE 3-5d

Sample Results: Total Petroleum Hydrocarbons

AOC 9 – Southeast Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Θ	white powder sample.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
RWQCB	Regional Water Quality Control Board
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency

- 1 The interim screening level is the Regional Water Quality Control Board environmental screening level.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.
- 5 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 6 Background values have not been established for TPHs.

TABLE 3-5e

Sample Results: General Chemistry Parameters

AOC 9 – Southeast Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC9-1	10/01/08	0 - 0.5	N	8.52
	10/01/08	2 - 3	N	8.17
AOC9-2	09/18/08	0 - 0.5	N	8.62
	09/18/08	2 - 3	N	8.72
AOC9-3	09/18/08	0 - 0.5	N	7.92
	09/18/08	2 - 3	N	8.22
AOC9-4	09/18/08	0 - 0.5	N	7.63
	09/18/08	2 - 3	N	7.69
AOC9-5	10/01/08	0 - 0.5	N	9.12
	10/01/08	2 - 3	N	8.91
	10/01/08	2 - 3	FD	9.01
AOC9-6	09/18/08	0 - 0.5	N	8.77
	09/18/08	2 - 3	N	8.34
AOC9-7	09/18/08	0 - 0.5	N	8.27
	09/18/08	2 - 3	N	8.71
AOC9-8	10/01/08	0 - 0.5	N	8.2
	10/01/08	2.5 - 3	N	8.68
	10/01/08	5.5 - 6	N	8.42
AOC9-9	10/01/08	0 - 0.5	N	9.13
	10/01/08	2.5 - 3	N	8.36
	10/01/08	5.5 - 6	N	8.54
	10/01/08	5.5 - 6	FD	8.57
AOC9-10	10/01/08	0 - 0.5	N	9.23
	10/01/08	2 - 3	N	8.94
AOC9-11	09/18/08	0 - 0.5	N	8.65
	09/18/08	2 - 3	N	8.07
AOC9-12	10/01/08	0 - 0.5	N	8.48
	10/01/08	2 - 3	N	8.55
AOC9-13	09/19/08	0 - 0.5	N	8.57
	09/19/08	2 - 3	N	8.28
	09/19/08	2 - 3	FD	8.45
AOC9-14	10/02/08 ^Θ	0 - 0.5	N	9.41
	10/02/08	2 - 3	N	9.08
#4	04/06/00	0 - 3	N	9.62
#5	04/06/00	0 - 3	N	9.75
#6	04/06/00	0 - 3	N	9.66

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
#7	04/06/00	0 - 3	N	9.6
#8	04/06/00	0 - 3	N	8.95
#9	04/06/00	0 - 3	N	9.67
#10	04/06/00	0 - 3	N	8.2
#11	04/06/00	0 - 3	N	8.9

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Θ	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
μS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

- The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-5f
Sample Results: Pesticides
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC9-5	10/01/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC9-11	09/18/08	0 - 0.5	N	ND (2.1) *	3.2	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
AOC9-12	10/01/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC9-15	12/06/15	0 - 1	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1) J	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1) J	ND (5.4)	ND (54)
	12/06/15	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
AOC9-16	01/13/16	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/13/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	01/13/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	01/13/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC9-19	01/13/16	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/13/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/13/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/13/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC9-20	01/13/16	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/13/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/13/16	2 - 3	FD	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/13/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/13/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC9-21	01/08/17	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
* ---	Reporting limits greater than or equal to the interim screening level. not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison values for Additional Chemicals in Soil." July 1.	
5 Background values have not been established for pesticides.	

TABLE 3-5g

Sample Results: Polychlorinated Biphenyls

AOC 9 – Southeast Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC9-5	10/01/08	0 - 0.5	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	160	ND (16)	ND (16)	ND (16)	168
	10/01/08	2 - 3	N	ND (17) J	ND (33) J	ND (17) J	ND (17) J	ND (17) J	160 J	ND (17) J	ND (17) J	ND (17) J	168.5
AOC9-11	09/18/08	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)
AOC9-12	10/01/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	44	ND (17)	ND (17)	ND (17)	52.5
	10/01/08	2 - 3	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17)
AOC9-15	12/06/15	0 - 1	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	580	360	---	---	940
	12/06/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	690	300	---	---	990
AOC9-16	01/13/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	260	ND (17)	---	---	268.5
	01/13/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/13/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	20	ND (17)	---	---	28.5
	01/13/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC9-18	01/10/16	5 - 6	N	17 R	34 R	17 R	17 R	17 R	35 J	17 R	---	---	43.5 JR
AOC9-19	01/13/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	26	21	---	---	47
	01/13/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	29	19	---	---	48
	01/13/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/13/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC9-20	01/13/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	53	ND (17)	---	---	61.5
	01/13/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	20	ND (17)	---	---	28.5
	01/13/16	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	36	ND (17)	---	---	44.5
	01/13/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	87	39	---	---	126
	01/13/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC9-21	01/08/17	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17)	28	32	---	---	60
	01/08/17	0 - 0.5	FD	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17)	26	32	---	---	58
	01/08/17	2 - 3	N	ND (16)	ND (31)	ND (16)	ND (16) J	ND (16)	ND (16)	ND (16)	---	---	ND (16)
	01/08/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (17)

TABLE 3-5g

Sample Results: Polychlorinated Biphenyls

AOC 9 – Southeast Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC9-22	01/04/17	0 - 0.5	N	ND (19)	ND (39)	ND (19)	ND (19) J	ND (19) J	780	550	---	---	1,330
	01/04/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17) J	1,400	930	---	---	2,330
	01/04/17	4.5 - 5	N	ND (18)	ND (36)	ND (18)	ND (18) J	ND (18) J	ND (18)	ND (18)	---	---	ND (18)
PA-05	11/09/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	20	ND (17)	---	---	45.5
PA-23	01/27/16	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	76	95	---	---	188

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

* Reporting limits greater than or equal to the interim screening level.

--- not analyzed

µg/kg micrograms per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

JR estimated value, one or more input values is "R" qualified.

NE not established

N primary sample

ND not detected at the listed reporting limit

ND The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

TABLE 3-5g

Sample Results: Polychlorinated Biphenyls

AOC 9 – Southeast Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ Background values have not been established for polychlorinated biphenyls.

TABLE 3-5h
Sample Results: Dioxins and Furans
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
Category 1																							
AOC9-2	09/18/08	0 - 0.5	N	67 J	5.3 J	0.6 J	ND (0.74) J	ND (0.29) J	1.8 J	ND (0.65) J	1.2 J	ND (0.35) J	ND (0.23) J	ND (0.46) J	ND (6) J	ND (0.2) J	ND (0.081) J	ND (0.31) J	610 J	12 J	1.1	1.8	1.8
	09/18/08	2 - 3	N	66 J	4.9 J	ND (0.27) J	ND (0.41) J	ND (0.22) J	ND (1.4) J	ND (0.25) J	ND (0.39) J	ND (0.33) J	ND (0.33) J	ND (0.35) J	ND (4.5) J	ND (0.37) J	ND (0.042) J	ND (0.12) J	810 J	9.9 J	0.95	1.6	1.6
AOC9-8	10/01/08	2.5 - 3	N	3,200 J	210 J	15 J	21 J	9.3 J	59 J	ND (6) J	19 J	3.3 J	6.1 J	ND (2.4) J	ND (350) J	3.1 J	ND (0.44) J	ND (1.2) J	34,000 J	490 J	42	81	81
AOC9-15	12/06/15	0 - 1	N	1,700 J	130 J	10 J	18 J	7.8 J	46 J	6.1 J	29 J	ND (2.4) J	11 J	2.9 J	ND (220) J	4.6 J	ND (0.09) J	3 J	18,000 J	310 J	41	59	59
	12/06/15	2 - 3	N	5,500 J	430 J	32 J	48 J	28 J	140 J	38 J	90 J	6.8 J	28 J	19 J	ND (350) J	12 J	ND (2) J	ND (0.73) J	41,000 J	940 J	95	160	160
AOC9-16	01/13/16	0 - 0.5	N	9,300 J	210 J	ND (17) J	110 J	20 J	150 J	12 J	60 J	5.5 J	17 J	ND (6.3) J	ND (420) J	6.9 J	ND (2.4) J	ND (3.5) J	51,000 J	400 J	82	190	190
	01/13/16	2 - 3	N	290 J	23 J	ND (1.7) J	2.9 J	ND (2.6) J	ND (6.1) J	ND (1.4) J	4 J	ND (0.55) J	ND (1.2) J	3.4 J	ND (23) J	ND (1.7) J	ND (0.22) J	1.5 J	2,800 J	70 J	6.2	7.6	7.6
	01/13/16	5 - 6	N	600 J	55 J	ND (3.4) J	ND (3.7) J	2.4 J	ND (10) J	ND (2.1) J	ND (7.3) J	ND (0.39) J	ND (2) J	ND (1.2) J	ND (34) J	ND (1.2) J	ND (0.26) J	ND (0.27) J	7,200 J	290 J	6.4	13	13
AOC9-18	01/10/16	5 - 6	N	2,000 J	150 J	9.8 J	12 J	9.7 J	46 J	6.5 J	17 J	ND (2.6) J	5.2 J	3.4 J	ND (240) J	3.6 J	ND (0.14) J	2.4 J	18,000 J	300 J	34	55	55
AOC9-19	01/13/16	0 - 0.5	N	1,000 J	70 J	6.3 J	6.6 J	5 J	ND (20) J	ND (3.5) J	9.6 J	ND (1.5) J	ND (1.2) J	ND (1.6) J	ND (110) J	ND (1.8) J	ND (0.17) J	1.2 J	9,400 J	170 J	13	24	24
	01/13/16	2 - 3	N	430 J	34 J	ND (2.3) J	ND (4.3) J	ND (1.8) J	10 J	ND (2.1) J	6.9 J	ND (0.67) J	ND (1.4) J	ND (2.6) J	ND (42) J	ND (0.77) J	ND (0.13) J	ND (0.99) J	4,000 J	90 J	6.2	11	11
	01/13/16	5 - 6	N	220 J	19 J	ND (0.88) J	1.7 J	ND (1.1) J	ND (4.8) J	ND (0.82) J	ND (1.6) J	ND (1) J	ND (0.97) J	1.6 J	ND (31) J	ND (0.63) J	ND (0.15) J	ND (0.57) J	2,000 J	46 J	3.8	5.9	5.9
AOC9-20	01/13/16	0 - 0.5	N	410 J	36 J	ND (2.3) J	ND (1.1) J	ND (1.2) J	ND (8.6) J	2.4 J	ND (5.1) J	ND (0.64) J	ND (1.6) J	ND (1.2) J	ND (39) J	ND (1.2) J	ND (0.25) J	ND (0.55) J	3,600 J	97 J	5.6	9.8	9.8
	01/13/16	2 - 3	N	540 J	38 J	2.7 J	4.6 J	ND (3.4) J	ND (12) J	ND (3.8) J	6.9 J	ND (1.2) J	ND (1.7) J	3.2 J	ND (44) J	ND (1.3) J	ND (0.23) J	2.8 J	3,500 J	72 J	9.6	13	13
	01/13/16	5 - 6	N	1,300 J	110 J	ND (7.6) J	11 J	ND (9.3) J	30 J	ND (7) J	ND (14) J	ND (0.91) J	ND (4.9) J*	9.9 J	ND (130) J	ND (4.7) J	ND (0.48) J	9.1 J	12,000 J	230 J	28	35	35
AOC9-21	01/08/17	0 - 0.5	N	3,500	360 J	27 J	14	ND (17)	77	ND (15)	23	ND (20)	ND (2.6)	ND (5.5)	ND (940)	ND (5.6)	ND (0.49)	ND (0.51)	24,000	820	68	110	110
	01/08/17	0 - 0.5	FD	3,600	380	25	ND (9.8)	ND (15)	81	ND (13)	22	ND (17)	ND (3.3)	ND (1)	ND (900)	ND (1)	ND (0.23)	ND (0.83)	34,000 J	870	64	110	110
	01/08/17	2 - 3	N	ND (18)	ND (0.3)	ND (0.8)	ND (0.19)	ND (0.22)	ND (0.26)	ND (0.17)	ND (0.17)	ND (0.25)	ND (0.17)	ND (0.39)	ND (1.5)	ND (0.19)	ND (0.12)	ND (0.098)	170	ND (2.9)	0.46	0.47	0.47
	01/08/17	5 - 6	N	ND (5.6)	ND (0.87)	ND (0.19)	ND (0.22)	ND (0.35)	ND (0.24)	ND (0.3)	ND (0.19)	ND (0.39)	ND (0.063)	ND (0.13)	ND (0.35)	ND (0.13)	ND (0.16)	ND (0.36)	ND (94)	ND (2.2)	ND (0.46)	ND (0.3)	ND (0.3)
AOC9-22	01/04/17	0 - 0.5	N	960	49	ND (2.6)	9.9 J	ND (1.4)	22	5.5 J	13	ND (1.6)	ND (5.2) *	11 J	ND (110)	ND (2.5)	ND (0.26)	11	8,100	87	27	28	28
	01/04/17	2 - 3	N	3,800	200	18	20	23	63	ND (32)	26	ND (6.4)	ND (73) *	ND (3.8)	ND (5.6)	ND (3.8)	ND (1.4)	ND (7.7)	24,000	480	60	100	100
	01/04/17	4.5 - 5	N	100	ND (5.3)	ND (6.5)	ND (0.34)	ND (0.35)	3.9 J	ND (0.75)	1.1 J	ND (0.41)	ND (0.32)	ND (1.6)	ND (44)	ND (0.15)	ND (0.1)	ND (0.19)	1,000	22 J	3.2	4.4	4.4
PA-23	01/27/16	0 - 1	N	680 J	67 J	5.7 J	ND (6.3) J	19 J	19 J	8.5 J	ND (9.5) J	ND (2.4) J	ND (1.9) J	28 J	ND (59) J	ND (11) J	ND (1.2) J	36 J	6,700 J	96 J	55	26	26

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

-- not analyzed

ft bgs feet below ground surface

ng/kg nanograms per kilogram

DTSC-SL DTSC Screening Levels

DTSC California Department of Toxic Substances Control

FD Field Dupliicate

TABLE 3-5h
Sample Results: Dioxins and Furans
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
N	Primary Sample
NA	NA = not applicable
NE	not established
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	USEPA = United States Environmental Protection Agency

- 1 For individual dioxins and furans, selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher. For TEQ values, selected value is the DTSC-SL.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. JanuaryCalifornia Department of Toxic Substances Control (DTSC). 2017. Human Health Risk Assessment (HHRA) Note 2, Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites. April.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Decteded Chemicals in Soil." July 1.
- 5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

Calculations:

TEQ = Sum of Result xToxic equivalency factor (TEF), 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQ Avian = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQMammals = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

Teq Humans = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TABLE 3-5i

Sample Results: Asbestos

AOC 9 – Southeast Fence Line

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Asbestos		
				CARB435/ ²		
Location	Date	Depth (ft bgs)	Sample Type	PLM/BULK ¹	PLM (%)	TEM ³ (%)
Category 1						
AOC9-14	10/02/08	0 - 0.5	N	Present	---	ND (0.07)
	10/02/08	2 - 3	N	Present	<0.1	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Θ white powder sample.

--- not analyzed

ft bgs feet below ground surface

FD field duplicate

N primary sample

1 Polarized light microscopy of bulk samples

2 California Air Resource Board Method 435 / polarized light microscopy of bulk samples

3 Transmission electron microscopy

TABLE 3-5j
Constituent Concentrations in Soil Compared to Screening Values
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
					# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Dioxins and Furans																
TEQ Avian	ng/kg	10	21 / 22 (95%)	95	15	(5.98)	10	(16)	NA	(NE)	NA	(NA)	NA	(NE)	10	(16)
TEQ Human	ng/kg	10	21 / 22 (95%)	190	17	(5.58)	NA	(NE)	7	(50)	NA	(NA)	0	(220)	7	(50)
TEQ Mammals	ng/kg	10	21 / 22 (95%)	190	17	(5.58)	17	(1.6)	NA	(NE)	NA	(NA)	NA	(NE)	17	(5.58)
Metals																
Antimony	mg/kg	22	0 / 49 (0%)	ND (2.4) ‡	NA	(NE)	0	(0.285)	0	(31)	NA	(NA)	0	(470)	0	(0.285)
Arsenic	mg/kg	22	49 / 49 (100%)	11	0	(11)	0	(11.4)	0	(0.11) *	NA	(NA)	0	(0.36) *	0	(11)
Barium	mg/kg	22	49 / 49 (100%)	220	0	(410)	0	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	0	(410)
Beryllium	mg/kg	22	0 / 49 (0%)	ND (2.1) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)
Cadmium	mg/kg	22	2 / 49 (4.1%)	1.1	0	(1.1)	0	(0.0151) *	0	(5.2)	NA	(NA)	0	(7.3)	0	(1.1)
Chromium, Hexavalent	mg/kg	28	28 / 49 (57%)	114	18	(0.83)	0	(139.6)	18	(0.3)	NA	(NA)	2	(6.3)	18	(0.83)
Chromium, Hexavalent-SPLP	mg/L	2	2 / 2 (100%)	1.57	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)
Chromium, total	mg/kg	30	57 / 57 (100%)	398	13	(39.8)	13	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	13	(39.8)
Chromium-SPLP	mg/L	2	2 / 2 (100%)	1.7	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)
Cobalt	mg/kg	22	49 / 49 (100%)	15	1	(12.7)	1	(13)	0	(23)	NA	(NA)	0	(350)	1	(12.7)
Copper	mg/kg	30	57 / 57 (100%)	50.4	16	(16.8)	7	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	16	(16.8)
Lead	mg/kg	23	53 / 53 (100%)	59	30	(8.39)	30	(0.0166) *	0	(80)	NA	(NA)	0	(320)	30	(8.39)
Mercury	mg/kg	23	14 / 53 (26%)	0.75	NA	(NE)	14	(0.0125)	0	(1)	NA	(NA)	0	(4.5)	14	(0.0125)
Molybdenum	mg/kg	22	2 / 49 (4.1%)	4.5	1	(1.37)	1	(2.25)	0	(390)	NA	(NA)	0	(5,800)	1	(1.37)
Nickel	mg/kg	30	57 / 57 (100%)	38	3	(27.3)	3	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	3	(27.3)
Thallium	mg/kg	22	1 / 49 (2.0%)	4.1	NA	(NE)	1	(2.32)	1	(0.78)	NA	(NA)	0	(12)	1	(0.78)
Vanadium	mg/kg	22	49 / 49 (100%)	47	0	(52.2)	0	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	0	(52.2)
Zinc	mg/kg	30	57 / 57 (100%)	1,000	20	(58)	20	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	20	(58)
Contract Laboratory Program Inorganics																
Aluminum	mg/kg	4	4 / 4 (100%)	13,000	0	(16,400)	NA	(NE)	0	(77,000)	NA	(NA)	0	(1,100,000)	0	(16,400)
Calcium	mg/kg	4	4 / 4 (100%)	38,000	0	(66,500)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(66,500)
Iron	mg/kg	4	4 / 4 (100%)	22,000	0	(29,303)	NA	(NE)	0	(55,000)	NA	(NA)	0	(820,000)	0	(29,303)
Magnesium	mg/kg	4	4 / 4 (100%)	9,600	0	(12,100)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(12,100)
Manganese	mg/kg	4	4 / 4 (100%)	310	0	(402)	0	(220)	0	(1,800)	NA	(NA)	0	(6,900)	0	(402)
Potassium	mg/kg	4	4 / 4 (100%)	2,500	0	(4,400)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(4,400)
Sodium	mg/kg	4	4 / 4 (100%)	810	0	(2,070)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(2,070)
Cyanide	mg/kg	3	0 / 3 (0%)	ND (1.04) ‡	NA	(NE)	0	(0.9)	0	(23)	NA	(NA)	0	(150)	0	(0.9)
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	µg/kg	23	5 / 53 (9.4%)	220	NA	(NE)	NA	(NE)	0	(18,000)	NA	(NA)	0	(73,000)	0	(18,000)
2-Methyl naphthalene	µg/kg	23	5 / 53 (9.4%)	240	NA	(NE)	NA	(NE)	0	(240,000)	NA	(NA)	0	(3,000,000)	0	(240,000)
Acenaphthene	µg/kg	23	4 / 53 (7.5%)	53	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)
Anthracene	µg/kg	23	5 / 53 (9.4%)	190	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Benzo (a) anthracene	µg/kg	23	38 / 53 (72%)	1,000	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (a) pyrene	µg/kg	23	40 / 53 (75%)	730	NA	(NE)	NA	(NE)	6	(110)	NA	(NA)	0	(2,100)	6	(110)
Benzo (b) fluoranthene	µg/kg	23	42 / 53 (79%)	1,300	NA	(NE)	NA	(NE)	1	(1,100)	NA	(NA)	0	(21,000)	1	(1,100)
Benzo (ghi) perylene	µg/kg	23	36 / 53 (68%)	210	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
Benzo (k) fluoranthene	µg/kg	23	36 / 53 (68%)	270	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)

TABLE 3-5j
Constituent Concentrations in Soil Compared to Screening Values
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
Parameter	Units				# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Polycyclic Aromatic Hydrocarbons																
Chrysene	µg/kg	23	41 / 53 (77%)	830	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)
Dibenzo (a,h) anthracene	µg/kg	23	11 / 53 (21%)	18	NA	(NE)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Fluoranthene	µg/kg	23	43 / 53 (81%)	2,200	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Fluorene	µg/kg	23	2 / 53 (3.8%)	29	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Indeno (1,2,3-cd) pyrene	µg/kg	23	36 / 53 (68%)	190	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Naphthalene	µg/kg	23	4 / 53 (7.5%)	32	NA	(NE)	NA	(NE)	0	(3,800)	NA	(NA)	0	(17,000)	0	(3,800)
Phenanthrene	µg/kg	23	35 / 53 (66%)	1,500	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Pyrene	µg/kg	23	43 / 53 (81%)	1,700	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
PAH Low molecular weight	µg/kg	23	53 / 53 (100%)	1,772	12	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	23	53 / 53 (100%)	7,840	18	(267.4)	5	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	5	(1,160)
B(a)P Equivalent	µg/kg	23	43 / 53 (81%)	980	17	(55)	NA	(NE)	10	(110)	NA	(NA)	0	(2,100)	10	(110)
Polychlorinated biphenyls																
Aroclor 1016	µg/kg	12	1 / 28 (3.6%)	17	NA	(NE)	NA	(NE)	0	(4,100)	NA	(NA)	0	(27,000)	0	(4,100)
Aroclor 1221	µg/kg	12	1 / 28 (3.6%)	34	NA	(NE)	NA	(NE)	0	(200)	NA	(NA)	0	(830)	0	(200)
Aroclor 1232	µg/kg	12	1 / 28 (3.6%)	17	NA	(NE)	NA	(NE)	0	(170)	NA	(NA)	0	(720)	0	(170)
Aroclor 1242	µg/kg	12	1 / 28 (3.6%)	17	NA	(NE)	NA	(NE)	0	(230)	NA	(NA)	0	(950)	0	(230)
Aroclor 1248	µg/kg	12	1 / 28 (3.6%)	17	NA	(NE)	NA	(NE)	0	(230)	NA	(NA)	0	(950)	0	(230)
Aroclor 1254	µg/kg	12	18 / 28 (64%)	1,400	NA	(NE)	NA	(NE)	5	(240)	NA	(NA)	1	(970)	5	(240)
Aroclor 1260	µg/kg	12	10 / 28 (36%)	930	NA	(NE)	NA	(NE)	4	(240)	NA	(NA)	0	(990)	4	(240)
Total PCBs	µg/kg	12	18 / 28 (64%)	2,330	NA	(NE)	5	(204)	5	(230)	NA	(NA)	4	(940)	5	(204)
Pesticides																
4,4-DDE	µg/kg	8	1 / 18 (5.6%)	3.2	NA	(NE)	1	(2.1)	0	(2,000)	NA	(NA)	0	(9,300)	1	(2.1)
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	16	3 / 31 (9.7%)	77	NA	(NE)	NA	(NE)	0	(230)	0	(230)	0	(1,100)	0	(230)
TPH as motor oil	mg/kg	16	21 / 31 (68%)	702	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

TABLE 3-5j
Constituent Concentrations in Soil Compared to Screening Values
AOC 9 – Southeast Fence Line
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RSL	esidential screening level
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

- 1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.
- 2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1
- 3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.
- 4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr
- 5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.
- 6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).
- 8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-6a
Sample Results: Metals
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC10-1	10/02/08	0 - 0.5	N	ND (2) *	3.7	93	ND (1) *	ND (1)	ND (0.401)	6.6	2.7	4.9	9.2	ND (0.1) *	ND (1)	5.5	ND (1)	ND (1)	ND (2) *	13	20
	10/02/08	2 - 3	N	ND (2) *	4.2	81	ND (1) *	ND (1)	ND (0.405)	7.4	3	5.6	5.8	ND (0.1) *	ND (1)	6.3	ND (1)	ND (1)	ND (2) *	16	21
	10/02/08	5 - 6	N	ND (2) *	4.9	82	ND (1) *	ND (1)	ND (0.407)	7.5	3.2	5.8	5.4	ND (0.1) *	ND (1)	6.4	ND (1)	ND (1)	ND (2) *	17	20
	10/02/08	9 - 10	N	ND (2) *	4.7	110	ND (1) *	ND (1)	ND (0.406)	6.8	3	5.7	4.8	ND (0.1) *	ND (1)	6.2	ND (1)	ND (1)	ND (2) *	15	21
AOC10-10	01/22/16	0 - 1	N	ND (2.1) *	3.1	100	ND (1) *	ND (1)	0.45	36	6.2	15	4.7	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	23	63
	01/22/16	2 - 3	N	ND (2.2) *	2.6	100	ND (1.1) *	ND (1.1) *	ND (0.22)	27	9	13	2	ND (0.11) *	ND (1.1)	22	ND (1.1)	ND (1.1)	ND (2.2) *	38	41
	01/22/16	5 - 6	N	ND (2.1) *	3.2	120	ND (1.1) *	ND (1.1) *	0.35	34	11	13	2.1	ND (0.11) *	ND (1.1)	28	ND (1.1)	ND (1.1)	ND (2.1) *	43	44
	01/22/16	9 - 10	N	ND (2.2) *	3.4	100	ND (1.1) *	ND (1.1) *	0.35	32	9.5	11	2.6	ND (0.11) *	ND (1.1)	23	ND (1.1)	ND (1.1)	ND (2.2) *	42	43
	01/22/16	9 - 10	FD	ND (2.2) *	3.1	85	ND (1.1) *	ND (1.1) *	0.39	31	9.2	11	2.4	ND (0.11) *	ND (1.1)	21	ND (1.1)	ND (1.1)	ND (2.2) *	39	42
AOC10-11	01/22/16	0 - 1	N	ND (2.1) *	3.3	85	ND (1) *	ND (1)	0.87	31	5.8 J	9.1	2.7	ND (0.1) *	ND (1)	14 J	ND (1)	ND (1)	ND (2.1) *	24 J	40
	01/22/16	0 - 1	FD	ND (2.1) *	3.4	86	ND (1) *	ND (1)	0.44	27	8.6 J	14	2.4	ND (0.1) *	ND (1)	18 J	ND (1)	ND (1)	ND (2.1) *	31 J	45
	01/22/16	2 - 3	N	ND (2.1) J*	2.7	110	ND (1) *	ND (1)	0.9	45	7.3	13	2.6	ND (0.1) *	ND (1)	19	ND (1) J	ND (1)	ND (2.1) J*	30	44
	01/22/16	5 - 6	N	ND (2.1) *	2.4	110	ND (1) *	ND (1)	1.6	73	9.4	31	2.5	ND (0.1) *	ND (1)	24	ND (1)	ND (1)	ND (2.1) *	35	74
	01/22/16	9 - 10	N	ND (2) *	2.4	190	ND (1) *	ND (1)	0.72	42	10	19	2.4	ND (0.1) *	ND (1)	22	ND (1)	ND (1)	ND (2) *	36	160
AOC10-12	01/22/16	0 - 0.5	N	ND (2.1) *	4.3	89	ND (1) *	ND (1)	13	460	9.8	19	12	ND (0.11) *	ND (1)	21	ND (1)	ND (1)	ND (2.1) *	36	56
	01/22/16	2 - 3	N	ND (2.1) *	8.9	63	ND (1.1) *	ND (1.1) *	0.3	25	4.6	9	3.6	ND (0.1) *	1.4	11	ND (1.1)	ND (1.1)	ND (2.1) *	38	34
	01/22/16	5 - 6	N	ND (2.1) *	3	200	ND (1) *	ND (1)	5	130	8.4	11	6	ND (0.1) *	ND (1)	18	ND (1)	ND (1)	ND (2.1) *	31	70
	01/22/16	9 - 10	N	ND (2.1) *	4.4	120	ND (1) *	ND (1)	0.66	37	9.6	16	2.5	ND (0.11) *	ND (1)	22	ND (1)	ND (1)	ND (2.1) *	34	47
AOC10-13	12/03/15	0 - 1	N	ND (2.1) *	4.3	130	ND (1.1) *	ND (1.1) *	ND (0.21)	14	5.3	13	9.8	ND (0.11) *	1.4	12	ND (1.1)	ND (1.1)	ND (2.1) *	22	39
	12/03/15	0 - 1	FD	ND (2.1) *	4.5	130	ND (1.1) *	ND (1.1) *	ND (0.21)	16	5.7	14	10	ND (0.11) *	1.4	14	1.1	ND (1.1)	ND (2.1) *	23	41
AOC10-14	12/03/15	0 - 1	N	ND (2.1) *	6.3	380	ND (1) *	ND (1)	ND (0.21)	11	4.1	13	5.9	ND (0.1) *	1.3	9.1	9.1	ND (1)	ND (2.1) *	21	29
AOC10-15	12/15/15	0 - 1	N	ND (2) *	5.8	150	ND (1) *	ND (1)	2.6	67	6.1	23	21	ND (0.1) *	14	11	ND (1)	ND (1)	ND (2) *	24	98
	12/15/15	0 - 1	FD	ND (2) *	5.4	150	ND (1) *	ND (1)	2.6	70	5.9	27	20	ND (0.1) *	14	10	ND (1)	ND (1)	ND (2) *	22	110
	12/15/15	2 - 3	N	ND (2) *	4.7	210	ND (1) *	ND (1)	1.4	41	7.2	22	17 J	ND (0.1) *	8.2	14	ND (1) J	ND (1) J	ND (2) J*	26	70 J
	12/15/15	5 - 6	N	ND (2.1) *	4.4	320	ND (1) *	ND (1)	1.1	33	6.3	14	7.6	ND (0.1) *	4.2	15	ND (1)	ND (1)	ND (2.1) *	26	100
	12/15/15	9 - 10	N	ND (2.1) *	4.8	78	ND (1) *	ND (1)	ND (0.21)	17	8.1	11	1.5	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	30	44
AOC10-16	12/15/15	0 - 1	N	ND (2) *	3	69	ND (1) *	ND (1)	0.59	21	7.3	8.9	5.9	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2) *	26	40
	12/15/15	2 - 3	N	ND (2.1) *	2.8	44	ND (1) *	ND (1)	0.24	21	7	9.7	2.5	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	27	44
	12/15/15	5 - 6	N	ND (2.1) *	3.1	170	ND (1) *	ND (1)	0.48	21	7.2	12	3.2	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	30	40
	12/15/15	9 - 10	N	ND (2) *	2.9	59	ND (1) *	ND (1)	ND (0.2)	14	6.6	9.4	2.4	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	28	38
AOC10-17	12/03/15	0 - 1	N	ND (2.1) *	3.8	110	ND (1) *	ND (1)	ND (0.21)	9.7	4.6	11	9.9	ND (0.1) *	7.8	10	1.9	ND (1)	ND (2.1) *	16	32
AOC10-18	12/06/15	0 - 1	N	ND (2) *	2.3	100	ND (1) *	ND (1)	ND (0.2)	5.6	2.3	2.8	1.9	ND (0.1) *	ND (1)	3.6	ND (1)	ND (1)	ND (2) *	14	13
	12/06/15	2 - 3	N	ND (2) *	2.2	160	ND (1) *	ND (1)	ND (0.2)	5.7	2.5	4.1	1.9	ND (0.1) *	ND (1)	4.2	ND (1)	ND (1)	ND (2) *	15	13
AOC10-19	02/24/16	0 - 1	N	ND (2) J*	4.2	120	ND (1) *	ND (1)	ND (0.2)	27	8.4	14	6.7 J	ND (0.1) *	ND (1)	20	ND (1)	ND (1)	ND (2) *	34	48
	02/24/16	2 - 3	N	ND (2.1) *	5	120	ND (1) *	ND (1)	0.3	34 J	10	18	5.8	ND (0.1) *	ND (1)	22	ND (1)	ND (1)	ND (2.1) *	40	55
	02/24/16	2 - 3	FD	ND (2.1) *	4.9	110	ND (1) *	ND (1)	ND (0.21)	27 J	9.1	17	5.8	ND (0.1) *	ND (1)	19	ND (1)	ND (1)	ND (2.1) *	36	52
	02/24/16	5 - 6	N	ND (2.1) *	5.8	130	ND (1) *	ND (1)	ND (0.21)	27	9.4	17	3.8	ND (0.11) *	ND (1)	19	ND (1)	ND (1)	ND (2.1) *	37	47

TABLE 3-6a
Sample Results: Metals
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC10-2	10/02/08	0 - 0.5	N	ND (2) *	3.4	93	ND (1) *	ND (1)	ND (0.402)	4.9	2.3	4.1	5.1	ND (0.1) *	ND (1)	4.3	ND (1)	ND (1)	ND (2) *	12	14
	10/02/08	2 - 3	N	ND (2.1) *	5.5	370	ND (1) *	ND (1)	ND (0.417)	17	6.4	9.4	3.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	33	38
	10/02/08	5 - 6	N	ND (2.1) *	9.1	120	ND (2.1) *	ND (1)	ND (0.415)	19	7.4	9.5	4.2	ND (0.1) *	ND (2.1) *	14	ND (1)	ND (2.1)	ND (4.1) *	36	40
	10/02/08	7 - 8	N	ND (2.1) *	6	110	ND (1) *	ND (1)	ND (0.412)	17	6.3	9	3.2	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	30	32
AOC10-20	02/17/16	0 - 0.5	N	15	3.5	120	ND (1) *	ND (1)	2,700	2,800	3.4	11	6.1	ND (0.1) *	ND (1)	5.8	ND (1)	ND (1)	ND (2) *	14	38
	02/25/16	2 - 3	N	ND (2) *	3.3	100	ND (1) *	ND (1)	12	28	3.2	5	2.8	ND (0.1) *	ND (1)	5.8	ND (1)	ND (1)	ND (2) *	18	16
AOC10-21	02/25/16	0 - 0.5	N	ND (2) *	9.7	320	ND (1) *	7.4	1.4	270	8.5	3,100	920	35	9.4	28	ND (1)	ND (1)	ND (2) *	23	360
	02/25/16	2 - 3	N	ND (2) *	3	85	ND (1) *	ND (1)	0.2	8.1	3.2	5	2.9	ND (0.099) *	ND (1)	5.4	ND (1)	ND (1)	ND (2) *	16	16
AOC10-22	02/17/16	0 - 0.5	N	ND (2) *	4.1	140	ND (1) *	ND (1)	ND (0.2)	35	8.1	14	12	ND (0.1) *	ND (1)	20	ND (1)	ND (1)	ND (2) *	38	50
	02/17/16	1 - 2	N	ND (2.1) *	17	77	ND (1.1) *	4.4	0.91	85	36	200	38	ND (0.11) *	2.7	51	ND (1.1)	ND (1.1)	ND (2.1) *	19	39
	02/17/16	2 - 3	N	ND (2) *	5.5	140	ND (1) *	1.2	0.37	35	13	42	17	ND (0.1) *	ND (1)	25	ND (1)	ND (1)	ND (2) *	34	35
	02/17/16	5 - 6	N	ND (2) *	4.1	130	ND (1) *	ND (1)	ND (0.2)	8.6	3.4	5.1	3.4	ND (0.1) *	ND (1)	5.4	ND (1)	ND (1)	ND (2) *	19	18
AOC10-23	02/25/16	0 - 1	N	ND (2) *	11	57	ND (1) *	1.8	1.8	72	27	140	30	0.24	ND (1)	34	ND (1)	ND (1)	ND (2) *	12	26
	02/25/16	1 - 2	N	ND (2) *	5.1	59	ND (1) *	ND (1)	2.6	130	5.7	22	22	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	16	56
	02/25/16	2 - 3	N	ND (2) *	3	60	ND (1) *	ND (1)	ND (0.2)	5.5	2.5	4.2	2.2	ND (0.1) *	ND (1)	4.4	ND (1)	ND (1)	ND (2) *	13	11
AOC10-25	01/08/17	0 - 0.5	N	ND (2) *	3.1	120 J	ND (1) J*	ND (1)	ND (0.2)	15	5.9 J	8	7.9 J	ND (0.1) *	ND (1)	11 J	ND (1) J	ND (1)	ND (2) J*	23	32
	01/08/17	0 - 0.5	FD	ND (2) *	3.7	150 J	ND (1) J*	ND (1)	ND (0.2)	18	7.3 J	9.5	11 J	ND (0.1) *	ND (1)	14 J	ND (1) J	ND (1)	ND (2) J*	27	38
	01/08/17	2 - 3	N	ND (2) *	4.1	140 J	ND (1) J*	ND (1)	ND (0.2)	31	9.9	11	2.1 J	ND (0.1) *	1.4	21	ND (1) J	ND (1)	ND (2) J*	36 J	41
	01/08/17	5 - 6	N	ND (2.1) *	4.8	160	ND (1) *	ND (1)	ND (0.2)	25	8.2	11	1.5	ND (0.1) *	ND (1)	16	ND (1) J	ND (1)	ND (2.1) *	30	45
	01/08/17	9 - 10	N	ND (2) *	5.6	130	ND (1) *	ND (1)	ND (0.2)	26	10	13	1.5	ND (0.1) *	ND (1)	15	ND (1) J	ND (1)	ND (2) *	34	42
AOC10-26	02/21/17 ^Θ	2.5 - 2.7	N	3.5	6.6	200	ND (1.4) *	1.5	9.5	340	6.5	40	18	0.15	ND (1.4) *	13	ND (1.4) J	ND (1.4)	ND (2.8) J*	31	110
AOC10-3	09/19/08	0 - 0.5	N	ND (2) J*	3.1	160	ND (2) *	ND (1)	1.91	62	4.6	14	7.8	ND (0.1) *	ND (2) *	12	ND (1)	ND (2)	ND (4) *	23	40
	09/19/08	0 - 0.5	FD	ND (2) *	2.6	150	ND (2) *	ND (1)	1.7	64	4.5	13	7.7	ND (0.1) *	ND (2) *	12	ND (1)	ND (2)	ND (4) *	22	41
	09/19/08	2 - 3	N	ND (2.1) *	3.3	160	ND (5.1) *	ND (1)	ND (0.412)	43	10	14	ND (5.1)	ND (0.1) *	ND (5.1) *	26	ND (1)	ND (5.1)	ND (10) *	43	47
	09/19/08	5 - 6	N	ND (2.1) *	5.4	220	ND (5.1) *	ND (1)	0.705	37	9.9	16	2.9	ND (0.1) *	ND (5.1) *	25	ND (1)	ND (5.1)	ND (10) *	46	61
	09/19/08	9 - 10	N	ND (2.1) *	7.4	110	ND (1) *	ND (1)	ND (0.412)	28	9	12	2.8	ND (0.1) J*	ND (1)	20	ND (1)	ND (1)	ND (2.1) *	33	50
AOC10-4	09/19/08	0 - 0.5	N	ND (2) *	3.5	110	ND (2) *	ND (1)	0.55	33	6.5	14	11	ND (0.1) *	ND (2) *	15	ND (1)	ND (2)	ND (4) *	32	52
	09/19/08	2 - 3	N	ND (2) *	2.5	130	ND (2) *	ND (1)	ND (0.409)	26	7.1	16	4.4	ND (0.1) *	ND (2) *	19	ND (1)	ND (2)	ND (4.1) *	33	38
	09/19/08	5 - 6	N	ND (2.1) *	5.9	75	ND (5.2) *	ND (1)	ND (0.418)	27	10	16	3	ND (0.11) *	ND (5.2) *	20	ND (1)	ND (5.2) *	ND (10) *	40	63
	09/19/08	9 - 10	N	ND (2.1) *	7.7	48	ND (1) *	ND (1)	ND (0.413)	18	7.9	12	2.7	ND (0.1) J*	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	27	48
AOC10-5	09/19/08	0 - 0.5	N	ND (2) *	9.6	500	ND (5.1) *	ND (1)	1.01	39	9.6	27	27	ND (0.1) *	ND (5.1) *	23	ND (1)	ND (5.1)	ND (10) *	52	97
	09/19/08	2 - 3	N	ND (2.1) *	8.2	380	ND (5.1) *	ND (1)	0.48	30	8.3	21	34	ND (0.1) *	ND (5.1) *	20	ND (1)	ND (5.1)	ND (10) *	43	77
	09/19/08	5 - 6	N	ND (4.1) *	12	1,100	ND (5.1) *	ND (2) *	ND (0.407)	19	8.8	40	6.7	ND (0.1) *	ND (5.1) *	16	ND (2) *	ND (5.1)	ND (10) *	36	80
	09/19/08	5 - 6	FD	ND (4.1) *	12	1,300	ND (5.1) *	ND (2) *	ND (0.407)	18	8.5	41	7.3	ND (0.1) *	ND (5.1) *	14	ND (2) *	ND (5.1)	ND (10) *	37	79
AOC10-6	09/20/08	0 - 0.5	N	ND (2) J*	7	220 J	ND (2) *	ND (1)	ND (0.402)	24	7.2	11	26	ND (0.1) *	ND (2) *	16	ND (1)	ND (2)	ND (4) *	32	58
	09/20/08	2 - 3	N	ND (2) *	4.2	220	ND (1) *	ND (1)	ND (0.404)	23	7	9.5	4.1	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2) *	34	45
AOC10-7	09/20/08	0 - 0.5	N	ND (2) *	7.6	250	ND (1) *	ND (1)	ND (0.414)	22	6.7	12	8.6	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	29	54
	09/20/08	2 - 3	N	ND (2) *	8	210	ND (1) *	ND (1)	ND (0.406)	27	7.9	12	8.1	ND (0.1) *	1.1	14	ND (1)	ND (1)	ND (2) *	33	58
	09/20/08	5 - 6	N	ND (2) *	9.6	270	ND (2) *	ND (1)	ND (0.407)	33	8.7	13	4.4	ND (0.1) *	ND (2) *	20	ND (1)	ND (2)	ND (4.1) *	38	58

TABLE 3-6a
Sample Results: Metals
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC10-8	08/22/08	0 - 0.5	N	ND (4) *	8.6	210	ND (2) *	ND (2) *	ND (0.402)	16	6.4	12	15 J	ND (0.1) *	ND (2) *	14	ND (2) *	ND (2)	ND (4) *	31	87
	08/22/08	0 - 0.5	FD	ND (4) *	8.2	180	ND (2) *	ND (2) *	ND (0.416)	18	7	12	12 J	ND (0.1) *	ND (2) *	14	ND (2) *	ND (2)	ND (4) *	33	75
AOC10-9	12/07/15	0 - 1	N	ND (2) *	9.1	82	ND (1) *	ND (1)	ND (0.2)	19	6.9	12	3.2	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	29	41
	12/07/15	2 - 3	N	ND (2.1) *	4.8	140	ND (1) *	ND (1)	ND (0.2)	16	6.6	10	2.3	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	26	49
AOC10a-1	10/17/08	0 - 0.5	N	ND (2.1) J*	8.8	140	ND (1.1) *	ND (1.1) *	8.25	80	5.7	270 J	200 J	0.64	19	28	ND (1.1)	ND (1.1)	ND (2.1) *	17	1,000 J
AOC10a-2	01/13/16	0 - 1	N	ND (2.1) *	3.8	65	ND (1.1) *	ND (1.1) *	ND (0.21)	13	4.2	11	9.4	0.12	ND (1.1)	7.7	ND (1.1)	ND (1.1)	ND (2.1) *	18	36
	01/13/16	2 - 3	N	ND (2.1) *	3.1	77	ND (1) *	ND (1)	ND (0.21)	3.6	2.3	2.9	2.1	ND (0.1) *	ND (1)	3.4	ND (1)	ND (1)	ND (2.1) *	9.6	10
	01/13/16	5 - 6	N	ND (2.1) *	2.9	65	ND (1) *	ND (1)	ND (0.21)	3.7	1.9	2.6	1.9	ND (0.1) *	ND (1)	2.7	ND (1)	ND (1)	ND (2.1) *	9.3	9.5
	01/13/16	9 - 10	N	ND (2.1) *	2.9	290	ND (1.1) *	ND (1.1) *	ND (0.21)	4.6	2.2	3.6	2.4	ND (0.11) *	ND (1.1)	3.9	ND (1.1)	ND (1.1)	ND (2.1) *	9.9	12
AOC10a-3	01/13/16	0 - 1	N	ND (2.1) *	3.7	150	ND (1) *	ND (1)	5.3	100	7.6	27	4.2	0.13	ND (1)	19	ND (1)	ND (1)	ND (2.1) *	27	35
	01/13/16	2 - 3	N	ND (2.1) *	4.7	140	ND (1) *	ND (1)	1.3	68	5.7	25	22	0.21	1.4	16	ND (1)	ND (1)	ND (2.1) *	22	70
	01/13/16	5 - 6	N	ND (2.1) *	3.6	82	ND (1) *	ND (1)	ND (0.21)	45	9	12	1.7	0.19	ND (1)	28	ND (1)	ND (1)	ND (2.1) *	40	34
	01/13/16	9 - 10	N	ND (2.1) *	3.2	150	ND (1) *	ND (1)	ND (0.21)	39	10	31	2.3	0.16	ND (1)	32	ND (1)	ND (1)	ND (2.1) *	42	38
AOC10a-4	01/08/17	0 - 0.5	N	ND (2.1) *	3.6	140	ND (1.1) *	ND (1.1) *	---	33	10	30	4	ND (0.11) *	ND (1.1)	25	ND (1.1) J	ND (1.1)	ND (2.1) J*	34	41
	01/08/17	2 - 3	N	ND (2) *	3.8	130	ND (1) *	ND (1)	---	11	4.1	6.3	2.6	ND (0.1) *	ND (1)	7.7	ND (1) J	ND (1)	ND (2) J*	19	20
	01/08/17	5 - 6	N	ND (2) *	3.5	130	ND (1) *	ND (1)	---	11	3.9	6.9	2.5	ND (0.1) *	ND (1)	7.9	ND (1) J	ND (1)	ND (2) J*	17	19
	01/08/17	9 - 10	N	ND (2.1) *	2.2	310	ND (1) *	1.1	---	47	12	14	2.1	ND (0.1) *	ND (1)	35	ND (1) J	ND (1)	ND (2.1) J*	43	41
AOC10b-1	09/30/08	0 - 0.5	N	ND (2) *	3.6	130	ND (1) *	ND (1)	0.559	24	4.8	9.8	8.6	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	25	38
	09/30/08	2 - 3	N	ND (2) *	3.1	120	ND (1) *	ND (1)	1.39	63	4.8	28	8.4 J	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	20	110 J
	09/30/08	2 - 3	FD	ND (2) *	2.9	100	ND (1) *	ND (1)	1.39	61	4.2	27	12 J	ND (0.1) *	1.5	10	ND (1)	ND (1)	ND (2) *	18	160 J
	09/30/08	5 - 6	N	ND (2) *	3.1	110	ND (1) *	ND (1)	0.425	20	3.9	8	4.3	ND (0.1) *	ND (1)	8.4	ND (1)	ND (1)	ND (2) *	16	39
	09/30/08	9 - 10	N	ND (2) *	4.7	120	ND (2) *	ND (1)	ND (0.407)	29	6.2	10	3.7	ND (0.1) *	ND (2) *	16	ND (1)	ND (2)	ND (4) *	24	29
AOC10b-2	09/30/08	0 - 0.5	N	ND (2) *	3	89	ND (1) *	ND (1)	0.434	29	3.8	11	8.2	ND (0.1) *	1.1	8.9	ND (1)	ND (1)	ND (2) *	17	40
	09/30/08	2 - 3	N	ND (2) *	2.9	100	ND (1) *	ND (1)	1.05	47	4.3	15	5.2	ND (0.1) *	1.1	10	ND (1)	ND (1)	ND (2) *	17	44
	09/30/08	5 - 6	N	ND (2) *	4.1	100	ND (1) *	ND (1)	0.453	29	5.3	8.8	4.2	ND (0.1) *	1	14	ND (1)	ND (1)	ND (2) *	22	27
	09/30/08	9 - 10	N	ND (2) *	5.7	120	ND (2) *	ND (1)	0.759	39	8.2	15	3.8	ND (0.1) *	ND (2) *	22	ND (1)	ND (2)	ND (4) *	29	38
AOC10b-3	09/30/08	0 - 0.5	N	ND (2) *	ND (1)	120	ND (1) *	ND (1)	27.7	820	3.6	90	24	ND (0.1) *	1.5	9.2	ND (1)	ND (1)	ND (2) *	17	240
	10/01/08	2 - 3	N	ND (2) *	2.9	93	ND (1) *	ND (1)	1.82	90	5.8	23	5	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	22	59
	10/01/08	5 - 6	N	ND (2.1) *	5	110	ND (2.1) *	ND (1)	0.429	38	9.2	14	3.8	ND (0.1) *	ND (2.1) *	24	ND (1)	ND (2.1)	ND (4.1) *	33	40
	10/01/08	5 - 6	FD	ND (2.1) *	5	110	ND (2.1) *	ND (1)	ND (0.417)	36	10	16	3.6	ND (0.1) *	ND (2.1) *	25	ND (1)	ND (2.1)	ND (4.1) *	35	39
	10/01/08	9 - 10	N	ND (2.1) *	6.2	120	ND (2.1) *	ND (1)	ND (0.415)	36	11	13	3.5	ND (0.1) *	ND (2.1) *	26	ND (1)	ND (2.1)	ND (4.1) *	38	44
AOC10b-4	09/30/08	0 - 0.5	N	ND (2) *	3.4	76	ND (1) *	ND (1)	ND (0.401)	12	4	5.8	41	ND (0.1) *	ND (1)	9.1	ND (1)	ND (1)	ND (2) *	17	29
	09/30/08	2 - 3	N	ND (2) *	3.6	100	ND (1) *	ND (1)	ND (0.403)	14	4.7	6.7	10	ND (0.1) *	ND (1)	9.6	ND (1)	ND (1)	ND (2) *	21	31
	09/30/08	5 - 6	N	ND (2) *	3.8	150	ND (1) *	ND (1)	ND (0.407)	20	6.7	8.9	3.4	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	30	35
	09/30/08	9 - 10	N	ND (2.1) *	4	85	ND (1) *	ND (1)	ND (0.415)	26	7.4	11	2.8	ND (0.1) *	ND (1)	18	ND (1)	ND (1)	ND (2.1) *	30	42
AOC10c-1	10/01/08	0 - 0.5	N	ND (2) J*	4.2	110	ND (1) *	ND (1)	1.98	55	5.4	15	7.8	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	23	48
	10/01/08	2 - 3	N	ND (2) *	1.2	140	ND (1) *	ND (1)	27.3	490	5.6	41	18	ND (0.1) *	1.2	13	ND (1)	ND (1)	ND (2) *	21	76
	10/01/08	5 - 6	N	ND (2) *	3.4	110	ND (2) *	ND (1)	4.78	220	8.2	17	5.4	ND (0.1) *	ND (2) *	20	ND (1)	ND (2)	ND (4.1) *	28	42
	10/01/08	9 - 10	N	ND (2) *	4	180	ND (1) *	ND (1)	1.37	63	9.2	14	3.4	ND (0.1) *	1	23	ND (1)	ND (1)	ND (2) *	33	39

TABLE 3-6a
Sample Results: Metals
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC10c-2	10/01/08	0 - 0.5	N	ND (2) *	5.9	130	ND (2) *	ND (1)	1.25	51	5.8	19	12	ND (0.1) *	ND (2) *	13	ND (1)	ND (2)	ND (4) *	24	61
	10/01/08	2 - 3	N	ND (2) *	4.1	150	ND (1) *	ND (1)	3.77	190	5.6	37	17	ND (0.1) *	2.2	13	ND (1)	ND (1)	ND (2) *	24	78
	10/01/08	2 - 3	FD	ND (2) *	4.1	150	ND (1) *	ND (1)	3.8	180	5.4	34	16	ND (0.1) *	1.9	13	ND (1)	ND (1)	ND (2) *	24	75
	10/01/08	5 - 6	N	ND (2) *	3.4	150	ND (1) *	ND (1)	1.92	110	8.4	24	7	ND (0.1) *	1.9	19	ND (1)	ND (1)	ND (2) *	31	51
	10/01/08	9 - 10	N	ND (2) *	4.5	86	ND (1) *	ND (1)	0.605	32	11	13	2.7	ND (0.1) *	ND (1)	22	ND (1)	ND (1)	ND (2) *	44	50
AOC10c-3	10/02/08	0 - 0.5	N	ND (2) *	9.4	270	ND (2) *	ND (1)	2.56	110	8	42	32	ND (0.1) *	ND (2) *	19	ND (1)	ND (2)	ND (4.1) *	36	140
	10/02/08	2 - 3	N	ND (2.1) *	3.6	230	ND (2.1) *	ND (1)	9.27	690	7	60	31	ND (0.11) *	ND (2.1) *	16	ND (1)	ND (2.1)	ND (4.1) *	29	140
	10/02/08	2 - 3	FD	ND (2.1) *	3.5	220	ND (2.1) *	ND (1)	7.97	660	6.9	60	26	ND (0.1) *	ND (2.1) *	16	ND (1)	ND (2.1)	ND (4.1) *	28	140
	10/02/08	5 - 6	N	ND (2) *	3.9	140	ND (1) *	ND (1)	0.512	29	7.8	9	4.5	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2) *	28	36
	10/02/08	9 - 10	N	ND (2.1) *	4.4	64	ND (1) *	ND (1)	ND (0.412)	22	7.8	11	2.7	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	31	41
AOC10c-4	10/01/08	0 - 0.5	N	ND (2.1) *	11	310	ND (2.1) *	ND (1)	2.66	120	8.8	46	36	ND (0.1) *	ND (2.1) *	21	ND (1)	ND (2.1)	ND (4.1) *	42	150
	10/01/08	2 - 3	N	ND (2) *	5.9	170	ND (2) *	ND (1)	2.11	90	9.9	19	8.9	ND (0.1) *	ND (2) *	20	ND (1)	ND (2)	ND (4.1) *	31	52
	10/01/08	5 - 6	N	ND (2) *	4.6	120	ND (1) *	ND (1)	2.84	27	9.1	14	2.6	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2) *	35	47
	10/01/08	9 - 10	N	ND (2.1) *	7.3	200	ND (2.1) *	ND (1)	0.436	92	5.4	25	13	ND (0.1) *	ND (2.1) *	13	ND (1)	ND (2.1)	ND (4.1) *	25	74
AOC10c-5	10/01/08	0 - 0.5	N	ND (2) *	6.6	170	ND (2) *	ND (1)	2.49	81	6.3	29	15	ND (0.1) *	ND (2) *	15	ND (1)	ND (2)	ND (4) *	27	80
	10/01/08	2 - 3	N	ND (2.1) *	ND (1)	230	ND (2.1) *	ND (1)	16.4	1,500	6.7	110	47	ND (0.1) *	2.9	16	ND (1)	ND (2.1)	ND (4.1) *	27	170
	10/01/08	5 - 6	N	ND (2.1) *	3.7	100	ND (2.1) *	ND (1)	1.48	82	8.6	12	4	ND (0.1) *	ND (2.1) *	19	ND (1)	ND (2.1)	ND (4.1) *	31	44
	10/01/08	9 - 10	N	ND (2) *	4.5	130	ND (1) *	ND (1)	0.423	47	9.1	15	3	ND (0.1) *	ND (1)	21	ND (1)	ND (1)	ND (2) *	34	46
AOC10c-6	01/21/16	14 - 15	N	---	---	---	---	---	0.54	40	---	---	---	---	---	---	---	---	---	---	---
	01/22/16	19 - 20	N	---	---	---	---	---	ND (0.21)	31	---	---	---	---	---	---	---	---	---	---	---
	01/22/16	29 - 30	N	---	---	---	---	---	ND (0.23)	39	---	---	---	---	---	---	---	---	---	---	---
	01/22/16	40 - 50	FD	---	---	---	---	---	ND (0.22)	32	---	---	---	---	---	---	---	---	---	---	---
	01/22/16	49 - 50	N	---	---	---	---	---	ND (0.26)	33	---	---	---	---	---	---	---	---	---	---	---
	01/22/16	59 - 60	N	---	---	---	---	---	ND (0.21)	32	---	---	---	---	---	---	---	---	---	---	---
AOC10d-1	09/18/08	0 - 0.5	N	ND (2) J*	3.4	120	ND (2) *	ND (1)	0.644	49	6.8	16	8.8	ND (0.1) *	ND (2) *	16	ND (1)	ND (2)	ND (4) *	31	58
	09/18/08	2 - 3	N	ND (2) *	3.9	120	ND (2) *	ND (1)	2.86	150	7.1	31	6.8	ND (0.1) *	ND (2) *	17	ND (1)	ND (2)	ND (4.1) *	35	76
	09/18/08	5 - 6	N	ND (2.1) *	6.9	200	ND (5.2) *	ND (1)	1.06	66	11	23	5.2	ND (0.11) *	ND (5.2) *	27	ND (1)	ND (5.2) *	ND (10) *	45	80
	09/18/08	5 - 6	FD	ND (2.1) *	7.1	210	ND (5.2) *	ND (1)	0.703	64	11	23	5.3	ND (0.1) *	ND (5.2) *	26	ND (1)	ND (5.2) *	ND (10) *	46	74
	09/18/08	9 - 10	N	ND (4.1) *	9.8	140	ND (2.1) *	ND (2.1) *	ND (0.414)	23	9.4	12	3.5	ND (0.1) J*	ND (2.1) *	17	ND (2.1) *	ND (2.1)	ND (4.1) *	31	58
AOC10d-2	09/17/08	0 - 0.5	N	ND (2) *	4.2	180	ND (2) *	ND (1)	ND (0.403)	22	6.2	17	21	ND (0.1) *	ND (2) *	16	ND (1)	ND (2)	ND (4) *	32	61
	09/17/08	2 - 3	N	ND (2) *	3.3	180	ND (2) *	ND (1)	1.16	40	5.4	14	16	ND (0.1) *	ND (2) *	14	ND (1)	ND (2)	ND (4.1) *	30	54
	09/17/08	5 - 6	N	ND (2) *	6.6	210	ND (5.1) *	ND (1)	0.597	33	10	16	6.2	ND (0.1) *	ND (5.1) *	21	ND (1)	ND (5.1)	ND (10) *	45	70
	09/17/08	9 - 10	N	ND (2) *	7.2	150	ND (5.1) *	ND (1)	ND (0.406)	22	8.5	16	3.2	ND (0.1) J*	ND (5.1) *	16	ND (1)	ND (5.1)	ND (10) *	38	73
AOC10d-3	09/17/08	0 - 0.5	N	ND (2) *	3.6	120	ND (2) *	ND (1)	ND (0.406)	20	5.9	12	22	ND (0.1) *	ND (2) *	15	ND (1)	ND (2)	ND (4) *	29	52
	09/18/08	2 - 3	N	ND (2) *	3.4	270	ND (2) *	ND (1)	1.91	64	6.3	18	21	ND (0.1) *	ND (2) *	15	ND (1)	ND (2)	ND (4.1) *	33	61
	09/18/08	5 - 6	N	ND (2) *	7.3	280	ND (5.1) *	ND (1)	ND (0.407)	30	10	18	3.3	ND (0.1) *	ND (5.1) *	23	ND (1)	ND (5.1)	ND (10) *	43	60
	09/18/08	5 - 6	FD	ND (2) *	6	330	ND (5.1) *	ND (1)	ND (0.407)	31	10	18	5.1	ND (0.1) *	ND (5.1) *	23	ND (1)	ND (5.1)	ND (10) *	42	59
	09/18/08	9 - 10	N	ND (4.1) *	8.2	150	ND (2) *	ND (2) *	ND (0.408)	21	8.5	11	3.6	ND (0.1) J*	ND (2) *	15	ND (2) *	ND (2)	ND (4.1) *	28	56

TABLE 3-6a
Sample Results: Metals
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC10d-4	09/18/08	0 - 0.5	N	ND (2.1) *	9.2	340	ND (5.2) *	ND (1)	0.92	29	8.3	25	25	ND (0.1) *	ND (5.2) *	21	ND (1)	ND (5.2) *	ND (10) *	42	85
	09/18/08	2 - 3	N	ND (2.1) *	5.4	260	ND (2.1) *	ND (1.1) *	3.93	130	6.7	27	26	ND (0.11) *	ND (2.1) *	17	ND (1.1)	ND (2.1)	ND (4.2) *	35	81
	09/18/08	5 - 6	N	ND (2) *	3.6	220	ND (2) *	ND (1)	ND (0.415)	66	6.5	21	17	ND (0.1) *	ND (2) *	15	ND (1)	ND (2)	ND (4.1) *	31	64
	09/18/08	9 - 10	N	ND (2) *	6.9	220	ND (5.1) *	ND (1)	ND (0.41)	32	11	16	5.2	ND (0.1) J*	ND (5.1) *	24	ND (1)	ND (5.1)	ND (10) *	43	68
AOC10d-9	12/15/15	0 - 1	N	ND (2) *	2.8	120	ND (1) *	ND (1)	ND (0.2)	20	7.3	8.9	20	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2) *	28	44
	12/15/15	2 - 3	N	ND (2.1) *	5.3	130	ND (1) *	ND (1)	ND (0.21)	20	8.4	13	2.4	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	31	48
	12/15/15	5 - 6	N	ND (2.1) *	5.2	190	ND (1.1) *	ND (1.1) *	ND (0.21)	27	8.8	17	2.3	ND (0.1) *	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.1) *	31	49
	12/15/15	9 - 10	N	ND (2.1) *	4.9	150	ND (1) *	ND (1)	ND (0.21)	24	9.1	17	2.6	ND (0.1) *	ND (1)	20	ND (1)	ND (1)	ND (2.1) *	35	54
AOC10-OS1	04/06/11	11 - 11.5	N	---	---	---	---	---	ND (0.4) J	43	---	---	---	---	5.9	---	---	---	---	---	---
AOC10-OS2	04/06/11	5.5 - 6	N	---	---	---	---	---	0.78 J	44	---	---	---	---	5.8	---	---	---	---	---	---
AOC10-OS4	04/06/11	6.5 - 7	N	---	---	---	---	---	ND (0.41) J	170	---	---	---	---	13	---	---	---	---	---	---
AOC10-XRF-01	08/25/08	0 - 0.5	N	---	---	---	---	---	ND (0.404)	9.2	---	---	---	---	---	---	---	---	---	---	---
AOC10-XRF-02	08/25/08	0 - 0.5	N	---	---	---	---	---	ND (0.404)	11	---	---	---	---	---	---	---	---	---	---	---
AOC10-XRF-03	08/25/08	0 - 0.5	N	---	---	---	---	---	ND (0.405)	10	---	---	---	---	---	---	---	---	---	---	---
AOC10-XRF-10	09/21/08	3 - 4	N	---	---	---	---	---	ND (0.416)	26	---	---	---	---	---	---	---	---	---	---	---
DTSC-AOC10d-1	01/18/08 ^Θ	0	N	ND (4.42) *	8.28	163	ND (4.41) *	ND (8.83) *	31.5	652	ND (4.41)	137	14.3	ND (0.0193) *	ND (2.5) *	ND (4.41)	ND (4.42) *	ND (4.42)	ND (8.83) *	39.5	134
DTSC-AOC10d-2	01/18/08 ^Θ	0	N	ND (4.89) *	7.36	595	ND (4.89) *	ND (9.78) *	6.03	243	ND (4.89)	66.5	13.1	ND (0.0192) *	ND (4.89) *	ND (4.89)	ND (4.89) *	ND (4.89)	ND (9.78) *	36.2	147
DTSC-AOC10d-3	01/18/08 ^Θ	0	N	ND (4.65) *	5.87	264	ND (4.65) *	ND (9.3) *	4.38	224	ND (4.65)	46.5	12	ND (0.0198) *	ND (4.65) *	ND (4.65)	ND (4.65) *	ND (4.65)	ND (9.3) *	34.5	197
MW-57BR	01/14/09	3 - 4	N	ND (2) *	9.2	270	ND (2) *	ND (1)	ND (0.16)	26	7.8	11	6.7	ND (0.1) *	ND (2) *	17	ND (1)	ND (2)	ND (4.1) *	34	52
	01/14/09	8 - 9	N	ND (2.1) *	8	85	ND (1) *	ND (1)	ND (0.17)	20	7.9	11	2.7	ND (0.1) *	1.3	16	ND (1)	ND (1)	ND (2.1) *	28	46
	01/14/09	8 - 9	FD	ND (2.1) *	8.4	85	ND (1) *	ND (1)	ND (0.16)	22	8	11	2.9	ND (0.1) *	1.3	16	ND (1)	ND (1)	ND (2.1) *	27	48
	01/14/09	18 - 19	N	ND (4.1) *	9.9	240	ND (2.1) *	ND (2.1) *	ND (0.16)	25	10	12	4.3	ND (0.1) *	3	16	ND (2.1) *	ND (2.1)	ND (4.1) *	31	68
MW-58BR_S	01/29/09	1.5 - 2	N	ND (2.1) J*	ND (2.1)	410	ND (2.1) *	ND (1.1) *	150	4,000	8.2	300	160	0.33	3.5	24	ND (1.1)	ND (2.1)	6.1	23	300
	01/29/09	19 - 20	N	ND (2.1) *	12	240	ND (2.1) *	ND (1.1) *	0.43	33	12	24	4	ND (0.11) *	ND (2.1) *	25	ND (1.1)	ND (2.1)	4.7	38	63
	01/29/09	29 - 30	N	ND (2.1) *	13	110	ND (2.1) *	ND (1.1) *	ND (0.17)	26	11	14	3.6	ND (0.11) *	ND (2.1) *	19	ND (1.1)	ND (2.1)	4.8	33	64
	01/29/09	39 - 40	N	ND (2.1) *	12	150	ND (2.1) *	ND (1.1) *	0.43	35	12	17	4.2	ND (0.11) *	ND (2.1) *	22	ND (1.1)	ND (2.1)	4.7	34	51
	01/29/09	49 - 50	N	ND (2.1) *	8.3	180	ND (1.1) *	ND (1.1) *	ND (0.17)	24	8.7	17	3.7	ND (0.11) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1) *	28	46
	01/29/09	59 - 60	N	ND (2.2) *	8.4	37	ND (1.1) *	ND (1.1) *	ND (0.18)	27	13	58	3.4	ND (0.11) *	ND (1.1)	22	ND (1.1)	ND (1.1)	ND (2.2) *	28	41
PA-06	11/09/15	0 - 1	N	ND (2) *	2.4	69	ND (1) *	ND (1)	0.89	30	8.1	15	5.2	ND (0.1) *	ND (1)	20	ND (1)	ND (1)	ND (2) *	23	74
PA-18	01/27/16	0 - 1	N	ND (2.1) *	5.2	130	ND (1) *	ND (1)	0.28	65	7.3	64	47	ND (0.1) *	1.4	22	ND (1)	ND (1)	ND (2.1) *	33	190
PA-19	01/27/16	0 - 1	N	ND (2.3) *	5.8	150	ND (1.1) *	ND (1.1) *	ND (0.46)	34	5.8	160	30	ND (0.12) *	9.8	15	ND (1.1)	ND (1.1)	ND (2.3) *	28	550
PA-20	01/27/16	0 - 1	N	ND (2.1) *	5.2	96	ND (1) *	ND (1)	0.82 J	33	5.5	11	23	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	27	84
PA-21	01/27/16	0 - 1	N	ND (2) *	5.5	96	ND (1) *	ND (1)	ND (0.2)	49	5.8	26	32	ND (0.1) *	1.2	12	ND (1)	ND (1)	ND (2) *	28	150
SD-01	01/13/16	0 - 0.5	N	ND (2.1) *	3	78 J	ND (1.1) *	ND (1.1) *	0.24	14	3.9	29	7.6	ND (0.1) *	ND (1.1)	7.8	ND (1.1) J	ND (1.1)	ND (2.1) *	16	190
	01/13/16	2 - 3	N	ND (2.2) *	5.2	210	ND (1.1) *	ND (1.1) *	ND (0.22)	36	11	14	3.2	ND (0.11) *	ND (1.1)	30	ND (1.1)	ND (1.1)	ND (2.2) *	43	41
	01/13/16	5 - 6	N	ND (2.2) *	4.1	100	ND (1.1) *	ND (1.1) *	ND (0.22)	49	11	15	2.5	ND (0.11) *	ND (1.1)	37	ND (1.1)	ND (1.1)	ND (2.2) *	44	43
	01/13/16	9 - 10	N	ND (2.1) *	2.9	100	ND (1.1) *	ND (1.1) *	ND (0.21)	40	11	12	1.9	ND (0.11) *	ND (1.1)	34	ND (1.1)	ND (1.1)	ND (2.1) *	46	40
SD-02	11/10/15	0 - 1	N	ND (2) *	3.2	100	ND (1) *	ND (1)	0.66	26	5.8	16	29	0.17 J	ND (1)	12	ND (1)	ND (1)	ND (2) *	28	48
	11/10/15	2 - 3	N	ND (2) *	5	590	ND (1) *	ND (1)	11	280	5.8	590	170	3.2	9.1	17	ND (1)	ND (1)	ND (2) *	26	300

TABLE 3-6a
Sample Results: Metals
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SD-03	11/10/15	0 - 1	N	ND (2) *	4	91	ND (1) *	ND (1)	0.28	12	3.7	7.3	9.7	ND (0.099) *	ND (1)	8.6	ND (1)	ND (1)	ND (2) *	17	31
	11/10/15	2 - 3	N	ND (2) *	2.6	52	ND (1) *	ND (1)	ND (0.2)	6.4	2.3	3.4	2.5	ND (0.1) *	ND (1)	4.7	ND (1)	ND (1)	ND (2) *	11	13
SD-04	11/10/15	0 - 1	N	ND (2) J*	3	90 J	ND (1) *	ND (1)	ND (0.2)	10	4	5.1	2.7	ND (0.1) *	ND (1)	8.3	ND (1)	ND (1)	ND (2) *	21	22
	11/10/15	2 - 3	N	ND (2) *	2.9	83	ND (1) *	ND (1)	ND (0.2)	8	3.2	4.4	2.5	ND (0.1) *	ND (1)	5.9	ND (1)	ND (1)	ND (2) *	16	19
SD-05	11/10/15	0 - 1	N	ND (2) *	3.2	100 J	ND (1) *	ND (1)	ND (0.2)	13 J	3.3	9.2	13 J	ND (0.1) *	2.5	6.3 J	ND (1)	ND (1)	ND (2) *	17	46
	11/10/15	0 - 1	FD	ND (2) *	4.5	130 J	ND (1) *	ND (1)	ND (0.2)	19 J	3.9	10	37 J	ND (0.1) *	1.1	9.5 J	ND (1)	ND (1)	ND (2) *	19	42
	11/10/15	2 - 3	N	ND (2.1) *	3.8	110	ND (1) *	ND (1)	ND (0.21)	30	7.3	12	10	ND (0.1) *	ND (1)	24	ND (1)	ND (1)	ND (2.1) *	33	41
SD-06	11/10/15	0 - 1	N	ND (2) *	3.3	82	ND (1) *	ND (1)	ND (0.2)	17	6.4	9.4	3.9	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	30	39
	11/10/15	2 - 3	N	ND (2.1) *	3.6	97	ND (1) *	ND (1)	ND (0.2)	21	7.8	10	4.2	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	37	40
	11/10/15	5 - 6	N	ND (2.1) *	3.1	77	ND (1) *	ND (1)	ND (0.21)	20	7.6	9.5	2.8	ND (0.1) *	ND (1)	19	ND (1)	ND (1)	ND (2.1) *	34	40
SD-21	03/10/16	0 - 1	N	ND (2) *	3.2	71	ND (1) *	ND (1)	ND (0.2)	21	7	8.7	2.4	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	32	44
	03/10/16	2 - 3	N	ND (2.1) *	5.4	79	ND (1) *	ND (1)	0.81	31	6.4	10	4.5	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	34	60
SD-22	03/09/16	0 - 1	N	ND (2.1) *	3.3	100	ND (1) *	ND (1)	ND (0.21)	22	6.4	13	10	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	30	61
	03/09/16	2 - 3	N	ND (2.1) *	3.2	110	ND (1) *	ND (1)	ND (0.21)	27	7.4	10	4.7	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	ND (2.1) *	32	49
Bank 1	03/07/03	0	N	---	---	---	---	---	ND (4) *	21.5	---	13.7	---	---	---	14.3	---	---	---	---	55
L-1	02/20/03	0	N	---	---	---	---	---	ND (4.1) *	88.4	---	34.8	---	---	---	17	---	---	---	---	99.7
	02/20/03	2	N	---	---	---	---	---	2.5	217	---	69.6	---	---	---	10.8	---	---	---	---	123
L-2	02/20/03	0	N	---	---	---	---	---	ND (4.7) *	86.8	---	42.7	---	---	---	22.8	---	---	---	---	122
	02/20/03	2	N	---	---	---	---	---	13	3,360	---	211	---	---	---	18	---	---	---	---	278
L-2-2	03/05/03	- 2	N	---	---	---	---	---	41	1,610	---	139	---	---	---	19	---	---	---	---	203
L-2-3	03/05/03	- 2	N	---	---	---	---	---	99	2,740	---	288	---	---	---	25	---	---	---	---	299
L-3	02/20/03	0	N	---	---	---	---	---	ND (4.5) *	28.4	---	22.7	---	---	---	18.1	---	---	---	---	74.3
	02/20/03	1	N	---	---	---	---	---	1.2 J	379	---	79.7	---	---	---	10.1	---	---	---	---	252
	02/20/03	1.5	N	---	---	---	---	---	ND (4) *	77.7	---	17.2	---	---	---	11.9	---	---	---	---	61.9
L-3-2	03/05/03	0 - 0.5	N	---	---	---	---	---	9.4	228	---	40.5	---	---	---	15.1	---	---	---	---	129
PS-21	04/13/99	0	N	---	---	---	---	---	0.9	16.5	---	14.2	---	---	---	10.5	---	---	---	---	43.9
	04/13/99	2	N	---	---	---	---	---	ND (0.51)	90	---	12.6	---	---	---	10.8	---	---	---	---	59.1
PS-22	04/13/99	0	N	---	---	---	---	---	ND (0.5)	24.7	---	11.4	---	---	---	10.5	---	---	---	---	85.3

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Ø	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

- 1 Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-6b

Sample Results: Contract Laboratory Program Inorganics

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Interim Screening Level ¹ :				16,400	66,500	29,303	12,100	402	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	1,800	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	1,800	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	220	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC10-25	01/08/17	0 - 0.5	N	7,600	17,000	17,000 J	5,400	260	2,300	250	---
	01/08/17	0 - 0.5	FD	8,900	20,000	21,000 J	6,400	300	1,900	290	---
AOC10-3	09/19/08	0 - 0.5	N	7,100	31,000	13,000 J	7,700 J	260	1,800	480	ND (1) *
	09/19/08	0 - 0.5	FD	7,200	29,000	13,000	7,500	250	1,700	450	ND (0.998) *
AOC10-5	09/19/08	0 - 0.5	N	18,000	44,000	28,000	12,000	1,300	4,100	360	ND (1) *
AOC10-8	08/22/08	0 - 0.5	N	7,900	23,000	17,000	6,100	470	1,600	170	ND (4.86) *
	08/22/08	0 - 0.5	FD	8,100	20,000	18,000	6,300	390	1,500	160	ND (5.06) *
AOC10a-1	10/17/08	0 - 0.5	N	4,100 J	18,000	32,000 J	3,900	270	1,100	540	ND (1.07) *
AOC10b-1	09/30/08	0 - 0.5	N	4,900	20,000	13,000	4,700	180	990	200	ND (1) *
AOC10c-1	10/01/08	0 - 0.5	N	7,500	24,000	15,000	6,500	210	1,500	250	ND (1) *
AOC10c-2	10/01/08	0 - 0.5	N	8,200	25,000	15,000	6,600	230	1,900	330	ND (1.01) *
AOC10d-2	09/17/08	0 - 0.5	N	11,000	28,000	18,000	8,200	370	2,300	210	ND (1) *
AOC10d-3	09/17/08	0 - 0.5	N	8,900	20,000	17,000	6,700	270	1,700	190	ND (1) *
DTSC-AOC10d-1	01/18/08 ^Θ	0	N	---	265,000	8,680	14,300	---	1,730	2,790	---
DTSC-AOC10d-2	01/18/08 ^Θ	0	N	---	234,000	14,000	13,200	---	2,120	1,780	---
DTSC-AOC10d-3	01/18/08 ^Θ	0	N	---	22,500	14,200	12,800	---	2,640	1,820	---
SD-03	11/10/15	0 - 1	N	5,800	24,000	10,000	5,100	250	1,300	400	ND (0.202) ↓
	11/10/15	2 - 3	N	2,600	17,000	5,800	3,300	130	600	200	ND (0.203) ↓
SD-05	11/10/15	0 - 1	N	4,700 J	18,000	9,000 J	5,200	150	1,700	1,800	0.205 J
	11/10/15	0 - 1	FD	6,000 J	18,000	12,000 J	5,700	160	1,800	620	0.223 J
L-3	02/20/03	1	N	---	139,000	540 J	12,800	---	---	1,280 J	---

TABLE 3-6b

Sample Results: Contract Laboratory Program Inorganics

AOC 10 – East Ravine

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California***Notes:**

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

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Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Θ	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-6c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																					
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110	
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent	
Category 1																									
AOC10-1	10/02/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.6	ND	13.6	5.8
	10/02/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.7)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/02/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/02/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC10-10	01/22/16	0 - 1	N	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	6.5 J	5.8 J	5.2 R	5.2 R	5.2 R	5.2 J	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	5.2 J	ND	22.7	6.4 JR
	01/22/16	2 - 3	N	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	ND	ND	6.4 R
	01/22/16	5 - 6	N	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	ND	ND	6.1 R
AOC10-11	01/22/16	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	01/22/16	0 - 1	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	01/22/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	01/22/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	01/22/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (57)	
AOC10-12	01/22/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (58)	
	01/22/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	01/22/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (57)	
	01/22/16	9 - 10	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)	
AOC10-13	12/03/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	8.9	17	6.4	7.8	12	ND (5.3)	21	ND (5.3)	6.4	ND (5.3)	6	20	6	99.5	14	
	12/03/15	0 - 1	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	5.4	8.9	16	6.1	7.5	12	ND (5.4)	22	ND (5.4)	5.7	ND (5.4)	6.1	20	6.1	103.6	14	
AOC10-14	12/03/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
AOC10-15	12/15/15	0 - 1	N	81 J	120 J	ND (5)	ND (5)	ND (5)	53	64	120	ND (50)	ND (50)	77 J	ND (50)	180 J	ND (5)	ND (50)	ND (5)	78 J	150 J	279	644	110	
	12/15/15	0 - 1	FD	44 J	91	ND (5.1)	ND (5.1)	6.4	67	69	170	18	50	85	ND (5.1)	210	ND (5.1)	20	18	81	180	240.4	869	98	
	12/15/15	2 - 3	N	5.8	6.8	ND (5.1)	ND (5.1)	5.4	49	ND (51)	85	ND (51)	ND (51)	75	ND (51)	180	ND (5.1)	ND (51)	ND (5.1)	66	170	84	559	67	
	12/15/15	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	23	ND (51)	ND (51)	ND (51)	ND (51)	33	ND (51)	86	ND (5.1)	ND (51)	ND (5.1)	46	73	46	215	59	
	12/15/15	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
AOC10-16	12/15/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	12/15/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	12/15/15	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	12/15/15	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC10-17	12/03/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC10-18	12/06/15	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	12/06/15	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
AOC10-19	02/24/16	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	02/24/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	02/24/16	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	02/24/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	

TABLE 3-6c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC10-7	09/20/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.4 J	10 J	9.7 J	8.6 J	11 J	13 J	ND (5)	18 J	ND (5)	7.9 J	ND (5)	5.7 J	17 J	5.7	100.6	15
	09/20/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.4	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.2	ND	10.6	5.9
	09/20/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC10-8	08/22/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	08/22/08	0 - 0.5	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC10-9	12/07/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	12/07/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC10a-1	10/17/08	0 - 0.5	N	ND (80)	ND (80)	ND (80)	ND (80)	86	560	920	1,600	1,400	580	930	340	1,000	ND (80)	1,100	ND (80)	200	1,100	286	9,530	1,600
AOC10a-2	01/13/16	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.4	12	6.7	7	7.7	ND (5.3)	11	ND (5.3)	6	ND (5.3)	ND (5.3)	11	ND	68.8	12
	01/13/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/13/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/13/16	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC10a-3	01/13/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/13/16	2 - 3	N	7.3	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	33	ND (52)	50	ND (5.2)	ND (52)	ND (5.2)	14	47	21.3	130	58
	01/13/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/13/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC10a-4	01/08/17	0 - 0.5	N	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	9.4 J	12 J	21 J	8.3 J	7.2 J	12 J	5.4 R	20 J	5.4 R	7.9 J	5.4 R	5.4 R	19 J	ND	116.8 JR	19 JR
	01/08/17	2 - 3	N	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	ND	ND	5.9 R
AOC10b-1	09/30/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7.4	10	9.5	10	8.9	ND (5)	7.4	ND (5)	7.4	ND (5)	ND (5)	7.3	ND	67.9	12
	09/30/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/30/08	2 - 3	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/30/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC10b-2	09/30/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7.4	14	22	15	17	18	ND (5)	19	ND (5)	13	ND (5)	ND (5)	19	ND	144.4	21
	09/30/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/30/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC10b-3	09/30/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	10	10	34	18	18	19	6	8.7	ND (5)	16	ND (5)	ND (5)	8.9	ND	148.6	22
	10/01/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/01/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/01/08	5 - 6	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/01/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC10b-4	09/30/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8.1	11	13	8.6	16	16	ND (5)	20	ND (5)	7.7	ND (5)	5.6	19	5.6	119.4	17
	09/30/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/30/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)

TABLE 3-6c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC10c-1	10/01/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7	11	11	11	13	13	ND (5)	18	ND (5)	8.7	ND (5)	ND (5)	18	ND	110.7	16
	10/01/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	15	21	23	18	27	27	6.3	33	ND (5)	17	ND (5)	9.3	32	9.3	219.3	33
	10/01/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/01/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC10c-2	10/01/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	16	24	25	20	32	30	7.1	37	ND (5)	19	ND (5)	9.6	36	9.6	246.1	37
	10/01/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	51	72	73	46	89	92	18	130	ND (5)	46	ND (5)	36	120	36	737	110
	10/01/08	2 - 3	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	54	70	66	43	87	90	17	120	ND (5)	43	ND (5)	36	120	36	710	100
	10/01/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	18	25	24	17	30	30	7.5	38	ND (5)	16	ND (5)	10	37	10	242.5	39
	10/01/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC10c-3	10/02/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	37	63	76	60	80	89	17	110	ND (5.1)	55	ND (5.1)	30	99	30	686	98
	10/02/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.4	230 J	180 J	200 J	84 J	170 J	260 J	33 J	400 J	ND (5.2)	92 J	ND (5.2)	72 J	350 J	80.4	1,999	270
	10/02/08	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	14 J	24 J	36 J	22 J	25 J	30 J	6.2 J	39 J	ND (5.2)	20 J	ND (5.2)	11 J	38 J	11	254.2	37
	10/02/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (3.5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/02/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC10c-4	10/01/08	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	24	49	79	43	60	71	14	87	ND (5.2)	38	ND (5.2)	23	82	23	547	78
	10/01/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.9	14	7.7	11	12	ND (5.1)	15	ND (5.1)	7	ND (5.1)	ND (5.1)	15	ND	90.6	14
	10/01/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/01/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	11	17	23	17	24	24	ND (5.2)	30	ND (5.2)	15	ND (5.2)	8.6	29	8.6	190	25
AOC10c-5	10/01/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	53	59	71	58	67	84	21	120	ND (5)	50	ND (5)	58	100	58	683	98
	10/01/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	52	69	96	62	68	94	22	100	ND (5.2)	59	ND (5.2)	29	100	29	722	110
	10/01/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	10/01/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC10c-6	01/21/16	14 - 15	N	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	ND	ND	5.9 R
AOC10d-1	09/18/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	9.9	16	25	18	6.2	12	ND (5)	14	ND (5)	14	ND (5)	ND (5)	14	ND	129.1	23
	09/18/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/18/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	09/18/08	5 - 6	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	09/18/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC10d-2	09/17/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	80	120	160	72	68	140	22	230	ND (5)	76	ND (5)	77	210	77	1,178	170
	09/17/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	17	26	14	11	23	ND (5.1)	35	ND (5.1)	14	ND (5.1)	11	32	11	183	25
	09/17/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.1	14	20	12	9.8	16	ND (5.1)	26	ND (5.1)	12	ND (5.1)	7.8	24	7.8	142.9	21
	09/17/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)

TABLE 3-6c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC10d-3	09/17/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	7.9	140	190	250	110	120	220	33	360	ND (5)	120	ND (5)	130	340	137.9	1,883	280
	09/18/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	38	52	73	43	22	58	11	99	ND (5.1)	41	ND (5.1)	34	90	34	527	78
	09/18/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.2	7	ND (5.1)	ND (5.1)	5.4	ND (5.1)	7.9	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.2	ND	33.7	9
	09/18/08	5 - 6	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/18/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC10d-4	09/18/08	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	13	23	41	21	11	32	ND (5.2)	47	ND (5.2)	20	ND (5.2)	15	42	15	250	33
	09/18/08	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	13	29	43	25	15	31	5.8	44	ND (5.3)	23	ND (5.3)	12	42	12	270.8	43
	09/18/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/18/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC10d-9	12/15/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	20	ND (51)	ND (51)	ND (51)	ND (51)	30	ND (51)	49	ND (5.1)	ND (51)	ND (5.1)	10	46	10	145	58
	12/15/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	12/15/15	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	12/15/15	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
MW-57BR	01/14/09	3 - 4	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.3)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/14/09	8 - 9	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.6)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/14/09	8 - 9	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.5)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/14/09	18 - 19	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
MW-58BR_S	01/29/09	19 - 20	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.6)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/29/09	29 - 30	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/29/09	39 - 40	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.2)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/29/09	49 - 50	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/29/09	59 - 60	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (4.8)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
PA-06	11/09/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.5	5.1	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	18.7	6.5
PA-18	01/27/16	0 - 1	N	6.2 J	13 J	8.3 J	6.2 J	27 J	1,000 J	1,100	1,900	590	800	1,000	ND (520) *	1,700	6.6 J	560	12 J	780 J	1,600	859.3	10,250	1,700
	01/26/17	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	39	58	120	25	37 J	58	ND (5.1)	80	ND (5.1)	25	ND (5.1)	26	80	26	522	79
	01/26/17	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	46	65	140	25	37 J	63	ND (5.1)	97	ND (5.1)	26	ND (5.1)	33	93	33	592	89
	01/26/17	5 - 6	N	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	11 J	17 J	29 J	11 J	8.9 J	16 J	5.1 R	20 J	5.1 R	11 J	5.1 R	5.8 J	20 J	5.8 JR	143.9 JR	25 JR
PA-19	01/27/16	0 - 1	N	ND (57)	ND (57)	ND (57)	ND (57)	95	ND (3,800) *	4,400 J	15,000	ND (3,800)	5,800 J	5,200 J	ND (3,800) *	1,300	ND (57)	ND (3,800) *	ND (57)	490	1,200	585	32,900	8,200
	01/31/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	24	ND (5.2)	24	ND	6
PA-20	01/27/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	26	29	410	610	1,400	450	330	780	ND (5.1)	830	ND (5.1)	410	ND (5.1)	120	720	175	5,940	840
	01/31/17	2 - 3	N	ND (5.3) J	ND (5.3) J	ND (5.3)	ND (5.3)	ND (5.3)	6	7.8	20	7.8	5.7	11	ND (5.3)	9.9	ND (5.3)	6.7	ND (5.3) J	20	9.2	20	84.1	14
PA-21	01/27/16	0 - 1	N	ND (5.1)	ND (5.1)	8.5 J	25 J	68	1,200	1,700	2,900	840	1,100	2,100	ND (5.1)	2,600	9.8 J	840	14 J	570	2,600	695.3	15,880	2,200
	01/31/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)

TABLE 3-6c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
SD-01	01/13/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7	13	26	10	11	12	ND (5.3)	12	ND (5.3)	8.1	ND (5.3)	ND (5.3)	13	ND	112.1	20
	01/13/16	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
	01/13/16	5 - 6	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
	01/13/16	9 - 10	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
SD-02	11/10/15	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (50)	ND (50)	ND (50)	ND (5)	ND (50)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND	ND	ND (56)
	11/10/15	2 - 3	N	ND (25)	ND (25)	ND (25)	ND (25)	29	360	ND (250) *	510	ND (250)	ND (250)	390	ND (250) *	500	ND (25)	ND (250)	ND (25)	260	420	289	2,180	350
SD-03	11/10/15	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	11/10/15	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (50)	ND (50)	ND (50)	ND (5)	ND (50)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND	ND	ND (56)
SD-04	11/10/15	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	11/10/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
SD-05	11/10/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	18	30	58	16	17	39	ND (5.1)	57	ND (5.1)	17	ND (5.1)	21	58	21	310	42
	11/10/15	0 - 1	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	27	49	94	21	32	60	ND (5.1)	83	ND (5.1)	23	ND (5.1)	26	85	26	474	66
	11/10/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.4	ND (5.2)	ND (5.2)	5.2	ND (5.2)	7	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7.7	ND	28.3	6.6
SD-06	11/10/15	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7.1	12	26	6.7	8.7	16	ND (5)	23	ND (5)	6.7	ND (5)	ND (5)	22	ND	128.2	19
	11/10/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	11/10/15	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
SD-21	03/10/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.7	16	5.4	6.1	10	ND (5.1)	12	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	ND	68.2	12
	03/10/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	19 J	39 J	85 J	13 J	38 J	38 J	ND (52)	45 J	ND (5.2)	10 J	ND (5.2)	13 J	43 J	13	330	77
SD-22	03/09/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	35 J	73 J	190 J	22 J	63 J	87 J	ND (5.1)	120 J	ND (5.1)	21 J	ND (5.1)	36 J	100 J	36	711	100
	03/09/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7.6	ND (5.2)	ND (5.2)	5.5	ND (5.2)	6.2	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.6	ND	25.9	6.5

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-6d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)
Interim Screening Level ¹:				570,000
Residential Regional Screening Levels ²:				570,000
Residential DTSC-SL ³:				NE
Ecological Comparison Values ⁴:				NE
Background ⁵:				NE
Location	Date	Depth (ft bgs)	Sample Type	Isophorone
Category 1				
AOC10-1	10/02/08	0 - 0.5	N	ND (330)
	10/02/08	2 - 3	N	ND (330)
	10/02/08	5 - 6	N	ND (340)
	10/02/08	9 - 10	N	ND (330)
AOC10-11	01/22/16	0 - 1	N	ND (340)
	01/22/16	0 - 1	FD	ND (350)
	01/22/16	2 - 3	N	ND (340)
	01/22/16	5 - 6	N	ND (340)
	01/22/16	9 - 10	N	ND (340)
AOC10-15	12/15/15	0 - 1	N	ND (330)
	12/15/15	0 - 1	FD	ND (330)
	12/15/15	2 - 3	N	ND (340)
	12/15/15	5 - 6	N	ND (330)
	12/15/15	9 - 10	N	ND (330)
AOC10-16	12/15/15	0 - 1	N	ND (340)
	12/15/15	2 - 3	N	ND (330)
	12/15/15	5 - 6	N	ND (340)
	12/15/15	9 - 10	N	ND (340)
AOC10-2	10/02/08	0 - 0.5	N	ND (330)
	10/02/08	2 - 3	N	ND (340)
	10/02/08	5 - 6	N	ND (340)
	10/02/08	7 - 8	N	ND (340)
AOC10-20	02/17/16	0 - 0.5	N	ND (330)
	02/25/16	2 - 3	N	ND (330)
AOC10-21	02/25/16	0 - 0.5	N	ND (1,700)
	02/25/16	2 - 3	N	ND (330)
AOC10-22	02/17/16	0 - 0.5	N	ND (83,000)
	02/17/16	1 - 2	N	2,200
	02/17/16	2 - 3	N	ND (84,000)
	02/17/16	5 - 6	N	ND (330)

TABLE 3-6d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)
Interim Screening Level ¹:				570,000
Residential Regional Screening Levels ²:				570,000
Residential DTSC-SL ³:				NE
Ecological Comparison Values ⁴:				NE
Background ⁵:				NE
Location	Date	Depth (ft bgs)	Sample Type	Isophorone
AOC10-23	02/25/16	0 - 1	N	2,800
	02/25/16	1 - 2	N	ND (330)
	02/25/16	2 - 3	N	ND (330)
AOC10-25	01/08/17	0 - 0.5	N	ND (340)
	01/08/17	0 - 0.5	FD	ND (340)
AOC10-3	09/19/08	0 - 0.5	N	ND (330)
	09/19/08	0 - 0.5	FD	ND (330)
	09/19/08	2 - 3	N	ND (340)
	09/19/08	5 - 6	N	ND (340)
AOC10-4	09/19/08	0 - 0.5	N	ND (330)
	09/19/08	2 - 3	N	ND (340)
	09/19/08	5 - 6	N	ND (340)
AOC10-5	09/19/08	0 - 0.5	N	ND (1,700)
	09/19/08	2 - 3	N	ND (340)
	09/19/08	5 - 6	N	ND (340)
	09/19/08	5 - 6	FD	ND (340)
AOC10-6	09/20/08	0 - 0.5	N	ND (330)
	09/20/08	2 - 3	N	ND (840)
AOC10-7	09/20/08	0 - 0.5	N	ND (330)
	09/20/08	2 - 3	N	ND (330)
	09/20/08	5 - 6	N	ND (340)
AOC10-8	08/22/08	0 - 0.5	N	ND (330)
	08/22/08	0 - 0.5	FD	ND (330)
AOC10a-1	10/17/08	0 - 0.5	N	ND (21,000)
AOC10b-1	09/30/08	0 - 0.5	N	ND (330)
	09/30/08	2 - 3	N	ND (330)
	09/30/08	2 - 3	FD	ND (330)
	09/30/08	5 - 6	N	ND (330)
	09/30/08	9 - 10	N	ND (330)
AOC10b-2	09/30/08	0 - 0.5	N	ND (330)
	09/30/08	2 - 3	N	ND (330)
	09/30/08	5 - 6	N	ND (330)
	09/30/08	9 - 10	N	ND (330)

TABLE 3-6d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)
Interim Screening Level ¹:				570,000
Residential Regional Screening Levels ²:				570,000
Residential DTSC-SL ³:				NE
Ecological Comparison Values ⁴:				NE
Background ⁵:				NE
Location	Date	Depth (ft bgs)	Sample Type	Isophorone
AOC10b-3	09/30/08	0 - 0.5	N	ND (330)
	10/01/08	2 - 3	N	ND (340)
	10/01/08	5 - 6	N	ND (340)
	10/01/08	5 - 6	FD	ND (340)
	10/01/08	9 - 10	N	ND (340)
AOC10b-4	09/30/08	0 - 0.5	N	ND (330)
	09/30/08	2 - 3	N	ND (330)
	09/30/08	5 - 6	N	ND (330)
	09/30/08	9 - 10	N	ND (340)
AOC10c-1	10/01/08	0 - 0.5	N	ND (330)
	10/01/08	2 - 3	N	ND (330)
	10/01/08	5 - 6	N	ND (330)
	10/01/08	9 - 10	N	ND (340)
AOC10c-2	10/01/08	0 - 0.5	N	ND (330)
	10/01/08	2 - 3	N	ND (330)
	10/01/08	2 - 3	FD	ND (330)
	10/01/08	5 - 6	N	ND (330)
	10/01/08	9 - 10	N	ND (340)
AOC10c-3	10/02/08	0 - 0.5	N	ND (340)
	10/02/08	2 - 3	N	ND (340)
	10/02/08	2 - 3	FD	ND (340)
	10/02/08	5 - 6	N	ND (330)
	10/02/08	9 - 10	N	ND (340)
AOC10c-4	10/01/08	0 - 0.5	N	ND (340)
	10/01/08	2 - 3	N	ND (340)
	10/01/08	5 - 6	N	ND (340)
	10/01/08	9 - 10	N	ND (340)
AOC10c-5	10/01/08	0 - 0.5	N	ND (330)
	10/01/08	2 - 3	N	ND (340)
	10/01/08	5 - 6	N	ND (340)
	10/01/08	9 - 10	N	ND (340)

TABLE 3-6d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)
Interim Screening Level ¹:				570,000
Residential Regional Screening Levels ²:				570,000
Residential DTSC-SL ³:				NE
Ecological Comparison Values ⁴:				NE
Background ⁵:				NE
Location	Date	Depth (ft bgs)	Sample Type	Isophorone
AOC10d-1	09/18/08	0 - 0.5	N	ND (330)
	09/18/08	2 - 3	N	ND (340)
	09/18/08	5 - 6	N	ND (340)
	09/18/08	5 - 6	FD	ND (340)
AOC10d-2	09/17/08	0 - 0.5	N	ND (830)
	09/17/08	2 - 3	N	ND (340)
	09/17/08	5 - 6	N	ND (340)
AOC10d-3	09/17/08	0 - 0.5	N	ND (330)
	09/18/08	2 - 3	N	ND (340)
	09/18/08	5 - 6	N	ND (340)
	09/18/08	5 - 6	FD	ND (340)
AOC10d-4	09/18/08	0 - 0.5	N	ND (340)
	09/18/08	2 - 3	N	ND (350)
	09/18/08	5 - 6	N	ND (340)
MW-57BR	01/14/09	3 - 4	N	ND (340)
	01/14/09	8 - 9	N	ND (340)
	01/14/09	8 - 9	FD	ND (340)
	01/14/09	18 - 19	N	ND (340)
MW-58BR_S	01/29/09	19 - 20	N	ND (350)
	01/29/09	29 - 30	N	ND (350)
	01/29/09	39 - 40	N	ND (350)
	01/29/09	49 - 50	N	ND (350)
	01/29/09	59 - 60	N	ND (360)
PA-06	11/09/15	0 - 1	N	ND (340)
PA-18	01/27/16	0 - 1	N	ND (340) J
PA-19	01/27/16	0 - 1	N	ND (3,800)
PA-20	01/27/16	0 - 1	N	ND (340)
PA-21	01/27/16	0 - 1	N	ND (340)

TABLE 3-6d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 10 – East Ravine

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Only detected SVOCs and VOCs are presented.

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
SVOCs	semivolatile organic compounds

- 1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28 and ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

TABLE 3-6e

Sample Results: Total Petroleum Hydrocarbons

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC10-1	10/02/08	0 - 0.5	N	ND (10) J	ND (10) J
	10/02/08	2 - 3	N	ND (10)	ND (10)
	10/02/08	5 - 6	N	ND (10) J	ND (10) J
	10/02/08	9 - 10	N	ND (10)	ND (10)
AOC10-11	01/22/16	0 - 1	N	ND (10)	ND (10)
	01/22/16	0 - 1	FD	ND (11)	ND (11)
	01/22/16	2 - 3	N	ND (10)	ND (10)
	01/22/16	5 - 6	N	ND (10)	ND (10)
	01/22/16	9 - 10	N	ND (10)	ND (10)
AOC10-15	12/15/15	0 - 1	N	13	48
	12/15/15	0 - 1	FD	11	47
	12/15/15	2 - 3	N	15	59
	12/15/15	5 - 6	N	ND (10)	14
	12/15/15	9 - 10	N	ND (10)	ND (10)
AOC10-2	10/02/08	0 - 0.5	N	ND (10) J	ND (10) J
	10/02/08	2 - 3	N	ND (10)	ND (10)
	10/02/08	5 - 6	N	ND (10)	ND (10)
	10/02/08	7 - 8	N	ND (10)	ND (10)
AOC10-20	02/17/16	0 - 0.5	N	ND (10)	ND (10)
	02/25/16	2 - 3	N	ND (10)	ND (10)
AOC10-21	02/25/16	0 - 0.5	N	4,000	8,900
	02/25/16	2 - 3	N	ND (10)	17
AOC10-22	02/17/16	0 - 0.5	N	2,100	4,900
	02/17/16	1 - 2	N	170	400
	02/17/16	2 - 3	N	1,500	3,200
	02/17/16	5 - 6	N	18	81
AOC10-23	02/25/16	0 - 1	N	24	69
	02/25/16	1 - 2	N	630	1,600
	02/25/16	2 - 3	N	ND (10)	ND (10)
AOC10-3	09/19/08	0 - 0.5	N	ND (10)	11.3
	09/19/08	0 - 0.5	FD	ND (10)	13
	09/19/08	2 - 3	N	ND (10)	ND (10)
	09/19/08	5 - 6	N	ND (10)	ND (10)
AOC10-4	09/19/08	0 - 0.5	N	ND (10)	ND (10)
	09/19/08	2 - 3	N	ND (10)	ND (10)
	09/19/08	5 - 6	N	ND (10)	ND (10)

TABLE 3-6e

Sample Results: Total Petroleum Hydrocarbons

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC10-5	09/19/08	0 - 0.5	N	ND (10)	47.1
	09/19/08	2 - 3	N	ND (10)	33.1
	09/19/08	5 - 6	N	ND (10)	19.7
	09/19/08	5 - 6	FD	ND (10)	ND (10)
AOC10-6	09/20/08	0 - 0.5	N	ND (10)	15.7
	09/20/08	2 - 3	N	51.8	207
AOC10-7	09/20/08	0 - 0.5	N	ND (10)	26.5
	09/20/08	2 - 3	N	ND (10)	14.5
	09/20/08	5 - 6	N	ND (10)	11.5
AOC10-8	08/22/08	0 - 0.5	N	ND (10)	ND (10)
	08/22/08	0 - 0.5	FD	ND (10)	ND (10)
AOC10a-1	10/17/08	0 - 0.5	N	ND (213) J	297 J
AOC10b-1	09/30/08	0 - 0.5	N	ND (10)	10.9
	09/30/08	2 - 3	N	ND (10)	13.3
	09/30/08	2 - 3	FD	ND (10)	14.5
	09/30/08	5 - 6	N	34.2	ND (10)
	09/30/08	9 - 10	N	ND (10)	ND (10)
AOC10b-2	09/30/08	0 - 0.5	N	ND (10)	11.2
	09/30/08	2 - 3	N	ND (10)	17
	09/30/08	5 - 6	N	ND (10)	ND (10)
	09/30/08	9 - 10	N	ND (10)	11
AOC10b-3	09/30/08	0 - 0.5	N	ND (10)	56
	10/01/08	2 - 3	N	ND (10)	14.4
	10/01/08	5 - 6	N	ND (10)	ND (10)
	10/01/08	5 - 6	FD	ND (10)	ND (10)
	10/01/08	9 - 10	N	ND (10) J	ND (10) J
AOC10b-4	09/30/08	0 - 0.5	N	ND (10)	ND (10)
	09/30/08	2 - 3	N	ND (10)	ND (10)
	09/30/08	5 - 6	N	ND (10)	ND (10)
	09/30/08	9 - 10	N	ND (10)	ND (10)
AOC10c-1	10/01/08	0 - 0.5	N	ND (10)	20.6
	10/01/08	2 - 3	N	ND (10)	34.1
	10/01/08	5 - 6	N	ND (10)	13.9
	10/01/08	9 - 10	N	ND (10) J	ND (10) J
AOC10c-2	10/01/08	0 - 0.5	N	ND (10)	23.5
	10/01/08	2 - 3	N	ND (10)	32.4
	10/01/08	2 - 3	FD	ND (10)	34.4
	10/01/08	5 - 6	N	ND (10)	14.5
	10/01/08	9 - 10	N	ND (10) J	ND (10) J

TABLE 3-6e

Sample Results: Total Petroleum Hydrocarbons

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC10c-3	10/02/08	0 - 0.5	N	ND (10)	26.1
	10/02/08	2 - 3	N	ND (10)	67.4
	10/02/08	2 - 3	FD	ND (10)	82.5
	10/02/08	5 - 6	N	ND (10)	ND (10)
	10/02/08	9 - 10	N	ND (10)	ND (10)
AOC10c-4	10/01/08	0 - 0.5	N	ND (10)	20.5
	10/01/08	2 - 3	N	ND (10)	21.6
	10/01/08	5 - 6	N	ND (10)	ND (10)
	10/01/08	9 - 10	N	ND (10) J	ND (10) J
AOC10c-5	10/01/08	0 - 0.5	N	ND (10)	18.1
	10/01/08	2 - 3	N	ND (10)	70.9
	10/01/08	5 - 6	N	ND (10)	ND (10)
	10/01/08	9 - 10	N	ND (10) J	ND (10) J
AOC10d-1	09/18/08	0 - 0.5	N	ND (10)	ND (10)
	09/18/08	2 - 3	N	ND (10)	15.3
	09/18/08	5 - 6	N	11.1	27.9
	09/18/08	5 - 6	FD	ND (10)	ND (10)
AOC10d-2	09/17/08	0 - 0.5	N	ND (10)	ND (10)
	09/17/08	2 - 3	N	ND (10)	27.3 J
	09/17/08	5 - 6	N	ND (10)	38.3 J
AOC10d-3	09/17/08	0 - 0.5	N	ND (10)	16.1 J
	09/18/08	2 - 3	N	ND (10)	ND (10)
	09/18/08	5 - 6	N	ND (10)	ND (10)
	09/18/08	5 - 6	FD	ND (10)	ND (10)
AOC10d-4	09/18/08	0 - 0.5	N	ND (10)	11.6
	09/18/08	2 - 3	N	ND (10)	16.8
	09/18/08	5 - 6	N	ND (10)	11.6
MW-57BR	01/14/09	3 - 4	N	ND (10)	ND (10)
	01/14/09	8 - 9	N	ND (10)	ND (10)
	01/14/09	8 - 9	FD	ND (10)	ND (10)
	01/14/09	18 - 19	N	ND (10)	ND (10)
MW-58BR_S	01/29/09	19 - 20	N	ND (11)	ND (11)
	01/29/09	29 - 30	N	ND (11)	ND (11)
	01/29/09	39 - 40	N	ND (11)	ND (11)
	01/29/09	49 - 50	N	ND (11)	ND (11)
	01/29/09	59 - 60	N	ND (11)	ND (11)
PA-06	11/09/15	0 - 1	N	ND (10)	21
PA-18	01/27/16	0 - 1	N	47	370
PA-19	01/27/16	0 - 1	N	130	580

TABLE 3-6e

Sample Results: Total Petroleum Hydrocarbons

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
PA-20	01/27/16	0 - 1	N	37	250
PA-21	01/27/16	0 - 1	N	35	190
SD-01	01/13/16	0 - 0.5	N	ND (11)	78
	01/13/16	2 - 3	N	ND (11)	ND (11)
	01/13/16	5 - 6	N	ND (11)	ND (11)
	01/13/16	9 - 10	N	ND (11)	ND (11)
SD-02	11/10/15	0 - 1	N	25	49
	11/10/15	2 - 3	N	410	1,500
SD-03	11/10/15	0 - 1	N	ND (10)	22
	11/10/15	2 - 3	N	ND (10)	ND (10)
SD-04	11/10/15	0 - 1	N	ND (10)	ND (10)
	11/10/15	2 - 3	N	ND (10)	ND (10)
SD-05	11/10/15	0 - 1	N	ND (10)	14
	11/10/15	0 - 1	FD	ND (10)	16
	11/10/15	2 - 3	N	ND (10)	ND (10)
SD-06	11/10/15	0 - 1	N	ND (10)	ND (10)
	11/10/15	2 - 3	N	ND (10)	ND (10)
	11/10/15	5 - 6	N	11	22
SD-21	03/10/16	0 - 1	N	ND (10)	ND (10)
	03/10/16	2 - 3	N	ND (10)	39
SD-22	03/09/16	0 - 1	N	ND (10)	79
	03/09/16	2 - 3	N	ND (10)	12

TABLE 3-6e

Sample Results: Total Petroleum Hydrocarbons

AOC 10 – East Ravine

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California***Notes:**

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Levels

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

N primary sample

ND not detected at the listed reporting limit

NE not established

RWQCB Regional Water Quality Control Board

TPH total petroleum hydrocarbon

USEPA United States Environmental Protection Agency

- 1 The interim screening level is the Regional Water Quality Control Board environmental screening level.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.
- 5 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 6 Background values have not been established for TPHs.

TABLE 3-6f

Sample Results: General Chemistry Parameters

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry					
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Alkalinity, total as CaCO3	Chloride	pH	Sulfate
Category 1									
AOC10-1	10/02/08	0 - 0.5	N	---	---	---	---	8.44	---
	10/02/08	2 - 3	N	---	---	---	---	8.19	---
	10/02/08	5 - 6	N	---	---	---	---	8.06	---
AOC10-11	01/22/16	0 - 1	N	---	---	---	---	8.5	---
	01/22/16	0 - 1	FD	---	---	---	---	9.1	---
	01/22/16	2 - 3	N	---	---	---	---	9.4	---
	01/22/16	5 - 6	N	---	---	---	---	9.4	---
	01/22/16	9 - 10	N	---	---	---	---	9.9	---
AOC10-13	12/03/15	0 - 1	N	---	---	---	---	8.8	---
	12/03/15	0 - 1	FD	---	---	---	---	8.8	---
AOC10-14	12/03/15	0 - 1	N	---	---	---	---	8.3	---
AOC10-15	12/15/15	0 - 1	N	---	---	---	---	8.9	---
	12/15/15	0 - 1	FD	---	---	---	---	8.9	---
	12/15/15	2 - 3	N	---	---	---	---	8.3	---
	12/15/15	5 - 6	N	---	---	---	---	8.5	---
	12/15/15	9 - 10	N	---	---	---	---	9.2	---
AOC10-16	12/15/15	0 - 1	N	---	---	---	---	9.2	---
	12/15/15	2 - 3	N	---	---	---	---	9.6	---
	12/15/15	5 - 6	N	---	---	---	---	9.9	---
	12/15/15	9 - 10	N	---	---	---	---	9.8	---
AOC10-17	12/03/15	0 - 1	N	---	---	---	---	8.3	---
AOC10-2	10/02/08	0 - 0.5	N	---	---	---	---	7.98	---
	10/02/08	2 - 3	N	---	---	---	---	8.47	---
	10/02/08	5 - 6	N	---	---	---	---	8.15	---
AOC10-20	02/17/16	0 - 0.5	N	---	---	---	---	8.4	---
	02/25/16	2 - 3	N	---	---	---	---	8.9	---
AOC10-21	02/25/16	0 - 0.5	N	---	---	---	---	8	---
	02/25/16	2 - 3	N	---	---	---	---	8.4	---
AOC10-22	02/17/16	0 - 0.5	N	---	---	---	---	8	---
	02/17/16	1 - 2	N	---	---	---	---	8.4	---
	02/17/16	2 - 3	N	---	---	---	---	8.1	---
	02/17/16	5 - 6	N	---	---	---	---	8.1	---
AOC10-23	02/25/16	0 - 1	N	---	---	---	---	8.6	---
	02/25/16	1 - 2	N	---	---	---	---	7.6	---
	02/25/16	2 - 3	N	---	---	---	---	8.3	---

TABLE 3-6f

Sample Results: General Chemistry Parameters

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry					
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Alkalinity, total as CaCO3	Chloride	pH	Sulfate
AOC10-3	09/19/08	0 - 0.5	N	---	---	---	---	8.86	---
	09/19/08	0 - 0.5	FD	---	---	---	---	8.8	---
	09/19/08	2 - 3	N	---	---	---	---	9.26	---
	09/19/08	5 - 6	N	---	---	---	---	9.24	---
AOC10-4	09/19/08	0 - 0.5	N	---	---	---	---	8.2	---
	09/19/08	2 - 3	N	---	---	---	---	9.55	---
	09/19/08	5 - 6	N	---	---	---	---	9.28	---
AOC10-5	09/19/08	0 - 0.5	N	---	---	---	---	7.64	---
	09/19/08	2 - 3	N	---	---	---	---	8.22	---
	09/19/08	5 - 6	N	---	---	---	---	8.57	---
	09/19/08	5 - 6	FD	---	---	---	---	8.41	---
AOC10-6	09/20/08	0 - 0.5	N	---	---	---	---	8.55	---
	09/20/08	2 - 3	N	---	---	---	---	7.97	---
AOC10-7	09/20/08	0 - 0.5	N	---	---	---	---	8.05	---
	09/20/08	2 - 3	N	---	---	---	---	8.11	---
	09/20/08	5 - 6	N	---	---	---	---	7.91	---
AOC10-8	08/22/08	0 - 0.5	N	---	---	---	---	8.14	---
	08/22/08	0 - 0.5	FD	---	---	---	---	8.44	---
AOC10a-1	10/17/08	0 - 0.5	N	---	---	---	---	8.35	---
AOC10b-1	09/30/08	0 - 0.5	N	---	---	---	---	9.01	---
	09/30/08	2 - 3	N	---	---	---	---	9.75	---
	09/30/08	2 - 3	FD	---	---	---	---	9.75	---
	09/30/08	5 - 6	N	---	---	---	---	9.86	---
AOC10b-2	09/30/08	0 - 0.5	N	---	---	---	---	8.93	---
	09/30/08	2 - 3	N	---	---	---	---	9.7	---
	09/30/08	5 - 6	N	---	---	---	---	9.68	---
AOC10b-3	09/30/08	0 - 0.5	N	---	---	---	---	8.13	---
	10/01/08	2 - 3	N	---	---	---	---	9.41	---
	10/01/08	5 - 6	N	---	---	---	---	9.79	---
	10/01/08	5 - 6	FD	---	---	---	---	9.77	---
AOC10b-4	09/30/08	0 - 0.5	N	---	---	---	---	9	---
	09/30/08	2 - 3	N	---	---	---	---	9.61	---
	09/30/08	5 - 6	N	---	---	---	---	9.25	---
AOC10c-1	10/01/08	0 - 0.5	N	---	---	---	---	8.93	---
	10/01/08	2 - 3	N	---	---	---	---	8.99	---
	10/01/08	5 - 6	N	---	---	---	---	9.42	---

TABLE 3-6f

Sample Results: General Chemistry Parameters

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry					
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Alkalinity, total as CaCO3	Chloride	pH	Sulfate
AOC10c-2	10/01/08	0 - 0.5	N	---	---	---	---	8.9	---
	10/01/08	2 - 3	N	---	---	---	---	8.74	---
	10/01/08	2 - 3	FD	---	---	---	---	8.78	---
	10/01/08	5 - 6	N	---	---	---	---	9.46	---
AOC10c-3	10/02/08	0 - 0.5	N	---	---	---	---	7.84	---
	10/02/08	2 - 3	N	---	---	---	---	9.16	---
	10/02/08	2 - 3	FD	---	---	---	---	9.29	---
	10/02/08	5 - 6	N	---	---	---	---	9.2	---
AOC10c-4	10/01/08	0 - 0.5	N	---	---	---	---	7.8	---
	10/01/08	2 - 3	N	---	---	---	---	9.35	---
	10/01/08	5 - 6	N	---	---	---	---	9.57	---
AOC10c-5	10/01/08	0 - 0.5	N	---	---	---	---	8.14	---
	10/01/08	2 - 3	N	---	---	---	---	8.79	---
	10/01/08	5 - 6	N	---	---	---	---	9.76	---
AOC10d-1	09/18/08	0 - 0.5	N	---	---	---	---	8.25	---
	09/18/08	2 - 3	N	---	---	---	---	8.89	---
	09/18/08	5 - 6	N	---	---	---	---	9.02	---
	09/18/08	5 - 6	FD	---	---	---	---	9	---
AOC10d-2	09/17/08	0 - 0.5	N	---	---	---	---	7.78	---
	09/17/08	2 - 3	N	---	---	---	---	8.63	---
	09/17/08	5 - 6	N	---	---	---	---	9.07	---
AOC10d-3	09/17/08	0 - 0.5	N	---	---	---	---	8.13	---
	09/18/08	2 - 3	N	---	---	---	---	8.85	---
	09/18/08	5 - 6	N	---	---	---	---	9.36	---
	09/18/08	5 - 6	FD	---	---	---	---	9.42	---
AOC10d-4	09/18/08	0 - 0.5	N	---	---	---	---	7.84	---
	09/18/08	2 - 3	N	---	---	---	---	8.54	---
	09/18/08	5 - 6	N	---	---	---	---	9.07	---
AOC10-OS1	04/06/11	0 - 0.5	N	---	---	---	---	8.4	---
	04/06/11	2.5 - 3	N	---	---	---	---	8.1	---
	04/06/11	5.5 - 6	N	---	---	---	---	7.8	---
	04/06/11	9.5 - 10	N	---	---	---	---	8.1	---
	04/06/11	11 - 11.5	N	---	---	---	---	8.6	---
AOC10-OS2	04/06/11	0 - 0.5	N	---	---	---	---	8.4	---
	04/06/11	2.5 - 3	N	---	---	---	---	8.9	---
	04/06/11	5.5 - 6	N	---	---	---	---	10	---
AOC10-OS3	04/06/11	5 - 5.5	N	---	---	---	---	9.1	---
AOC10-OS4	04/06/11	6.5 - 7	N	---	---	---	---	8.7	---

TABLE 3-6f

Sample Results: General Chemistry Parameters

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry					
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO ₃	Alkalinity, carb as CaCO ₃	Alkalinity, total as CaCO ₃	Chloride	pH	Sulfate
DTSC-AOC10d-1	01/18/08 ^Θ	0	N	40.4	ND (5)	35.1	7.02	7.7	15.7
DTSC-AOC10d-2	01/18/08 ^Θ	0	N	38.3	ND (5)	35.5	5.9	8.46	27.4
DTSC-AOC10d-3	01/18/08 ^Θ	0	N	38.2	ND (5)	35.4	ND (4.04)	8.48	13.3
SD-04	11/10/15	0 - 1	N	---	---	---	---	8.8	---
	11/10/15	2 - 3	N	---	---	---	---	9	---
Bank 1	03/07/03	0	N	---	---	---	---	8.8	---
L-1	02/20/03	0	N	---	---	---	---	7.5	---
	02/20/03	2	N	---	---	---	---	8.7	---
L-2	02/20/03	0	N	---	---	---	---	8.8	---
	02/20/03	2	N	---	---	---	---	8.7	---
L-2-2	03/05/03	- 2	N	---	---	---	---	8.8	---
L-2-3	03/05/03	- 2	N	---	---	---	---	8.6	---
L-3	02/20/03	0	N	---	---	---	---	8.9	---
	02/20/03	1	N	452 J	ND (700)	452 J	3.71	8.8	7.25
	02/20/03	1.5	N	---	---	---	---	9.4	---
L-3-2	03/05/03	0 - 0.5	N	---	---	---	---	8.8	---

TABLE 3-6f

Sample Results: General Chemistry Parameters

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Θ	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
μS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.

5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-6g
Sample Results: Pesticides
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC10-20	02/17/16	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	02/25/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC10-21	02/25/16	0 - 0.5	N	ND (4) *	ND (4) *	ND (4) *	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (4)	ND (2)	ND (4)	ND (4)	ND (4)	ND (4)	---	ND (2)	ND (2)	ND (2)	ND (2)	ND (10)	ND (100)
	02/25/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC10-22	02/17/16	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	02/17/16	1 - 2	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	02/17/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/17/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC10-23	02/25/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	02/25/16	1 - 2	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	02/25/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC10-25	01/08/17	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/08/17	0 - 0.5	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC10-3	09/19/08	0 - 0.5	N	ND (2)	ND (2) J	ND (2)	ND (1)	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (2) J	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2) J	ND (1) J	ND (1)	ND (1) J	ND (1) J	ND (5)	ND (50)
	09/19/08	0 - 0.5	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC10-5	09/19/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC10-8	08/22/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	08/22/08	0 - 0.5	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC10a-1	10/17/08	0 - 0.5	N	ND (2.1) J*	ND (2.1) J*	ND (2.1) J*	ND (1.1) J	ND (1.1) J	ND (1.1) J	ND (1.1) J	ND (1.1) J	ND (2.1) J	ND (1.1) J	ND (2.1) J	ND (2.1) J	ND (2.1) J	ND (2.1) J	ND (2.1) J	ND (1.1) J	ND (1.1) J	ND (1.1) J	ND (1.1) J	ND (5.3) J	ND (53) J
AOC10a-2	01/13/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	01/13/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/13/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/13/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC10a-3	01/13/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/13/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/13/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/13/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC10b-1	09/30/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC10c-1	10/01/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC10c-2	10/01/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC10d-2	09/17/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1) J	ND (1)	ND (1) J	ND (1) J	ND (2) J	ND (1)	ND (2)	ND (2) J	ND (2)	ND (2)	ND (2) J	ND (1) J	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC10d-3	09/17/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison values for Additional Chemicals in Soil." July 1.	
5 Background values have not been established for pesticides.	

TABLE 3-6h

Sample Results: Polychlorinated Biphenyls

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC10-10	01/22/16	0 - 1	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	---	---	ND (25.5)
	01/22/16	2 - 3	N	ND (18) J	ND (36) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	---	---	ND (27)
	01/22/16	5 - 6	N	ND (18) J	ND (35) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	---	---	ND (27)
AOC10-11	01/22/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/22/16	0 - 1	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/22/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/22/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/22/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
AOC10-12	01/22/16	0 - 0.5	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	---	---	ND (25.5)
	01/22/16	2 - 3	N	ND (17) J	ND (35) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	---	---	ND (25.5)
	01/22/16	5 - 6	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	---	---	ND (25.5)
AOC10-15	12/15/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	990 J	ND (17)	---	---	1,007
	12/15/15	0 - 1	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	470 J	ND (17)	---	---	487
	12/15/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	320	470	ND (17)	---	---	798.5
	12/15/15	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	220	ND (17)	---	---	237
	12/15/15	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
AOC10-16	12/15/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	12/15/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	12/15/15	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	12/15/15	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
AOC10-18	12/06/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	12/06/15	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
AOC10-20	02/17/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	02/25/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
AOC10-21	02/25/16	0 - 0.5	N	ND (33)	ND (66)	ND (33)	ND (33)	ND (33)	ND (33)	ND (33)	---	---	ND (49.5)
	02/25/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)

TABLE 3-6h

Sample Results: Polychlorinated Biphenyls

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC10-22	02/17/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	02/17/16	1 - 2	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (27)
	02/17/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	02/17/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
AOC10-23	02/25/16	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	110	ND (17)	---	---	127
	02/25/16	1 - 2	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	02/25/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
AOC10-25	01/08/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/08/17	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/08/17	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/08/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/08/17	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
AOC10-26	02/21/17	0 - 0.5	N	ND (20) J	ND (41) J	ND (20) J	ND (20) J	ND (20) J	22 J	ND (20) J	---	---	42
	02/21/17	2 - 3	N	ND (21) J	ND (42) J	ND (21) J	ND (21) J	ND (21) J	ND (21) J	ND (21) J	---	---	ND (31.5)
	02/21/17	4.5 - 5	N	ND (18) J	ND (36) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	---	---	ND (27)
AOC10-3	09/19/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (25.5)
	09/19/08	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (25.5)
AOC10-5	09/19/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	49	ND (17)	ND (17)	ND (17)	66
	09/19/08	2 - 3	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	33 J	ND (17) J	ND (17) J	ND (17) J	50
AOC10-8	08/22/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (25.5)
	08/22/08	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (25.5)
AOC10a-1	10/17/08	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	71	ND (18)	ND (18)	ND (18)	89
AOC10a-2	01/13/16	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	63	38	---	---	109.5
	01/13/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/13/16	5 - 6	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/13/16	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)

TABLE 3-6h

Sample Results: Polychlorinated Biphenyls

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC10a-3	01/13/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/13/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	130	85	---	---	223.5
	01/13/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
	01/13/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (25.5)
AOC10a-4	01/08/17	0 - 0.5	N	ND (18) J	ND (36) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	---	---	ND (27)
	01/08/17	2 - 3	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	---	---	ND (25.5)
AOC10b-1	09/30/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (25.5)
AOC10c-1	10/01/08	0 - 0.5	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (24)
AOC10c-2	10/01/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	58	ND (17)	ND (17)	ND (17)	75
	10/01/08	2 - 3	N	ND (17) J	ND (33) J	ND (17) J	ND (17) J	ND (17) J	68 J	ND (17) J	ND (17) J	ND (17) J	85
	10/01/08	2 - 3	FD	ND (17) J	ND (33) J	ND (17) J	ND (17) J	ND (17) J	46 J	ND (17) J	ND (17) J	ND (17) J	63
AOC10c-6	01/21/16	14 - 15	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	---	---	ND (25.5)
AOC10d-2	09/17/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	20	ND (17)	ND (17)	ND (17)	37
	09/17/08	2 - 3	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (25.5)
AOC10d-3	09/17/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	19	ND (17)	ND (17)	ND (17)	36
	09/18/08	2 - 3	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (25.5)
AOC10d-9	12/15/15	0 - 1	N	17 R	33 R	17 R	17 R	17 R	17 R	17 R	---	---	25.5 R
	12/15/15	2 - 3	N	17 R	34 R	17 R	17 R	17 R	17 R	17 R	---	---	25.5 R
	12/15/15	9 - 10	N	17 R	34 R	17 R	17 R	17 R	17 R	17 R	---	---	25.5 R
PA-06	11/09/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
PA-18	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	450	ND (17)	---	---	475.5
	01/26/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	30	ND (17)	---	---	55.5
	01/26/17	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	30	ND (17)	---	---	55.5
PA-19	01/27/16	0 - 1	N	ND (19) J	ND (38) J	ND (19) J	ND (19) J	ND (19) J	28 J	ND (19) J	---	---	56.5
	01/31/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

TABLE 3-6h

Sample Results: Polychlorinated Biphenyls

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
PA-20	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	83	60	---	---	160
	01/31/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
PA-21	01/27/16	0 - 1	N	ND (17) J	ND (34)	ND (17)	ND (17)	ND (17)	82	55 J	---	---	154
	01/31/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-01	01/13/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/13/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/13/16	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/13/16	9 - 10	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
SD-02	11/10/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	11/10/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	67	84	---	---	168
SD-03	11/10/15	0 - 1	N	ND (17) J	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (34)
	11/10/15	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
SD-04	11/10/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	11/10/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-05	11/10/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	53	40	ND (17)	ND (17)	110
	11/10/15	0 - 1	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	53	37	ND (17)	ND (17)	107
	11/10/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-06	11/10/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	11/10/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	11/10/15	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-21	03/10/16	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	03/10/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-22	03/09/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	36	ND (17)	---	---	61.5
	03/09/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

Notes:

TABLE 3-6h

Sample Results: Polychlorinated Biphenyls

AOC 10 – East Ravine

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
ND	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency
1	Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
2	United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
3	California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
4	ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.
5	Background values have not been established for polychlorinated biphenyls.

TABLE 3-6i
Sample Results: Dioxins and Furans
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals	
Category 1																								
AOC10-10	01/22/16	0 - 1	N	650	79	6.7 J	4.9 J	ND (2.3)	17	ND (3.9)	13	ND (1.6)	ND (2.1)	ND (1)	ND (110)	ND (1)	ND (0.23)	ND (0.13)	6,300	190	12	20	20	
	01/22/16	2 - 3	N	ND (6.9)	ND (2)	ND (1.8)	ND (0.52)	ND (0.23)	ND (0.4)	ND (0.23)	ND (0.57)	1.3 J	ND (0.25)	ND (0.11)	ND (0.87)	ND (0.11)	ND (0.16)	ND (0.081)	31	ND (6.7)	0.57	0.56	0.56	
	01/22/16	5 - 6	N	ND (8.4)	ND (1.8)	4.9 J	ND (0.14)	ND (0.14)	ND (0.12)	ND (0.13)	1.2 J	1.4 J	ND (0.27)	ND (0.14)	ND (0.2)	ND (0.071)	ND (0.043)	ND (0.13)	50	ND (5.1)	0.62	0.59	0.59	
AOC10-11	01/22/16	0 - 1	N	550 J	47	6.1 J	ND (2.5)	ND (0.93)	14	ND (0.93)	5.5 J	ND (1.1)	0.74 J	ND (0.33)	ND (160)	ND (0.62)	ND (0.11)	ND (0.13)	3,500 J	170 J	12	18	18	
	01/22/16	0 - 1	FD	190 J	23	ND (1.3)	ND (1.5)	ND (0.63)	8.6 J	ND (11)	3.4 J	ND (0.74)	ND (0.58)	ND (0.53)	ND (140)	ND (0.57)	ND (0.077)	ND (0.088)	1,100 J	65 J	9.3	12	12	
	01/22/16	2 - 3	N	590	46	5 J	ND (2.1)	ND (1.2)	13	ND (11)	ND (5.4)	ND (0.42)	ND (0.68)	ND (1)	ND (140)	ND (1.1)	ND (0.077)	ND (0.22)	4,800	190	11	18	18	
	01/22/16	5 - 6	N	3,500	760	ND (110)	15	ND (6.8)	150	ND (6.3)	32	ND (7.9)	3.7 J	ND (0.55)	ND (2,400)	ND (2.8)	ND (0.28)	ND (0.33)	33,000	2,700	150	200	200	
	01/22/16	9 - 10	N	170	ND (3.8)	ND (0.54)	4.5 J	ND (0.24)	ND (0.38)	ND (2.2)	ND (0.99)	ND (0.28)	ND (0.25)	ND (0.15)	ND (23)	ND (0.16)	ND (0.093)	ND (0.066)	1,100	15 J	2.2	4.1	4.1	
AOC10-12	01/22/16	0 - 0.5	N	770	ND (1.9)	ND (6.2)	ND (4.7)	ND (3.4)	48	32	25	ND (3.9)	ND (3.3)	ND (2.1)	ND (380)	ND (2.1)	ND (0.34)	ND (0.88)	4,800	310	30	42	42	
	01/22/16	2 - 3	N	540	57	3.8 J	ND (2)	5.6 J	19	3.7 J	ND (1.7)	ND (1.6)	ND (1.4)	ND (1.4)	ND (130)	3 J	ND (0.32)	ND (0.51)	6,100	110	14	19	19	
	01/22/16	5 - 6	N	320	ND (18)	ND (21)	ND (3.8)	5.8 J	21	18	18	ND (2.4)	ND (4.3)	2.1 J	ND (100)	3 J	ND (0.35)	ND (1)	1,400	55	16	19	19	
AOC10-15	12/15/15	0 - 1	N	9,000	630	ND (96)	33	ND (19)	210	ND (17)	59	ND (22)	ND (12) *	ND (11)	ND (2,300)	ND (16)	4.1 J	ND (8.6)	110,000	2,600	180	290	290	
	12/15/15	0 - 1	FD	8,200	650	72	30	62	190	17	56	ND (2.8)	ND (11) *	ND (8.2)	ND (2,000)	ND (8.8)	ND (2.5)	8.2	110,000	2,100	160	270	270	
	12/15/15	2 - 3	N	3,100	230	ND (18)	14	26	85	ND (8.1)	27	ND (10)	8.4 J	ND (3.3)	ND (820)	ND (7.8)	ND (2.4)	ND (4.5)	38,000	920	74	110	110	
	12/15/15	5 - 6	N	2,300	180	21	9.3 J	ND (9.4)	55	ND (5)	19	ND (6.3)	ND (4)	ND (4.4)	ND (570)	ND (4.7)	ND (2.3)	3.1 J	31,000	700	49	77	77	
	12/15/15	9 - 10	N	34	ND (3.1)	ND (1.5)	ND (1.1)	1.4 J	ND (1.9)	1.3 J	ND (1.7)	ND (1.1)	ND (1.1)	ND (1.4)	ND (11)	ND (0.47)	ND (1.3)	ND (1.2)	340	10 J	3.2	2.9	2.9	
AOC10-16	12/15/15	0 - 1	N	23	ND (1.8)	ND (1.7)	1.6 J	ND (1.3)	2.3 J	ND (0.66)	ND (0.76)	ND (0.83)	ND (0.85)	ND (1.4)	ND (1)	ND (0.48)	ND (0.36)	ND (0.86)	110	ND (1.9)	1.7	1.6	1.6	
	12/15/15	2 - 3	N	40	ND (4.2)	1.5 J	ND (0.69)	1 J	ND (2.3)	ND (1.1)	2.7 J	ND (0.63)	1.4 J	ND (1.1)	ND (7.2)	ND (1.1)	ND (1.5)	1.6 J	240	ND (5)	5.3	4	4	
	12/15/15	5 - 6	N	22	ND (6.6)	ND (1)	1.6 J	1.3 J	2.2 J	2.1 J	ND (0.95)	ND (0.42)	ND (1.2)	1.2 J	ND (12)	ND (0.7)	ND (0.17)	ND (1.1)	89	ND (4.9)	2.9	2.6	2.6	
	12/15/15	9 - 10	N	6.9 J	ND (2)	ND (1)	ND (0.74)	1.2 J	ND (1.4)	ND (1)	ND (0.62)	ND (0.79)	ND (0.38)	ND (0.41)	ND (0.88)	ND (1)	ND (1.5)	ND (1.1)	ND (25)	2.6 J	2.3	1.6	1.6	
AOC10-18	12/06/15	0 - 1	N	24	ND (2.5)	ND (0.92)	ND (1)	ND (0.8)	1.5 J	ND (0.81)	1.6 J	ND (0.57)	ND (0.2)	0.82 J	0.56 J	0.77 J	0.6 J	0.46 J	190	4.3 J	2.4	1.8	1.8	
	12/06/15	2 - 3	N	ND (4.8)	ND (1.2)	ND (0.8)	ND (0.98)	ND (0.23)	0.97 J	ND (0.61)	ND (0.75)	0.79 J	0.8 J	ND (0.84)	0.7 J	0.86 J	ND (0.26)	0.45 J	30	2 J	2.6	1.7	1.7	
AOC10-19	02/24/16	0 - 1	N	83 J	6.3 J	ND (0.41) J	ND (0.47) J	ND (0.4) J	2.3 J	ND (0.37) J	1.2 J	ND (0.44) J	0.31 J	ND (0.19) J	ND (6) J	ND (0.091) J	ND (0.067) J	ND (0.27) J	820 J	14 J	1.3	2.3	2.3	
	02/24/16	2 - 3	N	180 J	13 J	ND (0.98) J	1.7 J	ND (0.89) J	4.8 J	1 J	2.4 J	ND (0.12) J	ND (0.29) J	ND (0.088) J	ND (10) J	ND (0.34) J	ND (0.11) J	ND (0.22) J	1,600 J	25 J	2	4.2	4.2	
AOC10-20	02/17/16	0 - 0.5	N	ND (5.5)	ND (0.83)	ND (1.1)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.35)	ND (0.5)	ND (0.12)	ND (0.17)	ND (0.15)	ND (0.17)	ND (0.11)	ND (0.13)	35 J	ND (3)	0.36	0.28	0.28	
	02/25/16	2 - 3	N	1.2 J	ND (0.35)	ND (0.086)	ND (0.044)	ND (0.12)	ND (0.038)	ND (0.1)	ND (0.059)	ND (0.13)	ND (0.047)	ND (0.11)	ND (0.24)	ND (0.27)	ND (0.051)	ND (0.064)	ND (8.9)	ND (0.21)	0.26	0.15	0.15	
AOC10-21	02/25/16	0 - 0.5	N	1,700	270	ND (11)	ND (25)	ND (6.9)	ND (39)	ND (6.8)	ND (14)	ND (8.1)	ND (35) *	ND (2.9)	ND (7.2)	ND (3.1)	ND (2.6)	ND (5.2) J	26,000	250	33	53	53	
	02/25/16	2 - 3	N	2.6 J	ND (0.41)	ND (0.082)	ND (0.088)	ND (0.18)	ND (0.076)	ND (0.16)	ND (0.1)	ND (0.2)	ND (0.071)	ND (0.27)	ND (0.18)	ND (0.27)	ND (0.11)	ND (0.078)	ND (22)	ND (0.72)	0.33	0.22	0.22	
AOC10-22	02/17/16	0 - 0.5	N	800	ND (4.2)	ND (5)	ND (3.3)	ND (5.2)	21	ND (6.7)	ND (2.1)	ND (4.7)	ND (3.1)	ND (2.3)	ND (4.2)	ND (2.4)	ND (2)	ND (3.7)	6,400	90	8.6	17	17	
	02/17/16	1 - 2	N	2,100	ND (0.79)	11 J	12 J	12 J	49	6.8 J	23	2.9 J	ND (5.4) *	ND (1.4)	ND (160)	4.9 J	1 J	1.8 J	9,000	240	27	48	48	
	02/17/16	2 - 3	N	770	ND (280)	ND (14)	9.6 J	ND (7.1)	22	ND (13)	ND (1.4)	ND (2.1)	ND (2.9)	ND (1.9)	ND (120)	3.9 J	ND (0.89)	ND (1.4)	7,100	ND (5.5)	17	25	25	
	02/17/16	5 - 6	N	7.9 J	ND (1.1)	ND (0.29)	ND (0.16)	ND (0.094)	ND (0.33)	ND (0.13)	ND (0.25)	ND (0.31)	ND (0.075)	ND (0.11)	ND (0.83)	ND (0.053)	ND (0.04)	ND (0.18)	51	1.7 J	0.29	0.28	0.28	

TABLE 3-6i
Sample Results: Dioxins and Furans
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
AOC10-23	02/25/16	0 - 1	N	63,000	2,300 J	120 J	ND (31) J	ND (45) J	980 J	110 J	140 J	ND (51) J	ND (21) J*	ND (7.9) J	ND (3,300) J	100 J	2.7 J	ND (25) J	230,000	11,000 J	440	1,100	1,100
	02/25/16	1 - 2	N	230	ND (150)	ND (3.8)	ND (3.1)	ND (3)	10 J	ND (6)	ND (3)	ND (2)	ND (5.1) *	ND (0.54)	ND (1.7)	ND (2.1)	ND (0.46)	ND (0.63)	2,000	94	6.3	8.8	8.8
	02/25/16	2 - 3	N	890	34	ND (5.7)	ND (0.68)	4.1 J	13	1.9 J	ND (3.8)	ND (1.9)	ND (0.62)	1.1 J	ND (64)	2 J	ND (0.38)	1.2 J	4,300	55	9.7	17	17
AOC10-24	03/07/16	0 - 1	N	590	41	ND (2.4)	6.5 J	ND (0.26)	17	2.5 J	11 J	ND (1)	3.4 J	ND (0.32)	ND (96)	2.6 J	ND (0.41)	ND (1.2)	5,300	130	15	21	21
	03/07/16	2 - 3	N	3,000	ND (37)	ND (44)	22	ND (23)	140	ND (23)	49	ND (27)	8.1 J	4.7 J	ND (2,300)	7.9 J	0.22 J	1 J	28,000	2,100	150	190	190
AOC10-25	01/08/17	0 - 0.5	N	30 J	ND (2.4)	ND (0.59)	ND (0.25)	ND (0.35)	ND (0.75)	ND (0.31)	0.63 J	ND (0.63)	ND (0.16)	ND (0.31)	ND (3.8)	ND (0.66)	ND (0.054)	ND (0.13)	200 J	ND (4.5)	0.91	0.96	0.96
	01/08/17	0 - 0.5	FD	130 J	ND (11)	ND (1.4)	ND (2.8)	ND (0.62)	ND (0.66)	ND (1.7)	ND (0.68)	ND (0.7)	ND (0.53)	ND (0.8)	8 J	ND (5.2)	ND (0.2)	1.5 J	1,500 J	29	5.9	4.3	4.3
	01/08/17	2 - 3	N	ND (0.24)	ND (1.1)	ND (0.73)	ND (0.34)	ND (0.16)	ND (0.54)	ND (0.28)	ND (0.41)	ND (0.7)	ND (0.14)	ND (0.1)	ND (0.51)	ND (0.14)	ND (0.14)	ND (0.41)	ND (41)	ND (1.6)	ND (0.55)	ND (0.35)	ND (0.35)
	01/08/17	5 - 6	N	ND (2.3)	ND (0.23)	ND (1.3)	ND (0.47)	ND (0.26)	ND (0.27)	ND (0.56)	ND (0.55)	1 J	ND (0.5)	ND (0.097)	0.73 J	ND (0.1)	ND (0.064)	ND (0.095)	ND (18)	ND (1.8)	0.65	0.6	0.6
	01/08/17	9 - 10	N	2.2 J	ND (0.49)	ND (0.56)	ND (0.3)	ND (0.13)	ND (0.22)	ND (0.12)	ND (0.11)	ND (0.39)	ND (0.14)	ND (0.076)	ND (0.36)	ND (0.2)	ND (0.12)	ND (0.082)	ND (14)	ND (1.7)	0.35	0.28	0.28
AOC10-26	02/21/17	0 - 0.5	N	220	21	2.6 J	3 J	ND (1.2)	7.8 J	1.3 J	4.9 J	ND (0.2)	1.7 J	0.51 J	ND (50)	1.8 J	ND (0.15)	ND (0.39)	1,500	41	7.8	9.5	9.5
	02/21/17	2 - 3	N	1,200	170	17	13	8 J	49	28	24	ND (2.5)	5.6 J	3 J	ND (910)	ND (3.7)	ND (0.04)	ND (0.1)	6,500	250	64	80	80
	02/21/17	2 - 3	FD	3,400	410	44	29	19	120	60	57	5.6 J	13	5.1 J	ND (1,900)	6.7 J	ND (0.16)	1.1 J	16,000	610	140	180	180
	02/21/17	2.5 - 2.7	N	9,300	1,100	110	73	48	300	120	140	13	28	ND (8.9)	ND (3,800)	13	ND (0.17)	0.75 J	54,000	2,000	300	410	410
	02/21/17	4.5 - 5	N	1,800	440	36	11 J	12 J	80	15	25	3.9 J	ND (5.7) *	2.5 J	ND (1,100)	12 J	ND (0.1)	1.1 J	15,000	830	86	100	100
AOC10-27	01/04/17	0 - 0.5	N	450	44	ND (4.4)	ND (3.4)	ND (6.3)	12 J	ND (5.5)	7.9 J	ND (7.2)	ND (1.1)	ND (2)	ND (6.5)	7.7 J	ND (0.14)	ND (0.71)	6,100	71	13	13	13
	01/04/17	2 - 3	N	260	36	4.6 J	3.3 J	ND (2.3)	9.9 J	5.7 J	5.3 J	ND (1.7)	ND (1.8)	ND (1.4)	ND (100)	ND (5)	ND (0.2)	ND (0.47)	1,800	72	11	13	13
	01/04/17	4 - 5	N	30	6.8 J	ND (1.2)	ND (0.22)	ND (0.3)	ND (0.22)	ND (0.59)	ND (0.22)	ND (0.36)	ND (0.21)	ND (0.3)	ND (18)	ND (0.32)	ND (0.13)	ND (0.25)	260	17 J	1.6	1.7	1.7
AOC10-6	09/20/08	0 - 0.5	N	170 J	13 J	ND (1.7) J	2.2 J	ND (1) J	4.5 J	ND (1.4) J	3.4 J	ND (0.75) J	ND (0.26) J	ND (0.34) J	ND (17) J	1.9 J	ND (0.099) J	ND (0.39) J	1,800 J	ND (28)	4.3	5.2	5.2
	09/20/08	2 - 3	N	ND (6.3) J	ND (1.4) J	ND (1.7) J	ND (1.3) J	ND (2) J	ND (1.6) J	ND (1.8) J	ND (1.6) J	ND (2.3) J	ND (1.5) J	ND (1.4) J	ND (2) J	ND (1.4) J	ND (1.1) J	ND (1.6) J	ND (5) J	ND (5.9) J	ND (3.4)	ND (2.3)	ND (2.3)
AOC10a-2	01/13/16	0 - 1	N	650 J	38 J	ND (2.2) J	7.2 J	3.2 J	17 J	ND (3.8) J	ND (10) J	ND (0.76) J	ND (2.8) J	3.3 J	ND (49) J	ND (0.85) J	ND (0.18) J	0.89 J	6,600 J	66 J	8.9	17	17
	01/13/16	2 - 3	N	ND (2.5) J	ND (0.24) J	ND (0.2) J	ND (0.21) J	ND (0.062) J	ND (0.14) J	ND (0.058) J	ND (0.15) J	ND (0.075) J	ND (0.093) J	ND (0.083) J	ND (0.53) J	ND (0.088) J	ND (0.066) J	ND (0.097) J	ND (18) J	ND (0.36) J	ND (0.23)	ND (0.18)	ND (0.18)
AOC10a-3	01/13/16	0 - 1	N	2,700	550	ND (87)	ND (5.1)	ND (9.7)	100	ND (8.5)	31	ND (11)	7.3 J	ND (1)	ND (1,200)	4 J	ND (0.22)	ND (0.38)	22,000	1,200	88	120	120
	01/13/16	2 - 3	N	5,400	660	ND (76)	18	ND (15)	110	ND (13)	43	ND (17)	8 J	ND (2.7)	ND (1,000)	ND (3.5)	0.66 J	2.3 J	44,000	2,200	88	150	150
	01/13/16	5 - 6	N	ND (9.5)	ND (1.3)	ND (0.52)	ND (0.39)	ND (0.67)	ND (0.24)	ND (0.59)	ND (0.25)	ND (1.6)	ND (0.15)	ND (0.2)	ND (0.67)	ND (0.13)	ND (0.15)	ND (0.092)	75	ND (2.3)	0.49	0.48	0.48
	01/13/16	9 - 10	N	ND (4.8)	ND (0.52)	ND (0.22)	ND (0.12)	ND (0.4)	ND (0.15)	ND (0.35)	ND (0.16)	ND (0.45)	ND (0.21)	ND (0.1)	ND (0.65)	ND (0.11)	ND (0.14)	ND (0.29)	34	ND (1.8)	0.49	0.36	0.36
AOC10a-4	01/08/17	0 - 0.5	N	770	62	5.5 J	ND (5)	3.7 J	17	ND (1.6)	8.5 J	ND (1.3)	2.2 J	ND (1)	ND (120)	1.3 J	ND (0.11)	ND (0.65)	8,400	150	14	23	23
	01/08/17	2 - 3	N	4.6 J	1 J	ND (0.26)	ND (0.16)	ND (0.13)	ND (0.23)	ND (0.13)	ND (0.61)	ND (0.2)	ND (0.2)	ND (0.21)	ND (0.66)	ND (0.079)	ND (0.061)	ND (0.085)	43	ND (1.9)	0.33	0.33	0.33
AOC10b-1	09/30/08	0 - 0.5	N	820 J	88 J	ND (5.3) J	5.8 J	ND (2.2) J	20 J	ND (4.1) J	12 J	ND (2.5) J	2.7 J	ND (0.59) J	ND (100) J	ND (0.59) J	ND (0.14) J	ND (0.36) J	7,900 J	230 J	13	24	24
	09/30/08	2 - 3	N	4,600 J	980 J	ND (83) J	33 J	25 J	170 J	42 J	67 J	ND (9.6) J	16 J	ND (1.7) J	ND (1,700) J	ND (5.7) J	ND (0.62) J	ND (1.6) J	38,000 J	1,800 J	140	200	200
	09/30/08	5 - 6	N	2,600 J	650 J	56 J	27 J	ND (11) J	ND (1.2) J	ND (56) J	54 J	ND (12) J	15 J	ND (8.3) J	ND (1,600) J	ND (8.3) J	ND (0.17) J	ND (0.38) J	17,000 J	930 J	120	150	150

Sample Results: Dioxins and Furans
AOC 10 – East Ravine
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PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

Θ	white powder sample.
--	not analyzed
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC-SL	DTSC Screening Levels
DTSC	California Department of Toxic Substances Control
FD	Field Duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	Primary Sample

TABLE 3-6i
Sample Results: Dioxins and Furans
AOC 10 – East Ravine
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NA	NA = not applicable
NE	not established
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	USEPA = United States Environmental Protection Agency

- 1 For individual dioxins and furans, selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher. For TEQ values, selected value is the DTSC-SL.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. JanuaryCalifornia Department of Toxic Substances Control (DTSC). 2017. Human Health Risk Assessment (HHRA) Note 2, Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites. April.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Decteded Chemicals in Soil." July 1.
- 5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

Calculations:

TEQ = Sum of Result xToxic equivalency factor (TEF), 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQ Avian = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQMammals = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

Teq Humans = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TABLE 3-6j
Constituent Concentrations in Soil Compared to Screening Values
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶			
Parameter	Units				# of ⁷		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸	
					Exceedences	(BK)	Exceedences	(ECV)	Exceedences	(RSL)	Exceedences	(ESL)	Exceedences	(CSL)	Exceedences	(ISL)		
Dioxins and Furans																		
TEQ Avian	ng/kg	28	75 / 79 (95%)	1,100	43	(5.98)	26	(16)	NA	(NE)	NA	(NA)	NA	(NE)	26	(16)		
TEQ Human	ng/kg	28	75 / 79 (95%)	1,600	43	(5.58)	NA	(NE)	22	(50)	NA	(NA)	7	(220)	22	(50)		
TEQ Mammals	ng/kg	28	75 / 79 (95%)	1,600	43	(5.58)	43	(1.6)	NA	(NE)	NA	(NA)	NA	(NE)	43	(5.58)		
Metals																		
Antimony	mg/kg	57	1 / 172 (0.58%)	15	NA	(NE)	1	(0.285)	0	(31)	NA	(NA)	0	(470)	1	(0.285)		
Arsenic	mg/kg	57	169 / 172 (98%)	17	5	(11)	5	(11.4)	5	(0.11) *	NA	(NA)	5	(0.36) *	5	(11)		
Barium	mg/kg	57	172 / 172 (100%)	1,300	3	(410)	3	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	3	(410)		
Beryllium	mg/kg	57	0 / 172 (0%)	ND (5.2) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)		
Cadmium	mg/kg	57	5 / 172 (2.9%)	7.4	4	(1.1)	4	(0.0151) *	1	(5.2)	NA	(NA)	1	(7.3)	4	(1.1)		
Chromium, Hexavalent	mg/kg	73	91 / 195 (47%)	2,700	54	(0.83)	2	(139.6)	54	(0.3)	NA	(NA)	14	(6.3)	54	(0.83)		
Chromium, Hexavalent-SPLP	mg/L	4	4 / 4 (100%)	0.128	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)		
Chromium, total	mg/kg	74	199 / 199 (100%)	4,000	66	(39.8)	66	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	66	(39.8)		
Chromium-SPLP	mg/L	4	4 / 4 (100%)	0.139	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)		
Cobalt	mg/kg	57	172 / 172 (100%)	36	4	(12.7)	2	(13)	2	(23)	NA	(NA)	0	(350)	4	(12.7)		
Copper	mg/kg	66	186 / 186 (100%)	3,100	65	(16.8)	50	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	65	(16.8)		
Lead	mg/kg	57	171 / 172 (99%)	920	56	(8.39)	56	(0.0166) *	4	(80)	NA	(NA)	1	(320)	56	(8.39)		
Mercury	mg/kg	57	11 / 172 (6.4%)	35	NA	(NE)	11	(0.0125)	2	(1)	NA	(NA)	1	(4.5)	11	(0.0125)		
Molybdenum	mg/kg	60	34 / 175 (19%)	19	25	(1.37)	16	(2.25)	0	(390)	NA	(NA)	0	(5,800)	25	(1.37)		
Nickel	mg/kg	66	186 / 186 (100%)	51	11	(27.3)	11	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	11	(27.3)		
Selenium	mg/kg	57	3 / 172 (1.7%)	9.1	2	(1.47)	2	(0.177) *	0	(390)	NA	(NA)	0	(5,800)	2	(1.47)		
Silver	mg/kg	57	0 / 172 (0%)	ND (5.2) ‡	NA	(NE)	0	(5.15)	0	(390)	NA	(NA)	0	(1,500)	0	(5.15)		
Thallium	mg/kg	57	4 / 172 (2.3%)	6.1	NA	(NE)	4	(2.32)	4	(0.78)	NA	(NA)	0	(12)	4	(0.78)		
Vanadium	mg/kg	57	172 / 172 (100%)	52	0	(52.2)	0	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	0	(52.2)		
Zinc	mg/kg	66	186 / 186 (100%)	1,000	64	(58)	64	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	64	(58)		
Contract Laboratory Program Inorganics																		
Aluminum	mg/kg	12	13 / 13 (100%)	18,000	1	(16,400)	NA	(NE)	0	(77,000)	NA	(NA)	0	(1,100,000)	1	(16,400)		
Calcium	mg/kg	13	14 / 14 (100%)	139,000	1	(66,500)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	1	(66,500)		
Iron	mg/kg	13	14 / 14 (100%)	32,000	1	(29,303)	NA	(NE)	0	(55,000)	NA	(NA)	0	(820,000)	1	(29,303)		
Magnesium	mg/kg	13	14 / 14 (100%)	12,800	1	(12,100)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	1	(12,100)		
Manganese	mg/kg	12	13 / 13 (100%)	1,300	2	(402)	2	(220)	0	(1,800)	NA	(NA)	0	(6,900)	2	(402)		
Potassium	mg/kg	12	13 / 13 (100%)	4,100	0	(4,400)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(4,400)		
Sodium	mg/kg	13	14 / 14 (100%)	1,280	0	(2,070)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(2,070)		
Cyanide	mg/kg	11	1 / 12 (8.3%)	0.223	NA	(NE)	0	(0.9)	0	(23)	NA	(NA)	0	(150)	0	(0.9)		
Volatile Organic Compounds																		
Isophorone	µg/kg	37	2 / 109 (1.8%)	2,800	NA	(NE)	NA	(NE)	0	(570,000)	NA	(NA)	0	(2,400,000)	0	(570,000)		
Polycyclic Aromatic Hydrocarbons																		
1-Methyl naphthalene	µg/kg	58	11 / 174 (6.3%)	81	NA	(NE)	NA	(NE)	0	(18,000)	NA	(NA)	0	(73,000)	0	(18,000)		
2-Methyl naphthalene	µg/kg	58	10 / 174 (5.7%)	91	NA	(NE)	NA	(NE)	0	(240,000)	NA	(NA)	0	(3,000,000)	0	(240,000)		
Acenaphthene	µg/kg	58	9 / 174 (5.2%)	8.5	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)		
Acenaphthylene	µg/kg	58	10 / 174 (5.7%)	26	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)		
Anthracene	µg/kg	58	18 / 174 (10%)	95	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)		

TABLE 3-6j
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Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations			Frequency of Detection		Maximum Detected Value		Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶		
Parameter	Units	Locations	Detection	Value	# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)					
Polycyclic Aromatic Hydrocarbons																					
Benzo (a) anthracene	µg/kg	58	53 / 174 (30%)	1,200	NA	(NE)	NA	(NE)	1	(1,100)	NA	(NA)	0	(21,000)	1	(1,100)					
Benzo (a) pyrene	µg/kg	58	58 / 174 (33%)	4,400	NA	(NE)	NA	(NE)	9	(110)	NA	(NA)	1	(2,100)	9	(110)					
Benzo (b) fluoranthene	µg/kg	58	63 / 174 (36%)	15,000	NA	(NE)	NA	(NE)	5	(1,100)	NA	(NA)	0	(21,000)	5	(1,100)					
Benzo (ghi) perylene	µg/kg	58	55 / 174 (32%)	1,400	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)					
Benzo (k) fluoranthene	µg/kg	58	56 / 174 (32%)	5,800	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)					
Chrysene	µg/kg	58	68 / 174 (39%)	5,200	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)					
Dibenzo (a,h) anthracene	µg/kg	58	25 / 174 (14%)	340	NA	(NE)	NA	(NE)	1	(110)	NA	(NA)	0	(2,100)	1	(110)					
Fluoranthene	µg/kg	58	70 / 174 (40%)	2,600	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)					
Fluorene	µg/kg	58	9 / 174 (5.2%)	9.8	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)					
Indeno (1,2,3-cd) pyrene	µg/kg	58	52 / 174 (30%)	1,100	NA	(NE)	NA	(NE)	1	(1,100)	NA	(NA)	0	(21,000)	1	(1,100)					
Naphthalene	µg/kg	58	10 / 174 (5.7%)	18	NA	(NE)	NA	(NE)	0	(3,800)	NA	(NA)	0	(17,000)	0	(3,800)					
Phenanthrene	µg/kg	58	54 / 174 (31%)	780	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)					
Pyrene	µg/kg	58	69 / 174 (40%)	2,600	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)					
PAH Low molecular weight	µg/kg	58	174 / 174 (100%)	859.3	17	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)					
PAH High molecular weight	µg/kg	58	174 / 174 (100%)	32,900	28	(267.4)	10	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	10	(1,160)					
B(a)P Equivalent	µg/kg	58	73 / 174 (42%)	8,200	32	(55)	NA	(NE)	16	(110)	NA	(NA)	2	(2,100)	16	(110)					
Polychlorinated biphenyls																					
Aroclor 1016	µg/kg	39	3 / 93 (3.2%)	17	NA	(NE)	NA	(NE)	0	(4,100)	NA	(NA)	0	(27,000)	0	(4,100)					
Aroclor 1221	µg/kg	39	3 / 93 (3.2%)	34	NA	(NE)	NA	(NE)	0	(200)	NA	(NA)	0	(830)	0	(200)					
Aroclor 1232	µg/kg	39	3 / 93 (3.2%)	17	NA	(NE)	NA	(NE)	0	(170)	NA	(NA)	0	(720)	0	(170)					
Aroclor 1242	µg/kg	39	3 / 93 (3.2%)	17	NA	(NE)	NA	(NE)	0	(230)	NA	(NA)	0	(950)	0	(230)					
Aroclor 1248	µg/kg	39	4 / 93 (4.3%)	320	NA	(NE)	NA	(NE)	1	(230)	NA	(NA)	0	(950)	1	(230)					
Aroclor 1254	µg/kg	39	25 / 93 (27%)	990	NA	(NE)	NA	(NE)	3	(240)	NA	(NA)	1	(970)	3	(240)					
Aroclor 1260	µg/kg	39	9 / 93 (9.7%)	85	NA	(NE)	NA	(NE)	0	(240)	NA	(NA)	0	(990)	0	(240)					
Total PCBs	µg/kg	39	25 / 93 (27%)	1,007	NA	(NE)	5	(204)	4	(230)	NA	(NA)	1	(940)	5	(204)					
Total Petroleum Hydrocarbons																					
TPH as diesel	mg/kg	43	19 / 123 (15%)	4,000	NA	(NE)	NA	(NE)	5	(230)	5	(230)	3	(1,100)	5	(230)					
TPH as motor oil	mg/kg	43	62 / 123 (50%)	8,900	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)					

TABLE 3-6j
Constituent Concentrations in Soil Compared to Screening Values
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RSL	esidential screening level
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

- 1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.
- 2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1
- 3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.
- 4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr
- 5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.
- 6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).
- 8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-6k
Sample Results: Metals in Sediment
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				NE	NE	9.79	NE	410	NE	0.672	NE	0.99	NE	NE	0.83	43.4	12.7	NE	31.6	NE	35.8
Soil Background ² :				NE	NE	11	NE	410	NE	0.672	NE	1.1	NE	NE	0.83	39.8	12.7	NE	16.8	NE	8.39
Consensus-based Threshold effect concentration ³ :				NE	NE	9.79	NE	NE	NE	NE	0.99	NE	NE	NE	43.4	NE	NE	NE	31.6	NE	35.8
Consensus-based Probable effect concentration ³ :				NE	NE	33	NE	NE	NE	NE	4.98	NE	NE	NE	111	NE	NE	NE	149	NE	128
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Antimony, AVS	Arsenic	Arsenic, AVS	Barium	Barium, AVS	Beryllium	Beryllium, AVS	Cadmium	Cadmium, AVS	Chromium , AVS	Chromium, Hexavalent	Chromium, total	Cobalt	Cobalt, AVS	Copper	Copper, AVS	Lead
Category 1																					
ERPW-1	01/28/16 ^Δ	0 - 0.5	N	ND (4) *	0.845 J	5.9	8.14	200	278	ND (2) *	ND (0.0388)	ND (2) *	ND (0.0775)	2.03	ND (0.4)	18	6.9	2.54	9.4	17.1	17
	01/28/16 ^Δ	1 - 1.5	N	ND (2.6) *	ND (0.214)	5.2	0.707 J	90	30.6	ND (1.3) *	ND (0.0105)	ND (1.3) *	ND (0.021)	0.518	ND (0.26)	15	5.2	0.549	6.7	2.41	18
	01/28/16 ^Δ	1.5 - 2	N	ND (2.6) *	ND (0.119)	4.9	0.91	99	27.6	ND (1.3) *	ND (0.0119)	ND (1.3) *	ND (0.0238)	0.861	ND (0.26) J	11	5.9	0.549	6.2	1.78	19
ERPW-10	01/24/16 ^Δ	0 - 0.5	N	ND (3) *	ND (0.167)	10	3.95	500	53	ND (1.5) *	0.21	ND (1.5) *	0.149	0.804	ND (0.3)	34	10	1.42	44	19.1	18
	01/24/16 ^Δ	1 - 1.5	N	ND (2.6) *	ND (0.145)	21	5.38	280	31.7	ND (1.3) *	0.189	ND (1.3) *	0.113	0.577	ND (0.26)	20	11	1.18	24	11.4	21
	01/24/16 ^Δ	1.5 - 2	N	ND (2.6) *	ND (0.113)	5.8	3.44	290	53.6	ND (1.3) *	0.137	ND (1.3) *	0.11 J	0.362	ND (0.26)	17	5.3	0.779	18	9.87	15
ERPW-2	01/25/16 ^Δ	0 - 0.5	N	ND (2.8) *	ND (0.127)	3.6	0.534 J	110	16.9	ND (1.4) *	ND (0.0127)	ND (1.4) *	ND (0.0254)	1.13	ND (0.28)	4.3	1.6	0.295	3.7	ND (1.92)	6
	01/25/16 ^Δ	1 - 1.5	N	ND (2.7) *	ND (0.185)	2.4	0.806 J	150	18.3	ND (1.3) *	ND (0.00993)	ND (1.3) *	0.0633 J	0.449	ND (0.27)	4.5	1.6	0.343	2.7	ND (1.29)	6.5
	01/25/16 ^Δ	1.5 - 2	N	ND (2.7) *	ND (0.122)	2.1	0.632 J	130	16.9	ND (1.3) *	ND (0.0122)	ND (1.3) *	ND (0.0245)	0.566	ND (0.27)	3.3	ND (1.3)	0.207 J	ND (2.7)	ND (0.774)	4.1
ERPW-3	01/25/16 ^Δ	0 - 0.5	N	ND (7.9) *	ND (0.291)	17	4.56	290	122	ND (3.9) *	ND (0.0291)	ND (3.9) *	0.068 J	0.965	ND (0.79)	22	8.9	1.79	30	10	30
	01/25/16 ^Δ	1 - 1.5	N	ND (3) *	ND (0.12)	4.2	1.06	79	37.6	ND (1.5) *	ND (0.0108)	ND (1.5) *	0.0348 J	0.344	ND (0.3)	4.2	1.6	0.363	4.3	ND (1.62)	7.1
	01/25/16 ^Δ	1.5 - 2	N	ND (3.2) *	ND (0.103)	5.6	0.954	110	30	ND (1.6) *	ND (0.0102)	ND (1.6) *	0.0488 J	0.517	ND (0.32)	7.1	2.4	0.294	8	ND (0.789)	14
	01/28/16 ^Δ	5.5 - 6	N	---	---	---	---	---	---	---	---	---	---	---	ND (0.34)	3.3	---	---	---	---	---
ERPW-4	01/28/16 ^Δ	0 - 0.5	N	ND (6.8) *	ND (0.219)	10	2.44	140	58.5	ND (3.4) *	ND (0.0151)	ND (3.4) *	0.057 J	1.13	ND (0.68)	9.1	4.1	0.715	15	4.56	13
	01/28/16 ^Δ	1 - 1.5	N	ND (3.3) *	ND (0.118)	6.9	0.549 J	110	38	ND (1.7) *	0.0252 J	ND (1.7) *	0.0469 J	0.37	ND (0.33)	6.6	3	0.344	7.6	ND (1.17)	13
	01/28/16 ^Δ	1.5 - 2	N	ND (3.4) *	ND (0.119)	6	0.738	100	26	ND (1.7) *	ND (0.0119)	ND (1.7) *	0.0377 J	0.265	ND (0.34)	4.8	2	0.277	5.1	ND (0.982)	9.2
ERPW-5	01/25/16 ^Δ	0 - 0.5	N	ND (7) *	ND (0.593)	11	6.22	250	132	ND (3.5) *	0.221 J	ND (3.5) *	ND (0.0576)	2.2	ND (0.7)	22	8.3	3.11	29	26.6	34
	01/25/16 ^Δ	1 - 1.5	N	ND (3.7) *	ND (0.401)	7.4	1.9	150	74.9	ND (1.9) *	ND (0.014)	ND (1.9) *	0.177	2.57	ND (0.37) J	11	4.1	0.873	12	ND (5.36)	21
	01/25/16 ^Δ	1.5 - 2	N	ND (4.1) *	ND (0.171)	8.1	1.46	200	48.5	ND (2) *	ND (0.0123)	ND (2) *	0.108 J	1.5	ND (0.41)	11	4	0.677	11	ND (3.62)	20
ERPW-6	01/24/16 ^Δ	0 - 0.5	N	ND (3.5) *	ND (0.109)	9.1	0.946	230	13.8	ND (1.7) *	0.0241 J	ND (1.7) *	0.0285 J	0.313	ND (0.35)	16	7.2	0.254	18	ND (0.8)	39
	01/24/16 ^Δ	1 - 1.5	N	ND (2.2) *	0.183 J	4.1	0.832 J	150	19.3	ND (1.1) *	0.0152 J	ND (1.1) *	0.0266 J	0.255	ND (0.22)	10	5.7	0.247	6.3	1.78	23
	01/24/16 ^Δ	1.5 - 2	N	ND (2.4) *	0.113 J	4.3	0.859	120	18.7	ND (1.2) *	0.0318 J	ND (1.2) *	0.0283 J	0.104 J	ND (0.23)	8.9	5.2	0.214 J	7.6	1.43	28
ERPW-7	01/24/16 ^Δ	0 - 0.5	N	ND (2.6) *	ND (0.304)	4.2	1.12	130	23.6	ND (1.3) *	0.0275 J	ND (1.3) *	ND (0.0229)	0.238	ND (0.26)	4.2	2	0.339	3	ND (1.89)	5
	01/24/16 ^Δ	0 - 0.5	FD	ND (2.7) *	ND (0.245)	3.1	0.657 J	150	20.6	ND (1.3) *	0.0175 J	ND (1.3) *	ND (0.0261)	0.147 J	ND (0.27)	3	1.4	0.274	ND (2.7)	ND (1.55)	3.5
	01/24/16 ^Δ	1 - 1.5	N	ND (2.7) *	ND (0.155)	3.8	0.444 J	76	14.4 J	ND (1.3) *	0.0132 J	ND (1.3) *	ND (0.0244)	ND (0.0488)	ND (0.27)	2.8	1.4	0.194 J	2.9	ND (0.817)	4.1
	01/24/16 ^Δ	1 - 1.5	FD	ND (2.7) *	ND (0.275)	3.2	0.395 J	68	19 J	ND (1.3) *	ND (0.0123)	ND (1.3) *	ND (0.0245)	0.0743 J	ND (0.27)	2.3	ND (1.3)	0.265	ND (2.7)	ND (0.804)	3.2
	01/24/16 ^Δ	1.5 - 2	N	ND (2.7) *	ND (0.16)	3.4	0.359 J	71	20.7	ND (1.4) *	0.0134 J	ND (1.4) *	0.0282 J	0.0582 J	ND (0.27)	2.3	ND (1.4)	0.255	ND (2.7)	ND (1.08)	3.4
	01/24/16 ^Δ	1.5 - 2	FD	ND (2.6) *	0.28 J	3.2	ND (0.242)	63	17.9	ND (1.3) *	0.0183 J	ND (1.3) *	0.0244 J	0.0617 J	ND (0.26)	2	ND (1.3)	0.259	ND (2.6)	ND (1.02)	3
	01/25/16 ^Δ	5.5 - 6	N	---	---	---	---	---	---	---	---	---	---	---	ND (0.26)	3.5	---	---	---	---	---
ERPW-8	01/24/16 ^Δ	0 - 0.5	N	ND (2.8) *	0.224 J	3.5	4.97	160	125	ND (1.4) *	0.162	ND (1.4) *	0.173	1.32	ND (0.28)	5.2	1.9	2.4	4	11	4.9
	01/24/16 ^Δ	1 - 1.5	N	ND (2.6) *	ND (0.12)	3.2	0.467 J	65	16.1	ND (1.3) *	ND (0.012)	ND (1.3) *	ND (0.0239)	0.531	ND (0.26)	2.7	ND (1.3)	0.233 J	ND (2.6)	ND (0.97)	3
	01/24/16 ^Δ	1.5 - 2	N	ND (2.6) *	ND (0.353)	2.5	0.501 J	130	17.1	ND (1.3) *	0.021 J	ND (1.3) *	ND (0.0219)	0.576	ND (0.26)	3.8	1.3	0.223	ND (2.6)	ND (1.34)	3.7
ERPW-9	01/23/16 ^Δ	0 - 0.5	N	ND (5.1) *	0.419 J	13	2.93	230	80.9	ND (2.5) *	0.209	ND (2.5) *	0.0819 J	0.975	ND (0.51)	24	10	0.95	34	7.13	25
	01/23/16 ^Δ	1 - 1.5	N	ND (3.6) *	ND (0.124)	8.4	0.73 J	90	37.5	ND (1.8) *	ND (0.0124)	ND (1.8) *	0.0439 J	0.464	ND (0.36)	8.9	3.5	0.253	12	ND (0.804)	11
	01/23/16 ^Δ	1.5 - 2	N	ND (3.6) *	ND (0.121)	7.7	0.692 J	120	25	ND (1.8) *	ND (0.0121)	ND (1.8) *	0.0304 J	0.253	ND (0.36)	10	4.1	0.231 J	12	ND (0.648)	12

TABLE 3-6k
Sample Results: Metals in Sediment
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Δ	sediment sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established

1 Interim screening level is equal to the to the lower value between the threshold effect concentration and probable effect concentration. If neither is available, then the soil background value, if available, is used.
2 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.
3 MacDonald, D.D., C.G. Ingersoll, and T. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environm. Contam. Toxicol. 39:20-31.

TABLE 3-6I
Sample Results: Polycyclic Aromatic Hydrocarbons in Sediment
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Soil Background ² : Consensus-based Threshold effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55	
				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Consensus-based Probable effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
Category 1																								
ERPW-1	01/28/16 ^Δ	0 - 0.5	N	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND	ND	ND (12)
	01/28/16 ^Δ	1 - 1.5	N	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND	ND	ND (7.5)
	01/28/16 ^Δ	1.5 - 2	N	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND	ND	ND (7.6)
ERPW-10	01/24/16 ^Δ	0 - 0.5	N	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND (7.5)	ND	ND	ND (8.7)
	01/24/16 ^Δ	1 - 1.5	N	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND	ND	ND (7.5)
	01/24/16 ^Δ	1.5 - 2	N	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND	ND	ND (7.5)
ERPW-2	01/25/16 ^Δ	0 - 0.5	N	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND	ND	ND (8.2)
	01/25/16 ^Δ	1 - 1.5	N	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND	ND	ND (7.7)
	01/25/16 ^Δ	1.5 - 2	N	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND	ND	ND (7.7)
ERPW-3	01/25/16 ^Δ	0 - 0.5	N	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND	ND	ND (23)
	01/25/16 ^Δ	1 - 1.5	N	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND (7.4)	ND	ND	ND (8.6)
	01/25/16 ^Δ	1.5 - 2	N	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND (8)	ND	ND	ND (9.2)
	01/28/16 ^Δ	5.5 - 6	N	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND	ND	ND (7.2)
ERPW-4	01/28/16 ^Δ	0 - 0.5	N	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	ND	ND (20)
	01/28/16 ^Δ	1 - 1.5	N	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND (8.3)	ND	ND	ND (9.6)
	01/28/16 ^Δ	1.5 - 2	N	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND (8.5)	ND	ND	ND (9.8)
ERPW-5	01/25/16 ^Δ	0 - 0.5	N	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND	ND	ND (21)
	01/25/16 ^Δ	1 - 1.5	N	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND (9.2)	ND	ND	ND (11)
	01/25/16 ^Δ	1.5 - 2	N	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND	ND	ND (12)
ERPW-6	01/24/16 ^Δ	0 - 0.5	N	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND (8.7)	ND	ND	ND (10)
	01/24/16 ^Δ	1 - 1.5	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
	01/24/16 ^Δ	1.5 - 2	N	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND	ND	ND (6.8)
ERPW-7	01/24/16 ^Δ	0 - 0.5	N	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND	ND	ND (7.6)
	01/24/16 ^Δ	0 - 0.5	FD	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND	ND	ND (7.7)
	01/24/16 ^Δ	1 - 1.5	N	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND	ND	ND (7.7)
	01/24/16 ^Δ	1 - 1.5	FD	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND (6.6)	ND	ND	ND (7.6)
	01/24/16 ^Δ	1.5 - 2	N	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND	ND	ND (7.7)
	01/24/16 ^Δ	1.5 - 2	FD	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND	ND	ND (7.5)
	01/25/16 ^Δ	5.5 - 6	N	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND	ND	ND (7.5)
ERPW-8	01/24/16 ^Δ	0 - 0.5	N	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND	ND	ND (8.1)
	01/24/16 ^Δ	1 - 1.5	N	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND	ND	ND (7.5)
	01/24/16 ^Δ	1.5 - 2	N	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND (6.4)	ND	ND	ND (7.4)

TABLE 3-6I
Sample Results: Polycyclic Aromatic Hydrocarbons in Sediment
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Soil Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55	
Consensus-based Threshold effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Consensus-based Probable effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
ERPW-9	01/23/16 ^Δ	0 - 0.5	N	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND (13)	ND	ND	ND (15)
	01/23/16 ^Δ	1 - 1.5	N	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND	ND	ND (10)
	01/23/16 ^Δ	1.5 - 2	N	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND (8.9)	ND	ND	ND (10)

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled.

Δ	sediment sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

- 1 Interim screening level is equal to the to the lower value between the threshold effect concentration and probable effect concentration. If neither is available, then the soil background value, if available, is used.
- 2 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.
- 3 MacDonald, D.D., C.G. Ingersoll, and T. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environm. Contam. Toxicol. 39:20-31.

TABLE 3-6m

Sample Results: General Chemistry Parameters in Sediment

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry	
				(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE
Soil Background ² :				NE	NE
Consensus-based Threshold effect concentration ³ :				NE	NE
Consensus-based Probable effect concentration ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Ammonia as nitrogen	Total organic carbon
Category 1					
ERPW-1	01/28/16	0 - 0.5	N	77.7	18,300
	01/28/16	1 - 1.5	N	2.87	796
	01/28/16	1.5 - 2	N	6.28	6,980 J
ERPW-10	01/24/16	0 - 0.5	N	4.87	13,200 J
	01/24/16	1 - 1.5	N	3.89	1,730 J
	01/24/16	1.5 - 2	N	4.6	4,550 J
ERPW-2	01/25/16	0 - 0.5	N	ND (0.275)	2,010 J
	01/25/16	1 - 1.5	N	1.06 J	3,130 J
	01/25/16	1.5 - 2	N	1.18 J	1,520 J
ERPW-3	01/25/16	0 - 0.5	N	3.82	27,100 J
	01/25/16	1 - 1.5	N	0.674 J	5,720 J
	01/25/16	1.5 - 2	N	1.63	4,850 J
ERPW-4	01/28/16	0 - 0.5	N	5.94	37,100 J
	01/28/16	1 - 1.5	N	4.06	4,160 J
	01/28/16	1.5 - 2	N	4.14	4,220 J
ERPW-5	01/25/16	0 - 0.5	N	9.8	42,800 J
	01/25/16	1 - 1.5	N	2.93	22,600 J
	01/25/16	1.5 - 2	N	2.09	25,900
ERPW-6	01/24/16	0 - 0.5	N	1.13	26,800
	01/24/16	1 - 1.5	N	0.693 J	2,080
	01/24/16	1.5 - 2	N	1.78	1,150
ERPW-7	01/24/16	0 - 0.5	N	0.354 J	845 J
	01/24/16	0 - 0.5	FD	1.36	2,730 J
	01/24/16	1 - 1.5	N	1.17 J	ND (142)
	01/24/16	1 - 1.5	FD	0.792 J	ND (121)
	01/24/16	1.5 - 2	N	2.42	ND (196)
	01/24/16	1.5 - 2	FD	ND (0.249)	ND (137)
ERPW-8	01/24/16	0 - 0.5	N	6.91	13,500
	01/24/16	1 - 1.5	N	8.37	4,070
	01/24/16	1.5 - 2	N	0.806 J	391 J
ERPW-9	01/23/16	0 - 0.5	N	7.52 J	36,300
	01/23/16	1 - 1.5	N	0.65 J	14,300
	01/23/16	1.5 - 2	N	0.774 J	12,200

TABLE 3-6m

Sample Results: General Chemistry Parameters in Sediment

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Δ	sediment sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

1 Interim screening level is equal to the to the lower value between the threshold effect concentration and probable effect concentration. If neither is available, then the soil background value, if available, is used.

2 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

3 MacDonald, D.D., C.G. Ingersoll, and T. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environm. Contam. Toxicol. 39:20-31.

TABLE 3-6n

Sample Results: Polychlorinated Biphenyls in Sediment

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE
Soil Background ² :				NE	NE	NE	NE	NE	NE	NE	NE
Consensus-based Threshold effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Consensus-based Probable effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
ERPW-1	01/28/16 ^Δ	0 - 0.5	N	ND (33)	ND (66)	ND (33)	ND (33) J	ND (33)	ND (33)	ND (33)	ND
	01/28/16 ^Δ	1 - 1.5	N	ND (21)	ND (43)	ND (21)	ND (21) J	ND (21)	ND (21)	ND (21)	ND
	01/28/16 ^Δ	1.5 - 2	N	ND (22)	ND (44)	ND (22)	ND (22) J	ND (22)	ND (22)	ND (22)	ND
ERPW-10	01/24/16 ^Δ	0 - 0.5	N	ND (25)	ND (49)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND
	01/24/16 ^Δ	1 - 1.5	N	ND (21)	ND (43)	ND (21)	ND (21)	ND (21)	ND (21)	ND (21)	ND
	01/24/16 ^Δ	1.5 - 2	N	ND (21)	ND (43)	ND (21)	ND (21)	ND (21)	ND (21)	ND (21)	ND
ERPW-2	01/25/16 ^Δ	0 - 0.5	N	ND (23)	ND (47)	ND (23)	ND (23)	ND (23)	ND (23)	ND (23)	ND
	01/25/16 ^Δ	1 - 1.5	N	ND (22)	ND (44)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND
	01/25/16 ^Δ	1.5 - 2	N	ND (22)	ND (44)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND
ERPW-3	01/25/16 ^Δ	0 - 0.5	N	ND (65)	ND (130)	ND (65)	ND (65)	ND (65)	ND (65)	ND (65)	ND
	01/25/16 ^Δ	1 - 1.5	N	ND (25)	ND (49)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND
	01/25/16 ^Δ	1.5 - 2	N	ND (26)	ND (53)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND
	01/28/16 ^Δ	5.5 - 6	N	ND (21)	ND (41)	ND (21)	ND (21) J	ND (21)	ND (21)	ND (21)	ND
ERPW-4	01/28/16 ^Δ	0 - 0.5	N	ND (56)	ND (110)	ND (56)	ND (56) J	ND (56)	ND (56)	ND (56)	ND
	01/28/16 ^Δ	1 - 1.5	N	ND (27)	ND (55)	ND (27)	ND (27) J	ND (27)	ND (27)	ND (27)	ND
	01/28/16 ^Δ	1.5 - 2	N	ND (28)	ND (56)	ND (28)	ND (28) J	ND (28)	ND (28)	ND (28)	ND
ERPW-5	01/25/16 ^Δ	0 - 0.5	N	ND (58)	ND (120)	ND (58)	ND (58)	ND (58)	ND (58)	ND (58)	ND
	01/25/16 ^Δ	1 - 1.5	N	ND (30)	ND (61)	ND (30)	ND (30)	ND (30)	ND (30)	ND (30)	ND
	01/25/16 ^Δ	1.5 - 2	N	ND (33)	ND (67)	ND (33)	ND (33)	ND (33)	ND (33)	ND (33)	ND
ERPW-6	01/24/16 ^Δ	0 - 0.5	N	ND (29)	ND (58)	ND (29)	ND (29)	ND (29)	ND (29)	ND (29)	ND
	01/24/16 ^Δ	1 - 1.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND
	01/24/16 ^Δ	1.5 - 2	N	ND (19)	ND (39)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND

TABLE 3-6n

Sample Results: Polychlorinated Biphenyls in Sediment

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE
Soil Background ² :				NE	NE	NE	NE	NE	NE	NE	NE
Consensus-based Threshold effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Consensus-based Probable effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
ERPW-7	01/24/16 ^Δ	0 - 0.5	N	ND (22)	ND (43)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND
	01/24/16 ^Δ	0 - 0.5	FD	ND (22)	ND (44)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND
	01/24/16 ^Δ	1 - 1.5	N	ND (22)	ND (44)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND
	01/24/16 ^Δ	1 - 1.5	FD	ND (22)	ND (44)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND
	01/24/16 ^Δ	1.5 - 2	N	ND (22)	ND (44)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND
	01/24/16 ^Δ	1.5 - 2	FD	ND (21)	ND (43)	ND (21)	ND (21)	ND (21)	ND (21)	ND (21)	ND
	01/25/16 ^Δ	5.5 - 6	N	ND (22)	ND (43)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND
ERPW-8	01/24/16 ^Δ	0 - 0.5	N	ND (23)	ND (46)	ND (23)	ND (23)	ND (23)	ND (23)	ND (23)	ND
	01/24/16 ^Δ	1 - 1.5	N	ND (22)	ND (43)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND
	01/24/16 ^Δ	1.5 - 2	N	ND (21)	ND (42)	ND (21)	ND (21)	ND (21)	ND (21)	ND (21)	ND
ERPW-9	01/23/16 ^Δ	0 - 0.5	N	ND (42)	ND (84)	ND (42)	ND (42)	ND (42)	ND (42)	ND (42)	ND
	01/23/16 ^Δ	1 - 1.5	N	ND (30)	ND (59)	ND (30)	ND (30)	ND (30)	ND (30)	ND (30)	ND
	01/23/16 ^Δ	1.5 - 2	N	ND (29)	ND (59)	ND (29)	ND (29)	ND (29)	ND (29)	ND (29)	ND

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

Δ	sediment sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
NE	not established

TABLE 3-6n

Sample Results: Polychlorinated Biphenyls in Sediment

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

ND not detected at the listed reporting limit

USEPA United States Environmental Protection Agency

- 1 Interim screening level is equal to the to the lower value between the threshold effect concentration and probable effect concentration. If neither is available, then the soil background value, if available, is used.
- 2 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.
- 3 MacDonald, D.D., C.G. Ingersoll, and T. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environm. Contam. Toxicol. 39:20-31.

TABLE 3-6o
Sample Results: Dioxins and Furans
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Soil Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58	
Consensus-based Threshold effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Consensus-based Probable effect concentration ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
Category 1																							
ERPW-1	01/28/16 ^Δ	0 - 0.5	N	5.6 J	ND (0.66) J	ND (0.17) J	ND (0.22) J	ND (0.14) J	ND (0.13) J	ND (0.13) J	ND (0.12) J	ND (0.16) J	ND (0.16) J	ND (0.12) J	ND (0.7) J	ND (0.12) J	ND (0.15) J	ND (0.36) J	49 J	1.9 J	0.48	0.35	0.35
	01/28/16 ^Δ	1.5 - 2	N	2.2 J	ND (0.38) J	ND (0.13) J	ND (0.2) J	ND (0.1) J	ND (0.2) J	ND (0.098) J	ND (0.19) J	ND (0.12) J	ND (0.14) J	ND (0.1) J	ND (0.46) J	ND (0.11) J	ND (0.2) J	ND (0.17) J	17 J	ND (0.59) J	0.38	0.29	0.29
ERPW-3	01/25/16 ^Δ	0 - 0.5	N	3 J	0.41 J	ND (0.12) J	ND (0.16) J	ND (0.089) J	ND (0.16) J	ND (0.085) J	ND (0.15) J	ND (0.1) J	ND (0.093) J	ND (0.12) J	ND (0.45) J	ND (0.12) J	ND (0.22) J	ND (0.25) J	ND (31) J	ND (0.88) J	0.41	0.29	0.29
	01/25/16 ^Δ	1.5 - 2	N	6.5 J	ND (0.66) J	ND (0.12) J	ND (0.22) J	ND (0.1) J	ND (0.23) J	ND (0.095) J	ND (0.2) J	ND (0.12) J	ND (0.22) J	ND (0.14) J	ND (1.7) J	ND (0.14) J	ND (0.14) J	ND (0.18) J	69 J	2.2 J	0.48	0.44	0.44
ERPW-9	01/23/16 ^Δ	0 - 0.5	N	7.6 J	ND (1.1) J	ND (0.28) J	ND (0.27) J	ND (0.19) J	ND (0.26) J	ND (0.18) J	ND (0.081) J	ND (0.22) J	ND (0.1) J	ND (0.096) J	ND (1.1) J	ND (0.1) J	ND (0.13) J	ND (0.93) J	110 J	ND (4) J	0.76	0.41	0.41
	01/23/16 ^Δ	1.5 - 2	N	5.4 J	ND (0.67) J	ND (0.18) J	ND (0.12) J	ND (0.067) J	ND (0.12) J	ND (0.14) J	ND (0.11) J	ND (0.077) J	ND (0.16) J	ND (0.14) J	ND (1.2) J	ND (0.14) J	ND (0.27) J	ND (0.22) J	56 J	2 J	0.5	0.42	0.42

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled.

Δ	sediment sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ng/kg	nanograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

1 Interim screening level is equal to the to the lower value between the threshold effect concentration and probable effect concentration. If neither is available, then the soil background value, if available, is used.

2 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

3 MacDonald, D.D., C.G. Ingersoll, and T. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environm. Contam. Toxicol. 39:20-31.

TABLE 3-6p
Sample Results: Metals in Porewater
AOC 10 – East Ravine
RFI/RI Report, Volume 3 – Soil Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

				Metals (µg/L)																	
Surface water screening level				6	10	1,000	4	5	NA	50	NA	1,300	NA	2	NA	100	50	NA	1.7	NA	7,400
Topock Ambient Groundwater Concentrations				1.22	24.3	195	0.663	NA	31.8	34.1	0.831	11	1.91	NA	36.3	10.6	10.3	2.13	0.908	59.9	78
				Chromium,																	
Location	Date	Depth (ft bgs)	Sample Type	Antimony, dissolved	Arsenic, dissolved	Barium, dissolved	Beryllium, dissolved	Cadmium, dissolved	Chromium, Hexavalent	total dissolved	Cobalt, dissolved	Copper, dissolved	Lead, dissolved	Mercury, dissolved	Molybdenum, dissolved	Nickel, dissolved	Selenium, dissolved	Silver, dissolved	Thallium, dissolved	Vanadium, dissolved	Zinc, dissolved
ERPW-1	1/28/2016	0 - 1	N	0.83	0.62	--	0.5 U	0.5 U	0.22 U	1 U	6	2.8	1.6	0.2 U	3.5	7.9	3.2	0.5 U	0.5 U	1 U	31 U
ERPW-2	1/28/2016	0 - 1	N	1.4	5.2	--	0.5 U	0.5 U	0.2 U	1 U	0.5 U	1 U	1 U	0.2 U	8	1.3	2.1	0.5 U	0.5 U	3.7	10 U
ERPW-2	1/28/2016	5 - 6	N	--	0.37	--	--	--	0.2 U	1 U	--	--	--	--	0.52	--	--	--	--	--	--
ERPW-3	1/28/2016	0 - 1	N	0.59	0.8	--	0.5 U	0.5 U	0.2 U	1 U	1.5	1 U	1 U	0.2 U	2.7	1.7	0.5 U	0.5 U	0.5 U	1 U	10 U
ERPW-3	1/28/2016	5 - 6	N	--	0.29	--	--	--	0.2 U	1 U	--	--	--	--	0.87	--	--	--	--	--	--
ERPW-4	1/28/2016	0 - 1	N	0.62	0.87	--	0.5 U	0.5 U	0.2 U	1 U	0.5 U	1 U	1 U	0.2 U	5.7	1.1	1.4	0.5 U	0.5 U	1 U	10 U
ERPW-5	1/28/2016	0 - 1	N	0.5 U	2.5	--	0.5 U	0.5 U	0.23 U	1 U	0.5 U	1.7	1 U	0.2 U	6.2	1.3	1.6	0.5 U	0.5 U	1.6	10 U
ERPW-5	1/28/2016	5 - 6	N	--	0.93	--	--	--	0.2 U	1 U	--	--	--	--	7.8	--	--	--	--	--	--
ERPW-6	1/25/2016	0 - 1	N	0.5 U	1.3	120	0.5 U	0.5 U	0.2 U	1 U	0.5 U	1 U	1 U	0.2 U	5.6 J	1 U	1.2	0.95 U	0.5 U	1.6	10 U
ERPW-7	1/25/2016	0 - 1	N	0.5 U	0.71	85	0.5 U	0.5 U	0.2 U	1 U	0.5 U	1 U	1 U	0.2 U	6.9 J	1 U	0.5 U	0.5 U	0.5 U	1 U	10 U
ERPW-7	1/25/2016	0 - 1	FD	0.5 U	0.66	82	0.5 U	0.5 U	0.2 U	1 U	0.5 U	1 U	1 U	0.2 U	6.9 J	1 U	0.5 U	0.5 U	0.5 U	1 U	10 U
ERPW-7	1/28/2016	5 - 6	N	--	0.87	--	--	--	0.2 U	1 U	--	--	--	--	5.3	--	--	--	--	--	--
ERPW-8	1/25/2016	0 - 1	N	0.5 U	0.79	53	0.5 U	0.5 U	0.2 U	1 U	0.5 U	1 U	1 U	0.2 U	4.1 J	1 U	0.5 U	0.5 U	0.5 U	1 U	10 U
ERPW-8	1/28/2016	5 - 6	N	--	2.4	--	--	--	0.2 U	1.6	--	--	--	--	2.1	--	--	--	--	--	--
ERPW-9	1/25/2016	0 - 1	N	0.5 U	1.3	230	0.5 U	0.5 U	0.2 U	1 U	0.66	1 U	1 U	0.2 U	6.1 J	1 U	0.5 U	0.5 U	0.5 U	1 U	10 U
ERPW-10	1/28/2016	5 - 6	N	--	0.61	--	--	--	1 U	1 U	--	--	--	--	49	--	--	--	--	--	--

-- = not analyzed
µg/kg = micrograms per kilogram
FD = field duplicate
ft bgs = feet below ground surface
N = primary sample
NA = not applicable
U = not detected at the listed reporting limit
J = concentration or reporting limit estimated by laboratory or data validation

TABLE 3-6q

Sample Results: Contract Laboratory Program Inorganics in Porewater

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Soil Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

				Contract Laboratory Program Inorganics (µg/L)					
Location	Date	Depth (ft bgs)	Sample Type	Calcium, dissolved	Iron, dissolved	Magnesium, dissolved	Manganese, dissolved	Potassium, dissolved	Sodium, dissolved
ERPW-1	1/28/2016	0 - 1	N	180000	160 U	46000	--	5500	100000
ERPW-2	1/28/2016	0 - 1	N	130000	25 U	30000	--	9400	84000
ERPW-2	1/28/2016	5 - 6	N	230000	--	62000	--	870	230000
ERPW-3	1/28/2016	0 - 1	N	92000	20 U	31000	--	5100	83000
ERPW-3	1/28/2016	5 - 6	N	110000	190 U	31000	--	680	220000
ERPW-4	1/28/2016	0 - 1	N	80000	20 U	27000	8 U	5400	80000
ERPW-5	1/28/2016	0 - 1	N	86000	29 U	28000	--	11000	86000
ERPW-5	1/28/2016	5 - 6	N	480000	31 U	230000	--	3700	540000
ERPW-6	1/25/2016	0 - 1	N	76000 J	61 J	26000	1.1	4700	82000
ERPW-7	1/25/2016	0 - 1	N	96000	20 U	25000	1.2	3900	85000
ERPW-7	1/25/2016	0 - 1	FD	90000	20 U	25000	0.54	3700	80000
ERPW-7	1/28/2016	5 - 6	N	92000	180 U	28000	--	3500	85000
ERPW-8	1/25/2016	0 - 1	N	150000	20 U	26000	0.7	1000	88000
ERPW-8	1/28/2016	5 - 6	N	180000	--	58000	--	8000	140000
ERPW-9	1/25/2016	0 - 1	N	130000	37	31000	240	3500	93000
ERPW-10	1/28/2016	5 - 6	N	530000	--	110000	--	22000	3800000

-- = not analyzed

µg/kg = micrograms per kilogram

FD = field duplicate

ft bgs = feet below ground surface

N = primary sample

U = not detected at the listed reporting limit

J = concentration or reporting limit estimated by laboratory or data validation

TABLE 3-6r

Sample Results: General Chemistry Parameters in Porewater

AOC 10 – East Ravine

RFI/RI Report, Volume 3 – Soil Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Location	Date	Depth (ft bgs)	Sample Type	Units	General Chemistry Parameters										
					Alkalinity, bicarb as CaCO ₃	Alkalinity, carb as CaCO ₃	Alkalinity, hydroxide	Alkalinity, total as CaCO ₃	Ammonia as nitrogen	Chloride	Dissolved organic carbon	Fluoride	Nitrate (as nitrogen)	Sulfate	Sulfide
ERPW-1	1/28/2016	0 - 1	N	mg/L	120	5 U	5 U	120	0.05 U	110	12	0.7	0.25 U	670	0.05 U
ERPW-2	1/28/2016	0 - 1	N	mg/L	120	5 U	5 U	120	0.05 U	110	17	0.3	0.1 U	430	0.05 U
ERPW-2	1/28/2016	5 - 6	N	mg/L	1100	5 U	5 U	1100	0.05 U	320	5.1	0.7	0.25 U	26	0.05 U
ERPW-3	1/28/2016	0 - 1	N	mg/L	100	5 U	5 U	100	0.05 U	99	2.6	0.3	0.05 U	360	0.05 U
ERPW-3	1/28/2016	5 - 6	N	mg/L	570	5 U	5 U	570	0.05 U	150	4	0.4	0.1 U	210	0.05 U
ERPW-4	1/28/2016	0 - 1	N	mg/L	130	5 U	5 U	130	0.05 U	96	3.7	0.4	0.05 U	290	0.05 U
ERPW-5	1/28/2016	0 - 1	N	mg/L	130	5 U	5 U	130	0.05 U	100	6.6	0.3	0.22	280	0.05 U
ERPW-5	1/28/2016	5 - 6	N	mg/L	1500	5 U	5 U	1500	0.08	580	7.7	0.9	0.25 U	1100	0.05 U
ERPW-6	1/25/2016	0 - 1	N	mg/L	140	5 U	5 U	140	0.22	93	2.3	0.3	0.11	260	0.05 U
ERPW-7	1/25/2016	0 - 1	N	mg/L	210	5 U	5 U	210	0.14	93	2	0.3	0.1	270	0.05 U
ERPW-7	1/25/2016	0 - 1	FD	mg/L	190	5 U	5 U	190	0.05	91	1.9	0.3	0.08	280	0.05 U
ERPW-7	1/28/2016	5 - 6	N	mg/L	200	5 U	5 U	200	0.05 U	94	1.2	0.3	0.05 U	250	0.05 U
ERPW-8	1/25/2016	0 - 1	N	mg/L	220	5 U	5 U	220	0.08	130	24	0.8	0.25 U	360	0.05 U
ERPW-8	1/28/2016	5 - 6	N	mg/L	880	5 U	5 U	880	0.05 U	140	23	0.5 U	0.25 U	2.5 U	0.05 U
ERPW-9	1/25/2016	0 - 1	N	mg/L	210	5 U	5 U	210	0.05 U	100	4.2	0.6	0.25 U	360	0.05 U
ERPW-10	1/28/2016	5 - 6	N	mg/L	340	5 U	5 U	340	0.79	7100	1 U	2.9	0.25 U	1700	0.05 U

-- = not analyzed

µg/kg = micrograms per kilogram

FD = field duplicate

ft bgs = feet below ground surface

N = primary sample

U = not detected at the listed reporting limit

TABLE 3-7a
Sample Results: Metals
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC11-4-OS4	06/11/14	0	N	ND (2) *	3.4	150	ND (1) *	ND (1)	ND (0.2)	16	6.2	9.6	3.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	32	40
AOC11-4-OS6	06/11/14	0	N	ND (2) *	3.1	140	ND (1) *	ND (1)	0.22	18	5.7	9.2	7.2	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	27	39
AOC11-4-OS5	06/11/14	0	N	ND (2) *	3.4	110	ND (1) *	ND (1)	ND (0.2)	21	6.8	12	6.4	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	32	43
AOC11-4-OS3	06/11/14	0	N	ND (2) *	3	150	ND (1) *	ND (1)	ND (0.2)	14	5	8.6	5.3	ND (0.099) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	27	35
AOC11-4-OS1	06/11/14	0	N	ND (2) J*	7.2 J	200 J	ND (1) J*	ND (1) J	ND (0.2)	18 J	7 J	11 J	4.2 J	ND (0.1) *	ND (1) J	14 J	ND (1) J	ND (1) J	ND (2) J*	32 J	47 J
AOC11-4-OS6	06/11/14	2 - 3	N	ND (2.1) *	3	120	ND (1.1) *	ND (1.1) *	ND (0.21)	20	6.7	7.7	3.2	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1) *	29	36
AOC11-4-OS5	06/11/14	2 - 3	N	ND (2.1) *	2.7	97	ND (1) *	ND (1)	ND (0.21)	18	5.7	9.3	5.4	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	28	36
AOC11-4-OS4	06/11/14	2 - 3	N	ND (2) *	3.4	120	ND (1) *	ND (1)	ND (0.2)	14	5.9	8.6	3.2	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	33	37
AOC11-4-OS3	06/11/14	2 - 3	N	ND (2) *	3.1	120	ND (1) *	ND (1)	0.43	18	5	7.3	6.4	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	ND (2) *	23	30
AOC11-4-OS1	06/11/14	2 - 3	N	ND (2.1) *	6.7	170	ND (1.1) *	ND (1.1) *	ND (0.21)	16	6.5	11	3.5	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	30	41
AOC11-4-OS3	06/11/14	2 - 3	FD	ND (2) *	3	120	ND (1) *	ND (1)	0.43	17	4.2	7.7	6.2	ND (0.1) *	ND (1)	9	ND (1)	ND (1)	ND (2) *	23	30
AOC11-4-OS4	06/11/14	5 - 6	N	ND (2) *	3.6	150	ND (1) *	ND (1)	ND (0.21)	17	6.4	10	5.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	30	38
AOC11-4-OS5	06/11/14	5 - 6	FD	ND (2.1) *	3.4	110	ND (1) *	ND (1)	ND (0.21)	20	6.2	8.9	5.6	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	30	40
AOC11-1	01/05/16	0 - 1	N	ND (2.1) *	4.9	110 J	ND (1) *	ND (1)	ND (0.21)	11	4.8	9.7	7.8 J	ND (0.1) *	ND (1)	9.5	ND (1)	ND (1)	ND (2.1) *	19	67 J
	01/05/16	0 - 1	FD	ND (2) *	5.2	200 J	ND (1) *	ND (1)	ND (0.21)	11	4.5	8.1	5.4 J	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	ND (2) *	21	50 J
	01/05/16	2 - 3	N	ND (2.1) *	3.3	140	ND (1) *	ND (1)	ND (0.21)	11	3.9	9.5	5.2	ND (0.1) *	ND (1)	8.3	ND (1)	ND (1)	ND (2.1) *	22	32
	01/05/16	5 - 6	N	ND (2.4) *	3.9	120	ND (1.2) *	ND (1.2) *	ND (0.24)	18	5.8	8.1	5.3	ND (0.12) *	ND (1.2)	12	ND (1.2)	ND (1.2)	ND (2.4) *	29	38
	01/05/16	9 - 10	N	ND (2.8) *	6.1	140	ND (1.4) *	ND (1.4) *	ND (0.28)	15	6	9.2	6.1	ND (0.14) *	ND (1.4) *	12	ND (1.4)	ND (1.4)	ND (2.8) *	30	37
AOC11-2	01/05/16	0 - 1	N	ND (2.1) *	5.1	100	ND (1) *	ND (1)	ND (0.21)	21	7.4	8.7	2.4	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	36	51
	01/05/16	2 - 3	N	ND (2.1) *	3.5	73	ND (1) *	ND (1)	ND (0.21)	21	7.9	10	1.9	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	39	44
	01/05/16	5 - 6	N	ND (2.1) *	2.9	81	ND (1) *	ND (1)	ND (0.21)	30	9.4	12	2.2	ND (0.1) *	ND (1)	21	ND (1)	ND (1)	ND (2.1) *	45	45
	01/05/16	9 - 10	N	ND (2.1) *	2.6	37 J	ND (1) *	ND (1)	ND (0.21)	23 J	9.4	9.4	1.8	ND (0.11) *	ND (1)	17	ND (1)	ND (1)	ND (2.1) *	38	45
	01/05/16	9 - 10	FD	ND (2.1) *	2.8	26 J	ND (1) *	ND (1)	ND (0.21)	17 J	8.6	12	2.7	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	38	46
AOC11-3	01/05/16	0 - 1	N	ND (2) *	3.3	98	ND (1) *	ND (1)	ND (0.2)	15	5.6	8	2.6	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	29	31
	01/05/16	2 - 3	N	ND (2.1) *	3.6	120	ND (1) *	ND (1)	ND (0.21)	20	7.9	10	2.3	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	40	43
	01/05/16	5 - 6	N	ND (2.1) *	3.7	110	ND (1) *	ND (1)	ND (0.21)	20	7.7	11	2.4	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2.1) *	35	38
	01/05/16	9 - 10	N	ND (2.1) *	3.4	110	ND (1.1) *	ND (1.1) *	ND (0.21)	23	8.6	10	2.2	ND (0.11) *	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.1) *	42	45
	01/05/16	9 - 10	FD	ND (2.1) *	3.2	90	ND (1.1) *	ND (1.1) *	ND (0.21)	14	6.3	7.7	1.8	ND (0.1) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1) *	27	34
AOC11-4	01/05/16	0 - 1	N	ND (2.1) *	3.3	120	ND (1) *	ND (1)	ND (0.2)	25	5.5	9.1	4.1	ND (0.1) *	1.3	12	ND (1)	ND (1)	ND (2.1) *	24	33
	01/05/16	2 - 3	N	ND (2.1) *	3.5	140	ND (1) *	ND (1)	1	16	5.8	9	4.1	ND (0.1) *	ND (1)	12	ND (1.1)	ND (1)	ND (2.1) *	24	33
AOC11-5	02/03/16	0 - 0.5	N	ND (2.5) *	7.1	170	ND (1.2) *	ND (1.2) *	ND (0.25) J	27	7.4	22	14	ND (0.13) *	ND (1.2)	16	ND (1.2)	ND (1.2)	ND (2.5) *	34	70
	02/03/16	2 - 3	N	ND (2.1) *	5.8	150	ND (1.1) *	ND (1.1) *	ND (0.21) J	18	6.9	8.9	1.7	ND (0.11) *	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1) *	30	46
	02/03/16	5 - 6	N	ND (2.1) *	5.3	210	ND (1) *	ND (1)	ND (0.21) J	25	9.1	10	1.7	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	37	48
	02/03/16	9 - 10	N	ND (2) *	7.1	140	ND (1) *	ND (1)	ND (0.2) J	21	8.1	9.3	2	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	32	56
AOC11-6	01/06/16	0 - 1	N	ND (2.2) *	8.7	500	ND (1.1) *	ND (1.1) *	ND (0.22)	20	7.2	12	21	ND (0.11) *	1.7	18	ND (1.1)	ND (1.1)	ND (2.2) *	31	67
	01/06/16	2 - 3	N	ND (2) *	8.3	490	ND (1) *	ND (1)	ND (0.2)	20	7.4	9.5	24	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	32	62
	01/06/16	5 - 6	N	ND (2.1) *	7.9	300	ND (1) *	ND (1)	ND (0.21)	25	8.9	10	2.4	ND (0.1) *	ND (1)	18	ND (1)	ND (1)	ND (2.1) *	34	59
	01/06/16	9 - 10	N	ND (2) *	11	150	ND (1) *	ND (1)	ND (0.21)	14	7.4	9.1	6.1	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	45	79

TABLE 3-7a
Sample Results: Metals
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC11-7	01/06/16	0 - 1	N	ND (2.2) *	4.6	120	ND (1.1) *	ND (1.1) *	ND (0.22)	11	6.1	8	220	ND (0.11) *	ND (1.1)	8	ND (1.1)	ND (1.1)	ND (2.2) *	25	40
	01/06/16	2 - 3	N	ND (2.1) *	4.1	170	ND (1) *	ND (1)	0.52	15	5.7	11	30	ND (0.1) *	ND (1)	9	ND (1)	ND (1)	ND (2.1) *	23	70
	01/06/16	5 - 6	N	ND (2) *	9	250	ND (1) *	ND (1)	ND (0.2)	15	9	7.5	8.5	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	55	79
AOC11-8	12/06/15	0 - 1	N	ND (2) *	4	77	ND (1) *	ND (1)	ND (0.2)	12	5	9.3	26	ND (0.1) *	ND (1)	7.5	ND (1)	ND (1)	ND (2) *	29	43
	12/06/15	2 - 3	N	ND (2) *	3.1	62	ND (1) *	ND (1)	ND (0.2)	9.6	4.6	8.1	28	ND (0.1) *	ND (1)	7.1	ND (1)	ND (1)	ND (2) *	25	45
AOC11-9	12/06/15	0 - 1	N	ND (2) *	3.3	57	ND (1) *	ND (1)	ND (0.2)	9.6	5.1	7.5	23	ND (0.1) *	ND (1)	7.8	ND (1)	ND (1)	ND (2) *	26	61
	12/06/15	2 - 3	N	ND (2) *	3.2	72	ND (1) *	ND (1)	ND (0.2)	11	5.5	8.6	13	ND (0.1) *	ND (1)	8.6	ND (1)	ND (1)	ND (2) *	32	63
AOC11a-1	09/21/08	0 - 0.5	N	ND (2) *	6	170	ND (2) *	ND (1)	ND (0.403)	19	5.8	12	9.9	ND (0.1) *	ND (2) *	13	ND (1)	ND (2)	ND (4) *	23	46
	09/21/08	2 - 3	N	ND (2.1) J*	6.4	190	ND (2.1) *	ND (1)	ND (0.411)	23	6.6	14	20	ND (0.1) *	ND (2.1) *	14	ND (1)	ND (2.1)	ND (4.1) *	30	58
	09/21/08	5 - 6	N	ND (2) *	4.6	190	ND (1) *	ND (1)	ND (0.41)	22	7.1	9	4.7	ND (0.1) *	ND (1)	14	1.6	ND (1)	ND (2) *	31	44
	09/21/08	9 - 10	N	ND (2) *	6.9	190	ND (2) *	ND (1)	3	19	5.8	10	9.2	ND (0.1) J*	ND (2) *	13	ND (1)	ND (2)	ND (4) *	22	44
AOC11a-2	09/21/08	0 - 0.5	N	ND (2.1) *	8.3	210	ND (2.1) *	ND (1)	0.417	32	6.8	20	15	ND (0.11) *	ND (2.1) *	18	ND (2.1) *	ND (2.1)	ND (4.1) *	32	75
	09/21/08	2 - 3	N	ND (2.1) *	5.5	220	ND (2.1) *	ND (1)	ND (0.413)	19	6.9	10	7.7	ND (0.11) *	ND (2.1) *	14	ND (1)	ND (2.1)	ND (4.2) *	32	42
	09/21/08	5 - 6	N	ND (2) *	5.5	1,300	ND (2) *	ND (1)	ND (0.408)	25	8.9	14	3.4	ND (0.1) *	ND (2) *	19	ND (2) *	ND (2)	ND (4.1) *	41	56
	09/21/08	9 - 10	N	ND (2) *	5.2	480	ND (1) *	ND (1)	ND (0.412)	19	8.3	6.5	2.2	ND (0.1) J*	1	14	ND (1)	ND (1)	ND (2) *	35	47
AOC11a-3	09/20/08	0 - 0.5	N	ND (2) *	6.9	190	ND (2) *	ND (1)	ND (0.411)	22	6.1	16	13	ND (0.1) *	ND (2) *	15	ND (1)	ND (2)	ND (4.1) *	24	62
	09/20/08	2 - 3	N	ND (2.1) *	6.6	220	ND (2.1) *	ND (1)	ND (0.423)	24	7	14	17	ND (0.1) *	2.2	16	ND (1)	ND (2.1)	ND (4.2) *	30	63
	09/20/08	2 - 3	FD	ND (2.1) *	7.4	220	ND (2.1) *	ND (1)	ND (0.418)	24	7.1	14	16	ND (0.1) *	2.4	16	ND (1)	ND (2.1)	ND (4.2) *	31	61
	09/20/08	5 - 6	N	ND (2.1) *	6.8	410	ND (2.1) *	ND (1)	0.634	76	7.4	15	25	ND (0.1) *	ND (2.1) *	17	ND (1)	ND (2.1)	ND (4.1) *	36	75
	09/20/08	9 - 10	N	ND (2) *	5.4	110	ND (1) *	ND (1)	ND (0.407)	23	8.1	11	2.9	ND (0.1) J*	1.1	17	ND (1)	ND (1)	ND (2) *	33	48
AOC11a-4	09/20/08	0 - 0.5	N	ND (2) *	7.7	180	ND (2) *	ND (1)	ND (0.409)	25	6.4	18	17	ND (0.1) *	ND (2) *	17	ND (1)	ND (2)	ND (4.1) *	28	79
	09/20/08	2 - 3	N	ND (2) *	6.2	210	ND (2) *	ND (1)	ND (0.41)	27	8.5	13	8	ND (0.1) *	ND (2) *	20	ND (1)	ND (2)	ND (4.1) *	37	52
	09/20/08	5 - 6	N	ND (2) *	5	140	ND (2) *	ND (1)	ND (0.407) J	25	8.7	11	3.7	ND (0.1) *	ND (2) *	19	ND (1)	ND (2)	ND (4.1) *	38	54
	09/20/08	9 - 10	N	ND (2) *	7.5	640	ND (2) *	ND (1)	ND (0.41)	27	9.6	14	3.5	ND (0.1) J*	ND (2) *	22	ND (1)	ND (2)	ND (4.1) *	43	59
AOC11a-5	09/21/08	0 - 0.5	N	ND (2.1) *	7.8	210	ND (2.1) *	ND (1)	0.652	32	6.8	17	14	ND (0.1) *	ND (2.1) *	16	ND (1)	ND (2.1)	ND (4.1) *	32	71
	09/21/08	2 - 3	N	ND (2.1) *	6	370	ND (2.1) *	ND (1)	ND (0.412)	30	8.5	12	9.4	ND (0.1) *	2.5	18	ND (1)	ND (2.1)	ND (4.2) *	38	57
	09/21/08	5 - 6	N	ND (2.1) *	4.4	82	ND (1) *	ND (1)	ND (0.411)	18	8.7	9.2	3	ND (0.1) *	1.5	14	ND (1)	ND (1)	ND (2.1) *	34	53
	09/21/08	5 - 6	FD	ND (2) *	4.1	84	ND (1) *	ND (1)	ND (0.412)	18	8	9.6	3.1	ND (0.1) *	1.6	14	3.2	ND (1)	ND (2) *	33	51
	09/21/08	9 - 10	N	ND (2.1) J*	7.6	1,000	ND (2.1) *	ND (1)	ND (0.415)	24	8.4	9.8	3.1	ND (0.1) J*	2.5	19	ND (1)	ND (2.1)	ND (4.1) *	37	62
AOC11a-SS-1	09/21/08	0 - 0.5	N	ND (2) *	3.6	88	ND (1) *	ND (1)	ND (0.402)	13	3.2	9.4	5.6	ND (0.1) J*	1.1	7.8	ND (1)	ND (1)	ND (2) *	13	54
	09/21/08	2 - 3	N	ND (2) *	7.2	130	ND (2) *	ND (1)	ND (0.404)	19	6.7	8.9	6	ND (0.1) J*	ND (2) *	14	ND (1)	ND (2)	ND (4) *	29	48
	09/21/08	5 - 6	N	ND (2) *	6.1	77	ND (1) *	ND (1)	ND (0.408)	16	6.7	7.6	3	ND (0.1) J*	ND (1)	13	ND (1)	ND (1)	ND (2) *	29	42
	09/21/08	9 - 10	N	ND (2) *	6.6	230	ND (1) *	ND (1)	ND (0.414)	13	6.2	7	3	ND (0.1) J*	ND (1)	11	ND (1)	ND (1)	ND (2) *	29	40
AOC11a-SS-2	09/21/08	0 - 0.5	N	ND (2) *	5.2	120	ND (1) *	ND (1)	ND (0.414)	15	5.1	8.1	7.1	ND (0.1) J*	ND (1)	11	ND (1)	ND (1)	ND (2) *	21	42
	09/21/08	2 - 3	N	ND (2) *	5.3	140	ND (1) *	ND (1)	ND (0.402)	19	6	15	5.9	ND (0.1) J*	ND (1)	14	ND (1)	ND (1)	ND (2) *	26	53
AOC11a-SS-3	09/20/08	0 - 0.5	N	ND (2) *	9	240	ND (2) *	ND (1)	0.622	29	6.8	17	16	ND (0.1) J*	ND (2) *	17	ND (1)	ND (2)	ND (4) *	27	73
	09/20/08	2 - 3	N	ND (2) *	8.8	270	ND (2) *	ND (1)	ND (0.409)	27	8.5	15	5.7	ND (0.1) J*	ND (2) *	19	ND (1)	ND (2)	ND (4.1) *	38	57
	09/20/08	5 - 6	N	ND (2) *	8.5	51	ND (1) *	ND (1)	ND (0.412)	19	6.8	9.5	3.7	ND (0.1) J*	1.1	14	ND (1)	ND (1)	ND (2) *	32	46
	09/20/08	9 - 10	N	ND (2.1) *	7.1	150	ND (1) *	ND (1)	ND (0.413)	24	7.7	11	3	ND (0.1) J*	1.4	19	ND (1)	ND (1)	ND (2.1) *	30	48

TABLE 3-7a
Sample Results: Metals
AOC 11 – Topographic Low Areas
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PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC11b-1	09/17/08	0 - 0.5	N	ND (2) J*	6.7	200 J	ND (5) *	ND (1)	ND (0.402)	27	8.1	16	25	ND (0.1) *	ND (5) *	20	ND (1)	ND (5)	ND (10) *	41	71
	09/17/08	0 - 0.5	FD	ND (2) *	6.4	180	ND (5) *	ND (1)	0.553	25	8.1	15	12	ND (0.1) *	ND (5) *	19	ND (1)	ND (5)	ND (10) *	38	68
	09/17/08	2 - 3	N	ND (2) *	5.2	110	ND (2) *	ND (1)	ND (0.404)	17	3.6	7	8.2	ND (0.1) *	ND (2) *	8.9	ND (1)	ND (2)	ND (4) *	33	28
	09/17/08	5 - 6	N	ND (2) *	6.2	230	ND (2) *	ND (1)	ND (0.411)	21	6.5	15	22	ND (0.1) *	ND (2) *	15	ND (1)	ND (2)	ND (4.1) *	37	72
	09/17/08	9 - 10	N	ND (2.1) *	6	250	ND (2.1) *	ND (1)	ND (0.411)	20	5.7	13	13	ND (0.1) J*	ND (2.1) *	15	ND (1)	ND (2.1)	ND (4.1) *	33	65
AOC11b-2	09/17/08	0 - 0.5	N	ND (2) *	4.8	190	ND (2) *	ND (1)	0.645	21	5.6	13	45	ND (0.1) *	ND (2) *	13	ND (1)	ND (2)	ND (4) *	30	76
	09/17/08	2 - 3	N	ND (2) *	13	270	ND (5.1) *	ND (1)	ND (0.41)	32	9.1	15	7.6	ND (0.1) *	ND (5.1) *	20	ND (1)	ND (5.1)	ND (10) *	43	74
	09/17/08	5 - 6	N	ND (2) *	10	150	ND (5.1) *	ND (1)	ND (0.411)	24	8.3	14	5.9	ND (0.1) *	ND (5.1) *	18	ND (1)	ND (5.1)	ND (10) *	40	75
	09/17/08	9 - 10	N	ND (2) *	9	330	ND (5.1) *	ND (1)	ND (0.407)	24	8.3	15	8.2	ND (0.1) J*	ND (5.1) *	18	ND (1)	ND (5.1)	ND (10) *	40	86
AOC11c-1	09/21/08	0 - 0.5	N	ND (2) *	4.8	120	ND (2) *	ND (1)	ND (0.4)	26	4.8	9.7	30	ND (0.098) *	2.7	9.8	ND (1)	ND (2)	ND (4) *	19	47
	09/22/08	2 - 3	N	ND (2.1) *	7.9	220	ND (2.1) *	ND (1)	2.03	64	6.5	20	26	ND (0.11) *	2.1	16	ND (1)	ND (2.1)	ND (4.1) *	32	110
	09/22/08	2 - 3	FD	ND (2.1) *	7.4	220	ND (2.1) *	ND (1)	1.47	63	6.5	19	25	ND (0.11) *	2.3	16	ND (1)	ND (2.1)	ND (4.1) *	31	110
	09/22/08	5 - 6	N	ND (2.1) *	7.7	200	ND (2.1) *	ND (1)	2.03	64	7.4	20	24	ND (0.1) *	ND (2.1) *	18	ND (1)	ND (2.1)	ND (4.1) *	35	110
	09/22/08	9 - 10	N	ND (2) *	5.3	140	ND (2) *	ND (1)	3.33	130	5.8	17	11	ND (0.1) J*	ND (2) *	13	ND (1)	ND (2)	ND (4.1) *	24	62
AOC11c-2	09/21/08	0 - 0.5	N	ND (2) *	5.1	170	ND (2) *	ND (1)	0.744	26	5.7	12	11	ND (0.1) *	ND (2) *	12	ND (1)	ND (2)	ND (4) *	23	52
	09/22/08	2 - 3	N	ND (2.1) *	7.6	220	ND (2.1) *	ND (1.1) *	2.74	81	6.8	21	28	ND (0.11) *	2.7	16	ND (1.1)	ND (2.1)	ND (4.3) *	32	130
	09/22/08	5 - 6	N	ND (2.1) *	6.6	190	ND (2.1) *	ND (1)	1.3	56	6	16	18	ND (0.11) *	ND (2.1) *	14	ND (1)	ND (2.1)	ND (4.2) *	27	93
	09/22/08	9 - 10	N	ND (2) *	6.3	160	ND (2) *	ND (1)	2.05	70	6.2	16	10	ND (0.1) J*	ND (2) *	14	ND (1)	ND (2)	ND (4) *	27	70
AOC11C-3	02/03/16	14 - 15	N	ND (2.1) *	4.3	38	ND (1.1) *	ND (1.1) *	0.67 J	18	7.7	8.4	2.2	ND (0.1) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1) *	33	42
	02/03/16	19 - 20	N	ND (2.1) *	4.3	53	ND (1) *	ND (1)	ND (0.21) J	17	8.1	9.7	1.6	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	36	42
	02/03/16	29 - 30	N	ND (2) *	2.9	53	ND (1) *	ND (1)	ND (0.2) J	27	10	14	ND (1)	ND (0.1) *	ND (1)	19	ND (1)	ND (1)	ND (2) *	42	39
AOC11c-4	01/28/16	0 - 1	N	ND (2.1) J*	3.6	89 J	ND (1) *	ND (1)	0.38	16	5.4	7.4	3.1	ND (0.1) *	ND (1)	11	ND (1) J	ND (1)	ND (2.1) *	21	31
	01/28/16	2 - 3	N	ND (2) *	3.6	58	ND (1) *	ND (1)	ND (0.2)	12	6.2	9.2	1.8	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	29	34
	01/28/16	5 - 6	N	ND (2) *	3.5	39	ND (1) *	ND (1)	ND (0.2)	13	7.4	8.9	2.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	35	62
	01/28/16	9 - 10	N	ND (2) *	3.3	70 J	ND (1) *	ND (1)	ND (0.2)	18	8.4	8.4	1.7	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	36	67
	01/28/16	9 - 10	FD	ND (2) *	3.2	53 J	ND (1) *	ND (1)	ND (0.2)	16	8	7.7	1.5	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	35	63
	02/02/16	14 - 15	N	ND (2) *	2.4	240	ND (1) *	ND (1)	0.25	21	7.8	7.8	ND (1)	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	32	38
	02/02/16	19 - 20	N	ND (2) *	3.4	270	ND (1) *	ND (1)	ND (0.2)	17	6.8	8.1	1.1	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	30	37
AOC11c-SS-1	09/21/08	0 - 0.5	N	ND (2) *	3.6	75	ND (1) *	ND (1)	ND (0.401)	12	3.3	5.2	6.8	ND (0.1) J*	ND (1)	6.8	ND (1)	ND (1)	ND (2) *	14	23
	09/22/08	2 - 3	N	ND (2) *	4.3	91	ND (1) *	ND (1)	ND (0.403)	16	4.4	11	5.5	ND (0.1) J*	ND (1)	8.6	ND (1)	ND (1)	ND (2) *	17	30
	09/22/08	5 - 6	N	ND (2) *	6.9	160	ND (2) *	ND (1)	1.14	37	6.1	13	11	ND (0.1) J*	2.9	14	ND (1)	ND (2)	ND (4.1) *	25	57
	09/22/08	9 - 10	N	ND (2) *	5.8	110	ND (2) *	ND (1)	ND (0.408)	19	5.9	6.2	5	ND (0.1) J*	ND (2) *	12	ND (1)	ND (2)	ND (4.1) *	21	31
AOC11c-SS-2	09/22/08	0 - 0.5	N	ND (2) *	3.5	71	ND (1) *	ND (1)	ND (0.401)	14	3.4	4.9	8	ND (0.1) J*	ND (1)	6.6	ND (1)	ND (1)	ND (2) *	14	25
	09/22/08	2 - 3	N	ND (2) *	3.6	77	ND (1) *	ND (1)	ND (0.402)	16	3.9	4.9	6.5	ND (0.1) J*	ND (1)	7.5	ND (1)	ND (1)	ND (2) *	16	30
	09/22/08	5 - 6	N	ND (2) *	3.6	100	ND (1) *	ND (1)	7.78	32	4.2	11	8.9	ND (0.1) J*	ND (1)	9.2	ND (1)	ND (1)	ND (2) *	18	54
	09/22/08	9 - 10	N	ND (2.1) *	3.4	98	ND (1) *	ND (1)	2.06	73	3.4	30	8.6	ND (0.1) J*	ND (1)	7.7	ND (1)	ND (1)	ND (2.1) *	15	290

TABLE 3-7a
Sample Results: Metals
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC11d-1	09/23/08	0 - 0.5	N	ND (2.1) J*	9.5	310 J	ND (2.1) *	ND (1)	0.677	31	8.2	19	16	ND (0.1) *	ND (2.1) *	18	ND (1)	ND (2.1)	ND (4.1) *	43	73
	09/23/08	0 - 0.5	FD	ND (2) *	9.2	250 J	ND (2) *	ND (1)	0.628	33	8.6	20	14	ND (0.1) *	ND (2) *	19	ND (1)	ND (2)	ND (4) *	44	76
	09/23/08	2.5 - 3	N	ND (2.1) *	4.5	86	ND (1) *	ND (1)	ND (0.414)	24	9	12	4.8	ND (0.1) *	1.2	17	ND (1)	ND (1)	ND (2.1) *	32	48
	09/23/08	5 - 6	N	ND (2.1) *	5.9	94	ND (2.1) *	ND (1)	ND (0.416)	29	8.4	12	5	ND (0.1) *	ND (2.1) *	21	ND (1)	ND (2.1)	ND (4.1) *	39	52
	09/23/08	9 - 10	N	ND (2.1) *	8.6	180	ND (2.1) *	ND (1)	0.659	28	7.1	11	9.3	ND (0.1) J*	ND (2.1) *	16	ND (1)	ND (2.1)	ND (4.1) *	31	49
AOC11e-1	09/23/08	0 - 0.5	N	ND (2) *	5.8	180	ND (2) *	ND (1)	0.959	43	5.4	10	10	ND (0.098) *	ND (2) *	11	ND (1)	ND (2)	ND (4) *	22	54
	09/23/08	2.5 - 3	N	ND (2) *	3.4	110	ND (1) *	ND (1)	3.19	92	5.8	41	9	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	26	170
	09/23/08	5.5 - 6	N	ND (2) *	4	100	ND (1) *	ND (1)	0.961	48	5.8	17	6.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	28	59
	09/23/08	9.5 - 10	N	ND (2) *	4.6	110	ND (1) *	ND (1)	3.2	84	4.6	31	13	ND (0.1) J*	ND (1)	9.8	ND (1)	ND (1)	ND (2) *	20	140
AOC11e-2	09/24/08	0 - 0.5	N	ND (2) *	4.8	140	ND (1) *	ND (1)	1.4	37	5.1	12	28	ND (0.1) *	1.1	11	ND (1)	ND (1)	ND (2) *	24	160
	09/24/08	2 - 3	N	ND (2) *	3	88	ND (1) *	ND (1)	3.78	130	3.4	19	11	ND (0.099) *	2.6	7.1	ND (1)	ND (1)	ND (2) *	14	130
	09/24/08	2 - 3	FD	ND (2.2) *	3.3	78	ND (1.1) *	ND (1.1) *	3.51	130	3.5	18	11	ND (0.11) *	2.9	7.3	ND (1.1)	ND (1.1)	ND (2.2) *	15	120
	09/24/08	5 - 6	N	ND (2) *	3.3	100	ND (1) *	ND (1)	2.25	98	4.7	30	9.6	ND (0.1) *	1.3	9.3	ND (1)	ND (1)	ND (2) *	20	150
	09/24/08	9 - 10	N	ND (2.1) *	5.2	100	ND (2.1) *	ND (1)	ND (0.436)	36	8.6	19	4.6	ND (0.11) J*	ND (2.1) *	19	ND (1)	ND (2.1)	ND (4.2) *	38	53
AOC11e-3	01/08/16	0 - 1	N	ND (2) *	3.8	80 J	ND (1) *	ND (1)	2.3 J	16	3.4	6.3	5.9	ND (0.1) *	ND (1)	6	ND (1)	ND (1)	ND (2) *	17	24
	01/08/16	0 - 1	FD	ND (2) *	3.3	100 J	ND (1) *	ND (1)	0.44 J	17	3.7	6.5	5.5	ND (0.1) *	ND (1)	6.5	ND (1)	ND (1)	ND (2) *	17	27
	01/10/16	2 - 3	N	ND (2) *	3.6	110	ND (1) *	ND (1)	ND (0.2)	11	4.1	6.7	3.6	ND (0.1) *	ND (1)	7.3	ND (1)	ND (1)	ND (2) *	19	21
	01/10/16	5 - 6	N	ND (2.2) *	4.9	180	ND (1.1) *	ND (1.1) *	ND (0.22)	19	5.4	7.5	4.5	ND (0.11) *	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.2) *	26	29
	01/10/16	9 - 10	N	ND (2.1) *	4.5	170	ND (1) *	ND (1)	ND (0.21)	12	4.7	6.9	4.4	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	ND (2.1) *	22	25
	01/10/16	13 - 14	N	ND (2) *	4	120	ND (1) *	ND (1)	ND (0.2)	11	3.9	5.9	3.3	ND (0.1) *	ND (1)	7.3	ND (1)	ND (1)	ND (2) *	18	35
AOC11e-4	01/28/16	0 - 1	N	ND (2) *	4.8	58	ND (1) *	ND (1)	1.2	16	4.1	7.4	4.3	ND (0.1) *	ND (1)	9.1	ND (1)	ND (1)	ND (2) *	20	33
	01/28/16	2 - 3	N	ND (2.1) *	2.7	51	ND (1) *	ND (1)	2.1	32	4.2	9	7	ND (0.1) *	ND (1)	7.2	ND (1)	ND (1)	ND (2.1) *	16	42
	01/28/16	5 - 6	N	ND (2.1) *	2.7	45	ND (1.1) *	ND (1.1) *	0.74	27	3.4	22	3.5	ND (0.1) *	ND (1.1)	6.8	ND (1.1)	ND (1.1)	ND (2.1) *	15	76
	01/28/16	14 - 15	N	ND (2) *	1.8	36	ND (1) *	ND (1)	ND (0.2)	17	8	22	1.7	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	34	35
AOC11e-5	01/19/16	14 - 15	N	ND (2.1) *	2.7	93 J	ND (1.1) *	ND (1.1) *	ND (0.21)	34 J	11	21 J	2	ND (0.11) *	ND (1.1)	25 J	ND (1.1) J	ND (1.1)	ND (2.1) *	41 J	48 J
	01/19/16	19 - 20	N	ND (2.1) *	2.2	60	ND (1) *	ND (1)	ND (0.21)	40	11	16	2.4	ND (0.1) *	1.5	19	ND (1)	ND (1)	ND (2.1) *	35	38
	01/19/16	29 - 30	N	ND (2.1) *	2.3	30	ND (1.1) *	ND (1.1) *	ND (0.21)	18	8	11	1.7	ND (0.1) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	30	34
	01/19/16	39 - 40	N	ND (2.2) *	3.8	37	ND (1.1) *	ND (1.1) *	ND (0.21)	30	9.1	8.3	2	ND (0.11) *	ND (1.1)	21	ND (1.1)	ND (1.1)	ND (2.2) *	36	38
	01/20/16	49 - 50	N	ND (2.1) *	2	55	ND (1) *	ND (1)	ND (0.21)	17	8.9	11	1.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	31	36
	01/21/16	59 - 60	N	ND (2.1) *	3.1	54	ND (1.1) *	ND (1.1) *	ND (0.21)	25	10	12	2	ND (0.1) *	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.1) *	41	45
	01/21/16	69 - 70	N	ND (2.2) *	4.7	28	ND (1.1) *	ND (1.1) *	ND (0.22)	24	8.5	12	2.8	ND (0.11) *	ND (1.1)	22	ND (1.1)	ND (1.1)	ND (2.2) *	41	47
AOC11e-6	12/03/15	0 - 1	N	ND (2.1) *	4.6	130	ND (1) *	ND (1)	16	320	4.9	12	8.4	ND (0.1) *	1.6	9.6	ND (1)	ND (1)	ND (2.1) *	18	37
AOC11e-SS-1	09/23/08	0 - 0.5	N	ND (2) J*	4.6	96 J	ND (1) *	ND (1)	0.698	20	3.9	8.7	8.6	ND (0.1) J*	ND (1)	8.7	ND (1)	ND (1)	ND (2) *	18	35 J
	09/23/08	2.5 - 3	N	ND (2) *	4.6	87	ND (1) *	ND (1)	ND (0.411)	21	4.5	7.7	4.8	ND (0.1) J*	ND (1)	8.3	ND (1)	ND (1)	ND (2) *	20	27
	09/23/08	5.5 - 6	N	ND (2) *	4.6	110	ND (1) *	ND (1)	ND (0.407)	9.2	3.8	5.1	5.2	ND (0.1) J*	ND (1)	6	ND (1)	ND (1)	ND (2) *	16	20
	09/23/08	9.5 - 10	N	ND (2) *	4.7	100	ND (1) *	ND (1)	ND (0.407)	10	3.2	10	5.4	ND (0.1) J*	ND (1)	6.3	ND (1)	ND (1)	ND (2) *	15	19

TABLE 3-7a
Sample Results: Metals
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PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC11e-SS-2	09/23/08	0 - 0.5	N	ND (2) *	4.5	120	ND (1) *	ND (1)	1.38	28	4.3	8.1	9.5	ND (0.1) J*	ND (1)	8.7	ND (1)	ND (1)	ND (2) *	17	39
	09/23/08	2.5 - 3	N	ND (2) *	6.6	110	ND (2) *	ND (1)	0.438	21	6.2	9.7	7.4	ND (0.1) J*	ND (2) *	13	ND (1)	ND (2)	ND (4.1) *	24	35
	09/23/08	5.5 - 6	N	ND (2.1) *	4.8	98	ND (1) *	ND (1)	0.466	26	6.3	10	5.1	ND (0.1) J*	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	28	39
	09/23/08	5.5 - 6	FD	ND (2) *	4.5	100	ND (1) *	ND (1)	0.437	27	5.6	9.6	5.5	ND (0.1) J*	ND (1)	11	ND (1)	ND (1)	ND (2) *	24	37
	09/23/08	9.5 - 10	N	ND (2.1) *	4.5	100	ND (1.1) *	ND (1.1) *	0.5	21	7.4	11	3.8	ND (0.11) J*	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1) *	34	37
AOC11g-OS1	04/06/11	8.5 - 9	N	ND (2) *	8.3	220	ND (1) *	ND (1)	ND (0.4) J	26	9.6	11	4.1	ND (0.1) J*	7.1	18	ND (1)	ND (1)	ND (2) *	45	61
PA-07	11/09/15	0 - 1	N	ND (2) *	4.9	160	ND (1) *	ND (1)	1.9	66	4.9	19	17	ND (0.1) *	1.3	13	ND (1)	ND (1)	ND (2) *	22	170
PA-09	01/27/16	0 - 1	N	ND (2) *	4.2	95	ND (1) *	ND (1)	ND (0.2)	21	6.7	13	150	0.18	ND (1)	13	ND (1)	ND (1)	ND (2) *	32	130
PA-10	01/27/16	0 - 1	N	ND (2.1) *	7	150	ND (1) *	ND (1)	0.95	40	4.3	24	56	ND (0.1) *	ND (1)	8	ND (1)	ND (1)	ND (2.1) *	20	190
PA-11	01/27/16	0 - 1	N	ND (2.1) *	4.3	140	ND (1) *	ND (1)	0.35	63	5.6	23	28	ND (0.1) *	3.3	16	ND (1)	ND (1)	ND (2.1) *	20	300
	01/25/17	2 - 3	N	ND (2.1) *	4.9	180	ND (1) *	ND (1)	---	10	4	7.1	4.7	ND (0.1) *	ND (1)	7.4	ND (1) J	ND (1)	ND (2.1) *	19	29
	01/25/17	2 - 3	FD	ND (2.1) *	4.7	160	ND (1) *	ND (1)	---	10	3.9	6.9	3.7	ND (0.1) *	ND (1)	7.4	ND (1) J	ND (1)	ND (2.1) *	18	24
PA-12	01/27/16	0 - 1	N	ND (2.1) *	6	190	ND (1) *	ND (1)	0.56	50	5.3	31	12	ND (0.1) *	3.1	13	ND (1)	ND (1)	ND (2.1) *	25	130
	01/25/17	2 - 3	N	ND (2.1) *	5.6	150	ND (1) *	ND (1)	---	13	4.7	9.7	5.7	ND (0.1) *	ND (1)	8.3	ND (1) J	ND (1)	ND (2.1) *	18	37 J
SD-08	11/11/15	0 - 1	N	ND (2) *	3.2	91	ND (1) *	ND (1)	ND (0.2)	9.2 J	5.2	6	5.3 J	ND (0.1) *	ND (1)	6.7 J	ND (1)	ND (1)	ND (2) *	16	31
	11/11/15	0 - 1	FD	ND (2) *	3.1	88	ND (1) *	ND (1)	0.26	12 J	3.8	13	6.8 J	ND (0.1) *	ND (1)	8.7 J	ND (1)	ND (1)	ND (2) *	18	37
	11/11/15	2 - 3	N	ND (2) *	8.9	92	ND (1) *	ND (1)	2.7	34	4	35	7.8	ND (0.1) *	ND (1)	8.4	ND (1)	ND (1)	ND (2) *	23	97
SD-09	11/10/15	0 - 1	N	ND (2.1) *	4.3	260	ND (1) *	ND (1)	ND (0.21)	11	4.3	6.4	3.8	ND (0.11) *	ND (1)	9.4	ND (1)	ND (1)	ND (2.1) *	22	25
	11/10/15	2 - 3	N	ND (2.1) *	4.6	240	ND (1.1) *	ND (1.1) *	ND (0.21)	11	4.3	5.6	3.1	ND (0.1) *	ND (1.1)	8.7	ND (1.1)	ND (1.1)	ND (2.1) *	21	21
	11/10/15	5 - 6	N	ND (2.1) J*	5.3	260	ND (1.1) *	ND (1.1) *	ND (0.21)	12	4.4	7.1	4.3	ND (0.1) *	ND (1.1)	8.9	ND (1.1)	ND (1.1)	ND (2.1) *	25	24
SD-10	11/10/15	0 - 1	N	ND (2) *	3.3	83	ND (1) *	ND (1)	ND (0.2)	7.9	2.7	6.7	6.1	ND (0.1) *	ND (1)	5.6	ND (1)	ND (1)	ND (2) *	14	36
	11/10/15	2 - 3	N	ND (2) *	2.4	82	ND (1) *	ND (1)	1.4	27	4.2	9	16	0.37	ND (1)	8.8	ND (1)	ND (1)	ND (2) *	19	180
SD-11	12/06/15	0 - 0.5	N	ND (2) *	2.9	99	ND (1) *	ND (1)	ND (0.2)	38	4.5	14	22	ND (0.1) *	ND (1)	9.6	ND (1)	ND (1)	ND (2) *	22	1,100
	12/06/15	2 - 3	N	ND (2) *	2.7	62	ND (1) *	ND (1)	1	21	3.3	10	6.2	ND (0.1) *	ND (1)	6	ND (1)	ND (1)	ND (2) *	17	42
SD-11A	03/07/16	0 - 1	N	ND (2) *	3.7	88	ND (1) *	ND (1)	0.51	110	3.8	19	20	ND (0.1) *	ND (1)	7.3	ND (1)	ND (1)	ND (2) *	18	170
	03/07/16	2 - 3	N	ND (2.1) *	2.9	90	ND (1) *	ND (1)	0.63	90	4.5	44	36	ND (0.1) *	ND (1)	8.8	ND (1)	ND (1)	ND (2.1) *	21	310
	03/07/16	5 - 6	N	ND (2.1) *	2.6	71	ND (1) *	ND (1)	0.79	23	3.7	11	11	ND (0.1) *	ND (1)	6.6	ND (1)	ND (1)	ND (2.1) *	18	88
SD-12	11/10/15	0 - 1	N	ND (2) *	2.8	79	ND (1) *	ND (1)	ND (0.2)	8.1	2.7	5.1	7.2	ND (0.1) *	ND (1)	5.1	ND (1)	ND (1)	ND (2) *	15	38
	11/10/15	2 - 3	N	ND (2) *	2.5	92	ND (1) *	ND (1)	0.51	16	4.4	8.9	4.1	ND (0.1) *	ND (1)	7.7	ND (1)	ND (1)	ND (2) *	19	27
SD-13	11/10/15	0 - 1	N	ND (2) *	3.2	100	ND (1) *	ND (1)	0.92	33	4.7	7.8	3.6	ND (0.1) *	ND (1)	7.9	ND (1)	ND (1)	ND (2) *	19	30
	11/10/15	2 - 3	N	ND (2.1) *	2.4	70	ND (1.1) *	ND (1.1) *	0.34	25	7.7	9.4	3	ND (0.11) *	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1) *	33	40
SD-20	11/11/15	0 - 1	N	ND (2) J*	3.4	100 J	ND (1) *	ND (1)	0.5	18 J	4.2	7.1	5.3	ND (0.1) *	ND (1)	8.8	ND (1)	ND (1)	ND (2) *	21	48 J
	11/11/15	0 - 1	FD	ND (2) *	3.1	74 J	ND (1) *	ND (1)	0.61	14 J	3.5	7.3	4.6	ND (0.099) *	ND (1)	7.4	ND (1)	ND (1)	ND (2) *	18	71 J
	11/11/15	2 - 3	N	ND (2) *	3.8	75	ND (1) *	ND (1)	ND (0.2)	8.9	2.6	4.3	2.7	ND (0.1) *	ND (1)	4.3	ND (1)	ND (1)	ND (2) *	13	17
SD-23	03/09/16	0 - 1	N	ND (2.1) *	2.4	65	ND (1.1) *	ND (1.1) *	0.27	19	6.3	11	5.6	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	26	87
	03/09/16	2 - 3	N	ND (2.2) *	2.2	51	ND (1.1) *	ND (1.1) *	ND (0.22)	31	9.2	14	3	ND (0.11) *	ND (1.1)	21	ND (1.1)	ND (1.1)	ND (2.2) *	38	39
SD-27	02/15/17	2 - 3	N	ND (2.1) *	2.4	56	ND (1) *	1.2	ND (0.21)	20	6.1	9	ND (1)	ND (0.1) *	ND (1)	12	ND (1) J	ND (1) J	ND (2.1) J*	23	34

TABLE 3-7a
Sample Results: Metals
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SD-OS37	11/30/16	0 - 0.5	N	ND (2) *	3.5	120	ND (1) *	ND (1)	0.41	35	5.2	21	36	ND (0.1) *	ND (1)	12	ND (1) J	ND (1)	ND (2) J*	20	92
	11/30/16	3 - 3.5	N	ND (2) *	3.1	93	ND (1) *	ND (1)	0.24	16	3.2	9.4	5.4	ND (0.1) *	2.7	7	ND (1) J	ND (1)	ND (2) J*	13	24
	11/30/16	5 - 5.5	N	ND (2) *	2.9	110	ND (1) *	ND (1)	ND (0.2)	14	4.1	7.4	3.3	ND (0.1) *	ND (1)	11	ND (1) J	ND (1)	ND (2) J*	16	20

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-7b

Sample Results: Contract Laboratory Program Inorganics

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Interim Screening Level ¹ :				16,400	66,500	29,303	12,100	402	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	1,800	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	1,800	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	220	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC11-8	12/06/15	0 - 1	N	4,400	15,000	15,000	2,900	200	1,200	190	ND (0.203)
	12/06/15	2 - 3	N	4,300	16,000	15,000	2,900	200	1,400	280	ND (0.204)
AOC11-9	12/06/15	0 - 1	N	4,600	14,000	18,000	3,200	190	1,600	180	ND (0.204)
	12/06/15	2 - 3	N	5,100	20,000	21,000	3,700	250	1,700	300	ND (0.205)
AOC11a-1	09/21/08	0 - 0.5	N	11,000	33,000	14,000	8,500	330	2,500	580	ND (1.01) *
AOC11a-2	09/21/08	0 - 0.5	N	20,000	45,000	20,000	12,000	350	5,000	710	ND (1.03) *
AOC11a-3	09/20/08	0 - 0.5	N	15,000	42,000	16,000	11,000	320	3,400	530	ND (1.03) *
AOC11b-1	09/17/08	0 - 0.5	N	11,000	27,000	26,000	8,200	440	2,400	180	ND (1) *
	09/17/08	0 - 0.5	FD	11,000	25,000	25,000	8,300	430	2,200	180	ND (1.01) *
AOC11c-2	09/21/08	0 - 0.5	N	9,000	33,000	13,000	8,400	300	2,500	430	ND (1) *
AOC11d-1	09/23/08	0 - 0.5	N	19,000 J	43,000 J	21,000 J	11,000 J	390 J	4,900	450	ND (1.04) *
	09/23/08	0 - 0.5	FD	19,000	33,000 J	23,000	12,000	400	5,300	440	ND (1.01) *
AOC11e-2	09/24/08	0 - 0.5	N	7,900	23,000	12,000	6,400	220	2,300	ND (580)	ND (1.02) *
AOC11e-6	12/03/15	0 - 1	N	---	45,000	14,000	10,000	260	2,400	4,300	---
PA-11	01/25/17	2 - 3	N	6,300	36,000	8,800	5,600	180	1,600	590	ND (0.215) ↓
PA-12	01/25/17	2 - 3	N	6,800	27,000	11,000 J	5,900	200	1,700 J	820	ND (0.211) ↓
SD-08	11/11/15	0 - 1	N	4,600 J	20,000	8,700	4,300 J	150	1,400	170	ND (0.202) ↓
	11/11/15	0 - 1	FD	5,900 J	20,000	10,000	5,300 J	170	1,700	150	ND (0.203) ↓
	11/11/15	2 - 3	N	5,000	22,000	11,000	5,600	150	1,300	270	ND (0.204) ↓
SD-11	12/06/15	0 - 0.5	N	6,800	22,000	15,000	5,700	170	2,100	220	ND (0.202)
	12/06/15	2 - 3	N	4,600	21,000	8,200	4,800	130	1,100	480	ND (0.205)
SD-13	11/10/15	0 - 1	N	6,600	22,000	13,000	5,600	200	1,700	400	ND (0.205) ↓
	11/10/15	2 - 3	N	11,000	20,000	19,000	8,000	200	1,900	2,400	ND (0.212) ↓

TABLE 3-7b

Sample Results: Contract Laboratory Program Inorganics
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Interim Screening Level¹				16,400	66,500	29,303	12,100	402	4,400	2,070	0.9
Residential Regional Screening Levels²				77,000	NE	55,000	NE	1,800	NE	NE	23
Residential DTSC-SL³				NE	NE	NE	NE	1,800	NE	NE	NE
Ecological Comparison Values⁴				NE	NE	NE	NE	220	NE	NE	0.9
Background⁵				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
SD-20	11/11/15	0 - 1	N	5,500	23,000	12,000	5,300	160	1,200	260 J	ND (0.202) J
	11/11/15	0 - 1	FD	4,100 J	18,000 J	9,600 J	4,400	150	1,000	250	ND (0.201) J
	11/11/15	2 - 3	N	3,500	28,000	6,800	5,500	130	860	270	ND (0.205) J

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-7c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
Category 1																								
AOC11-4-OS6	06/11/14	0	N	ND (5)	ND (5)	ND (5)	ND (5)	5	26	34	110	11	28	58	ND (5)	86	ND (5)	12	ND (5)	18	79	23	444	52
AOC11-4-OS5	06/11/14	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	14	21	51	10	16	31	ND (5)	54	ND (5)	10	ND (5)	21	46	21	253	31
AOC11-4-OS4	06/11/14	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.7	ND (5)	ND (5)	ND (5)	ND (5)	6	ND (5)	ND (5)	ND (5)	ND (5)	5	ND	16.7	6.1
AOC11-4-OS3	06/11/14	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	10	9.7	19	6.3	5.7	13	ND (5)	25	ND (5)	6.3	ND (5)	6.3	22	6.3	117	16
AOC11-4-OS1	06/11/14	0	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	5	6
AOC11-4-OS4	06/11/14	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC11-4-OS6	06/11/14	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.8	16	ND (5.3)	6.4	7.8	ND (5.3)	9.5	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.9	ND	57.4	13
AOC11-4-OS5	06/11/14	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	34 J	67 J	130 J	25	60 J	58 J	7	89 J	ND (5.2)	24	ND (5.2)	20	85 J	20	579	93
AOC11-4-OS3	06/11/14	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.4	10	20	7	6	12	ND (5)	17	ND (5)	5.7	ND (5)	5	16	5	100.1	16
AOC11-4-OS1	06/11/14	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7	ND (5.3)	ND (5.3)	5.6	ND (5.3)	9.8	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.8	ND	32.2	6.6
AOC11-4-OS3	06/11/14	2 - 3	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	11	15 J	33 J	ND (5)	11 J	16	ND (5)	23	ND (5)	ND (5)	ND (5)	5.4	22	5.4	131	22
AOC11-4-OS4	06/11/14	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	9.6	ND (5.1)	ND (5.1)	5.5	ND (5.1)	7.9	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.2	ND	35.3	9.2
AOC11-4-OS5	06/11/14	5 - 6	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	11 J	21 J	44 J	6.6	19 J	18 J	5.2 J	27 J	ND (5.2)	6.2	ND (5.2)	7.3	27 J	7.3	185	33
AOC11-1	01/05/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/05/16	0 - 1	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.2	14	28 J	7.2	7.5	13	ND (5.1)	22 J	ND (5.1)	6.8	ND (5.1)	7.5	20	7.5	125.7	21
	01/05/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/05/16	5 - 6	N	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	5.9	13	ND (5.9)	ND (5.9)	6.7	ND (5.9)	11	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	9.8	ND	46.4	11
	01/05/16	9 - 10	N	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND	ND	ND (8)
AOC11-2	01/05/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.3	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.2	ND	13.5	6
	01/05/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/05/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/05/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/05/16	9 - 10	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC11-3	01/05/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	5.1	17	ND (5.1)	5.8	11	ND (5.1)	24	ND (5.1)	ND (5.1)	ND (5.1)	5.4	21	5.4	89	10
	01/05/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/05/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	14	7.6	26	ND (5.2)	9.7	32	ND (5.2)	49	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	46	ND	184.3	15
	01/05/16	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/05/16	9 - 10	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
AOC11-4	01/05/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/05/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.3	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	5.3	6.4
AOC11-5	02/03/16	0 - 0.5	N	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	ND (6.2)	14	23	57	11	24	41	ND (6.2)	75	ND (6.2)	10	ND (6.2)	15	63	15	318	34
	02/03/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	24	20	28	15	15	23	ND (5.3)	38	ND (5.3)	12	ND (5.3)	6	35	6	210	29
	02/03/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	02/03/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)

TABLE 3-7c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC11a-SS-1	09/21/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.9	ND (5)	6.7	ND (5)	6.6	ND (5)	ND (5)	ND (5)	ND (5)	5.7	ND	25.9	5.8
	09/21/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/21/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/21/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC11a-SS-2	09/21/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.3	5.4	ND (5)	ND (5)	ND (5)	5.9	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	16.6	6.1
	09/21/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC11a-SS-3	09/20/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	25	37	59	36	43	59	11	89	ND (5)	30	ND (5)	26	78	26	467	60
	09/20/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/20/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/20/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC11b-1	09/17/08	0 - 0.5	N	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	44	65	98	52	41	88	ND (25)	120	ND (25)	49	ND (25)	30	110	30	667	97
	09/17/08	0 - 0.5	FD	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	50	59	85	52	39	78	ND (25)	120	ND (25)	47	ND (25)	28	110	28	640	90
	09/17/08	2 - 3	N	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	80	110	150	74	67	130	ND (25)	190	ND (25)	75	ND (5.6)	45	180	45	1,056	150
	09/17/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	21	31	44	19	21	38	5.1	56	ND (5.1)	19	ND (5.1)	14	53	14	307.1	45
	09/17/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	56	54	52	34	57	67	11	100	ND (5.1)	33	ND (5.1)	25	94	25	558	80
AOC11b-2	09/17/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	12	290	360	530	170	140	430	56	860	ND (5)	180	ND (5)	180	660	192	3,676	520
	09/17/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	14	18	24	13	10	21	ND (5.1)	34	ND (5.1)	13	ND (5.1)	9.5	30	9.5	177	26
	09/17/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/17/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC11c-1	09/21/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	27	35	36	21	32	45	6.7	67	ND (5)	21	ND (5)	25	61	25	351.7	50
	09/22/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	52	68	66	60	73	90	19	400	ND (5.2)	58	ND (5.2)	48	370	48	1,256	110
	09/22/08	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	34	43	43	38	51	62	12	94	ND (5.2)	37	ND (5.2)	38	84	38	498	67
	09/22/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	31	46	49	46	54	60	12	78	ND (5.2)	44	ND (5.2)	24	74	24	494	71
	09/22/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC11c-2	09/21/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	14	20	21	13	18	26	ND (5)	37	ND (5)	13	ND (5)	15	34	15	196	28
	09/22/08	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	75	110	99	98	140	140	28	180	ND (5.4)	95	ND (5.4)	61	170	61	1,135	170
	09/22/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7.3	77	89	82	73	120 J	120	24	170	ND (5.2)	69	ND (5.2)	71	160	78.3	984	140
	09/22/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	17	23	23	20	30	31	5.7	40	ND (5.1)	18	ND (5.1)	12	37	12	244.7	35
AOC11C-3	02/03/16	14 - 15	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	15	ND (5.3)	ND (5.3)	16	ND (5.3)	ND (5.3)	18	ND (5.3)	ND (5.3)	ND (5.3)	ND	49	21
	02/03/16	19 - 20	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	02/03/16	29 - 30	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)

TABLE 3-7c
Sample Results: Polycyclic Aromatic Hydrocarbons
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PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																					
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110	
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent	
AOC11c-4	01/28/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.9	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.5	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.5	ND	17.9	6.4
	01/28/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	01/28/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	01/28/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	01/28/16	9 - 10	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	02/02/16	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	02/02/16	19 - 20	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC11c-SS-1	09/21/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5	ND (5)	ND (5)	ND (5)	5.1	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.3	ND	15.4	5.8
	09/22/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6	ND	12	5.8
	09/22/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.7	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.3	ND	11	5.9
	09/22/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC11c-SS-2	09/22/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.9	7.3	6.3	8.3	8.6	ND (5)	12	ND (5)	5.3	ND (5)	ND (5)	11	ND	65.7	11	
	09/22/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	34	41	40	31	48	51	9.1	69	ND (5)	29	ND (5)	25	66	25	418.1	61	
	09/22/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9	18	16	17	21	16	7	18	ND (5.1)	17	ND (5.1)	8.2	16	8.2	155	29	
	09/22/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.9	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	5.9	5.9	
AOC11d-1	09/23/08	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	26	44	46	43	61 J	62	12	100	ND (5.2)	38	ND (5.2)	33	93	33	525	68	
	09/23/08	0 - 0.5	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	31	39	46	35	55 J	65	12	120	ND (5.1)	31	ND (5.1)	36	100	36	534	62	
	09/23/08	2.5 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.4)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	09/23/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (3.5)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	09/23/08	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.1)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
AOC11e-1	09/23/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	47	67	68	61	85 J	91	21	130	ND (5)	56	ND (5)	56	130	56	756	110	
	09/23/08	2.5 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	16	17	18	14	22 J	27	ND (5)	50	ND (5)	13	ND (5)	26	43	26	220	24	
	09/23/08	5.5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.5	6	6.9	5.4	8.1 J	9.1	ND (5.1)	17	ND (5.1)	ND (5.1)	ND (4.6)	8.6	15	8.6	73	10	
	09/23/08	9.5 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	45	35	49	32	48	60	12	87	ND (5.1)	30	ND (5)	43	78	43	476	60	
AOC11e-2	09/24/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	440	380	400	22	380	530	6.4	1,500	ND (5)	20	5	590	1,200	595	4,878	480	
	09/24/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7.2	ND (5)	ND (5)	ND (5)	ND (5)	8.2	ND	15.4	5.8	
	09/24/08	2 - 3	FD	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	10	ND (5.5)	ND (5.5)	ND (5)	6	11	6	21	6.4	
	09/24/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.6	ND (5.1)	ND (5.1)	5.6	ND (5.1)	10	ND (5.1)	ND (5.1)	ND (4.5)	ND (5.1)	8.2	ND	29.4	6.2	
	09/24/08	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
AOC11e-3	01/08/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	58	ND (51)	ND (51)	ND (51)	ND (51)	36 J	ND (5.1)	ND (51)	ND (5.1)	15 J	30 J	15	124	62	
	01/08/16	0 - 1	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	---	---	---	---	---	---	---	42 J	ND (5.1)	---	ND (5.1)	15 J	35 J	15	77	ND	
	01/10/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	61	100	ND (51)	51	61	ND (51)	79 J	ND (5.1)	ND (51)	ND (5.1)	19 J	75 J	19	427	100	
	01/10/16	5 - 6	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (56)	ND (56)	ND (56)	ND (56)	ND (56)	ND (56)	ND (56)	13 J	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	13 J	ND	26	65	
	01/10/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	16 J	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	15 J	ND	31	60	
	01/10/16	13 - 14	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (57)	

TABLE 3-7c
Sample Results: Polycyclic Aromatic Hydrocarbons
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PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC11e-4	01/28/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.5	9.5	16	8.5	6.8	11	ND (5.1)	15	ND (5.1)	7.5	ND (5.1)	ND (5.1)	14	ND	95.8	15
	01/28/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7.3	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.4	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7	ND	22.7	6.5
	01/28/16	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/28/16	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC11e-5	01/19/16	14 - 15	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	01/19/16	19 - 20	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/19/16	29 - 30	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/19/16	39 - 40	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	01/20/16	49 - 50	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	01/21/16	59 - 60	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	01/21/16	69 - 70	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)
AOC11e-6	12/03/15	0 - 1	N	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	ND	ND	5.9 R
AOC11e-SS-1	09/23/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	16	25	34	25	27	36	6.6	53	ND (5)	23	ND (5)	19	49	19	294.6	39
	09/23/08	2.5 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/23/08	5.5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (3.9)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/23/08	9.5 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.3)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC11e-SS-2	09/23/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	14	23	29	24	26	31	6.7	44	ND (5)	21	ND (5)	16	42	16	260.7	36
	09/23/08	2.5 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/23/08	5.5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	13	11	16	7.7	12	20	ND (5.2)	38 J	ND (5.2)	7.3	ND (4.8)	28 J	31 J	28	156	17
	09/23/08	5.5 - 6	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	ND (5.1)	ND (4.7)	ND (5.1) J	ND (5.1) J	ND	ND	ND (5.9)
	09/23/08	9.5 - 10	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.7)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
AOC11g-OS1	04/06/11	0 - 0.5	N	ND (10)	ND (100)	ND (10)	ND (10)	ND (10)	120	240	300	170	ND (10)	200	42	300	ND (10)	150	ND (100)	65	290	65	1,812	340
	04/06/11	2.5 - 3	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	20	40	55	26	ND (5)	31	6.4	40	ND (5)	23	ND (9.5)	7.4	37	7.4	278.4	56
	04/06/11	5.5 - 6	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (8.9)	ND (5)	ND (5)	ND	5	6
	04/06/11	8.5 - 9	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.4	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (6.8)	ND (5)	ND (5)	ND	5.4	6.1
PA-07	11/09/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	230	300	640	170	250	410	68	540	ND (5.1)	170	ND (5.1)	180	530	180	3,308	470
PA-09	01/27/16	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	12	ND (50)	100	ND (50)	ND (50)	20	ND (50)	23	ND (5)	ND (50)	ND (5)	10	20	10	175	64
PA-10	01/27/16	0 - 1	N	ND (5.1)	7.5 J	11 J	9.2 J	38 J	1,600 J	1,600	2,600	750	930	2,600 J	210	3,700 J	8.9 J	790	8.6 J	1,300 J	3,400 J	1,383	18,180	2,300
	01/26/17	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
PA-11	01/27/16	0 - 1	N	ND (5.2)	10 J	ND (5.2)	ND (5.2)	19 J	350 J	550	1,500	ND (520)	ND (520)	600	ND (520) *	770	ND (5.2)	ND (520)	10 J	250 J	720	289	4,490	1,000
	01/25/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.7	ND (5.2)	ND (5.2) J	5.6	ND (5.2)	8.7	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8	ND	31	6.6
	01/25/17	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.6	12	5.6	ND (5.2) J	7	ND (5.2)	10	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	9.8	ND	51	11
PA-12	01/27/16	0 - 1	N	ND (5.2)	10 J	ND (5.2)	ND (5.2)	ND (5.2)	130 J	130	250	69	86	170	ND (52)	170 J	ND (5.2)	66	ND (5.2)	140 J	150 J	150	1,221	200
	01/25/17	2 - 3	N	ND (5.2)	5.2	ND (5.2)	ND (5.2)	ND (5.2)	15	16	34	10	5.6 J	18	ND (5.2)	37	ND (5.2)	9.7	ND (5.2)	23	32	28.2	177.3	25
	01/25/17	5 - 6	N	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	7.6 J	5.2 R	5.2 R	5.5 J	5.2 R	6.2 J	5.2 R	5.2 R	5.2 R	5.2 R	6.2 J	---	25.5 JR	6.5 JR

TABLE 3-7c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
SD-08	11/11/15	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	11	14	28	7.7	8.7	14	ND (5)	19	ND (5)	7.4	ND (5)	6	18	6	127.8	21
	11/11/15	0 - 1	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8.4	11	27	9.7	8.7	14	ND (5)	26	ND (5)	9.4	ND (5)	9.7	24	9.7	138.2	18
	11/11/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	ND (51)	ND (51)	ND (51)	ND (51)	21	ND (51)	39	ND (5.1)	ND (51)	ND (5.1)	6.8	39	6.8	111	58
SD-09	11/10/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	16	29	67	14	23	36	ND (5.2)	35	ND (5.2)	14	ND (5.2)	10	35	10	269	42
	11/10/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.6	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	5.6	6.3
	11/10/15	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	6	6.5
SD-10	11/10/15	0 - 1	N	ND (5.1)	7.5	ND (5.1)	ND (5.1)	ND (5.1)	8.9	16	41	14	11	17	ND (5.1)	18	ND (5.1)	13	ND (5.1)	ND (5.1)	18	7.5	156.9	25
	11/10/15	2 - 3	N	14	18 J	ND (5.1)	ND (5.1)	ND (5.1)	10	20	59	14 J	17	20	ND (5.1)	26	ND (5.1)	14	ND (5.1)	7.1	25	39.1	205	31
SD-11	12/06/15	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	55	84	150	ND (50)	54	100 J	ND (50)	180	ND (5)	ND (50)	ND (5)	57	170	57	793	130
	12/06/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (57)
SD-11A	03/07/16	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	16 J	44 J	ND (50)	20 J	71 J	ND (50)	ND (5)	ND (5)	ND (50)	ND (5)	21 J	ND (5)	21	151	48
	03/07/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	20 J	ND (52)	90 J	9.1 J	43 J	51 J	ND (52)	72 J	ND (5.2)	ND (52)	ND (5.2)	27 J	ND (5.2)	27	285.1	66
	03/07/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	48 J	ND (52)	25 J	ND (5.2)	ND (52)	49 J	ND (5.2)	ND (52)	ND (5.2)	20 J	ND (5.2)	20	122	60
SD-12	11/10/15	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	12	ND (50)	ND (50)	ND (50)	ND (50)	20	ND (50)	30	ND (5)	ND (50)	ND (5)	20	25	20	87	56
	11/10/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
SD-13	11/10/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	39	74	160	120	51	65	ND (51)	89	ND (5.1)	95	ND (5.1)	11	88	11	781	130
	11/10/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.7	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	5.7	6.4
SD-20	11/11/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	42 J	51	110	ND (51)	ND (51)	58 J	ND (51)	88	ND (5.1)	ND (51)	ND (5.1)	27	96	27	445	95
	11/11/15	0 - 1	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	21 J	ND (50)	67	ND (50)	ND (50)	32 J	ND (50)	54	ND (5)	ND (50)	ND (5)	7.7	64	7.7	238	62
	11/11/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
SD-23	03/09/16	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	150 J	130 J	260	32 J	110 J	150 J	ND (5.3)	220 J	ND (5.3)	28 J	ND (5.3)	30 J	190 J	30	1,270	180
	03/09/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	5.4	10	ND (5.4)	ND (5.4)	7.6	ND (5.4)	10	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	9.7	ND	42.7	9.7
SD-27	02/15/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
SD-OS37	11/30/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	6.1	18	370	600 J	1,000 J	120 J	410 J	690	ND (5.1)	1,200	ND (5.1)	140 J	ND (5.1)	360	1,100	384.1	5,630	760
	11/30/16	3 - 3.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.2	14	27	10	7.8	18	ND (5.1)	24	ND (5.1)	9.5	ND (5.1)	6.8	24	6.8	142.5	21
	11/30/16	5 - 5.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	14	17	28	14	8.9	21	ND (5.1)	32	ND (5.1)	12	ND (5.1)	9.2	32	9.2	178.9	25

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-7d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)
Interim Screening Level ¹:				24,000,000
Residential Regional Screening Levels ²:				78,000,000
Residential DTSC-SL ³:				24,000
Ecological Comparison Values ⁴:				NE
Background ⁵:				NE
Location	Date	Depth (ft bgs)	Sample Type	Methyl acetate
Category 1				
AOC11a-1	09/21/08	2 - 3	N	ND (8.6)
AOC11a-2	09/21/08	2 - 3	N	ND (8.2)
AOC11a-3	09/20/08	2 - 3	N	ND (9.3)
	09/20/08	2 - 3	FD	ND (7.4)
AOC11b-1	09/17/08	2 - 3	N	ND (5.6)
AOC11c-2	09/22/08	2 - 3	N	ND (16) J
AOC11d-1	09/23/08	2.5 - 3	N	ND (4.4)
AOC11e-2	09/24/08	2 - 3	N	17
PA-11	01/25/17	2 - 3	N	ND (6)
PA-12	01/25/17	2 - 3	N	ND (6.1)

TABLE 3-7d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Only detected SVOCs and VOCs are presented.

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
SVOCs	semivolatile organic compounds

- 1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28 and ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

TABLE 3-7e

Sample Results: Total Petroleum Hydrocarbons

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC11-4-OS5	06/11/14	0	N	ND (10)	26
AOC11-4-OS3	06/11/14	0	N	ND (10)	ND (10) J
AOC11-4-OS6	06/11/14	0	N	ND (10)	15
AOC11-4-OS4	06/11/14	0	N	ND (10)	ND (10)
AOC11-4-OS1	06/11/14	0	N	ND (10)	ND (10)
AOC11-4-OS3	06/11/14	2 - 3	N	ND (10)	18
AOC11-4-OS1	06/11/14	2 - 3	N	ND (11)	ND (11)
AOC11-4-OS5	06/11/14	2 - 3	N	14	65
AOC11-4-OS6	06/11/14	2 - 3	N	ND (11)	ND (11)
AOC11-4-OS4	06/11/14	2 - 3	N	ND (10)	ND (10)
AOC11-4-OS3	06/11/14	2 - 3	FD	ND (10)	15
AOC11-4-OS4	06/11/14	5 - 6	N	ND (10)	14
AOC11-4-OS5	06/11/14	5 - 6	FD	13	57
AOC11-1	01/05/16	0 - 1	N	ND (10)	ND (10)
	01/05/16	0 - 1	FD	ND (10)	29
	01/05/16	2 - 3	N	ND (10)	ND (10)
	01/05/16	5 - 6	N	ND (12)	42
	01/05/16	9 - 10	N	ND (14)	ND (14)
AOC11-2	01/05/16	0 - 1	N	ND (10)	13
	01/05/16	2 - 3	N	ND (10)	ND (10)
	01/05/16	5 - 6	N	ND (10)	ND (10)
	01/05/16	9 - 10	N	ND (10)	ND (10)
	01/05/16	9 - 10	FD	ND (10)	ND (10)
AOC11-3	01/05/16	0 - 1	N	ND (10)	19
	01/05/16	2 - 3	N	ND (10)	ND (10)
	01/05/16	5 - 6	N	ND (10)	13
	01/05/16	9 - 10	N	ND (11)	ND (11)
	01/05/16	9 - 10	FD	ND (11)	ND (11)
AOC11-4	01/05/16	0 - 1	N	ND (10)	ND (10)
	01/05/16	2 - 3	N	ND (11)	26
AOC11-5	02/03/16	0 - 0.5	N	ND (12)	72
	02/03/16	2 - 3	N	ND (11)	ND (11)
	02/03/16	5 - 6	N	ND (10)	15
	02/03/16	9 - 10	N	ND (10)	ND (10)
AOC11-6	01/06/16	0 - 1	N	ND (11)	26
	01/06/16	2 - 3	N	ND (10)	ND (10)
	01/06/16	5 - 6	N	ND (10)	ND (10)
	01/06/16	9 - 10	N	ND (10)	ND (10)

TABLE 3-7e

Sample Results: Total Petroleum Hydrocarbons

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC11-7	01/06/16	0 - 1	N	ND (11)	ND (11)
	01/06/16	2 - 3	N	41	250
	01/06/16	5 - 6	N	ND (10)	23
AOC11-8	12/06/15	0 - 1	N	ND (10)	10
	12/06/15	2 - 3	N	ND (10)	ND (10)
AOC11-9	12/06/15	0 - 1	N	ND (10)	ND (10)
	12/06/15	2 - 3	N	ND (10)	ND (10)
AOC11a-1	09/21/08	0 - 0.5	N	ND (10)	45.7 J
	09/21/08	2 - 3	N	ND (10)	10.1 J
	09/21/08	5 - 6	N	ND (10)	ND (10)
AOC11a-2	09/21/08	0 - 0.5	N	ND (10)	ND (10)
	09/21/08	2 - 3	N	ND (10)	ND (10)
	09/21/08	5 - 6	N	ND (10)	ND (10)
AOC11a-3	09/20/08	0 - 0.5	N	ND (10)	ND (10)
	09/20/08	2 - 3	N	ND (10)	ND (10)
	09/20/08	2 - 3	FD	ND (10)	ND (10)
	09/20/08	5 - 6	N	ND (10) J	35.6 J
AOC11a-4	09/20/08	0 - 0.5	N	10.3	14 J
	09/20/08	2 - 3	N	ND (10)	47.5 J
	09/20/08	5 - 6	N	ND (10)	11.9 J
AOC11a-5	09/21/08	0 - 0.5	N	ND (10)	11.2 J
	09/21/08	2 - 3	N	ND (10)	37.4 J
	09/21/08	5 - 6	N	ND (10)	11.3 J
	09/21/08	5 - 6	FD	ND (10)	ND (10)
AOC11b-1	09/17/08	0 - 0.5	N	ND (101)	ND (101)
	09/17/08	0 - 0.5	FD	ND (101)	ND (101)
	09/17/08	2 - 3	N	ND (10)	ND (10)
	09/17/08	5 - 6	N	ND (10)	16
AOC11b-2	09/17/08	0 - 0.5	N	ND (101)	ND (101)
	09/17/08	2 - 3	N	ND (10)	ND (10)
	09/17/08	5 - 6	N	ND (10)	ND (10)
AOC11c-1	09/21/08	0 - 0.5	N	ND (10)	ND (10)
	09/22/08	2 - 3	N	ND (10) J	53.5
	09/22/08	2 - 3	FD	78 J	71.2
	09/22/08	5 - 6	N	ND (10)	76.5
AOC11c-2	09/21/08	0 - 0.5	N	ND (10)	ND (10)
	09/22/08	2 - 3	N	10	79.2
	09/22/08	5 - 6	N	ND (10)	43.1

TABLE 3-7e

Sample Results: Total Petroleum Hydrocarbons

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC11d-1	09/23/08	0 - 0.5	N	ND (10)	ND (10)
	09/23/08	0 - 0.5	FD	ND (10)	15.4
	09/23/08	2.5 - 3	N	ND (10)	ND (10)
	09/23/08	5 - 6	N	ND (10)	ND (10)
	09/23/08	9 - 10	N	ND (10) J	ND (10) J
AOC11e-1	09/23/08	0 - 0.5	N	ND (10)	11.7
	09/23/08	2.5 - 3	N	ND (10)	42.2 J
	09/23/08	5.5 - 6	N	ND (10)	23.6
	09/23/08	9.5 - 10	N	ND (10) J	17.7 J
AOC11e-2	09/24/08	0 - 0.5	N	13.8	166
	09/24/08	2 - 3	N	ND (10)	471
	09/24/08	2 - 3	FD	10.1	544
	09/24/08	5 - 6	N	15.6	105
	09/24/08	9 - 10	N	ND (10) J	ND (10) J
AOC11e-SS-1	09/23/08	0 - 0.5	N	ND (10) J	ND (10) J
	09/23/08	2.5 - 3	N	ND (10) J	ND (10) J
	09/23/08	5.5 - 6	N	ND (10) J	10.5 J
	09/23/08	9.5 - 10	N	ND (10) J	ND (10) J
AOC11e-SS-2	09/23/08	0 - 0.5	N	ND (10) J	ND (10) J
	09/23/08	2.5 - 3	N	ND (10) J	ND (10) J
	09/23/08	5.5 - 6	N	ND (10) J	ND (10) J
	09/23/08	5.5 - 6	FD	ND (10) J	ND (10) J
	09/23/08	9.5 - 10	N	10 J	ND (10) J
AOC11g-OS1	04/06/11	0 - 0.5	N	75	340
	04/06/11	2.5 - 3	N	20	65
	04/06/11	5.5 - 6	N	15	31
	04/06/11	8.5 - 9	N	ND (10)	ND (10)
PA-07	11/09/15	0 - 1	N	63	360 J
PA-09	01/27/16	0 - 1	N	12	220
PA-10	01/27/16	0 - 1	N	53	300
PA-11	01/27/16	0 - 1	N	28	240
PA-12	01/27/16	0 - 1	N	15	120
SD-08	11/11/15	0 - 1	N	ND (10)	ND (10)
	11/11/15	0 - 1	FD	ND (10)	ND (10)
	11/11/15	2 - 3	N	ND (10)	18
SD-09	11/10/15	0 - 1	N	13	19
	11/10/15	2 - 3	N	30	72
	11/10/15	5 - 6	N	ND (11)	13

TABLE 3-7e

Sample Results: Total Petroleum Hydrocarbons

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
SD-10	11/10/15	0 - 1	N	ND (10)	26
	11/10/15	2 - 3	N	26	25
SD-11	12/06/15	0 - 0.5	N	54	180
	12/06/15	2 - 3	N	590	1,200
SD-11A	03/07/16	0 - 1	N	840 J	1,400
	03/07/16	2 - 3	N	940	1,500
	03/07/16	5 - 6	N	240	440
SD-12	11/10/15	0 - 1	N	ND (10)	29
	11/10/15	2 - 3	N	26	56
SD-13	11/10/15	0 - 1	N	ND (10)	11
	11/10/15	2 - 3	N	ND (11)	ND (11)
SD-20	11/11/15	0 - 1	N	ND (10)	39 J
	11/11/15	0 - 1	FD	23	290 J
	11/11/15	2 - 3	N	ND (10)	ND (10)
SD-23	03/09/16	0 - 1	N	47	140
	03/09/16	2 - 3	N	ND (11)	ND (11)
SD-27	02/15/17	2 - 3	N	ND (10)	ND (10)
SD-OS37	11/30/16	0 - 0.5	N	21	130
	11/30/16	3 - 3.5	N	19	46
	11/30/16	5 - 5.5	N	ND (10)	12

TABLE 3-7e

Sample Results: Total Petroleum Hydrocarbons

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
RWQCB	Regional Water Quality Control Board
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency

- 1 The interim screening level is the Regional Water Quality Control Board environmental screening level.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.
- 5 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 6 Background values have not been established for TPHs.

TABLE 3-7f

Sample Results: General Chemistry Parameters

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC11-4-OS4	06/11/14	0	N	8.6
AOC11-4-OS6	06/11/14	0	N	8.4
AOC11-4-OS5	06/11/14	0	N	8.6
AOC11-4-OS3	06/11/14	0	N	8.7
AOC11-4-OS1	06/11/14	0	N	9.1
AOC11-4-OS6	06/11/14	2 - 3	N	9.7
AOC11-4-OS5	06/11/14	2 - 3	N	9.7
AOC11-4-OS4	06/11/14	2 - 3	N	8.7
AOC11-4-OS3	06/11/14	2 - 3	N	9.4
AOC11-4-OS1	06/11/14	2 - 3	N	9
AOC11-4-OS3	06/11/14	2 - 3	FD	9.3
AOC11-4-OS4	06/11/14	5 - 6	N	9.6
AOC11-4-OS5	06/11/14	5 - 6	FD	9.8
AOC11-1	01/05/16	0 - 1	N	8.9
	01/05/16	0 - 1	FD	8.9
	01/05/16	2 - 3	N	9.5
	01/05/16	5 - 6	N	9
	01/05/16	9 - 10	N	8.9
AOC11-2	01/05/16	0 - 1	N	7.8
	01/05/16	2 - 3	N	8
	01/05/16	5 - 6	N	8.5
	01/05/16	9 - 10	N	8.5
	01/05/16	9 - 10	FD	8.5
AOC11-3	01/05/16	0 - 1	N	8
	01/05/16	2 - 3	N	8.4
	01/05/16	5 - 6	N	8.2
	01/05/16	9 - 10	N	7.9
	01/05/16	9 - 10	FD	8.7
AOC11-4	01/05/16	0 - 1	N	9.5
	01/05/16	2 - 3	N	11
AOC11-5	02/03/16	0 - 0.5	N	8.6
	02/03/16	2 - 3	N	9.2
	02/03/16	5 - 6	N	9.5
	02/03/16	9 - 10	N	9.7

TABLE 3-7f

Sample Results: General Chemistry Parameters

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
AOC11-6	01/06/16	0 - 1	N	9.4
	01/06/16	2 - 3	N	9
	01/06/16	5 - 6	N	8.6
	01/06/16	9 - 10	N	9.2
AOC11-7	01/06/16	0 - 1	N	8.2
	01/06/16	2 - 3	N	8.2
	01/06/16	5 - 6	N	8.2
AOC11-8	12/06/15	0 - 1	N	9.3
	12/06/15	2 - 3	N	8.6
AOC11-9	12/06/15	0 - 1	N	9.3
	12/06/15	2 - 3	N	9.3
AOC11a-1	09/21/08	0 - 0.5	N	8.26
	09/21/08	2 - 3	N	8.76
	09/21/08	5 - 6	N	9.8
AOC11a-2	09/21/08	0 - 0.5	N	8.19
	09/21/08	2 - 3	N	8.89
	09/21/08	5 - 6	N	8.97
AOC11a-3	09/20/08	0 - 0.5	N	8.25
	09/20/08	2 - 3	N	8.6
	09/20/08	2 - 3	FD	8.96
	09/20/08	5 - 6	N	8.99
AOC11a-4	09/20/08	0 - 0.5	N	7.99
	09/20/08	2 - 3	N	9.09
	09/20/08	5 - 6	N	9.34
AOC11a-5	09/21/08	0 - 0.5	N	8.37
	09/21/08	2 - 3	N	9.29
	09/21/08	5 - 6	N	9.61
	09/21/08	5 - 6	FD	9.51
AOC11b-1	09/17/08	0 - 0.5	N	7.64
	09/17/08	0 - 0.5	FD	7.48
	09/17/08	2 - 3	N	8.36
	09/17/08	5 - 6	N	8.39
AOC11b-2	09/17/08	0 - 0.5	N	7.88
	09/17/08	2 - 3	N	8.24
	09/17/08	5 - 6	N	8.13

TABLE 3-7f

Sample Results: General Chemistry Parameters

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
AOC11c-1	09/21/08	0 - 0.5	N	8.74
	09/22/08	2 - 3	N	7.73
	09/22/08	2 - 3	FD	8.03
	09/22/08	5 - 6	N	7.9
AOC11c-2	09/21/08	0 - 0.5	N	8.56
	09/22/08	2 - 3	N	7.92
	09/22/08	5 - 6	N	7.99
AOC11d-1	09/23/08	0 - 0.5	N	8.06
	09/23/08	0 - 0.5	FD	7.63
	09/23/08	2.5 - 3	N	8.7
	09/23/08	5 - 6	N	8.91
AOC11e-1	09/23/08	0 - 0.5	N	7.94
	09/23/08	2.5 - 3	N	8.3
	09/23/08	5.5 - 6	N	7.87
AOC11e-2	09/24/08	0 - 0.5	N	8.05
	09/24/08	2 - 3	N	7.72
	09/24/08	2 - 3	FD	7.58
	09/24/08	5 - 6	N	7.8
AOC11e-6	12/03/15	0 - 1	N	7.7
AOC11g-OS1	04/06/11	0 - 0.5	N	8
	04/06/11	2.5 - 3	N	7.8
	04/06/11	5.5 - 6	N	7.8
	04/06/11	8.5 - 9	N	7.8

TABLE 3-7f

Sample Results: General Chemistry Parameters

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
µS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.

5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-7g
Sample Results: Pesticides
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC11a-1	09/21/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC11a-2	09/21/08	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC11a-3	09/20/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC11b-1	09/17/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	09/17/08	0 - 0.5	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC11c-2	09/21/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC11C-3	02/03/16	14 - 15	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	02/03/16	19 - 20	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	02/03/16	29 - 30	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC11c-4	01/28/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/28/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/28/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/28/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/28/16	9 - 10	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/02/16	14 - 15	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/02/16	19 - 20	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC11d-1	09/23/08	0 - 0.5	N	ND (2.1) *	6.1	ND (2.1) *	ND (1)	ND (1)	12 J	ND (1)	ND (1)	6.7	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	13 J	ND (1)	ND (1)	ND (5.2)	ND (52)
	09/23/08	0 - 0.5	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1) J	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1) J	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC11e-2	09/24/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC11e-3	01/08/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/08/16	0 - 1	FD	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/10/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/10/16	5 - 6	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.6)	ND (56)
	01/10/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/10/16	13 - 14	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC11e-4	01/28/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/28/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/28/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	01/28/16	14 - 15	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)

TABLE 3-7g
Sample Results: Pesticides
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
AOC11e-5	01/19/16	14 - 15	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54)
	01/19/16	19 - 20	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	01/19/16	29 - 30	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	01/19/16	39 - 40	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54)
	01/20/16	49 - 50	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	01/21/16	59 - 60	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
	01/21/16	69 - 70	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)
PA-11	01/25/17	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
PA-12	01/25/17	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency

- 1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison values for Additional Chemicals in Soil." July 1.
- 5 Background values have not been established for pesticides.

TABLE 3-7h

Sample Results: Polychlorinated Biphenyls

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC11-2	01/05/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/05/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/05/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/05/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/05/16	9 - 10	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC11-3	01/05/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/05/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/05/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/05/16	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/05/16	9 - 10	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC11-8	12/06/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
	12/06/15	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC11-9	12/06/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
	12/06/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC11a-1	09/21/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC11a-2	09/21/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC11a-3	09/20/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC11b-1	09/17/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
	09/17/08	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC11c-2	09/21/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	29	ND (17)	ND (17)	ND (17)	37.5
	09/22/08	2 - 3	N	ND (18) J	ND (35) J	ND (18) J	ND (18) J	ND (18) J	190 J	ND (18) J	ND (18) J	ND (18) J	199
AOC11C-3	02/03/16	14 - 15	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/03/16	19 - 20	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/03/16	29 - 30	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)

TABLE 3-7h

Sample Results: Polychlorinated Biphenyls

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC11c-4	01/28/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/28/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/28/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/28/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/28/16	9 - 10	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/02/16	14 - 15	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	02/02/16	19 - 20	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC11d-1	09/23/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	76	ND (17)	ND (17)	ND (17)	84.5
	09/23/08	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	41	ND (17)	ND (17)	ND (17)	49.5
	09/23/08	2.5 - 3	N	ND (17) J	ND (34) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17)
AOC11e-2	09/24/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	190	240	ND (17)	ND (17)	430
	09/24/08	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
	09/24/08	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	26	ND (17)	ND (17)	ND (17)	34.5
	09/24/08	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	18	ND (17)	ND (17)	ND (17)	26.5
	09/24/08	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC11e-3	01/08/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	28	ND (17)	---	---	36.5
	01/08/16	0 - 1	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	30	ND (17)	---	---	38.5
	01/10/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	38	ND (17)	---	---	46.5
	01/10/16	5 - 6	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	01/10/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/10/16	13 - 14	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
AOC11e-4	01/28/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/28/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/28/16	5 - 6	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/28/16	14 - 15	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)

TABLE 3-7h

Sample Results: Polychlorinated Biphenyls

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC11e-5	01/19/16	14 - 15	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	01/19/16	19 - 20	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/19/16	29 - 30	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/19/16	39 - 40	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	01/20/16	49 - 50	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	01/21/16	59 - 60	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
	01/21/16	69 - 70	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (18)
AOC11e-SS-1	09/23/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	30	ND (17)	ND (17)	ND (17)	38.5
	09/23/08	2.5 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
	09/23/08	5.5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
	09/23/08	9.5 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
AOC11e-SS-2	09/23/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	40	ND (17)	ND (17)	ND (17)	48.5
	09/23/08	2.5 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)
	09/23/08	5.5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	30	ND (17)	ND (17)	ND (17)	38.5
	09/23/08	5.5 - 6	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	19	ND (17)	ND (17)	ND (17)	27.5
	09/23/08	9.5 - 10	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)
AOC11g-OS1	04/06/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	140	ND (17)	---	---	148.5
	04/06/11	2.5 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	190	ND (17)	---	---	198.5
	04/06/11	5.5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
	04/06/11	8.5 - 9	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (17)
PA-07	11/09/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	100	ND (17)	---	---	125.5
PA-09	01/27/16	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17) J	ND (17)	51	ND (17)	---	---	76.5
PA-10	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	590	ND (17)	---	---	615.5
	01/26/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
PA-11	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	530	ND (17)	---	---	555.5
	01/25/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/25/17	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	19	ND (17)	---	---	44.5

TABLE 3-7h

Sample Results: Polychlorinated Biphenyls

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
PA-12	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	470 J	ND (17)	---	---	495.5
	01/25/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	27	ND (17)	---	---	52.5
SD-08	11/11/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	42	ND (17)	ND (17)	ND (17)	67.5
	11/11/15	0 - 1	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	38	ND (17)	ND (17)	ND (17)	63.5
	11/11/15	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
SD-09	11/10/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	11/10/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	11/10/15	5 - 6	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-10	11/10/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	11/10/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-11	12/06/15	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	430	180 J	ND (17)	ND (17)	627
	12/06/15	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
SD-11A	03/07/16	0 - 1	N	70	ND (33)	ND (17)	ND (17)	ND (17)	250	1,000	---	---	1,329
	03/07/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	240	360	---	---	617
	03/07/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	110	110	---	---	237
SD-12	11/10/15	0 - 1	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	---	---	ND (32)
	11/10/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-13	11/10/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	11/10/15	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
SD-20	11/11/15	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	11/11/15	0 - 1	FD	ND (17) J	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (34)
	11/11/15	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
SD-23	03/09/16	0 - 1	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	250	ND (18)	---	---	277
	03/09/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
SD-27	02/15/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

TABLE 3-7h

Sample Results: Polychlorinated Biphenyls

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
SD-OS37	11/30/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	1,600	310	---	---	1,927
	11/30/16	3 - 3.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	110	38	---	---	165
	11/30/16	5 - 5.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	26	ND (17)	---	---	51.5

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

* Reporting limits greater than or equal to the interim screening level.

--- not analyzed

µg/kg micrograms per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

JR estimated value, one or more input values is "R" qualified.

NE not established

N primary sample

ND not detected at the listed reporting limit

ND The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

TABLE 3-7h

Sample Results: Polychlorinated Biphenyls

AOC 11 – Topographic Low Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ Background values have not been established for polychlorinated biphenyls.

TABLE 3-7i
Sample Results: Dioxins and Furans
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE

TABLE 3-7i
Sample Results: Dioxins and Furans
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
AOC11-6	01/06/16	0 - 1	N	19 J	2.3 J	ND (0.3) J	ND (0.22) J	ND (0.45) J	ND (0.66) J	ND (0.43) J	ND (0.22) J	ND (0.51) J	ND (0.24) J	ND (0.14) J	ND (2.6) J	ND (0.37) J	ND (0.074) J	ND (0.11) J	180 J	4 J	0.69	0.74	0.74
	01/06/16	2 - 3	N	8.5 J	1.5 J	ND (0.23) J	ND (0.2) J	ND (0.31) J	ND (0.2) J	ND (0.29) J	ND (0.19) J	ND (0.35) J	ND (0.25) J	ND (0.23) J	ND (1.2) J	ND (0.24) J	ND (0.055) J	ND (0.067) J	95 J	ND (1.6) J	0.47	0.46	0.46
AOC11-7	01/06/16	0 - 1	N	27 J	3.7 J	1.4 J	ND (1.1) J	ND (1.2) J	1.9 J	ND (1.1) J	ND (1.7) J	1.4 J	1.1 J	1 J	ND (5.1) J	ND (1.7) J	0.63 J	ND (0.23) J	230 J	7 J	3.5	3.3	3.3
	01/06/16	2 - 3	N	5.8 J	2.3 J	ND (0.4) J	ND (0.41) J	ND (0.25) J	ND (0.41) J	ND (0.24) J	ND (0.4) J	ND (0.29) J	ND (0.35) J	ND (0.45) J	ND (2.7) J	ND (1.3) J	ND (0.2) J	ND (0.49) J	79 J	4.8 J	1.4	0.84	0.84
AOC11-8	12/06/15	0 - 1	N	26 J	ND (2.2) J	ND (0.56) J	ND (0.22) J	ND (0.45) J	ND (0.71) J	ND (0.43) J	ND (0.42) J	ND (0.52) J	ND (0.18) J	ND (0.1) J	ND (5.1) J	ND (0.11) J	ND (0.046) J	ND (0.072) J	340 J	16 J	0.64	0.91	0.91
	12/06/15	2 - 3	N	12 J	2.2 J	ND (0.1) J	ND (0.23) J	ND (0.16) J	ND (0.23) J	0.4 J	ND (0.28) J	ND (0.18) J	ND (0.19) J	ND (0.23) J	ND (2.6) J	ND (0.24) J	ND (0.15) J	ND (0.19) J	140 J	4.4 J	0.65	0.63	0.63
AOC11-9	12/06/15	0 - 1	N	22 J	2.5 J	ND (0.23) J	0.39 J	ND (0.15) J	ND (0.9) J	ND (0.15) J	ND (0.43) J	ND (0.18) J	0.47 J	ND (0.15) J	ND (2.5) J	ND (0.15) J	ND (0.075) J	ND (0.076) J	190 J	ND (3.4) J	0.89	1.1	1.1
	12/06/15	2 - 3	N	7.4 J	ND (0.83) J	ND (0.17) J	ND (0.11) J	ND (0.12) J	ND (0.25) J	0.58 J	ND (0.21) J	ND (0.14) J	ND (0.09) J	ND (0.1) J	ND (0.7) J	ND (0.1) J	ND (0.036) J	ND (0.11) J	59 J	ND (0.83) J	0.31	0.32	0.32
AOC11a-3	09/20/08	0 - 0.5	N	1,300 J	140 J	13 J	8.1 J	5.5 J	30 J	9.9 J	14 J	ND (1.4) J	ND (2.9) J	1.7 J	ND (290) J	1.8 J	ND (0.41) J	ND (1.1) J	12,000 J	440 J	26	42	42
	09/20/08	2 - 3	N	910 J	73 J	6.3 J	4.7 J	3.6 J	20 J	ND (2.6) J	9.2 J	ND (0.86) J	ND (2.5) J	ND (0.95) J	ND (130) J	1.6 J	ND (0.15) J	0.98 J	9,100 J	210 J	15	25	25
	09/20/08	5 - 6	N	3,600 J	470 J	41 J	19 J	18 J	110 J	8.5 J	33 J	4.4 J	6.7 J	ND (2.4) J	ND (1,400) J	4.4 J	ND (0.14) J	ND (0.12) J	32,000 J	1,200 J	100	150	150
	09/20/08	9 - 10	N	6 J	0.71 J	ND (0.18) J	ND (0.26) J	ND (0.17) J	ND (0.25) J	ND (0.16) J	ND (0.25) J	ND (0.16) J	ND (0.12) J	ND (0.11) J	ND (2.2) J	ND (0.11) J	ND (0.11) J	ND (0.13) J	57 J	ND (1) J	0.41	0.4	0.4
AOC11a-5	09/21/08	0 - 0.5	N	2,600 J	230 J	21 J	16 J	9.6 J	61 J	ND (3.8) J	ND (26) J	ND (0.84) J	ND (8) J*	4 J	ND (400) J	2.7 J	ND (0.86) J	2.6 J	26,000 J	750 J	42	72	72
	09/21/08	2 - 3	N	630 J	55 J	ND (4.7) J	4.7 J	ND (1.7) J	15 J	ND (1.7) J	ND (5.1) J	ND (0.5) J	2.6 J	ND (1) J	ND (97) J	ND (0.49) J	ND (0.26) J	ND (0.52) J	6,800 J	150 J	11	19	19
	09/21/08	5 - 6	N	ND (4.5) J	ND (0.46) J	ND (0.29) J	ND (0.18) J	ND (0.11) J	ND (0.18) J	ND (0.098) J	ND (0.17) J	ND (0.13) J	ND (0.12) J	ND (0.08) J	ND (0.4) J	ND (0.079) J	ND (0.11) J	ND (0.12) J	53 J	ND (1.4) J	0.28	0.24	0.24
	09/21/08	9 - 10	N	ND (0.93) J	ND (2.7) J	ND (0.32) J	ND (0.43) J	ND (0.22) J	ND (0.41) J	ND (0.2) J	ND (0.32) J	ND (0.26) J	ND (0.55) J	ND (0.26) J	ND (0.22) J	ND (0.26) J	ND (0.44) J	ND (0.31) J	ND (9.3) J	ND (0.54) J	ND (0.88)	ND (0.68)	ND (0.68)
AOC11a-SS-1	09/21/08	0 - 0.5	N	9.6 J	1.3 J	ND (0.52) J	ND (0.31) J	ND (0.28) J	ND (0.57) J	ND (0.26) J	ND (0.42) J	ND (0.35) J	ND (0.36) J	ND (0.17) J	ND (1.5) J	ND (0.2) J	ND (0.17) J	ND (0.27) J	68 J	ND (2.2)	0.69	0.63	0.63
	09/21/08	2 - 3	N	47 J	4.5 J	ND (0.95) J	ND (1) J	ND (0.71) J	ND (0.97) J	ND (1.1) J	ND (1.6) J	ND (0.94) J	ND (1.1) J	ND (0.68) J	ND (8.1) J	1.3 J	ND (0.29) J	ND (1.1) J	440 J	11 J	3.4	2.5	2.5
	09/21/08	5 - 6	N	1.8 J	ND (0.14) J	ND (0.3) J	ND (0.17) J	ND (0.084) J	ND (0.24) J	ND (0.076) J	ND (0.16) J	ND (0.2) J	ND (0.16) J	ND (0.2) J	ND (0.065) J	ND (0.2) J	ND (0.12) J	ND (0.22) J	9.7 J	ND (0.54) J	0.4	0.26	0.26
AOC11a-SS-3	09/20/08	0 - 0.5	N	2,000 J	190 J	15 J	ND (14) J	ND (0.45) J	47 J	ND (3.9) J	29 J	ND (1.5) J	ND (6) J*	2.4 J	ND (240) J	ND (2.8) J	ND (0.54) J	2.2 J	20,000 J	480 J	29	53	53
	09/20/08	5 - 6	N	4.3 J	ND (0.22) J	ND (0.25) J	ND (0.23) J	ND (0.12) J	ND (0.22) J	ND (0.11) J	ND (0.22) J	ND (0.14) J	ND (0.17) J	ND (0.096) J	ND (0.18) J	ND (0.096) J	ND (0.12) J	ND (0.11) J	33 J	ND (1.2) J	0.31	0.28	0.28
AOC11b-1	09/17/08	0 - 0.5	N	4.9 J	1.1 J	ND (0.13) J	ND (0.12) J	ND (0.099) J	ND (0.23) J	ND (0.23) J	ND (0.28) J	ND (0.11) J	ND (0.11) J	ND (0.16) J	ND (1.3) J	ND (0.57) J	ND (0.041) J	ND (0.039) J	54 J	ND (2)	0.52	0.36	0.36
	09/17/08	2 - 3	N	77 J	7.5 J	0.88 J	ND (0.87) J	0.55 J	2.2 J	ND (0.76) J	ND (1.5) J	ND (0.21) J	ND (0.5) J	ND (0.33) J	ND (13) J	0.66 J	ND (0.061) J	ND (0.24) J	720 J	18 J	2.2	2.7	2.7
	09/17/08	5 - 6	N	100 J	10 J	ND (0.83) J	ND (0.84) J	0.87 J	3.2 J	1.3 J	2 J	ND (0.36) J	ND (0.65) J	0.41 J	ND (16) J	1.4 J	ND (0.06) J	ND (0.21) J	920 J	21 J	3.5	3.8	3.8
AOC11c-4	01/28/16	0 - 1	N	520 J	56 J	4.6 J	4.1 J	ND (2.5) J	15 J	ND (1.7) J	6.4 J	ND (0.38) J	2 J	1.3 J	ND (110) J	ND (1) J	ND (0.19) J	0.81 J	4,800 J	180 J	12	18	18
	01/28/16	2 - 3	N	22 J	2.4 J	ND (0.28) J	ND (0.15) J	ND (0.19) J	ND (0.15) J	ND (0.18) J	ND (0.14) J	ND (0.22) J	ND (0.16) J	ND (0.28) J	ND (5.7) J	ND (0.24) J	ND (0.12) J	ND (0.19) J	510 J	3.7 J	0.79	0.93	0.93
	01/28/16	5 - 6	N	26 J	ND (3.8) J	ND (0.13) J	ND (0.26) J	ND (0.22) J	ND (0.19) J	ND (0.34) J	ND (0.4) J	ND (0.26) J	ND (0.14) J	ND (0.14) J	ND (20) J	ND (0.15) J	ND (0.031) J	ND (0.14) J	230 J	3.1 J	1.4	1.6	1.6
AOC11d-1	09/23/08	0 - 0.5	N	180 J	15 J	1.2 J	3.1 J	ND (1) J	6.6 J	1.4 J	4.8 J	ND (0.27) J	1.8 J	0.44 J	ND (19) J	0.73 J	ND (0.078) J	ND (0.42) J	1,800 J	38 J	5.2	7.2	7.2
	09/23/08	2.5 - 3	N	20 J	2.9 J	ND (0.22) J	ND (0.25) J	ND (0.11) J	0.64 J	ND (0.11) J	ND (0.53) J	ND (0.13) J	ND (0.1) J	ND (0.059) J	ND (2.5) J	ND (0.062) J	ND (0.047) J	ND (0.11) J	210 J	4.7 J	0.42	0.63	0.63
	09/23/08	5 - 6	N	8.8 J	1.2 J	ND (0.25) J	ND (0.11) J	ND (0.059) J	ND (0.33) J	ND (0.13) J	0.4 J	ND (0.069) J	ND (0.13) J	ND (0.056) J	ND (1.3) J	ND (0.099) J	ND (0.032) J	ND (0.036) J	81 J	2.2 J	0.3	0.36	0.36
AOC11e-1	09/23/08	0 - 0.5	N	4,100 J	510 J	52 J	39 J	28 J	130 J	16 J	70 J	5.9 J	26 J	11 J	ND (710) J	8.9 J	2.6 J	9.2 J	49,000 J	1,500 J	110	160	160
	09/23/08	2.5 - 3	N	88,000 J	17,000 J	1,600 J	250 J	430 J	2,200 J	610 J	430 J	100 J	90 J	30 J	ND (31,000) J	40 J	1.9 J	5.5 J	300,000 J	60,000 J	2,200	3,200	3,200

TABLE 3-7i
Sample Results: Dioxins and Furans
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				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8- HpCDD	1,2,3,4,6,7,8- HpCDF	1,2,3,4,7,8,9- HpCDF	1,2,3,4,7,8- HxCDD	1,2,3,4,7,8- HxCDF	1,2,3,6,7,8- HxCDD	1,2,3,6,7,8- HxCDF	1,2,3,7,8,9- HxCDD	1,2,3,7,8,9- HxCDF	1,2,3,7,8- PeCDD	1,2,3,7,8- PeCDF	2,3,4,6,7,8- HxCDF	2,3,4,7,8- PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
AOC11e-2	09/24/08	0 - 0.5	N	3,000 J	380 J	31 J	29 J	30 J	120 J	ND (26) J	46 J	ND (2.2) J	ND (18) J*	ND (5.1) J	ND (850) J	ND (8.8) J	ND (1.5) J	ND (4) J	23,000 J	670 J	80	120	120
	09/24/08	2 - 3	N	17,000 J	ND (6) J	260 J	110 J	ND (7.2) J	610 J	ND (6.5) J	ND (9.8) J	ND (8.4) J	71 J	ND (11) J	ND (6,700) J	ND (11) J	ND (2.3) J	8.7 J	140,000 J	9,200 J	470	700	700
	09/24/08	5 - 6	N	38,000 J	10,000 J	860 J	140 J	220 J	1,300 J	70 J	270 J	49 J	72 J	17 J	ND (18,000) J	25 J	ND (1.8) J	ND (4) J	210,000 J	89,000 J	1,300	1,800	1,800
	09/24/08	9 - 10	N	9,700 J	2,000 J	140 J	28 J	46 J	250 J	72 J	ND (49) J	ND (9) J	12 J	ND (3.4) J	ND (4,200) J	ND (5) J	ND (0.51) J	ND (0.86) J	200,000 J	9,800 J	300	450	450
AOC11e-3	01/08/16	0 - 1	N	240 J	21 J	2 J	ND (2.4) J	ND (1.4) J	7.8 J	ND (1.9) J	5 J	ND (0.79) J	ND (1.6) J	ND (0.87) J	ND (31) J	1.5 J	ND (0.43) J	ND (0.31) J	1,800 J	39 J	5.8	7.8	7.8
	01/10/16	2 - 3	N	110 J	14 J	ND (0.9) J	ND (1.4) J	ND (1.1) J	ND (2.9) J	ND (0.73) J	ND (0.71) J	ND (0.42) J	ND (1.3) J	ND (0.4) J	ND (14) J	ND (0.3) J	ND (0.14) J	ND (0.14) J	830 J	17 J	2.2	3.3	3.3
	01/10/16	5 - 6	N	54 J	5.7 J	ND (0.33) J	ND (0.25) J	ND (0.33) J	ND (0.25) J	ND (0.32) J	ND (1.1) J	ND (0.38) J	ND (0.29) J	ND (0.25) J	ND (9.2) J	ND (0.6) J	ND (0.074) J	ND (0.17) J	430 J	9.8 J	1.3	1.6	1.6
	01/10/16	9 - 10	N	76 J	7.2 J	ND (0.88) J	ND (0.86) J	ND (0.39) J	ND (2.3) J	ND (0.66) J	1.8 J	ND (0.45) J	ND (0.79) J	ND (0.22) J	ND (11) J	ND (0.4) J	ND (0.1) J	ND (0.15) J	570 J	13 J	1.8	2.5	2.5
AOC11e-4	01/28/16	0 - 1	N	470 J	39 J	ND (3) J	4 J	ND (1.4) J	14 J	ND (1.8) J	6.3 J	ND (0.34) J	ND (2.5) J	ND (0.46) J	ND (80) J	ND (0.48) J	ND (0.15) J	ND (0.32) J	3,200 J	100 J	8.1	14	14
	01/28/16	2 - 3	N	19,000 J	5,000 J	390 J	110 J	130 J	680 J	73 J	180 J	22 J	53 J	14 J	ND (8,900) J	25 J	ND (0.45) J	3 J	220,000 J	30,000 J	680	940	940
	01/28/16	5 - 6	N	6,900 J	920 J	76 J	27 J	29 J	160 J	ND (14) J	54 J	9.2 J	17 J	4 J	ND (2,000) J	4.9 J	ND (0.25) J	ND (1.1) J	82,000 J	3,200 J	160	250	250
AOC11e-6	12/03/15	0 - 1	N	49 J	ND (3.5) J	ND (0.7) J	ND (0.3) J	ND (1.6) J	1.6 J	ND (1.4) J	ND (0.97) J	ND (0.54) J	ND (0.63) J	4.6 J	ND (24) J	2.6 J	ND (0.093) J	10 J	230 J	ND (5.5) J	15	4.5	4.5
PA-09	01/27/16	0 - 1	N	480 J	28 J	1.9 J	5.8 J	2.8 J	16 J	ND (3.2) J	7.9 J	ND (1.3) J	3.7 J	ND (1.8) J	ND (22) J	ND (1.8) J	ND (0.6) J	1.9 J	2,400 J	45 J	11	15	15
PA-10	01/27/16	0 - 1	N	4,600 J	320 J	20 J	47 J	27 J	130 J	22 J	66 J	4.8 J	28 J	9.1 J	ND (260) J	10 J	ND (2.3) J	3.9 J	41,000 J	530 J	85	140	140
	01/26/17	2 - 3	N	2.4 J	0.54 J	ND (0.11) J	ND (0.15) J	ND (0.09) J	ND (0.13) J	ND (0.13) J	ND (0.13) J	ND (0.1) J	ND (0.25) J	ND (0.17) J	ND (0.89) J	ND (0.37) J	ND (0.14) J	ND (0.14) J	24 J	0.69 J	0.54	0.38	0.38
	01/26/17	5 - 6	N	7.2 J	0.93 J	ND (0.1) J	ND (0.13) J	ND (0.092) J	ND (0.12) J	ND (0.083) J	ND (0.24) J	ND (0.11) J	ND (0.25) J	ND (0.092) J	ND (1.1) J	ND (0.16) J	ND (0.051) J	ND (0.16) J	79	1.6 J	0.43	0.38	0.38
PA-11	01/27/16	0 - 1	N	3,300 J	340 J	23 J	40 J	23 J	120 J	29 J	60 J	4.4 J	25 J	6.1 J	ND (340) J	9.7 J	ND (2.4) J	5.3 J	25,000 J	460 J	83	120	120
	01/25/17	2 - 3	N	51	7 J	ND (0.42) J	0.77 J	ND (0.53) J	ND (2) J	0.78 J	1.2 J	ND (0.16) J	ND (0.46) J	ND (0.43) J	ND (10) J	ND (1.1) J	ND (0.19) J	ND (0.23) J	410	11 J	2	2.1	2.1
	01/25/17	5 - 6	N	2,200	230	16	24	20	70	13	36	3.3 J	16	5.5 J	ND (290) J	7.6 J	ND (2) J	4.7 J	21,000	340	60	82	82
PA-12	01/27/16	0 - 1	N	20,000 J	1,500 J	95 J	45 J	160 J	410 J	59 J	94 J	60 J	22 J	24 J	ND (1,900) J	42 J	ND (3.3) J	9.5 J	290,000 J	6,000 J	280	520	520
	01/25/17	2 - 3	N	65	7.5 J	ND (0.96) J	ND (0.57) J	ND (0.37) J	1.8 J	ND (0.49) J	ND (1.1) J	ND (0.26) J	ND (0.24) J	ND (0.3) J	ND (5.3) J	ND (0.3) J	ND (0.1) J	ND (0.14) J	620	43	1	1.7	1.7
	01/25/17	5 - 6	N	210	19	1.8 J	1.7 J	ND (3.1) J	6.9 J	2.9 J	ND (0.43) J	ND (0.5) J	ND (0.36) J	10 J	ND (82) J	ND (7.9) J	ND (0.39) J	ND (0.45) J	1,900	40	11	10	10
SD-11A	03/07/16	0 - 1	N	2,700 J	ND (2.9) J	67 J	42 J	55 J	130 J	50 J	80 J	ND (3) J	ND (130) J*	ND (2.9) J	ND (2.7) J	ND (11) J	ND (4.4) J	ND (14) J	18,000 J	1,000 J	110	140	140
	03/07/16	2 - 3	N	3,300 J	ND (3.5) J	59 J	ND (28) J	41 J	110 J	23 J	ND (44) J	ND (5.4) J	ND (51) J*	240 R	ND (4.8) J	ND (250) J	ND (4.1) J	ND (12) J	33,000 J	1,800 J	190 JR	130 JR	130 JR
	03/07/16	5 - 6	N	1,800 J	260 J	ND (20) J	16 J	ND (3.7) J	64 J	12 J	35 J	ND (4.3) J	ND (15) J*	ND (3.8) J	ND (380) J	ND (4) J	ND (1.6) J	ND (2.6) J	18,000 J	670 J	44	67	67
SD-23	03/09/16	0 - 1	N	460 J	38 J	ND (2.4) J	5.9 J	3.4 J	14 J	3.4 J	8.2 J	ND (0.26) J	ND (3) J	ND (0.68) J	ND (37) J	2.3 J	ND (0.16) J	ND (0.22) J	4,300 J	67 J	9.1	14	14
SD-27	02/15/17	2 - 3	N	12 J	1.5 J	ND (0.22) J	ND (0.49) J	ND (0.15) J	ND (0.48) J	ND (0.14) J	ND (0.47) J	ND (0.18) J	ND (0.47) J	ND (0.17) J	ND (4.6) J	ND (0.17) J	ND (0.41) J	ND (0.11) J	86	ND (3.4) J	0.92	0.96	0.96

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

-- not analyzed
ft bgs feet below ground surface

TABLE 3-7i
Sample Results: Dioxins and Furans
AOC 11 – Topographic Low Areas
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PG&E Topock Compressor Station, Needles, California

ng/kg	nanograms per kilogram
DTSC-SL	DTSC Screening Levels
DTSC	California Department of Toxic Substances Control
FD	Field Dupliicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	Primary Sample
NA	NA = not applicable
NE	not established
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	USEPA = United States Environmental Protection Agency

- 1 For individual dioxins and furans, selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher. For TEQ values, selected value is the DTSC-SL.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. JanuaryCalifornia Department of Toxic Substances Control (DTSC). 2017. Human Health Risk Assessment (HHRA) Note 2, Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites. April.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Decteded Chemicals in Soil." July 1.
- 5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

Calculations:
TEQ = Sum of Result xToxic equivalency factor (TEF), 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
TEQ Avian = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
TEQMammals = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
Teq Humans = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TABLE 3-7j
Constituent Concentrations in Soil Compared to Screening Values
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶			
Parameter	Units				# of ⁷		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸	
					Exceedences	(BK)	Exceedences	(ECV)	Exceedences	(RSL)	Exceedences	(ESL)	Exceedences	(CSL)	Exceedences	(ISL)		
Dioxins and Furans																		
TEQ Avian	ng/kg	33	84 / 87 (97%)	2,200	32	(5.98)	20	(16)	NA	(NE)	NA	(NA)	NA	(NE)	20	(16)		
TEQ Human	ng/kg	33	84 / 87 (97%)	3,200	34	(5.58)	NA	(NE)	18	(50)	NA	(NA)	7	(220)	18	(50)		
TEQ Mammals	ng/kg	33	84 / 87 (97%)	3,200	34	(5.58)	34	(1.6)	NA	(NE)	NA	(NA)	NA	(NE)	34	(5.58)		
Metals																		
Antimony	mg/kg	56	0 / 173 (0%)	ND (2.8) ‡	NA	(NE)	0	(0.285)	0	(31)	NA	(NA)	0	(470)	0	(0.285)		
Arsenic	mg/kg	56	173 / 173 (100%)	13	1	(11)	1	(11.4)	1	(0.11) *	NA	(NA)	1	(0.36) *	1	(11)		
Barium	mg/kg	56	173 / 173 (100%)	1,300	6	(410)	6	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	6	(410)		
Beryllium	mg/kg	56	0 / 173 (0%)	ND (5.1) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)		
Cadmium	mg/kg	56	1 / 173 (0.58%)	1.2	1	(1.1)	1	(0.0151) *	0	(5.2)	NA	(NA)	0	(7.3)	1	(1.1)		
Chromium, Hexavalent	mg/kg	56	61 / 171 (36%)	16	29	(0.83)	0	(139.6)	29	(0.3)	NA	(NA)	2	(6.3)	29	(0.83)		
Chromium, Hexavalent-SPLP	mg/L	2	2 / 2 (100%)	0.0164	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)		
Chromium, total	mg/kg	56	173 / 173 (100%)	320	22	(39.8)	22	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	22	(39.8)		
Chromium-SPLP	mg/L	2	2 / 2 (100%)	0.0399	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)		
Cobalt	mg/kg	56	173 / 173 (100%)	11	0	(12.7)	0	(13)	0	(23)	NA	(NA)	0	(350)	0	(12.7)		
Copper	mg/kg	56	173 / 173 (100%)	44	28	(16.8)	15	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	28	(16.8)		
Lead	mg/kg	56	170 / 173 (98%)	220	58	(8.39)	58	(0.0166) *	2	(80)	NA	(NA)	0	(320)	58	(8.39)		
Mercury	mg/kg	56	2 / 173 (1.2%)	0.37	NA	(NE)	2	(0.0125)	0	(1)	NA	(NA)	0	(4.5)	2	(0.0125)		
Molybdenum	mg/kg	56	26 / 173 (15%)	7.1	17	(1.37)	12	(2.25)	0	(390)	NA	(NA)	0	(5,800)	17	(1.37)		
Nickel	mg/kg	56	173 / 173 (100%)	25	0	(27.3)	0	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	0	(27.3)		
Selenium	mg/kg	56	2 / 173 (1.2%)	3.2	2	(1.47)	2	(0.177) *	0	(390)	NA	(NA)	0	(5,800)	2	(1.47)		
Thallium	mg/kg	56	0 / 173 (0%)	ND (10) ‡	NA	(NE)	0	(2.32)	0	(0.78)	NA	(NA)	0	(12)	0	(0.78)		
Vanadium	mg/kg	56	173 / 173 (100%)	55	1	(52.2)	1	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	1	(52.2)		
Zinc	mg/kg	56	173 / 173 (100%)	1,100	58	(58)	58	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	58	(58)		
Contract Laboratory Program Inorganics																		
Aluminum	mg/kg	15	21 / 21 (100%)	20,000	2	(16,400)	NA	(NE)	0	(77,000)	NA	(NA)	0	(1,100,000)	2	(16,400)		
Calcium	mg/kg	16	22 / 22 (100%)	45,000	0	(66,500)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(66,500)		
Iron	mg/kg	16	22 / 22 (100%)	26,000	0	(29,303)	NA	(NE)	0	(55,000)	NA	(NA)	0	(820,000)	0	(29,303)		
Magnesium	mg/kg	16	22 / 22 (100%)	12,000	0	(12,100)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(12,100)		
Manganese	mg/kg	16	22 / 22 (100%)	440	1	(402)	1	(220)	0	(1,800)	NA	(NA)	0	(6,900)	1	(402)		
Potassium	mg/kg	16	22 / 22 (100%)	5,300	2	(4,400)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	2	(4,400)		
Sodium	mg/kg	16	21 / 22 (95%)	4,300	2	(2,070)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	2	(2,070)		
Cyanide	mg/kg	15	0 / 21 (0%)	ND (1.03) ‡	NA	(NE)	0	(0.9)	0	(23)	NA	(NA)	0	(150)	0	(0.9)		
Volatile Organic Compounds																		
Methyl acetate	µg/kg	9	1 / 9 (11%)	17	NA	(NE)	NA	(NE)	0	(24,000)	NA	(NA)	0	(130,000,000)	0	(24,000,000)		
Polycyclic Aromatic Hydrocarbons																		
1-Methyl naphthalene	µg/kg	56	3 / 178 (1.7%)	14	NA	(NE)	NA	(NE)	0	(18,000)	NA	(NA)	0	(73,000)	0	(18,000)		
2-Methyl naphthalene	µg/kg	56	8 / 178 (4.5%)	18	NA	(NE)	NA	(NE)	0	(240,000)	NA	(NA)	0	(3,000,000)	0	(240,000)		
Acenaphthene	µg/kg	56	3 / 178 (1.7%)	11	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)		
Acenaphthylene	µg/kg	56	4 / 178 (2.2%)	9.2	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)		
Anthracene	µg/kg	56	8 / 178 (4.5%)	38	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)		
Benzo (a) anthracene	µg/kg	56	65 / 178 (37%)	1,600	NA	(NE)	NA	(NE)	1	(1,100)	NA	(NA)	0	(21,000)	1	(1,100)		

TABLE 3-7j
Constituent Concentrations in Soil Compared to Screening Values
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
					# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Polycyclic Aromatic Hydrocarbons																
Benzo (a) pyrene	µg/kg	56	73 / 178 (41%)	1,600	NA	(NE)	NA	(NE)	11	(110)	NA	(NA)	0	(2,100)	11	(110)
Benzo (b) fluoranthene	µg/kg	56	95 / 178 (53%)	2,600	NA	(NE)	NA	(NE)	2	(1,100)	NA	(NA)	0	(21,000)	2	(1,100)
Benzo (ghi) perylene	µg/kg	56	67 / 178 (38%)	750	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
Benzo (k) fluoranthene	µg/kg	56	68 / 178 (38%)	930	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)
Chrysene	µg/kg	56	82 / 178 (46%)	2,600	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)
Dibenzo (a,h) anthracene	µg/kg	56	27 / 178 (15%)	210	NA	(NE)	NA	(NE)	1	(110)	NA	(NA)	0	(2,100)	1	(110)
Fluoranthene	µg/kg	56	98 / 178 (55%)	3,700	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Fluorene	µg/kg	56	3 / 178 (1.7%)	8.9	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Indeno (1,2,3-cd) pyrene	µg/kg	56	59 / 178 (33%)	790	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Naphthalene	µg/kg	56	5 / 178 (2.8%)	10	NA	(NE)	NA	(NE)	0	(3,800)	NA	(NA)	0	(17,000)	0	(3,800)
Phenanthrene	µg/kg	56	65 / 178 (37%)	1,300	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Pyrene	µg/kg	56	95 / 178 (53%)	3,400	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
PAH Low molecular weight	µg/kg	56	177 / 177 (100%)	1,383	16	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	56	178 / 178 (100%)	18,180	34	(267.4)	10	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	10	(1,160)
B(a)P Equivalent	µg/kg	56	109 / 178 (61%)	2,300	36	(55)	NA	(NE)	16	(110)	NA	(NA)	1	(2,100)	16	(110)
Polychlorinated biphenyls																
Aroclor 1016	µg/kg	35	1 / 93 (1.1%)	70	NA	(NE)	NA	(NE)	0	(4,100)	NA	(NA)	0	(27,000)	0	(4,100)
Aroclor 1254	µg/kg	35	29 / 93 (31%)	1,600	NA	(NE)	NA	(NE)	8	(240)	NA	(NA)	1	(970)	8	(240)
Aroclor 1260	µg/kg	35	7 / 93 (7.5%)	1,000	NA	(NE)	NA	(NE)	4	(240)	NA	(NA)	1	(990)	4	(240)
Total PCBs	µg/kg	35	29 / 93 (31%)	1,927	NA	(NE)	10	(204)	10	(230)	NA	(NA)	2	(940)	10	(204)
Pesticides																
4,4-DDE	µg/kg	14	1 / 34 (2.9%)	6.1	NA	(NE)	1	(2.1)	0	(2,000)	NA	(NA)	0	(9,300)	1	(2.1)
alpha-Chlordane	µg/kg	14	1 / 34 (2.9%)	12	NA	(NE)	0	(470)	0	(440)	NA	(NA)	0	(1,500)	0	(440)
Dieldrin	µg/kg	14	1 / 34 (2.9%)	6.7	NA	(NE)	1	(5)	0	(34)	NA	(NA)	0	(140)	1	(5)
gamma-Chlordane	µg/kg	14	1 / 34 (2.9%)	13	NA	(NE)	0	(470)	0	(440)	NA	(NA)	0	(1,500)	0	(440)
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	45	31 / 121 (26%)	940	NA	(NE)	NA	(NE)	4	(230)	4	(230)	0	(1,100)	4	(230)
TPH as motor oil	mg/kg	45	68 / 121 (56%)	1,500	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

TABLE 3-7j
Constituent Concentrations in Soil Compared to Screening Values
AOC 11 – Topographic Low Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RSL	esidential screening level
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

- 1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.
- 2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1
- 3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.
- 4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr
- 5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.
- 6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).
- 8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-8a
Sample Results: Metals
AOC 12 – Fill Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC12a-T1a	09/22/08	0 - 0.5	N	ND (2) J*	3.6	79	ND (1) *	ND (1)	ND (0.421)	13	3.4	5.6	8.3	ND (0.098) *	ND (1)	6.9	ND (1)	ND (1)	ND (2) *	19	26
	09/22/08	2 - 3	N	ND (2) *	3.7	14	ND (1) *	ND (1)	ND (0.402)	4.9	1.6	ND (2)	2.4	ND (0.1) *	ND (1)	2.7	ND (1)	ND (1)	ND (2) *	13	9
	09/22/08	7 - 8	N	ND (2) *	7	240	ND (2) *	ND (1)	ND (0.411)	22	7.8	12	3.8	ND (0.1) *	ND (2) *	17	ND (1)	ND (2)	ND (4.1) *	32	51
AOC12a-T1c	09/22/08	7 - 8	N	ND (2.1) *	8.4	110	ND (1) *	ND (1)	ND (0.409)	17	6.7	8.6	3.9	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	36	42
AOC12a-T2a	09/22/08	6 - 7	N	ND (2) *	4.4	58	ND (1) *	ND (1)	ND (0.419)	13	6.6	9	3.1	ND (0.1) *	1	10	ND (1)	ND (1)	ND (2) *	28	39
AOC12a-T2b	09/22/08	7 - 8	N	ND (2) *	4.9	25	ND (1) *	ND (1)	ND (0.409)	15	6.9	7.8	3.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	32	44
AOC12b-T1a	09/20/08	2 - 3	N	ND (2.1) *	4.9	81	ND (2.1) *	ND (1)	ND (0.416)	26	14	18	4.5	ND (0.1) *	ND (2.1) *	20	ND (1)	ND (2.1)	ND (4.1) *	41	57
AOC12b-T1b	09/20/08	2 - 3	N	ND (2.1) *	5.8	88	ND (2.1) *	ND (1)	ND (0.419)	26	9.6	14	4.9	ND (0.1) *	ND (2.1) *	20	2.5	ND (2.1)	ND (4.2) *	42	58
AOC12c-T1a	09/20/08	0 - 0.5	N	ND (2) J*	5.4	110 J	ND (2) *	ND (1)	ND (0.411)	28	8.4	13	7.1	ND (0.1) *	ND (2) *	18	ND (1)	ND (2)	ND (4) *	38	77
	09/20/08	2 - 3	N	ND (2.1) *	4.9	150	ND (2.1) *	ND (1)	ND (0.413)	25	9.3	11	4	ND (0.1) *	ND (2.1) *	18	ND (1)	ND (2.1)	ND (4.1) *	39	51
	09/20/08	10 - 11	N	ND (2.1) *	6	120	ND (2.1) *	ND (1)	ND (0.423)	25	8.7	9.6	4	ND (0.1) *	ND (2.1) *	18	ND (1)	ND (2.1)	ND (4.2) *	39	50
AOC12c-T1b	09/20/08	2 - 3	N	ND (2.1) *	5.1	140	ND (2.1) *	ND (1)	ND (0.431)	23	8.4	13	5.7	ND (0.1) *	ND (2.1) *	19	ND (1)	ND (2.1)	ND (4.1) *	36	49
	09/22/08	3 - 4	N	ND (2.1) *	6.5	160	ND (2.1) *	ND (1)	ND (0.419)	27	9.4	12	6.4	ND (0.11) *	ND (2.1) *	19	ND (1)	ND (2.1)	ND (4.1) *	40	57
	09/20/08	10 - 11	N	ND (2.1) *	4.7	93	ND (2.1) *	ND (1)	ND (0.415)	22	7.8	9.4	3.9	ND (0.1) *	ND (2.1) *	16	ND (1)	ND (2.1)	ND (4.1) *	35	45
AOC12c-T1c	09/20/08	10 - 11	N	ND (2.1) *	4.7	150	ND (2.1) *	ND (1.1) *	ND (0.424)	22	7.7	12	3.5	ND (0.1) *	ND (2.1) *	17	ND (1.1)	ND (2.1)	ND (4.2) *	35	49
	09/20/08	10 - 11	FD	ND (2.1) *	5	150	ND (2.1) *	ND (1)	ND (0.415)	23	7.7	11	3.8	ND (0.1) *	ND (2.1) *	17	ND (1)	ND (2.1)	ND (4.2) *	36	50
AOC12c-T2a	09/20/08	7 - 8	N	ND (2.1) *	4.2	67	ND (1.1) *	ND (1.1) *	ND (0.421)	19	7.2	10	3.4	ND (0.11) *	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1) *	33	50
AOC12c-T2b	09/20/08	7 - 8	N	ND (2.1) *	4.8	84	ND (2.1) *	ND (1)	ND (0.424)	21	7.5	10	3.9	ND (0.1) *	ND (2.1) *	16	ND (1)	ND (2.1)	ND (4.2) *	34	45

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-8b

Sample Results: Contract Laboratory Program Inorganics

AOC 12 – Fill Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Interim Screening Level ¹ :				16,400	66,500	29,303	12,100	402	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	1,800	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	1,800	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	220	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC12a-T1a	09/22/08	0 - 0.5	N	4,500	10,000 J	9,900 J	3,000 J	130	1,300	210	ND (1.05) *
AOC12c-T1a	09/20/08	0 - 0.5	N	12,000	31,000	23,000	8,300	290	2,700	340	ND (1.03) *

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-8c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 12 – Fill Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																					
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110	
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (K) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent	
Category 1																									
AOC12a-T1a	09/22/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7.3	13	14	12	20 J	20	ND (5)	29	ND (5)	11	ND (5)	9.4	28	9.4	154.3	19	
	09/22/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.1)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	09/22/08	7 - 8	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.2)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC12a-T1c	09/22/08	7 - 8	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
AOC12a-T2a	09/22/08	6 - 7	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.4)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC12a-T2b	09/22/08	7 - 8	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC12b-T1a	09/20/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.1)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
AOC12b-T1b	09/20/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.5	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	6.5	6	
AOC12c-T1a	09/20/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.7	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	5.7	5.9	
	09/20/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
	09/20/08	10 - 11	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.3)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC12c-T1b	09/20/08	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.1	11	9.9	10	14	13	ND (5.2)	16	ND (5.2)	9.3	ND (5)	ND (5.2)	16	ND	107.3	16	
	09/22/08	3 - 4	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	30	39	45	35	45	49	11	61	ND (5.2)	32	ND (5.2)	14	60	14	407	61	
	09/20/08	10 - 11	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	
AOC12c-T1c	09/20/08	10 - 11	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)	
	09/20/08	10 - 11	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.8)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC12c-T2a	09/20/08	7 - 8	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)	
AOC12c-T2b	09/20/08	7 - 8	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)	

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-8d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 12 – Fill Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)
Interim Screening Level ¹:				46.9
Residential Regional Screening Levels ²:				6,300,000
Residential DTSC-SL ³:				NE
Ecological Comparison Values ⁴:				46.9
Background ⁵:				NE
Location	Date	Depth (ft bgs)	Sample Type	Di-n-butyl phthalate
Category 1				
AOC12a-T1a	09/22/08	0 - 0.5	N	ND (330) *
	09/22/08	2 - 3	N	ND (330) *
	09/22/08	7 - 8	N	ND (340) *
AOC12a-T1c	09/22/08	7 - 8	N	ND (340) *
AOC12a-T2a	09/22/08	6 - 7	N	ND (340) *
AOC12a-T2b	09/22/08	7 - 8	N	ND (340) *
AOC12b-T1a	09/20/08	2 - 3	N	ND (340) *
AOC12b-T1b	09/20/08	2 - 3	N	ND (350) *
AOC12c-T1a	09/20/08	0 - 0.5	N	ND (330) *
	09/20/08	2 - 3	N	ND (340) *
	09/20/08	10 - 11	N	ND (350) *
AOC12c-T1b	09/20/08	2 - 3	N	ND (340) *
	09/22/08	3 - 4	N	ND (340) *
	09/20/08	10 - 11	N	ND (340) *
AOC12c-T1c	09/20/08	10 - 11	N	530
	09/20/08	10 - 11	FD	1,100
AOC12c-T2a	09/20/08	7 - 8	N	ND (350) *
AOC12c-T2b	09/20/08	7 - 8	N	ND (340) *

TABLE 3-8d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 12 – Fill Areas

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Only detected SVOCs and VOCs are presented.

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
SVOCs	semivolatile organic compounds

- 1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28 and ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

TABLE 3-8e

Sample Results: Total Petroleum Hydrocarbons

AOC 12 – Fill Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)
Interim Screening Level ¹ :				11,000
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
RWQCB Environmental Screening Levels ⁴ :				11,000
Ecological Comparison Values ⁵ :				NE
Background ⁶ :				NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as motor oil
AOC12a-T1a	09/22/08	0 - 0.5	N	ND (10)
	09/22/08	2 - 3	N	ND (10)
	09/22/08	7 - 8	N	ND (10)
AOC12a-T1c	09/22/08	7 - 8	N	ND (10)
AOC12a-T2a	09/22/08	6 - 7	N	ND (10)
AOC12a-T2b	09/22/08	7 - 8	N	ND (10)
AOC12b-T1a	09/20/08	2 - 3	N	ND (10)
AOC12b-T1b	09/20/08	2 - 3	N	ND (10)
AOC12c-T1a	09/20/08	0 - 0.5	N	ND (10)
	09/20/08	2 - 3	N	ND (10)
	09/20/08	10 - 11	N	ND (10)
AOC12c-T1b	09/20/08	2 - 3	N	ND (10)
	09/22/08	3 - 4	N	22.5
	09/20/08	10 - 11	N	ND (10)
AOC12c-T1c	09/20/08	10 - 11	N	97.5 J
	09/20/08	10 - 11	FD	120 J
AOC12c-T2a	09/20/08	7 - 8	N	ND (10)
AOC12c-T2b	09/20/08	7 - 8	N	ND (10)

TABLE 3-8e

Sample Results: Total Petroleum Hydrocarbons

AOC 12 – Fill Areas

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California***Notes:**

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
RWQCB	Regional Water Quality Control Board
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency

- 1 The interim screening level is the Regional Water Quality Control Board environmental screening level.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.
- 5 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 6 Background values have not been established for TPHs.

TABLE 3-8f
Sample Results: General Chemistry Parameters
AOC 12 – Fill Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC12a-T1a	09/22/08	0 - 0.5	N	7.97
	09/22/08	2 - 3	N	9.93
	09/22/08	7 - 8	N	8.31
AOC12a-T1c	09/22/08	7 - 8	N	8.98
AOC12a-T2a	09/22/08	6 - 7	N	8.86
AOC12a-T2b	09/22/08	7 - 8	N	9.61
AOC12b-T1a	09/20/08	2 - 3	N	8.34
AOC12b-T1b	09/20/08	2 - 3	N	9.12
AOC12c-T1a	09/20/08	0 - 0.5	N	8.47
	09/20/08	2 - 3	N	9.28
	09/20/08	10 - 11	N	7.88
AOC12c-T1b	09/20/08	2 - 3	N	9.2
	09/22/08	3 - 4	N	8.52
	09/20/08	10 - 11	N	8.23
AOC12c-T1c	09/20/08	10 - 11	N	8.1
	09/20/08	10 - 11	FD	8.25
AOC12c-T2a	09/20/08	7 - 8	N	9.25
AOC12c-T2b	09/20/08	7 - 8	N	7.76

TABLE 3-8f

Sample Results: General Chemistry Parameters

AOC 12 – Fill Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
µS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.

5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-8g
Sample Results: Pesticides
AOC 12 – Fill Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC12a-T1a	09/22/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC12c-T1a	09/20/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency

- 1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison values for Additional Chemicals in Soil." July 1.
- 5 Background values have not been established for pesticides.

TABLE 3-8h

Sample Results: Polychlorinated Biphenyls

AOC 12 – Fill Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC12a-T1a	09/22/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	31	ND (17)	ND (17)	ND (17)	31
	09/22/08	2 - 3	N	ND (17) J	ND (33) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (8.5)
AOC12c-T1a	09/20/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
ND	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

TABLE 3-8h

Sample Results: Polychlorinated Biphenyls

AOC 12 – Fill Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ Background values have not been established for polychlorinated biphenyls.

TABLE 3-8i

Sample Results: Asbestos

AOC 12 – Fill Areas

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Location	Date	Depth (ft bgs)	Sample Type	Asbestos		
				PLM/BULK ¹	CARB435/ PLM (%) ²	TEM (%) ³
Category 1						
AOC12a-T1a	09/22/08	0 - 0.5	N	Not Present	---	---
	09/22/08	2 - 3	N	---	ND (<0.1)	---
	09/22/08	7 - 8	N	---	ND (<0.1)	---
AOC12a-T1c	09/22/08	7 - 8	N	---	ND (<0.1)	---
AOC12a-T2a	09/22/08	6 - 7	N	---	ND (<0.1)	---
AOC12a-T2b	09/22/08	7 - 8	N	Not Present	---	---
AOC12b-T1a	09/20/08	2 - 3	N	Not Present	---	---
AOC12b-T1b	09/20/08	2 - 3	N	Not Present	---	---
AOC12c-T1a	09/20/08	0 - 0.5	N	Not Present	---	---
	09/20/08	2 - 3	N	Not Present	---	---
	09/20/08	10 - 11	N	Not Present	---	---
AOC12c-T1b	09/20/08	2 - 3	N	Not Present	---	---
	09/20/08	10 - 11	N	Not Present	---	---
AOC12c-T1c	09/20/08	10 - 11	N	Not Present	---	---
	09/20/08	10 - 11	FD	Not Present	---	---
AOC12c-T2a	09/20/08	7 - 8	N	Not Present	---	---
AOC12c-T2b	09/20/08	7 - 8	N	Not Present	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

--- not analyzed

ft bgs feet below ground surface

FD field duplicate

N primary sample

¹ Polarized light microscopy of bulk samples² California Air Resource Board Method 435 / polarized light microscopy of bulk samples³ Transmission electron microscopy

TABLE 3-8j
Constituent Concentrations in Soil Compared to Screening Values
AOC 12 – Fill Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
					# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Metals																
Antimony	mg/kg	11	0 / 17 (0%)	ND (2.1) ‡	NA	(NE)	0	(0.285)	0	(31)	NA	(NA)	0	(470)	0	(0.285)
Arsenic	mg/kg	11	17 / 17 (100%)	8.4	0	(11)	0	(11.4)	0	(0.11) *	NA	(NA)	0	(0.36) *	0	(11)
Barium	mg/kg	11	17 / 17 (100%)	240	0	(410)	0	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	0	(410)
Beryllium	mg/kg	11	0 / 17 (0%)	ND (2.1) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)
Cadmium	mg/kg	11	0 / 17 (0%)	ND (1.1) ‡	0	(1.1)	0	(0.0151) *	0	(5.2)	NA	(NA)	0	(7.3)	0	(1.1)
Chromium, total	mg/kg	11	17 / 17 (100%)	28	0	(39.8)	0	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	0	(39.8)
Cobalt	mg/kg	11	17 / 17 (100%)	14	1	(12.7)	1	(13)	0	(23)	NA	(NA)	0	(350)	1	(12.7)
Copper	mg/kg	11	16 / 17 (94%)	18	1	(16.8)	0	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	1	(16.8)
Lead	mg/kg	11	17 / 17 (100%)	8.3	0	(8.39)	0	(0.0166) *	0	(80)	NA	(NA)	0	(320)	0	(8.39)
Mercury	mg/kg	11	0 / 17 (0%)	ND (0.11) ‡	NA	(NE)	0	(0.0125)	0	(1)	NA	(NA)	0	(4.5)	0	(0.0125)
Molybdenum	mg/kg	11	1 / 17 (5.9%)	1	0	(1.37)	0	(2.25)	0	(390)	NA	(NA)	0	(5,800)	0	(1.37)
Nickel	mg/kg	11	17 / 17 (100%)	20	0	(27.3)	0	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	0	(27.3)
Selenium	mg/kg	11	1 / 17 (5.9%)	2.5	1	(1.47)	1	(0.177) *	0	(390)	NA	(NA)	0	(5,800)	1	(1.47)
Thallium	mg/kg	11	0 / 17 (0%)	ND (4.2) ‡	NA	(NE)	0	(2.32)	0	(0.78)	NA	(NA)	0	(12)	0	(0.78)
Vanadium	mg/kg	11	17 / 17 (100%)	42	0	(52.2)	0	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	0	(52.2)
Zinc	mg/kg	11	17 / 17 (100%)	77	1	(58)	1	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	1	(58)
Contract Laboratory Program Inorganics																
Aluminum	mg/kg	2	2 / 2 (100%)	12,000	0	(16,400)	NA	(NE)	0	(77,000)	NA	(NA)	0	(1,100,000)	0	(16,400)
Calcium	mg/kg	2	2 / 2 (100%)	31,000	0	(66,500)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(66,500)
Iron	mg/kg	2	2 / 2 (100%)	23,000	0	(29,303)	NA	(NE)	0	(55,000)	NA	(NA)	0	(820,000)	0	(29,303)
Magnesium	mg/kg	2	2 / 2 (100%)	8,300	0	(12,100)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(12,100)
Manganese	mg/kg	2	2 / 2 (100%)	290	0	(402)	0	(220)	0	(1,800)	NA	(NA)	0	(6,900)	0	(402)
Potassium	mg/kg	2	2 / 2 (100%)	2,700	0	(4,400)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(4,400)
Sodium	mg/kg	2	2 / 2 (100%)	340	0	(2,070)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(2,070)
Cyanide	mg/kg	2	0 / 2 (0%)	ND (1.05) ‡	NA	(NE)	0	(0.9)	0	(23)	NA	(NA)	0	(150)	0	(0.9)
Semivolatile Organic Compounds																
Di-n-butyl phthalate	µg/kg	11	1 / 17 (5.9%)	1,100	NA	(NE)	1	(46.9)	0	(6,300,000)	NA	(NA)	0	(82,000,000)	1	(46.9)
Polycyclic Aromatic Hydrocarbons																
Benzo (a) anthracene	µg/kg	11	3 / 17 (18%)	30	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (a) pyrene	µg/kg	11	3 / 17 (18%)	39	NA	(NE)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Benzo (b) fluoranthene	µg/kg	11	3 / 17 (18%)	45	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (ghi) perylene	µg/kg	11	3 / 17 (18%)	35	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
Benzo (k) fluoranthene	µg/kg	11	3 / 17 (18%)	45	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)
Chrysene	µg/kg	11	3 / 17 (18%)	49	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)
Dibenzo (a,h) anthracene	µg/kg	11	1 / 17 (5.9%)	11	NA	(NE)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Fluoranthene	µg/kg	11	5 / 17 (29%)	61	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Indeno (1,2,3-cd) pyrene	µg/kg	11	3 / 17 (18%)	32	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Phenanthrene	µg/kg	11	2 / 17 (12%)	14	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Pyrene	µg/kg	11	3 / 17 (18%)	60	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
PAH Low molecular weight	µg/kg	11	17 / 17 (100%)	14	0	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	11	17 / 17 (100%)	407	1	(267.4)	0	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	0	(1,160)

TABLE 3-8j
Constituent Concentrations in Soil Compared to Screening Values
AOC 12 – Fill Areas
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
					# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Polycyclic Aromatic Hydrocarbons																
B(a)P Equivalent	µg/kg	11	5 / 17 (29%)	61	1	(55)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Polychlorinated biphenyls																
Aroclor 1254	µg/kg	2	1 / 3 (33%)	31	NA	(NE)	NA	(NE)	0	(240)	NA	(NA)	0	(970)	0	(240)
Total PCBs	µg/kg	2	1 / 3 (33%)	31	NA	(NE)	0	(204)	0	(230)	NA	(NA)	0	(940)	0	(204)
Total Petroleum Hydrocarbons																
TPH as motor oil	mg/kg	11	2 / 17 (12%)	120	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg milligrams per kilogram
µg/kg micrograms per kilogram
ng/kg nanograms per kilogram
BK Background Value
CSL Commercial Screening Level
DTSC California Department of Toxic Substances Control
DTSC-SL DTSC Screening Level
ISL Interim Screening Level
NA not applicable
ND not detected in any of the samples
NE not established
RSL esidential screening level
RWQCB Regional Water Quality Control Board
SL screening level
USEPA United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1

3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.

4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.

6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-9a
Sample Results: Metals
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC14-1	09/30/08	0 - 0.5	N	ND (2) *	4.8	190 J	ND (2) *	ND (1)	0.841	25	7.2	11	18	ND (0.1) *	ND (2) *	11	ND (1)	ND (2)	ND (4) *	30	70
	09/30/08	2 - 3	N	ND (2) *	4.8	220	ND (2) *	ND (1)	ND (0.412)	25	8.4	8.5	8.7	ND (0.1) *	ND (2) *	11	ND (1)	ND (2)	ND (4.1) *	36	47
	09/30/08	5 - 6	N	ND (2) *	2.2	180	ND (1) *	ND (1)	ND (0.412)	27	8.5	9.5	2.3	ND (0.1) *	1.6	12	ND (2) *	ND (1)	ND (2) *	34	38
	09/30/08	9 - 10	N	ND (2) *	2.3	160	ND (1) *	ND (1)	ND (0.403)	17	7.4	8.2	2.7	ND (0.099) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	34
	09/30/08	14 - 15	N	ND (2) *	2.7	140	ND (1) *	ND (1)	ND (0.412)	18	8.6	12	2.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	29	34
AOC14-2	09/30/08	0 - 0.5	N	ND (2) *	5.8	190	ND (2) *	ND (1)	0.768	28	6.8	44	18	ND (0.1) *	ND (2) *	12	ND (1)	ND (2)	ND (4.1) *	28	49
	09/30/08	2 - 3	N	ND (2.1) *	11	130	ND (11) *	ND (1.1) *	1.04	42	ND (11)	ND (21) *	7.6	ND (0.11) *	ND (11) *	12	ND (1.1)	ND (11) *	ND (21) *	25	34
	10/01/08 ^Θ	3 - 3.25	N	ND (2.3) *	15	120	ND (11) *	ND (1.1) *	2.16	26	ND (11)	ND (23) *	ND (1.1)	ND (0.11) *	ND (11) *	4.5	ND (1.1)	ND (11) *	ND (23) *	13	ND (11)
	09/30/08	5 - 6	N	ND (2.1) *	8.5	150	ND (5.2) *	ND (1)	1.32	42	6.6	19	21	ND (0.11) *	ND (5.2) *	13	ND (1)	ND (5.2) *	ND (10) *	27	51
	09/30/08	9 - 10	N	ND (2) *	2.6	180	ND (1) *	ND (1)	ND (0.405)	21	8.5	16 J	1.8	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	32	40
	09/30/08	9 - 10	FD	ND (2) *	2.6	180	ND (1) *	ND (1)	ND (0.404)	21	8.4	11 J	1.9	ND (0.1) *	ND (1)	10	ND (2) *	ND (1)	ND (2) *	33	41
	09/30/08	14 - 15	N	ND (2) *	3.1	120	ND (1) *	ND (1)	ND (0.407)	15	7.2	9.1	2.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	28	35
AOC14-3	10/01/08	0 - 0.5	N	ND (2) J*	3.7	140	ND (1) *	ND (1)	ND (0.403)	31	7.5	12	8.4	ND (0.1) *	1.6	11	ND (1)	ND (1)	ND (2) *	30	52
	10/01/08	2 - 3	N	ND (2) *	3.3	90	ND (1) *	ND (1)	ND (0.405)	26	8.1	13	6.4	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	34	46
	10/01/08	5 - 6	N	ND (2) *	3.4	130	ND (1) *	ND (1)	0.877	32	6.6	11	9	ND (0.1) *	2.1	11	ND (1)	ND (1)	ND (2) *	26	40
	10/01/08	9 - 10	N	ND (2) *	2.1	140	ND (1) *	ND (1)	ND (0.404)	19	7.5	7.1	2	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	30	33
	10/01/08	14 - 15	N	ND (2) *	2.7	110	ND (1) *	ND (1)	ND (0.403)	17	7.6	12	2.2	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	29	32
AOC14-4	10/01/08	0 - 0.5	N	ND (2) *	4.5	99	ND (1) *	ND (1)	ND (0.402)	13	4.3	7.3	7.2	ND (0.1) *	ND (1)	7.1	ND (1)	ND (1)	ND (2) *	20	31
	10/01/08	2 - 3	N	ND (2) *	4.5	130	ND (1) *	ND (1)	ND (0.405)	16	4.4	6.2	3.5	ND (0.1) *	1.5	7.6	ND (1)	ND (1)	ND (2) *	21	23
	10/01/08	5 - 6	N	ND (2) *	4.1	110	ND (1) *	ND (1)	ND (0.403)	16	4.4	5.3	3.5	ND (0.1) *	1.5	7.3	ND (1)	ND (1)	ND (2) *	21	23
	10/01/08	9 - 10	N	ND (2) *	2.9	86	ND (1) *	ND (1)	ND (0.403)	8.2	3.4	2.9	2.8	ND (0.1) *	1.2	4.8	ND (1)	ND (1)	ND (2) *	19	16
	10/01/08	9 - 10	FD	ND (2) *	3.1	96	ND (1) *	ND (1)	ND (0.404)	8.1	3.3	2.7	2.9	ND (0.1) *	1.2	4.8	ND (1)	ND (1)	ND (2) *	18	16
	10/01/08	14 - 15	N	ND (2) *	3.4	130	ND (1) *	ND (1)	ND (0.406)	15	6.4	7.9	2.2	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	27	29
AOC14-5	10/02/08	0 - 0.5	N	ND (2) *	6.8	300	ND (2) *	ND (1)	ND (0.403)	15	6.8	9.6	5.3	ND (0.099) *	ND (2) *	10	ND (1)	ND (2)	ND (4) *	29	35
	10/02/08	2 - 3	N	ND (2) *	9	240	ND (2) *	ND (1)	ND (0.405)	17	6.1	16	16	ND (0.1) *	ND (2) *	13	ND (1)	ND (2)	ND (4) *	28	46
	10/02/08	5 - 6	N	ND (2) *	3.2	240	ND (1) *	ND (1)	ND (0.404)	15	7.3	7.9	2.7	ND (0.099) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	28	35
	10/02/08	9 - 10	N	ND (2) *	2.8	110	ND (1) *	ND (1)	ND (0.403)	15	7.6	9.5	2.3	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	30	35
	10/02/08	14 - 15	N	ND (2) *	3.2	90	ND (1) *	ND (1)	ND (0.406)	16	6.8	7.3	2.2	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	28	30
AOC14-6	10/02/08	0 - 0.5	N	ND (2) *	5	120	ND (1) *	ND (1)	ND (0.402)	11	4	6.1	7.4	ND (0.1) *	1.2	7	ND (1)	ND (1)	ND (2) *	20	35
	10/02/08	2 - 3	N	ND (2) *	6	210	ND (2) *	ND (1)	ND (0.403)	23	7.8	9.5	3.3	ND (0.1) *	2.4	11	ND (1)	ND (2)	ND (4) *	34	37
	10/02/08	5 - 6	N	ND (2) *	3.4	140	ND (1) *	ND (1)	ND (0.405)	18	7.7	9.1	2.3	ND (0.099) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	35
	10/02/08	9 - 10	N	ND (2) *	2.6	120	ND (1) *	ND (1)	ND (0.406)	18	8.3	9.6	2.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	33	39
	10/02/08	9 - 10	FD	ND (2) *	2.8	110	ND (1) *	ND (1)	ND (0.406)	18	8.4	9.7	2.3	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	33	39
	10/02/08	14 - 15	N	ND (2) *	3.3	110	ND (1) *	ND (1)	ND (0.402)	16	5.9	7.2	2.2	ND (0.1) *	ND (1)	9.3	ND (1)	ND (1)	ND (2) *	25	28
AOC14-7	10/02/08	0 - 0.5	N	ND (2) *	5	160	ND (1) *	ND (1)	ND (0.404)	15	4.7	7.4	6.1	ND (0.099) *	ND (1)	9.6	ND (1)	ND (1)	ND (2) *	25	31
	10/02/08	2 - 3	N	ND (2) *	5	170	ND (1) *	ND (1)	ND (0.405)	13	6.1	10	7.1	ND (0.1) *	ND (1)	9.3	ND (1)	ND (1)	ND (2) *	23	30
	10/02/08	5 - 6	N	ND (2) *	5.3	210	ND (2) *	ND (1)	ND (0.405)	18	7.5	10	4.8	ND (0.1) *	ND (2) *	12	ND (1)	ND (2)	ND (4) *	30	35
	10/02/08	9 - 10	N	ND (2) *	3.9	120	ND (1) *	ND (1)	ND (0.404)	26	10	14	2.9	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2) *	38	46
	10/02/08	14 - 15	N	ND (2) *	3.7	150	ND (1) *	ND (1)	ND (0.401)	25	6.5	9.9	3.5	ND (0.1) *	2.4	11	ND (1)	ND (1)	ND (2) *	25	32

TABLE 3-9a
Sample Results: Metals
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC14-8	10/02/08	0 - 0.5	N	ND (2) *	6.8	110	ND (2) *	ND (1)	ND (0.403)	12	4.9	7.9	6.4	ND (0.099) *	ND (2) *	9.4	ND (1)	ND (2)	ND (4) *	24	30
	10/02/08	2 - 3	N	ND (2) *	6.9	93	ND (2) *	ND (1)	ND (0.406)	15	5.5	8.8	6.8	ND (0.1) *	ND (2) *	11	ND (1)	ND (2)	ND (4) *	26	31
	10/02/08	5 - 6	N	ND (2) *	2.8	210	ND (1) *	ND (1)	ND (0.404)	18	8.6	6.6	2.4	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	35	39
	10/02/08	9 - 10	N	ND (2) *	3.3	89	ND (1) *	ND (1)	ND (0.404)	19	8.5	12	2.7	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	33	38
	10/02/08	9 - 10	FD	ND (2) *	3.3	92	ND (1) *	ND (1)	ND (0.404)	19	8.5	10	3	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	35	39
	10/02/08	14 - 15	N	ND (2.1) J*	4.7	73 J	ND (1) *	ND (1)	ND (0.413)	23 J	9.7	18	3.7	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	36 J	42 J
AOC14-9	10/01/08	0 - 0.5	N	ND (2) *	5.3	140	ND (1) *	ND (1)	ND (0.404)	13	4.8	7.6	5.4	ND (0.1) *	ND (1)	9.5	ND (1)	ND (1)	ND (2) *	23	28
	10/01/08	2 - 3	N	ND (2) *	6.3	170	ND (2) *	ND (1)	ND (0.407)	12	4.8	7.2	6	ND (0.1) *	ND (2) *	9.1	ND (1)	ND (2)	ND (4) *	23	29
	10/01/08	5 - 6	N	ND (2) *	3	61	ND (1) *	ND (1)	ND (0.4)	9	2.8	4.1	2.8	ND (0.1) *	ND (1)	5	ND (1)	ND (1)	ND (2) *	13	13
	10/01/08	9 - 10	N	ND (2) *	4.4	220	ND (1) *	ND (1)	ND (0.405)	15	5.5	7.6	3.6	ND (0.1) *	ND (1)	9.1	ND (1)	ND (1)	ND (2) *	23	29
	10/01/08	14 - 15	N	ND (2) J*	6.2	120 J	ND (2) *	ND (1)	ND (0.406)	13	5.9	8.2	5	ND (0.1) *	ND (2) *	9.4	ND (1)	ND (2)	ND (4.1) *	22	32
AOC14-10	10/01/08	0 - 0.5	N	ND (2) *	3.6	69	ND (1) *	ND (1)	ND (0.401)	10	2.4	3.5	3.5	ND (0.1) *	ND (1)	4.2	ND (1)	ND (1)	ND (2) *	13	14
	10/01/08	2 - 3	N	ND (2) *	2.9	65	ND (1) *	ND (1)	ND (0.401)	11	2.4	3.1	2.9	ND (0.1) *	ND (1)	3.9	ND (1)	ND (1)	ND (2) *	11	14
	10/01/08	5 - 6	N	ND (2) *	3.3	110	ND (1) *	ND (1)	ND (0.403)	12	2.9	4.6	3.4	ND (0.1) *	ND (1)	5.2	ND (1)	ND (1)	ND (2) *	14	17
	10/01/08	5 - 6	FD	ND (2) *	3.1	97	ND (1) *	ND (1)	ND (0.402)	12	2.6	4.1	3.1	ND (0.1) *	ND (1)	4.6	ND (1)	ND (1)	ND (2) *	13	15
	10/01/08	9 - 10	N	ND (2) *	5	81	ND (1) *	ND (1)	ND (0.409)	11	4.5	7.1	5.9	ND (0.1) *	ND (1)	8.7	ND (1)	ND (1)	2.2	21	28
	10/01/08	14 - 15	N	ND (2) *	7.1	110	ND (4) *	ND (1)	ND (0.404)	9.8	ND (4)	ND (8.1)	2.6	ND (0.1) *	ND (4) *	4.6	ND (1)	ND (4)	ND (8.1) *	13	13
AOC14-11	10/01/08	5 - 6	N	ND (2) *	5.5	140	ND (1) *	ND (1)	ND (0.406)	15	5.9	7.3	4.2	ND (0.1) *	1	9.9	ND (1)	ND (1)	ND (2) *	28	28
	10/01/08	9 - 10	N	ND (2) *	2.4	140	ND (1) *	ND (1)	ND (0.405)	18	8.4	13	2	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	34	37
	10/01/08	14 - 15	N	ND (2) *	4	80	ND (1) *	ND (1)	ND (0.41)	20	8.5	9	3	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	35	39
AOC14-12	09/30/08	5 - 6	N	ND (2) *	3.2	190	ND (1) *	ND (1)	ND (0.406)	27	7.5	8.4	3.2	ND (0.1) *	2.4	9.8	1.5	ND (1)	ND (2) *	29	36
	09/30/08	9 - 10	N	ND (2) *	2.3	150	ND (1) *	ND (1)	ND (0.405)	17	7.4	7.7	3	ND (0.1) *	ND (1)	11	1.2	ND (1)	ND (2) *	29	37
	09/30/08	14 - 15	N	ND (2) *	3.2	140	ND (1) *	ND (1)	ND (0.401)	20	7.7	9.8	2.8	ND (0.1) *	1.2	13	ND (1)	ND (1)	ND (2) *	29	35
AOC14-13	09/30/08	5 - 6	N	ND (2) *	3.3	130	ND (1) *	ND (1)	ND (0.405)	22	5.8	11	3.6	ND (0.099) *	2	9	ND (1)	ND (1)	ND (2) *	21	30
	09/30/08	9 - 10	N	ND (2) *	1.9	140	ND (1) *	ND (1)	ND (0.405)	16	7.7	7.2	2.1	ND (0.1) *	ND (1)	10	1.6	ND (1)	ND (2) *	28	34
	09/30/08	14 - 15	N	ND (2) *	3.2	110	ND (1) *	ND (1)	ND (0.409)	16	7	11	2.2	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	29	33
	09/30/08	14 - 15	FD	ND (2) *	2.9	100	ND (1) *	ND (1)	ND (0.409)	16	7.5	13	2.4	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	29	33
AOC14-14E	02/18/16	0 - 1	N	ND (2) *	3.2	140	ND (1) *	ND (1)	0.27	16	7.2	11	7.2	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	27	44
	02/18/16	2 - 3	N	ND (2) *	3.3	71 J	ND (1) *	ND (1)	0.25	30	8.5	13	3	ND (0.1) *	ND (1)	17	ND (1)	ND (1)	2.1	30	42
	02/18/16	2 - 3	FD	ND (2) *	3.3	87 J	ND (1) *	ND (1)	0.35	26	8.4	10	3.5	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	34	43
	02/18/16	5 - 5.5	N	ND (2) *	2.6	98	ND (1) *	ND (1)	0.8	27	7.8	9.8	2.1	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	2.2	29	38
	02/18/16	6 - 7	N	ND (2.1) *	3.2	77	ND (1) *	ND (1)	ND (0.2)	19	8.3	9.9	2.1	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	33	38
	02/18/16	9 - 10	N	ND (2) *	3.4	110	ND (1) *	ND (1)	ND (0.2)	20	7.4	8	2.6	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	2.6	29	39
AOC14-14W	02/16/16	0 - 1	N	ND (2) *	2.5	150	ND (1) *	1.4	0.33	16	7.2	12	15	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	30	65
	02/16/16	2 - 3	N	ND (2) *	2	120	ND (1) *	ND (1)	ND (0.2)	13	7.1	12	3.4	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	ND (2) *	30	32
	02/16/16	5 - 5.5	N	ND (2.1) *	5.9	160	ND (1) *	1.9	6.7	420	7.3	170	160	0.22	4.5	27	ND (1)	ND (1)	ND (2.1) *	58	310
	02/16/16	6 - 7	N	ND (2) *	3.4	160	ND (1) *	1.3	2.7	65	7.7	80	70	ND (0.1) *	2.8	16	ND (1)	ND (1)	ND (2) *	27	260
	02/16/16	9 - 10	N	ND (2) *	2.5	95	ND (1) *	ND (1)	0.66	15	7	9.7	2.6	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	29	34

TABLE 3-9a
Sample Results: Metals
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC14-15	02/18/16	0 - 1	N	ND (2) *	4	140	ND (1) *	ND (1)	ND (0.2)	14	7.8	11	2.2	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	29	36
	02/18/16	2 - 3	N	ND (2) *	3	190	ND (1) *	ND (1)	0.21	16	6.5	12	4.6	ND (0.1) *	ND (1)	9.9	ND (1)	ND (1)	2.3	26	40
	02/18/16	5 - 6	N	ND (2) *	2.9	170	ND (1) *	ND (1)	ND (0.2)	11	6.3	9.7	3.1	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	2.2	24	34
	02/18/16	7 - 8	N	ND (2) *	3.9	150	ND (1) *	ND (1)	ND (0.2)	16	6.9	8.9	2.5	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	2.2	30	33
AOC14-16E	02/23/16	0 - 1	N	ND (2) *	2	120	ND (1) *	ND (1)	0.26	20	7.6	9.6	5.9	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	32	62
	02/23/16	2 - 3	N	ND (2.1) *	2.3	150	ND (1) *	ND (1)	ND (0.21)	12	7.1	9	3	ND (0.1) *	ND (1)	8.6	ND (1)	ND (1)	ND (2.1) *	31	33
	02/23/16	5 - 6	N	ND (2) *	1.7	110	ND (1) *	ND (1)	0.22	12	5.7	6.7	3	ND (0.1) *	ND (1)	7.6	ND (1)	ND (1)	ND (2) *	23	30
	02/23/16	9 - 10	N	ND (2.1) *	1.3	97	ND (1) *	ND (1)	ND (0.21)	15	7	9	1.6	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2.1) *	27	31
AOC14-16W	02/22/16	0 - 1	N	ND (2) J*	2.1	140 J	ND (1) *	ND (1)	ND (0.2)	13	6.2	7.3	2.7	0.41	ND (1)	8.4	ND (1) J	ND (1) J	ND (2) *	27 J	27
	02/22/16	2 - 3	N	3.3	19	100	ND (1) *	4.2	20	360	11	1,300	110	180	63	170	ND (1)	ND (1)	ND (2.1) *	26	110
	02/22/16	5 - 6	N	ND (2.2) *	4.3	130	ND (1.1) *	ND (1.1) *	3	50	7.7	100	28	72	14	17	ND (1.1)	ND (1.1)	ND (2.2) *	30	61
	02/22/16	7 - 8	N	ND (2) *	2.8	140	ND (1) *	ND (1)	0.96	23	7.6	35	14	17	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	45
	02/22/16	9 - 10	N	ND (2) *	1.4	110	ND (1) *	ND (1)	ND (0.2)	13	7.5	8.7	2.3	ND (0.1) *	ND (1)	9	ND (1)	ND (1)	ND (2) *	32	31
	02/22/16	9 - 10	FD	ND (2) *	ND (1)	100	ND (1) *	ND (1)	ND (0.2)	13	7	7.1	1.6	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	ND (2) *	29	30
AOC14-17E	02/24/16	9 - 10	N	ND (2) *	1.4	92	ND (1) *	ND (1)	ND (0.2)	11	6.4	7.8	2.7	ND (0.1) *	ND (1)	9.1	ND (1)	ND (1)	ND (2) *	27	31
AOC14-17W	02/24/16	0 - 1	N	ND (2) *	2.6	66	ND (1) *	ND (1)	ND (0.2)	9	3.3	4.7	3.9	ND (0.1) *	ND (1)	5	ND (1)	ND (1)	ND (2) *	17	21
	02/24/16	1 - 2	N	ND (2) *	3.4	90	ND (1) *	ND (1)	ND (0.2)	12	4.8	9.2	8.5	ND (0.1) *	ND (1)	7.9	ND (1)	ND (1)	ND (2) *	18	26
	02/24/16	2 - 3	N	ND (2) *	2.7	130	ND (1) *	ND (1)	ND (0.2)	13	6.4	7.7	3.7	ND (0.1) *	ND (1)	8	ND (1)	ND (1)	ND (2) *	27	29
	02/24/16	5 - 6	N	ND (2) *	3.1	180	ND (1) *	ND (1)	ND (0.2)	12	5	10	3.4	ND (0.1) *	ND (1)	7.3	ND (1)	ND (1)	ND (2) *	24	24
	02/24/16	9 - 10	N	ND (2) *	4.1	110	ND (1) *	ND (1)	ND (0.2)	12	6.2	8.6	2.6	ND (0.1) *	ND (1)	8	ND (1)	ND (1)	ND (2) *	33	29
AOC14-18	02/17/16	0 - 1	N	ND (2) *	4	250	ND (1) *	ND (1)	ND (0.2)	14	7.1	13	14	ND (0.1) *	ND (1)	9.6	ND (1)	ND (1)	ND (2) *	30	41
	02/17/16	2 - 3	N	ND (2.1) *	3.8	280	ND (1) *	ND (1)	ND (0.21)	13	7.8	12	3.5	ND (0.1) *	ND (1)	9.5	ND (1)	ND (1)	ND (2.1) *	30	34
	02/17/16	5 - 6	N	ND (2.1) *	4.5	86	ND (1) *	ND (1)	ND (0.21)	13	8	12	4.4	ND (0.1) *	3	12	ND (1)	ND (1)	ND (2.1) *	33	36
AOC14-19	02/17/16	2 - 3	N	19	14	410	ND (1) *	7.1 J	ND (0.21)	380 J	17	1,800	1,600 J	ND (0.1) *	16	270	ND (1) J	ND (1)	ND (2.1) *	24 J	2,000 J
	02/17/16	3 - 4	N	ND (2.1) *	2.3	190	ND (1) *	ND (1)	ND (0.21)	13	6.7	19	6.3	ND (0.1) *	ND (1)	9.7	ND (1)	ND (1)	ND (2.1) *	27	41
AOC14-20	04/26/17	0 - 0.5	N	ND (2) *	1.5	120	ND (1) *	ND (1)	ND (0.2)	14	6.7	9	5.6	ND (0.1) *	ND (1)	9	ND (1)	ND (1)	ND (2) *	25	37
	04/26/17	2 - 3	N	ND (2) *	ND (1)	140	ND (1) *	ND (1)	ND (0.2)	12	5.8	7.1	3.4	ND (0.1) *	ND (1)	7.6	ND (1)	ND (1)	ND (2) *	25	31
	04/26/17	5 - 6	N	ND (2) *	1.6	130	ND (1) *	ND (1)	ND (0.2)	14	6.8	11	2.6	ND (0.1) *	ND (1)	9	ND (1)	ND (1)	ND (2) *	26	29
	04/26/17	8 - 9	N	ND (2) *	ND (1)	68	ND (1) *	ND (1)	ND (0.2)	9.9	5.7	6.5	1.1	ND (0.1) *	ND (1)	7.1	ND (1)	ND (1)	ND (2) *	23	24
AOC14-21	04/26/17	0 - 0.5	N	ND (2) *	ND (1)	140	ND (1) *	ND (1)	ND (0.2)	15	7	10	11	ND (0.1) *	ND (1)	9	ND (1)	ND (1)	ND (2) *	26	41
	04/26/17	2 - 3	N	ND (2) *	ND (1)	130	ND (1) *	ND (1)	ND (0.2)	15	7.9	11	9.4	ND (0.1) *	ND (1)	9.7	ND (1)	ND (1)	ND (2) *	29	45
	04/26/17	2 - 3	FD	ND (2) *	1.5	130	ND (1) *	ND (1)	ND (0.2)	17	7.3	12	9.8	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	26	44
	04/26/17	5 - 6	N	ND (2) *	1.1	60	ND (1) *	ND (1)	ND (0.2)	13	5.7	40	1.4	ND (0.1) *	ND (1)	8	ND (1)	ND (1)	ND (2) *	24	39
	04/26/17	9 - 10	N	ND (2) *	1	98	ND (1) *	ND (1)	ND (0.2)	14	6.7	8.1	2	ND (0.1) *	ND (1)	9.2	ND (1)	ND (1)	ND (2) *	25	30
AOC14-SS-1	10/01/08	0 - 0.5	N	ND (2) *	5	150	ND (1) *	ND (1)	ND (0.405)	15	5.2	9.4	7.2	ND (0.1) *	ND (1)	8.8	ND (1)	ND (1)	ND (2) *	23	34
	10/01/08	2 - 3	N	ND (2) *	7.2	150	ND (2) *	ND (1)	0.456	22	5.7	15	11	0.25	ND (2) *	13	ND (1)	ND (2)	ND (4) *	23	32
	10/01/08	5 - 6	N	ND (2) *	6	240	ND (2) *	ND (1)	ND (0.406)	18	6.7	15	4.8	ND (0.1) *	ND (2) *	12	ND (1)	ND (2)	ND (4.1) *	25	35
	10/01/08	9 - 10	N	ND (2) *	2.8	120	ND (1) *	ND (1)	ND (0.402)	17	7	7.4	1.6	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	26	33
	10/01/08	14 - 15	N	ND (2) *	3.1	110	ND (1) *	ND (1)	ND (0.406)	13	6.7	9	2.6	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	27	31

TABLE 3-9a
Sample Results: Metals
AOC 14 – Railroad Debris Area
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PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC14-SS-2	10/01/08	0 - 0.5	N	ND (2) *	4.8	160	ND (1) *	ND (1)	ND (0.403)	14	4.8	8.8	4.8	ND (0.1) *	1.1	10	ND (1)	ND (1)	ND (2) *	24	27
	10/01/08	2 - 3	N	ND (2) *	7	160	ND (2) *	ND (1)	ND (0.407)	14	4.9	7.6	5.5	ND (0.1) *	ND (2) *	9.4	ND (1)	ND (2)	ND (4) *	22	29
	10/01/08	5 - 6	N	ND (2) *	7	150	ND (2) *	ND (1)	ND (0.405)	10	4.2	6.5	5.5	ND (0.1) *	ND (2) *	8.2	ND (1)	ND (2)	ND (4.1) *	19	25
	10/01/08	9 - 10	N	ND (2) *	4.6	130	ND (1) *	ND (1)	ND (0.407)	9.5	4.2	6.7	5.3	ND (0.1) *	ND (1)	8.1	ND (1)	ND (1)	ND (2) *	18	24
	10/01/08	14 - 15	N	ND (2) *	3.3	120	ND (1) *	ND (1)	ND (0.404)	17	7	9.6	3	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	27	32
	10/01/08	14 - 15	FD	ND (2) *	3	130	ND (1) *	ND (1)	ND (0.405)	18	7.3	9.6	3	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	28	33
AOC14-SS-3	10/02/08	0 - 0.5	N	ND (2) *	5.4	190	ND (1) *	ND (1)	ND (0.401)	17	7.1	11	3.8	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	30	35
	10/02/08	2 - 3	N	ND (2) *	4	180	ND (1) *	ND (1)	ND (0.402)	18	8.3	9.5	2.7	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	33	36
	10/02/08	5 - 6	N	ND (2) *	2.9	100	ND (1) *	ND (1)	ND (0.403)	12	5.4	6.7	2	ND (0.1) *	ND (1)	7.2	ND (1)	ND (1)	ND (2) *	23	29
	10/02/08	9 - 10	N	ND (2) *	3	160	ND (1) *	ND (1)	ND (0.404)	16	7	8.4	2.2	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	32
	10/02/08	14 - 15	N	ND (2) *	3.2	89	ND (1) *	ND (1)	ND (0.404)	17	8.9	9.5	2.4	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	34	35
AOC14-SS-4	10/02/08	0 - 0.5	N	ND (2) *	5	190	ND (1) *	ND (1)	ND (0.402)	15	6.3	8.1	5.1	ND (0.1) *	ND (1)	9.6	ND (1)	ND (1)	ND (2) *	27	31
	10/02/08	2 - 3	N	ND (2) *	5	130	ND (1) *	ND (1)	ND (0.401)	14	4.4	6.9	10	ND (0.1) *	ND (1)	7	ND (1)	ND (1)	ND (2) *	20	27
	10/02/08	5 - 6	N	ND (2) *	4.5	120	ND (1) *	ND (1)	ND (0.403)	16	4.1	6.4	11	ND (0.1) *	1.5	6.7	ND (1)	ND (1)	ND (2) *	19	27
	10/02/08	9 - 10	N	ND (2) *	3	120	ND (1) *	ND (1)	ND (0.404)	16	8	11	2.3	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	32
	10/02/08	14 - 15	N	ND (2) *	2.7	120	ND (1) *	ND (1)	ND (0.405)	17	8.5	11	3	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	32	37
	10/02/08	14 - 15	FD	ND (2) *	2.5	120	ND (1) *	ND (1)	ND (0.405)	17	8.6	8.5	1.6	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	32	34
S1-20	11/01/98	3	N	---	---	---	---	---	0.7	31.8	---	15.7	---	---	---	14	---	---	---	---	49.4
S2-6	11/01/98 ^Θ	3	N	---	---	---	---	---	12	45.5	---	1.8	---	---	---	0.57	---	---	---	---	14.5
	11/01/98	5	N	---	---	---	---	---	1.8	39.9	---	9.7	---	---	---	9.4	---	---	---	---	35.7
S2-62	11/01/98 ^Θ	2	N	---	---	---	---	---	1	32	---	4.1	---	---	---	1.8	---	---	---	---	8.4
	11/01/98 [Ⓕ]	3	N	1.1 J	2.6	72.2	ND (0.89) *	ND (0.89)	---	72.7	5.9	22.2	7.9	0.046 J	0.86 J	47	0.99 J	ND (2.2)	ND (22) *	39.2	ND (29.3)
	11/01/98	4	N	---	---	---	---	---	ND (0.5)	21.9	---	11.5	---	---	---	10.2	---	---	---	---	39.8
S2-130	11/01/98	1	N	---	---	---	---	---	ND (0.5)	22.1	---	10.6	---	---	---	10.8	---	---	---	---	34.5
S3-15	11/01/98	2	N	---	---	---	---	---	ND (0.5)	13.8	---	9.4	---	---	---	7.5	---	---	---	---	24.1
	11/01/98	4	N	---	---	---	---	---	ND (0.5)	12.1	---	11	---	---	---	9.6	---	---	---	---	29.2
S3-72	11/01/98 ^Θ	1	N	---	---	---	---	---	ND (0.5)	18.7	---	6.7	---	---	---	5.9	---	---	---	---	27
	11/01/98	2	N	---	---	---	---	---	ND (0.5)	11.3	---	8	---	---	---	8.6	---	---	---	---	28.9
S3-120	11/01/98	1	N	---	---	---	---	---	ND (0.5)	12.1	---	4.2	---	---	---	4.3	---	---	---	---	18
S4-4	11/01/98 ^Θ	4	N	---	---	---	---	---	15.4	23.4	---	3.2	---	---	---	0.43 J	---	---	---	---	1.9
	11/01/98	6	N	---	---	---	---	---	1	13.7	---	10.3	---	---	---	9.8	---	---	---	---	32.6
S4-95	11/01/98 ^Θ	2	N	---	---	---	---	---	ND (0.5)	10.3	---	2.5	---	---	---	4.3	---	---	---	---	4.3
	11/01/98	3	N	---	---	---	---	---	ND (0.5)	14.9	---	8.3	---	---	---	8.8	---	---	---	---	27
S4-160	11/01/98	2	N	---	---	---	---	---	0.5	25	---	11.8	---	---	---	10.9	---	---	---	---	38.2
S8-23	11/01/98 [Ⓕ]	3	N	0.43 J	4.3	154	0.19 J	ND (0.83)	---	28.7	8.4	14.3	12.5	0.092 J	0.42 J	21	0.59 J	ND (2.1)	ND (21) *	36.4	57
S8-30	11/01/98	3	N	---	---	---	---	---	0.5	12.8	---	10.8	---	---	---	9.4	---	---	---	---	40.9
GS-1	11/01/98 ^Θ	0	N	---	---	---	---	---	0.59	33.7	---	2.2	---	---	---	0.28 J	---	---	---	---	31.3
GS-2	11/01/98 ^Θ	0	N	---	---	---	---	---	ND (0.5)	21.9	---	8.2	---	---	---	6	---	---	---	---	32.7
RR-1	02/02/00	0	N	---	---	---	---	---	ND (0.5)	23.4	---	15.6	---	---	---	15.8	---	---	---	---	44

TABLE 3-9a
Sample Results: Metals
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
RR-2	02/02/00	0	N	---	---	---	---	---	ND (0.5)	16.1	---	13.8	---	---	---	12.3	---	---	---	---	37.5
RR-3	02/02/00	0	N	---	---	---	---	---	ND (0.5)	18.3	---	11.6	---	---	---	13	---	---	---	---	35
RR-4	02/02/00 ^Θ	0	N	---	---	---	---	---	0.6	19.4	---	19.2	---	---	---	0.92	---	---	---	---	27.1
RR-5	02/02/00	0	N	---	---	---	---	---	5.8	39.5	---	7.1	---	---	---	0.33	---	---	---	---	34.1
RR-6	02/02/00	0	N	---	---	---	---	---	4.8	74.9	---	7.5	---	---	---	0.39	---	---	---	---	243
RR-7	02/02/00 ^Θ	0	N	---	---	---	---	---	ND (0.51)	28.6	---	9.7	---	---	---	10.4	---	---	---	---	35.1
RR-8	02/02/00	0	N	---	---	---	---	---	ND (0.51)	28.9	---	9.9	---	---	---	7.4	---	---	---	---	29.8
RR-9	02/02/00 ^Θ	0	N	---	---	---	---	---	2.7	19.6	---	27.9	---	---	---	2.2	---	---	---	---	15.4
RR-10	02/02/00	0	N	---	---	---	---	---	ND (0.51)	18.8	---	12.9	---	---	---	11.6	---	---	---	---	36.3
RR-11	02/02/00	0	N	---	---	---	---	---	ND (0.51)	18.1	---	20.2	---	---	---	13.4	---	---	---	---	47.5
RR-12	02/02/00 ^Θ	0	N	---	---	---	---	---	ND (0.5)	17.5	---	3.8	---	---	---	1.5	---	---	---	---	11.3
Category 3																					
AOC14-13	10/01/08 ^Υ	0.5 - 1.5	N	ND (2) *	18	160	ND (10) *	ND (1)	0.487	63	ND (10)	33	16	ND (0.1) *	98	57	ND (1)	ND (10) *	ND (20) *	ND (10)	39

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Θ	white powder sample.
ß	black sandy material
Υ	debris sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-9b

Sample Results: Contract Laboratory Program Inorganics

AOC 14 – Railroad Debris Area

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PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Interim Screening Level ¹ :				16,400	66,500	29,303	12,100	402	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	1,800	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	1,800	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	220	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC14-1	09/30/08	0 - 0.5	N	8,700	48,000	20,000	8,500	270	2,700	850	ND (1.02) *
AOC14-2	09/30/08	0 - 0.5	N	8,500	37,000	19,000	7,200	270	2,600	630	ND (1.02) *
AOC14-3	10/01/08	0 - 0.5	N	8,800	20,000	20,000	7,200	290	2,800 J	350	ND (1.01) *
AOC14-4	10/01/08	0 - 0.5	N	5,400	12,000	11,000	4,300	170	1,600	340	ND (1.01) *
AOC14-5	10/02/08	0 - 0.5	N	9,000	31,000	17,000	7,000	260	2,500	390	ND (1.01) *
AOC14-7	10/02/08	0 - 0.5	N	6,800	23,000	13,000	6,100	250	1,500	600	ND (1.01) *
AOC14-8	10/02/08	0 - 0.5	N	6,500	32,000	14,000	6,600	260	1,400	340	ND (1.01) *
AOC14-10	10/01/08	0 - 0.5	N	3,000	11,000	6,800	2,600	120	690	210	ND (1) *
AOC14-20	04/26/17	0 - 0.5	N	7,700	21,000	16,000	6,700	230	2,700	190	ND (0.101)
S1-20	11/01/98	3	N	---	26,300	23,100	8,330	---	2,250	ND (410)	---
S4-4	11/01/98 ^Θ	4	N	---	379,000	425	23,000	---	89.6 J	6,590	---

TABLE 3-9b

Sample Results: Contract Laboratory Program Inorganics

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Θ	white powder sample.
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-9c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
Category 1																								
AOC14-1	09/30/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.8	6.1	8.2	10	8.1	9.6	ND (5.1)	9.2	ND (5.1)	5.3	ND (5.1)	ND (5.1)	9.4	ND	71.7	11
	09/30/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/30/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-2	09/30/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	ND (5.1)	ND (5.1)	ND (5.1)	5.9	ND (5.1)	ND (5.1)	ND (5.1)	5.2	5.9	5.2	22.8	5.9
	09/30/08	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	10/01/08 ^Θ	3 - 3.25	N	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND (5.7) J	ND	ND	ND (6.6)
	09/30/08	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	9.5	8.7	12	12	12	12	ND (5.2)	12	ND (5.2)	7.6	ND (5.2)	ND (5.2)	13	ND	98.8	14
	09/30/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/30/08	9 - 10	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
09/30/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
AOC14-3	10/01/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	15	10	15	7.1	12	18	ND (5)	22	ND (5)	6.1	ND (5)	6	20	6	125.2	16
	10/01/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.2	ND (5)	ND (5)	6.1	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.6	ND	16.9	6.1
	10/01/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.5	ND (5)	ND (5)	5.4	ND (5)	6.6	ND (5)	ND (5)	ND (5)	ND (5)	7.1	ND	24.6	6.1
	10/01/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.9)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-4	10/01/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.6)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/01/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (3.9)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	9 - 10	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.4)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.5)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-5	10/02/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/02/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.6	9.5	31	14	22	24	ND (5)	27	ND (5)	12	ND (4.6)	11	21	11	166.1	17
	10/02/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.9)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/02/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.2)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/02/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-6	10/02/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.9 J	ND (5)	5.9 J	5.2 J	ND (5)	5.9 J	ND (5)	ND (5)	ND (5)	ND (5)	5.3 J	ND	28.2	6.2
	10/02/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.6)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/02/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/02/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.8)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/02/08	9 - 10	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.2)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/02/08	14 - 15	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.3)	ND (5)	ND (5)	ND	ND	ND (5.8)

TABLE 3-9c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC14-7	10/02/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.7	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	7.7	5.9
	10/02/08	2 - 3	N	ND (5)	ND (5)	ND (5)	6.8	17	ND (5)	5.9	16	17	10	10	ND (5)	6.6	ND (5)	10	ND (4.1)	ND (5)	6.6	23.8	82.1	11
	10/02/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.6)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/02/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.8)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/02/08	14 - 15	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.6)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC14-8	10/02/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/02/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.7)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/02/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	13	12	13	12	14	14	13	5.1	ND (5)	12	ND (4.6)	ND (5)	5.7	ND	113.8	29
	10/02/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/02/08	9 - 10	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.9)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/02/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.9)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-9	10/01/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/01/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.9)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.4)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-10	10/01/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.7)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.4)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	5 - 6	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/01/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.6)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/01/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.8)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-11	10/01/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.4)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/01/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.6)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/01/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-12	09/30/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	22	180	84	110	40	82	210	17	350	ND (5.1)	39	ND (5.1)	120	310	142	1,422	130
	09/30/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.8)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	14 - 15	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC14-13	09/30/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/30/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	09/30/08	14 - 15	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)

TABLE 3-9c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC14-14E	02/18/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	10	7.8	15	8.1	6.4	8.8	ND (5.1)	13	ND (5.1)	6.1	ND (5.1)	ND (5.1)	14	ND	89.2	14
	02/18/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/18/16	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/18/16	5 - 5.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	5.1	6.1
	02/18/16	6 - 7	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	02/18/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-14W	02/16/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	1,000	550	840	9.6	360	1,100	ND (5.1)	2,100	ND (5.1)	8.2	ND (4.6)	380	2,100	380	8,068	740
	02/16/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/16/16	5 - 5.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	02/16/16	6 - 7	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	390	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	390	5.9
	02/16/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-15	02/18/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/18/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/18/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (8.2)
	02/18/16	7 - 8	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (8.2)
AOC14-16E	02/23/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	15	ND (51)	ND (51)	ND (51)	ND (51)	15	ND (51)	22	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	20	ND	72	58
	02/23/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	17	10	17	8.3	12 J	15	ND (5.2)	38	ND (5.2)	6.2	ND (5.2)	7.3	33	7.3	156.5	17
	02/23/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/23/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC14-16W	02/22/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (59)
	02/22/16	2 - 3	N	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (260) *	ND (260)	ND (260)	ND (260)	ND (26)	ND (260) *	ND (26)	ND (26)	ND (260)	ND (7.4)	ND (26)	ND (26)	ND	ND	ND (290) *
	02/22/16	5 - 6	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (55)	ND (55)	ND (55)	ND (55)	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (61)
	02/22/16	7 - 8	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/22/16	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (50)	ND (50)	ND (50)	ND (5)	ND (50)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND	ND	ND (56)
	02/22/16	9 - 10	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (57)
AOC14-17E	02/24/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (59)
AOC14-17W	02/24/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/24/16	1 - 2	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/24/16	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	20	14	25	9.4	15 J	21	ND (5)	39	ND (5)	8.1	ND (5)	7.1	32	7.1	183.5	22
	02/24/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/24/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-19	02/17/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	12	ND (52)	ND (52)	ND (52)	ND (52)	16	ND (52)	17	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	18	ND	63	59
	02/17/16	3 - 4	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC14-20	04/26/17	0 - 0.5	N	---	ND (330)	ND (330)	ND (330)	ND (330)	ND (330)	ND (330) *	ND (330)	ND (330) J	ND (330)	ND (330)	ND (330) J*	ND (330) J	ND (330)	ND (330) J	ND (6.5)	ND (330)	ND (330) J	ND	ND	ND (380) *

TABLE 3-9c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																					
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110	
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent	
AOC14-SS-1	10/01/08	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11 J	5.3 J	9.8 J	11 J	ND (5.1)	8.1 J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.1 J	ND	52.3	6.8	
	10/01/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/01/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/01/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/01/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.3)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-SS-2	10/01/08	0 - 0.5	N	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	26	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND	26	29
	10/01/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/01/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/01/08	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/01/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.8)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/01/08	14 - 15	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.2)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-SS-3	10/02/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/02/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/02/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.4)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/02/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (3.9)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/02/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.8)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC14-SS-4	10/02/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/02/08	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/02/08	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (3.8)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/02/08	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.5)	ND (5)	ND (5)	ND	ND	ND (5.8)	
	10/02/08	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (3.3)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
	10/02/08	14 - 15	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (3.7)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)	
S2-62	11/01/98 ^B	3	N	---	ND (550)	ND (550)	ND (550)	ND (550)	ND (550)	ND (550) *	ND (550)	ND (550)	ND (550)	ND (550)	ND (550) *	ND (550)	ND (550)	ND (550)	ND (550)	ND (550)	ND	ND	ND (640) *		
S8-23	11/01/98 ^B	3	N	---	ND (21,000)	ND (21,000)	ND (21,000)	ND (21,000)	ND (21,000) *	ND (21,000) *	ND (21,000) *	ND (21,000)	ND (21,000) *	ND (21,000)	ND (21,000) *	ND (21,000)	ND (21,000)	ND (21,000) *	ND (21,000) *	ND (21,000)	ND (21,000)	ND	ND	ND (24,000) *	
Category 3																									
AOC14-13	10/01/08 ^Y	0.5 - 1.5	N	ND (5) J	ND (5) J	ND (5) J	ND (5) J	ND (5) J	16 J	12 J	17 J	6.6 J	12 J	17 J	ND (5) J	25 J	ND (5) J	5.8 J	ND (5) J	5.3 J	22 J	5.3	133.4	19	

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
Θ	white powder sample.
Ⓑ	black sandy material
Υ	debris sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-9d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
Interim Screening Level ¹:				130,000	130,000	5,100	5,100	500	500	250,000,000	250,000,000
Residential Regional Screening Levels ²:				130,000	130,000	5,100	5,100	6,300,000	6,300,000	250,000,000	250,000,000
Residential DTSC-SL ³:				NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴:				NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵:				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	2,4-Dinitrophenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-2-methylphenol	4-Methylphenol	4-Methylphenol	Benzoic acid	Benzoic acid
Category 1											
AOC14-1	09/30/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	09/30/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	09/30/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	09/30/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	09/30/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-2	09/30/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	430	430	ND (1,700)	ND (1,700)
	09/30/08	2 - 3	N	ND (1,700)	ND (1,700)	ND (1,800)	ND (1,800)	ND (350)	ND (350)	ND (1,800)	ND (1,800)
	10/01/08 ^Θ	3 - 3.25	N	ND (1,800) J	ND (1,800) J	ND (1,900) J	ND (1,900) J	ND (370) J	ND (370) J	ND (1,900) J	ND (1,900) J
	09/30/08	5 - 6	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	09/30/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	09/30/08	9 - 10	FD	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	09/30/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-3	10/01/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)

TABLE 3-9d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
Interim Screening Level ¹:				130,000	130,000	5,100	5,100	500	500	250,000,000	250,000,000
Residential Regional Screening Levels ²:				130,000	130,000	5,100	5,100	6,300,000	6,300,000	250,000,000	250,000,000
Residential DTSC-SL ³:				NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴:				NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵:				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	2,4-Dinitrophenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-2-methylphenol	4-Methylphenol	4-Methylphenol	Benzoic acid	Benzoic acid
AOC14-4	10/01/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	9 - 10	FD	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
AOC14-5	10/02/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	2 - 3	N	ND (4,000)	ND (4,000)	ND (4,100)	ND (4,100)	ND (830) *	ND (830) *	ND (4,100)	ND (4,100)
	10/02/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700) J	ND (1,700) J
	10/02/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
AOC14-6	10/02/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	9 - 10	FD	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
AOC14-7	10/02/08	0 - 0.5	N	ND (4,000)	ND (4,000)	ND (4,200)	ND (4,200)	ND (830) *	ND (830) *	ND (4,200)	ND (4,200)
	10/02/08	2 - 3	N	ND (4,000)	ND (4,000)	ND (4,100)	ND (4,100)	ND (830) *	ND (830) *	ND (4,100)	ND (4,100)
	10/02/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	10/02/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)

TABLE 3-9d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
Interim Screening Level ¹:				130,000	130,000	5,100	5,100	500	500	250,000,000	250,000,000
Residential Regional Screening Levels ²:				130,000	130,000	5,100	5,100	6,300,000	6,300,000	250,000,000	250,000,000
Residential DTSC-SL ³:				NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴:				NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵:				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	2,4-Dinitrophenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-2-methylphenol	4-Methylphenol	4-Methylphenol	Benzoic acid	Benzoic acid
AOC14-8	10/02/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	9 - 10	FD	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-9	10/01/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-10	10/01/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	5 - 6	FD	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700) J	ND (1,700) J
	10/01/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
AOC14-11	10/01/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)

TABLE 3-9d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
Interim Screening Level ¹:				130,000	130,000	5,100	5,100	500	500	250,000,000	250,000,000
Residential Regional Screening Levels ²:				130,000	130,000	5,100	5,100	6,300,000	6,300,000	250,000,000	250,000,000
Residential DTSC-SL ³:				NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴:				NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵:				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	2,4-Dinitrophenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-2-methylphenol	4-Methylphenol	4-Methylphenol	Benzoic acid	Benzoic acid
AOC14-12	09/30/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	09/30/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	09/30/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
AOC14-13	09/30/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	09/30/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	09/30/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	09/30/08	14 - 15	FD	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-14E	02/18/16	0 - 1	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	02/18/16	2 - 3	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/18/16	2 - 3	FD	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/18/16	5 - 5.5	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	02/18/16	6 - 7	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/18/16	9 - 10	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-14W	02/16/16	0 - 1	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/16/16	2 - 3	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/16/16	5 - 5.5	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/16/16	6 - 7	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/16/16	9 - 10	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-15	02/18/16	0 - 1	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/18/16	2 - 3	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	02/18/16	5 - 6	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	02/18/16	7 - 8	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)

TABLE 3-9d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
Interim Screening Level ¹:				130,000	130,000	5,100	5,100	500	500	250,000,000	250,000,000
Residential Regional Screening Levels ²:				130,000	130,000	5,100	5,100	6,300,000	6,300,000	250,000,000	250,000,000
Residential DTSC-SL ³:				NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴:				NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵:				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	2,4-Dinitrophenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-2-methylphenol	4-Methylphenol	4-Methylphenol	Benzoic acid	Benzoic acid
AOC14-16E	02/23/16	0 - 1	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/23/16	2 - 3	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/23/16	5 - 6	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/23/16	9 - 10	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-16W	02/22/16	0 - 1	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/22/16	2 - 3	N	ND (43,000)	ND (43,000)	ND (43,000) *	ND (43,000) *	ND (8,500) *	ND (8,500) *	ND (43,000)	ND (43,000)
	02/22/16	5 - 6	N	ND (1,800)	ND (1,800)	ND (1,800)	ND (1,800)	ND (360)	ND (360)	ND (1,800)	ND (1,800)
	02/22/16	7 - 8	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	02/22/16	9 - 10	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	02/22/16	9 - 10	FD	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-17E	02/24/16	9 - 10	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
AOC14-17W	02/24/16	0 - 1	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/24/16	1 - 2	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/24/16	2 - 3	N	ND (1,700) J	ND (1,700) J	ND (1,700) J	ND (1,700) J	ND (330) J	ND (330) J	ND (1,700) J	ND (1,700) J
	02/24/16	5 - 6	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/24/16	9 - 10	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-19	02/17/16	2 - 3	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	02/17/16	3 - 4	N	ND (1,700)	ND (1,700)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-20	04/26/17	0 - 0.5	N	1,700 R	1,700 R	1,700 R	1,700 R	ND (330)	ND (330)	1,700 R	1,700 R

TABLE 3-9d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
Interim Screening Level ¹:				130,000	130,000	5,100	5,100	500	500	250,000,000	250,000,000
Residential Regional Screening Levels ²:				130,000	130,000	5,100	5,100	6,300,000	6,300,000	250,000,000	250,000,000
Residential DTSC-SL ³:				NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴:				NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵:				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	2,4-Dinitrophenol	2,4-Dinitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-2-methylphenol	4-Methylphenol	4-Methylphenol	Benzoic acid	Benzoic acid
AOC14-SS-1	10/01/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	10/01/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	10/01/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
AOC14-SS-2	10/01/08	0 - 0.5	N	ND (16,000)	ND (16,000)	ND (17,000) *	ND (17,000) *	ND (3,300) *	ND (3,300) *	ND (17,000)	ND (17,000)
	10/01/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	10/01/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (340)	ND (340)	ND (1,700)	ND (1,700)
	10/01/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/01/08	14 - 15	FD	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
AOC14-SS-3	10/02/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
AOC14-SS-4	10/02/08	0 - 0.5	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	2 - 3	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	5 - 6	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	9 - 10	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	14 - 15	N	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)
	10/02/08	14 - 15	FD	ND (1,600)	ND (1,600)	ND (1,700)	ND (1,700)	ND (330)	ND (330)	ND (1,700)	ND (1,700)

TABLE 3-9d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
Interim Screening Level ¹:				130,000	130,000	5,100	5,100	500	500	250,000,000	250,000,000
Residential Regional Screening Levels ²:				130,000	130,000	5,100	5,100	6,300,000	6,300,000	250,000,000	250,000,000
Residential DTSC-SL ³:				NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴:				NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵:				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	2,4-Dinitrophenol	2,4- Dinitrophenol	4,6-Dinitro-2- methylphenol	4,6-Dinitro-2- methylphenol	4-Methylphenol	4-Methylphenol	Benzoic acid	Benzoic acid
S2-62	11/01/98 ^B	3	N	ND (2,800)	ND (2,800)	ND (2,800)	ND (2,800)	---	---	---	---
S8-23	11/01/98 ^B	3	N	ND (100,000)	ND (100,000)	ND (100,000) *	ND (100,000) *	---	---	---	---
Category 3											
AOC14-13	10/01/08 ^Y	0.5 - 1.5	N	ND (1,600) J	ND (1,600) J	ND (1,700) J	ND (1,700) J	ND (330) J	ND (330) J	ND (1,700) J	ND (1,700) J

TABLE 3-9d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Only detected SVOCs and VOCs are presented.

Θ white powder sample.

Ⓐ black sandy material

Y debris sample

μg/kg micrograms per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Levels

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

N primary sample

NE not established

ND not detected at the listed reporting limit

R The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met.

USEPA United States Environmental Protection Agency

VOCs volatile organic compounds

SVOCs semivolatile organic compounds

1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28 and ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.

5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

TABLE 3-9e

Sample Results: Total Petroleum Hydrocarbons

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	230
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	230
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as diesel
AOC14-1	09/30/08	0 - 0.5	N	ND (10)	ND (10)
	09/30/08	2 - 3	N	ND (10)	ND (10)
	09/30/08	5 - 6	N	ND (10)	ND (10)
	09/30/08	9 - 10	N	ND (10)	ND (10)
	09/30/08	14 - 15	N	ND (10)	ND (10)
AOC14-2	09/30/08	0 - 0.5	N	34.1	34.1
	09/30/08	2 - 3	N	14.1	14.1
	10/01/08	3 - 3.25	N	ND (10) J	ND (10) J
	09/30/08	5 - 6	N	ND (10)	ND (10)
	09/30/08	9 - 10	N	ND (10)	ND (10)
	09/30/08	9 - 10	FD	ND (10)	ND (10)
	09/30/08	14 - 15	N	ND (10)	ND (10)
AOC14-3	10/01/08	0 - 0.5	N	ND (10)	ND (10)
	10/01/08	2 - 3	N	ND (10)	ND (10)
	10/01/08	5 - 6	N	ND (10)	ND (10)
	10/01/08	9 - 10	N	ND (10)	ND (10)
	10/01/08	14 - 15	N	ND (10) J	ND (10) J
AOC14-4	10/01/08	0 - 0.5	N	ND (10)	ND (10)
	10/01/08	2 - 3	N	ND (10)	ND (10)
	10/01/08	5 - 6	N	ND (10)	ND (10)
	10/01/08	9 - 10	N	ND (10)	ND (10)
	10/01/08	9 - 10	FD	ND (10)	ND (10)
	10/01/08	14 - 15	N	ND (10) J	ND (10) J
AOC14-5	10/02/08	0 - 0.5	N	ND (10)	ND (10)
	10/02/08	2 - 3	N	ND (10)	ND (10)
	10/02/08	5 - 6	N	ND (10)	ND (10)
	10/02/08	9 - 10	N	ND (10)	ND (10)
	10/02/08	14 - 15	N	10 J	10 J
AOC14-6	10/02/08	0 - 0.5	N	17	17
	10/02/08	2 - 3	N	ND (10)	ND (10)
	10/02/08	5 - 6	N	ND (10)	ND (10)
	10/02/08	9 - 10	N	ND (10)	ND (10)
	10/02/08	9 - 10	FD	ND (10)	ND (10)
	10/02/08	14 - 15	N	10 J	10 J
AOC14-7	10/02/08	0 - 0.5	N	ND (10)	ND (10)
	10/02/08	2 - 3	N	ND (10)	ND (10)
	10/02/08	5 - 6	N	ND (10)	ND (10)
	10/02/08	9 - 10	N	ND (10)	ND (10)
	10/02/08	14 - 15	N	10 J	10 J

TABLE 3-9e

Sample Results: Total Petroleum Hydrocarbons

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	230
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	230
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as diesel
AOC14-8	10/02/08	0 - 0.5	N	ND (10)	ND (10)
	10/02/08	2 - 3	N	ND (10)	ND (10)
	10/02/08	5 - 6	N	ND (10)	ND (10)
	10/02/08	9 - 10	N	ND (10)	ND (10)
	10/02/08	9 - 10	FD	ND (10)	ND (10)
	10/02/08	14 - 15	N	ND (10) J	ND (10) J
AOC14-9	10/01/08	0 - 0.5	N	ND (10)	ND (10)
	10/01/08	2 - 3	N	ND (10)	ND (10)
	10/01/08	5 - 6	N	ND (10)	ND (10)
	10/01/08	9 - 10	N	ND (10)	ND (10)
	10/01/08	14 - 15	N	ND (10) J	ND (10) J
AOC14-10	10/01/08	0 - 0.5	N	ND (10)	ND (10)
	10/01/08	2 - 3	N	ND (10)	ND (10)
	10/01/08	5 - 6	N	ND (10)	ND (10)
	10/01/08	5 - 6	FD	ND (10)	ND (10)
	10/01/08	9 - 10	N	ND (10)	ND (10)
	10/01/08	14 - 15	N	ND (10) J	ND (10) J
AOC14-11	10/01/08	5 - 6	N	ND (10)	ND (10)
	10/01/08	9 - 10	N	ND (10)	ND (10)
	10/01/08	14 - 15	N	ND (10) J	ND (10) J
AOC14-12	09/30/08	5 - 6	N	ND (10)	ND (10)
	09/30/08	9 - 10	N	ND (10)	ND (10)
	09/30/08	14 - 15	N	ND (10)	ND (10)
AOC14-13	10/01/08	0.5 - 1.5	N	ND (10) J	ND (10) J
	09/30/08	5 - 6	N	ND (10)	ND (10)
	09/30/08	9 - 10	N	ND (10)	ND (10)
	09/30/08	14 - 15	N	ND (10)	ND (10)
	09/30/08	14 - 15	FD	ND (10)	ND (10)
AOC14-14E	02/18/16	0 - 1	N	ND (10)	ND (10)
	02/18/16	2 - 3	N	ND (10)	ND (10)
	02/18/16	2 - 3	FD	ND (10)	ND (10)
	02/18/16	5 - 5.5	N	ND (10)	ND (10)
	02/18/16	6 - 7	N	ND (10)	ND (10)
	02/18/16	9 - 10	N	ND (10)	ND (10)
AOC14-14W	02/16/16	0 - 1	N	ND (10)	ND (10)
	02/16/16	2 - 3	N	ND (10)	ND (10)
	02/16/16	5 - 5.5	N	53	53
	02/16/16	6 - 7	N	29	29
	02/16/16	9 - 10	N	ND (10)	ND (10)

TABLE 3-9e

Sample Results: Total Petroleum Hydrocarbons

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	230
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	230
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as diesel
AOC14-15	02/18/16	0 - 1	N	ND (10)	ND (10)
	02/18/16	2 - 3	N	ND (10)	ND (10)
	02/18/16	5 - 6	N	ND (10)	ND (10)
	02/18/16	7 - 8	N	ND (10)	ND (10)
AOC14-16E	02/23/16	0 - 1	N	ND (10)	ND (10)
	02/23/16	2 - 3	N	ND (10)	ND (10)
	02/23/16	5 - 6	N	ND (10)	ND (10)
	02/23/16	9 - 10	N	ND (10)	ND (10)
AOC14-16W	02/22/16	0 - 1	N	ND (10)	ND (10)
	02/22/16	2 - 3	N	630	630
	02/22/16	5 - 6	N	76	76
	02/22/16	7 - 8	N	37	37
	02/22/16	9 - 10	N	ND (10)	ND (10)
	02/22/16	9 - 10	FD	ND (10)	ND (10)
AOC14-17E	02/24/16	9 - 10	N	ND (10)	ND (10)
AOC14-17W	02/24/16	0 - 1	N	ND (10)	ND (10)
	02/24/16	1 - 2	N	ND (10)	ND (10)
	02/24/16	2 - 3	N	ND (10)	ND (10)
	02/24/16	5 - 6	N	ND (10)	ND (10)
	02/24/16	9 - 10	N	ND (10)	ND (10)
AOC14-19	02/17/16	2 - 3	N	13	13
	02/17/16	3 - 4	N	47	47
AOC14-SS-1	10/01/08	0 - 0.5	N	ND (10) J	ND (10) J
	10/01/08	2 - 3	N	ND (10) J	ND (10) J
	10/01/08	5 - 6	N	ND (10) J	ND (10) J
	10/01/08	9 - 10	N	ND (10) J	ND (10) J
	10/01/08	14 - 15	N	ND (10) J	ND (10) J
AOC14-SS-2	10/01/08	0 - 0.5	N	11 J	11 J
	10/01/08	2 - 3	N	ND (10) J	ND (10) J
	10/01/08	5 - 6	N	ND (10) J	ND (10) J
	10/01/08	9 - 10	N	ND (10) J	ND (10) J
	10/01/08	14 - 15	N	ND (10) J	ND (10) J
	10/01/08	14 - 15	FD	ND (10) J	ND (10) J
AOC14-SS-3	10/02/08	0 - 0.5	N	30.4 J	30.4 J
	10/02/08	2 - 3	N	10 J	10 J
	10/02/08	5 - 6	N	10 J	10 J
	10/02/08	9 - 10	N	10 J	10 J
	10/02/08	14 - 15	N	10 J	10 J

TABLE 3-9e

Sample Results: Total Petroleum Hydrocarbons

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	230
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	230
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as diesel
AOC14-SS-4	10/02/08	0 - 0.5	N	10 J	10 J
	10/02/08	2 - 3	N	10 J	10 J
	10/02/08	5 - 6	N	10 J	10 J
	10/02/08	9 - 10	N	ND (10) J	ND (10) J
	10/02/08	14 - 15	N	ND (10) J	ND (10) J
	10/02/08	14 - 15	FD	10 J	10 J
S2-62	11/01/98	3	N	ND (11)	ND (11)
S8-23	11/01/98	3	N	15,000	15,000

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Θ	white powder sample.
β	black sandy material
Y	debris sample
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
RWQCB	Regional Water Quality Control Board
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency

¹ The interim screening level is the Regional Water Quality Control Board environmental screening level.² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.⁴ California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.⁵ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.⁶ Background values have not been established for TPHs.

TABLE 3-9f

Sample Results: General Chemistry Parameters

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry							
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Alkalinity, total as CaCO3	Chloride	Nitrate	pH	Phosphate	Sulfate
Category 1											
AOC14-2	10/01/08 ^Θ	3 - 3.25	N	---	---	---	---	---	8.88 J	---	---
AOC14-14E	02/18/16	0 - 1	N	---	---	---	---	---	9.1	---	---
	02/18/16	2 - 3	N	---	---	---	---	---	8.7	---	---
	02/18/16	2 - 3	FD	---	---	---	---	---	8.6	---	---
	02/18/16	5 - 5.5	N	---	---	---	---	---	8.6	---	---
	02/18/16	6 - 7	N	---	---	---	---	---	8.4	---	---
	02/18/16	9 - 10	N	---	---	---	---	---	8.4	---	---
AOC14-14W	02/16/16	0 - 1	N	---	---	---	---	---	9.2	---	---
	02/16/16	2 - 3	N	---	---	---	---	---	8.3	---	---
	02/16/16	5 - 5.5	N	---	---	---	---	---	8.7	---	---
	02/16/16	6 - 7	N	---	---	---	---	---	8.3	---	---
	02/16/16	9 - 10	N	---	---	---	---	---	8.2	---	---
AOC14-15	02/18/16	0 - 1	N	---	---	---	---	---	9	---	---
	02/18/16	2 - 3	N	---	---	---	---	---	8.9	---	---
	02/18/16	5 - 6	N	---	---	---	---	---	9.4	---	---
	02/18/16	7 - 8	N	---	---	---	---	---	8.7	---	---
AOC14-16E	02/23/16	0 - 1	N	---	---	---	---	---	8.7	---	---
	02/23/16	2 - 3	N	---	---	---	---	---	8.3	---	---
	02/23/16	5 - 6	N	---	---	---	---	---	8	---	---
	02/23/16	9 - 10	N	---	---	---	---	---	9.3	---	---

TABLE 3-9f

Sample Results: General Chemistry Parameters

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry							
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Alkalinity, total as CaCO3	Chloride	Nitrate	pH	Phosphate	Sulfate
AOC14-16W	02/22/16	0 - 1	N	---	---	---	---	---	8.4	---	---
	02/22/16	2 - 3	N	---	---	---	---	---	8.5	---	---
	02/22/16	5 - 6	N	---	---	---	---	---	8.8	---	---
	02/22/16	7 - 8	N	---	---	---	---	---	8.5	---	---
	02/22/16	9 - 10	N	---	---	---	---	---	8.4	---	---
	02/22/16	9 - 10	FD	---	---	---	---	---	8.6	---	---
AOC14-17E	02/24/16	9 - 10	N	---	---	---	---	---	8.5	---	---
AOC14-17W	02/24/16	0 - 1	N	---	---	---	---	---	8.8	---	---
	02/24/16	1 - 2	N	---	---	---	---	---	8	---	---
	02/24/16	2 - 3	N	---	---	---	---	---	8.7	---	---
	02/24/16	5 - 6	N	---	---	---	---	---	8.2	---	---
	02/24/16	9 - 10	N	---	---	---	---	---	7.8	---	---
AOC14-19	02/17/16	2 - 3	N	---	---	---	---	---	9.6	---	---
	02/17/16	3 - 4	N	---	---	---	---	---	9.5	---	---
S1-20	11/01/98	3	N	100	ND (10)	100	223	17	9.1	64.2	585
S2-6	11/01/98 ^Θ	3	N	---	---	---	---	---	9.1	---	---
	11/01/98	5	N	---	---	---	---	---	9.2	---	---
S2-62	11/01/98 ^Θ	2	N	---	---	---	---	---	8.8	---	---
	11/01/98	4	N	---	---	---	---	---	9.2	---	---
S2-130	11/01/98	1	N	---	---	---	---	---	9.9	---	---
S3-15	11/01/98	2	N	---	---	---	---	---	9.7	---	---
	11/01/98	4	N	---	---	---	---	---	9.5	---	---

TABLE 3-9f

Sample Results: General Chemistry Parameters

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Alkalinity, total as CaCO3	Chloride	Nitrate	pH	Phosphate	Sulfate	
S3-72	11/01/98 ^Θ	1	N	---	---	---	---	---	9.1	---	---	
	11/01/98	2	N	---	---	---	---	---	9.7	---	---	
S3-120	11/01/98	1	N	---	---	---	---	---	8.8	---	---	
S4-4	11/01/98 ^Θ	4	N	220	344	560	3,010	29	9.24	10.7	1,630	
	11/01/98	6	N	---	---	---	---	---	10.4	---	---	
S4-95	11/01/98 ^Θ	2	N	---	---	---	---	---	9.1	---	---	
	11/01/98	3	N	---	---	---	---	---	10.3	---	---	
S4-160	11/01/98	2	N	---	---	---	---	---	9.1	---	---	
S8-30	11/01/98	3	N	---	---	---	---	---	9.2	---	---	
GS-1	11/01/98 ^Θ	0	N	---	---	---	---	---	8.81	---	---	
GS-2	11/01/98 ^Θ	0	N	---	---	---	---	---	8.14	---	---	
RR-1	02/02/00	0	N	---	---	---	---	---	8.7	---	---	
RR-2	02/02/00	0	N	---	---	---	---	---	9.64	---	---	
RR-3	02/02/00	0	N	---	---	---	---	---	8.67	---	---	
RR-4	02/02/00 ^Θ	0	N	---	---	---	---	---	9.39	---	---	
RR-5	02/02/00	0	N	---	---	---	---	---	9.03	---	---	
RR-6	02/02/00	0	N	---	---	---	---	---	8.9	---	---	
RR-7	02/02/00 ^Θ	0	N	---	---	---	---	---	8.71	---	---	
RR-8	02/02/00	0	N	---	---	---	---	---	9.06	---	---	
RR-9	02/02/00 ^Θ	0	N	---	---	---	---	---	9.08	---	---	
RR-10	02/02/00	0	N	---	---	---	---	---	9.01	---	---	
RR-11	02/02/00	0	N	---	---	---	---	---	9.15	---	---	

TABLE 3-9f

Sample Results: General Chemistry Parameters

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry								
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(pH Units)	(mg/kg)	(mg/kg)	
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Alkalinity, bicarb as CaCO3	Alkalinity, carb as CaCO3	Alkalinity, total as CaCO3	Chloride	Nitrate	pH	Phosphate	Sulfate	
RR-12	02/02/00 ^Θ	0	N	---	---	---	---	---	8.94	---	---	
Category 3												
AOC14-13	10/01/08 ^Υ	0.5 - 1.5	N	---	---	---	---	---	8.85 J	---	---	

TABLE 3-9f

Sample Results: General Chemistry Parameters

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

Θ	white powder sample.
Y	debris sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
μS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

- 1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-9g
Sample Results: Pesticides
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC14-1	09/30/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC14-2	09/30/08	0 - 0.5	N	ND (2)	2.9	3	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC14-3	10/01/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC14-4	10/01/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC14-5	10/02/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC14-7	10/02/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC14-8	10/02/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC14-10	10/01/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC14-14E	02/18/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/18/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/18/16	2 - 3	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/18/16	5 - 5.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/18/16	6 - 7	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/18/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC14-14W	02/16/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/16/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/16/16	5 - 5.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	02/16/16	6 - 7	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/16/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC14-15	02/18/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/18/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/18/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	02/18/16	7 - 8	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC14-16E	02/23/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/23/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	02/23/16	5 - 6	N	ND (2)	ND (2)	ND (2) J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2) J	ND (2) J	ND (2)	---	ND (1)	ND (1)	ND (1) J	ND (1)	ND (5.1) J	ND (51) J
	02/23/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) J*	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1) J	ND (2.1) J	ND (2.1)	---	ND (1)	ND (1)	ND (1) J	ND (1)	ND (5.2) J	ND (52) J
AOC14-16W	02/22/16	0 - 1	N	ND (2)	ND (2)	ND (2) J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1) J	ND (51)
	02/22/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/22/16	5 - 6	N	ND (2.2) *	2.6	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)
	02/22/16	7 - 8	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/22/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/22/16	9 - 10	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC14-17E	02/24/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J

TABLE 3-9g
Sample Results: Pesticides
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
AOC14-17W	02/24/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/24/16	1 - 2	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	02/24/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	02/24/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	02/24/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
AOC14-19	02/17/16	2 - 3	N	ND (2.1) *	4.4	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	02/17/16	3 - 4	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC14-20	04/26/17	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

- *

Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg

micrograms per kilogram
- ft bgs

feet below ground surface
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- J

concentration or reporting limit estimated by laboratory or data validation
- NE

not established
- N

primary sample
- ND

not detected at the listed reporting limit
- USEPA

United States Environmental Protection Agency

1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison values for Additional Chemicals in Soil." July 1.

5 Background values have not been established for pesticides.

TABLE 3-9h

Sample Results: Polychlorinated Biphenyls

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC14-1	09/30/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
AOC14-2	09/30/08	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
AOC14-3	10/01/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
AOC14-4	10/01/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
AOC14-5	10/02/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
AOC14-7	10/02/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
AOC14-8	10/02/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
AOC14-10	10/01/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)
AOC14-14E	02/18/16	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/18/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/18/16	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/18/16	5 - 5.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/18/16	6 - 7	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/18/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
AOC14-14W	02/16/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/16/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/16/16	5 - 5.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	52	ND (17)	---	---	52
	02/16/16	6 - 7	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	33	ND (17)	---	---	33
	02/16/16	9 - 10	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
AOC14-15	02/18/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/18/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/18/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/18/16	7 - 8	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)

TABLE 3-9h

Sample Results: Polychlorinated Biphenyls

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC14-16E	02/23/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/23/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/23/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/23/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
AOC14-16W	02/22/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/22/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/22/16	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (9)
	02/22/16	7 - 8	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/22/16	9 - 10	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/22/16	9 - 10	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
AOC14-17E	02/24/16	9 - 10	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
AOC14-17W	02/24/16	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/24/16	1 - 2	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/24/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/24/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
	02/24/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)
AOC14-19	02/17/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	35	ND (17)	---	---	35
	02/17/16	3 - 4	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (8.5)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

* Reporting limits greater than or equal to the interim screening level.

--- not analyzed

µg/kg micrograms per kilogram

TABLE 3-9h

Sample Results: Polychlorinated Biphenyls

AOC 14 – Railroad Debris Area

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
ND	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

¹ Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ Background values have not been established for polychlorinated biphenyls.

TABLE 3-9i
Sample Results: Dioxins and Furans
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58	
Residential Regional Screening Levels ² : Residential DTSC-SL ³ : Ecological Comparison Values ⁴ : Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE	
				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals	
Category 1																								
AOC14-14E	02/18/16	0 - 1	N	160 J	15	ND (1.4)	ND (1.3)	2.2 J	4.1 J	ND (0.81)	ND (2.2)	ND (0.2)	ND (0.22)	ND (0.47)	ND (20)	ND (0.64)	ND (0.16)	ND (0.21)	2,200	27	2.6	4.6	4.6	
	02/18/16	2 - 3	N	510	30	2.7 J	ND (1.6)	ND (0.44)	8.6 J	ND (0.43)	3.5 J	ND (0.52)	0.9 J	ND (0.3)	ND (83)	ND (0.32)	ND (0.19)	ND (0.21)	5,900	94	7.4	14	14	
	02/18/16	2 - 3	FD	380	35	ND (2.9)	ND (0.72)	ND (1.3)	9.1 J	ND (1.3)	3.5 J	ND (1.5)	ND (0.58)	ND (0.39)	ND (82)	0.39 J	ND (0.12)	ND (0.18)	5,000	100	6.9	12	12	
	02/18/16	5 - 5.5	N	800	140	12 J	4.2 J	ND (4)	22	ND (3.9)	9.3 J	ND (4.6)	2.1 J	ND (0.34)	ND (260)	ND (1.3)	ND (0.13)	ND (0.15)	8,300	380	21	32	32	
	02/18/16	6 - 7	N	72	9.1 J	ND (0.74)	ND (0.29)	ND (0.43)	1.5 J	ND (0.42)	0.69 J	ND (0.5)	0.16 J	ND (0.63)	ND (15)	ND (0.66)	ND (0.071)	ND (0.14)	880	34	1.8	2.5	2.5	
	02/18/16	9 - 10	N	240	23	ND (1.8)	ND (0.7)	ND (0.21)	4.6 J	0.58 J	1.9 J	ND (0.24)	ND (0.42)	ND (0.19)	ND (38)	ND (0.2)	ND (0.049)	ND (0.16)	3,300	64	3.5	6.6	6.6	
AOC14-14W	02/16/16	0 - 1	N	84	9.3 J	0.87 J	ND (0.74)	ND (0.12)	3 J	ND (0.38)	ND (1.6)	ND (0.14)	0.51 J	ND (0.31)	ND (22)	ND (0.35)	0.18 J	ND (0.24)	880	21 J	2.5	3.5	3.5	
	02/16/16	2 - 3	N	15	3 J	ND (0.22)	ND (0.37)	0.37 J	ND (0.37)	ND (0.19)	ND (0.16)	ND (0.22)	ND (0.13)	ND (0.093)	ND (12)	ND (0.19)	ND (0.031)	0.2 J	150	8.2 J	1.1	1.1	1.1	
	02/16/16	5 - 5.5	N	3,700	1,700	140	130	ND (350)	260	380	220	83	ND (110) *	210	640	490	20	ND (17)	16,000	740	780	480	480	
	02/16/16	6 - 7	N	490	150	8.1 J	6.2 J	16	16	16	9.6 J	4.3 J	ND (5.6) *	9.8 J	19	18	1.4 J	ND (0.22)	4,900	120	33	27	27	
	02/16/16	9 - 10	N	260	12 J	1.5 J	0.59 J	ND (0.59)	2.8 J	ND (0.58)	1.2 J	ND (0.69)	ND (0.44)	ND (0.51)	ND (26)	ND (0.76)	ND (0.13)	0.44 J	3,300	62	3.4	6	6	
AOC14-15	02/18/16	0 - 1	N	94	16	1.4 J	ND (0.52)	ND (0.13)	3.1 J	ND (0.5)	ND (1.1)	ND (0.35)	ND (0.34)	ND (1.7)	ND (20)	ND (0.14)	ND (0.055)	ND (0.3)	740	49	2	3	3	
	02/18/16	2 - 3	N	180	28	ND (1.4)	ND (1.1)	ND (0.21)	5.1 J	ND (0.59)	2 J	ND (0.25)	ND (0.76)	ND (0.22)	ND (44)	ND (0.23)	ND (0.14)	ND (0.17)	1,500	98	3.8	6.1	6.1	
	02/18/16	5 - 6	N	140	19	1.5 J	ND (0.57)	ND (0.11)	3.9 J	ND (0.37)	2.1 J	ND (0.29)	ND (0.49)	ND (0.45)	ND (26)	ND (0.33)	ND (0.15)	ND (0.4)	1,500	57	2.8	4.4	4.4	
	02/18/16	7 - 8	N	16	1.8 J	ND (0.18)	ND (0.12)	ND (0.27)	0.44 J	ND (0.13)	ND (0.14)	ND (0.15)	ND (0.12)	ND (0.062)	ND (3.6)	ND (0.11)	ND (0.039)	0.11 J	140	4.5 J	0.52	0.59	0.59	
AOC14-16E	02/23/16	0 - 1	N	220	ND (0.099)	1.9 J	1.1 J	ND (0.32)	5.8 J	ND (5.6)	2.4 J	ND (0.38)	0.55 J	ND (0.32)	ND (66)	ND (0.29)	ND (0.022)	ND (0.24)	2,500	53	5.3	8.2	8.2	
	02/23/16	2 - 3	N	140	ND (0.15)	ND (0.76)	ND (0.42)	ND (0.36)	2.5 J	ND (0.35)	1.3 J	ND (0.42)	ND (0.12)	ND (0.21)	ND (27)	ND (0.17)	ND (0.099)	ND (0.25)	1,400	20 J	2.2	3.8	3.8	
	02/23/16	5 - 6	N	26	1.6 J	ND (0.27)	ND (0.13)	0.25 J	ND (0.69)	ND (0.082)	0.44 J	ND (0.061)	ND (0.067)	ND (0.051)	ND (15)	ND (0.054)	ND (0.022)	ND (0.16)	270	5 J	1.1	1.3	1.3	
	02/23/16	9 - 10	N	3.8 J	0.29 J	ND (0.12)	ND (0.047)	ND (0.053)	ND (0.03)	ND (0.053)	ND (0.074)	ND (0.037)	ND (0.02)	ND (0.068)	ND (0.71)	ND (0.053)	ND (0.013)	ND (0.087)	30	ND (0.92)	0.15	0.13	0.13	
AOC14-16W	02/22/16	0 - 1	N	5.6 J	0.9 J	ND (0.11)	ND (0.06)	ND (0.044)	ND (0.13)	ND (0.043)	0.16 J	ND (0.051)	ND (0.044)	ND (0.054)	ND (1)	ND (0.056)	ND (0.024)	0.16 J	52	2.2 J	0.32	0.22	0.22	
	02/22/16	2 - 3	N	230	27	ND (2.6)	ND (4.5)	ND (5)	ND (4.5)	ND (4.9)	ND (4.3)	ND (5.9)	ND (3)	ND (1.4)	ND (21)	ND (1.5)	ND (1.5)	ND (1.2)	1,800	ND (42)	6.6	8.2	8.2	
	02/22/16	5 - 6	N	44	ND (8.1)	ND (0.34)	ND (0.6)	ND (0.38)	ND (0.43)	ND (0.73)	ND (0.41)	ND (0.52)	ND (0.22)	ND (0.23)	ND (5.5)	ND (0.25)	ND (0.13)	ND (0.35)	370	9.8 J	1	1.3	1.3	
	02/22/16	7 - 8	N	62	19	ND (0.98)	1.3 J	ND (0.48)	2 J	ND (0.94)	ND (0.83)	ND (0.56)	ND (0.39)	ND (0.19)	ND (10)	ND (0.41)	ND (0.1)	ND (0.3)	650	17 J	1.7	2.3	2.3	
	02/22/16	9 - 10	N	ND (0.45)	ND (0.062)	ND (0.074)	ND (0.066)	ND (0.08)	ND (0.067)	ND (0.078)	ND (0.064)	ND (0.094)	ND (0.058)	ND (0.05)	ND (0.3)	ND (0.052)	ND (0.061)	ND (0.098)	3.2 J	ND (0.21)	0.17	0.11	0.11	
	02/22/16	9 - 10	FD	ND (0.47)	ND (0.059)	ND (0.07)	ND (0.074)	ND (0.075)	ND (0.051)	ND (0.073)	ND (0.086)	ND (0.087)	ND (0.029)	ND (0.042)	ND (0.28)	ND (0.044)	ND (0.018)	ND (0.046)	4.7 J	ND (0.18)	0.1	0.074	0.074	
AOC14-17E	02/24/16	9 - 10	N	0.23 J	0.088 J	ND (0.062)	ND (0.02)	ND (0.026)	ND (0.02)	ND (0.032)	ND (0.019)	ND (0.053)	ND (0.066)	ND (0.034)	ND (0.23)	ND (0.036)	ND (0.018)	ND (0.07)	1.9 J	ND (0.15)	0.12	0.075	0.075	
AOC14-17W	02/24/16	0 - 1	N	14	1.7 J	ND (0.13)	ND (0.18)	ND (0.16)	ND (0.47)	ND (0.15)	ND (0.39)	ND (0.18)	ND (0.083)	ND (0.11)	ND (1.7)	ND (0.11)	ND (0.049)	ND (0.073)	110	2.9 J	0.34	0.44	0.44	
	02/24/16	1 - 2	N	35	3.2 J	ND (0.3)	ND (0.43)	ND (0.14)	ND (1)	ND (0.12)	0.78 J	ND (0.046)	ND (0.24)	ND (0.12)	ND (3.4)	ND (0.12)	ND (0.049)	ND (0.043)	270	6.3 J	0.61	0.97	0.97	
	02/24/16	2 - 3	N	14	ND (1)	ND (0.16)	ND (0.15)	ND (0.063)	ND (0.39)	ND (0.062)	ND (0.42)	ND (0.11)	ND (0.065)	ND (0.083)	ND (1.3)	ND (0.088)	ND (0.087)	ND (0.11)	120	2.4 J	0.31	0.4	0.4	
	02/24/16	5 - 6	N	ND (0.44)	ND (0.16)	ND (0.071)	ND (0.029)	ND (0.049)	ND (0.03)	ND (0.058)	ND (0.028)	ND (0.055)	ND (0.029)	ND (0.059)	ND (0.041)	ND (0.062)	ND (0.086)	ND (0.19)	2 J	ND (0.089)	0.2	0.096	0.096	
	02/24/16	9 - 10	N	ND (1.1)	ND (0.16)	ND (0.19)	ND (0.039)	ND (0.047)	ND (0.043)	ND (0.046)	ND (0.038)	ND (0.055)	ND (0.021)	ND (0.11)	ND (0.31)	ND (0.12)	ND (0.037)	0.2 J	6.1 J	ND (0.28)	0.32	0.11	0.11	

TABLE 3-9i
Sample Results: Dioxins and Furans
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																					
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals		
AOC14-19	02/17/16	2 - 3	N	610	390	23	29	110	60	110	52	ND (11)	ND (49) *	92	220	ND (190)	17	ND (5.8)	1,800	79	210	140	140		
	02/17/16	3 - 4	N	15	ND (0.48)	ND (0.57)	ND (0.9)	ND (0.3)	ND (0.43)	ND (1.3)	ND (0.41)	ND (1.1)	ND (0.91)	ND (0.11)	ND (1)	ND (0.12)	ND (0.43)	ND (0.66)	43	ND (1.3)	1.3	1.2	1.2		
AOC14-20	04/26/17	0 - 0.5	N	6.1 J	ND (0.79)	0.3 J	ND (0.19)	ND (0.21)	ND (0.49)	ND (0.27)	0.58 J	ND (0.22)	ND (0.089)	ND (0.2)	ND (1.1)	ND (0.2)	ND (0.042)	ND (0.045)	40	1.2 J	0.37	0.36	0.36		
	04/26/17	2 - 3	N	3.6 J	ND (0.64)	ND (0.12)	ND (0.18)	ND (0.11)	ND (0.18)	ND (0.11)	ND (0.31)	ND (0.15)	ND (0.15)	ND (0.16)	ND (1.3)	ND (0.13)	ND (0.044)	ND (0.094)	22 J	1.1 J	0.33	0.29	0.29		
	04/26/17	5 - 6	N	8.7 J	ND (0.73)	ND (0.14)	ND (0.14)	ND (0.18)	ND (0.073)	ND (0.18)	ND (0.28)	ND (0.076)	ND (0.1)	0.33 J	ND (1.5)	ND (0.17)	ND (0.056)	0.53 J	66	ND (1.4)	0.86	0.4	0.4		
	04/26/17	8 - 9	N	ND (1.8)	ND (0.61)	ND (0.32)	ND (0.21)	ND (0.1)	ND (0.13)	ND (0.23)	ND (0.43)	ND (0.13)	ND (0.34)	ND (0.25)	ND (0.97)	ND (0.082)	ND (0.07)	ND (0.061)	15 J	ND (1.2)	0.4	0.35	0.35		
AOC14-21	04/26/17	0 - 0.5	N	12 J	2.5 J	ND (0.25)	0.25 J	0.38 J	ND (0.88)	0.35 J	ND (0.61)	ND (0.11)	ND (0.45)	ND (0.19)	ND (3.1)	ND (0.26)	ND (0.1)	0.32 J	82	ND (3.7)	1.1	0.85	0.85		
	04/26/17	2 - 3	N	60	8.5 J	ND (0.65)	0.63 J	ND (0.45)	2.5 J	ND (0.62)	ND (1.3)	ND (0.15)	0.57 J	0.35 J	ND (17)	ND (0.34)	ND (0.11)	ND (0.13)	620	23 J	2.1	2.9	2.9		
	04/26/17	2 - 3	FD	89	8.6 J	0.69 J	0.5 J	0.48 J	2.9 J	0.75 J	1.2 J	ND (0.14)	ND (0.58)	0.47 J	ND (20)	ND (0.39)	ND (0.073)	ND (0.085)	780	23 J	2.2	3.2	3.2		
	04/26/17	5 - 6	N	ND (1.3)	ND (0.25)	ND (0.094)	ND (0.12)	ND (0.067)	ND (0.14)	ND (0.17)	ND (0.14)	ND (0.1)	ND (0.15)	ND (0.053)	ND (0.43)	ND (0.053)	ND (0.064)	ND (0.047)	ND (10)	ND (0.43)	ND (0.21)	ND (0.19)	ND (0.19)		
	04/26/17	9 - 10	N	4.1 J	ND (0.61)	ND (0.027)	ND (0.061)	ND (0.047)	ND (0.061)	ND (0.045)	ND (0.067)	ND (0.053)	ND (0.1)	ND (0.13)	ND (0.75)	ND (0.14)	ND (0.052)	ND (0.11)	39	1.8 J	0.27	0.22	0.22		

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

-- not analyzed

ft bgs feet below ground surface

ng/kg nanograms per kilogram

DTSC-SL DTSC Screening Levels

DTSC California Department of Toxic Substances Control

FD Field Duplicate

J concentration or reporting limit estimated by laboratory or data validation

JR estimated value, one or more input values is "R" qualified.

N Primary Sample

NA NA = not applicable

NE not established

ND not detected at the listed reporting limit

R The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA USEPA = United States Environmental Protection Agency

1 For individual dioxins and furans, selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher. For TEQ values, selected value is the DTSC-SL.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. JanuaryCalifornia Department of Toxic Substances Control (DTSC). 2017. Human Health Risk Assessment (HHRA) Note 2, Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites. April.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Decteded Chemicals in Soil." July 1.

5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

TABLE 3-9i
Sample Results: Dioxins and Furans
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Calculations:
TEQ = Sum of Result xToxic equivalency factor (TEF), 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
TEQ Avian = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
TEQMammals = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
Teq Humans = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TABLE 3-9j

Sample Results: Asbestos

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Asbestos		
				CARB435/ ²		TEM ³ (%)
Location	Date	Depth (ft bgs)	Sample Type	PLM/BULK ¹	PLM (%)	
Category 1						
AOC14-1	09/30/08	0 - 0.5	N	Present	---	ND (0.07)
	09/30/08	2 - 3	N	Not Present	---	---
	09/30/08	5 - 6	N	Not Present	---	---
	09/30/08	9 - 10	N	Not Present	---	---
	09/30/08	14 - 15	N	Not Present	---	---
AOC14-2	09/30/08	0 - 0.5	N	Present	ND (<0.1)	---
	09/30/08	2 - 3	N	Not Present	---	ND (0.07)
	10/01/08	3 - 3.25	N	Not Present	---	---
	09/30/08	5 - 6	N	Present	ND (<0.1)	---
	09/30/08	9 - 10	N	Not Present	---	ND (0.07)
	09/30/08	9 - 10	FD	Not Present	---	---
	09/30/08	14 - 15	N	---	<0.1	---
AOC14-3	10/01/08	0 - 0.5	N	Present	ND (<0.1)	---
	10/01/08	2 - 3	N	Present	ND (<0.1)	---
	10/01/08	5 - 6	N	Present	ND (<0.1)	---
	10/01/08	9 - 10	N	Not Present	---	---
	10/01/08	14 - 15	N	Not Present	---	---
AOC14-4	10/01/08	0 - 0.5	N	Present	ND (<0.1)	---
	10/01/08	2 - 3	N	Not Present	---	---
	10/01/08	5 - 6	N	Not Present	---	---
	10/01/08	9 - 10	N	Not Present	---	---
	10/01/08	9 - 10	FD	Not Present	---	---
	10/01/08	14 - 15	N	Not Present	---	---
AOC14-5	10/02/08	0 - 0.5	N	Not Present	---	---
	10/02/08	2 - 3	N	Present	ND (<0.1)	---
	10/02/08	5 - 6	N	Not Present	---	---
	10/02/08	9 - 10	N	Not Present	---	---
	10/02/08	14 - 15	N	Present	ND (<0.1)	---
AOC14-6	10/02/08	0 - 0.5	N	Not Present	---	---
	10/02/08	2 - 3	N	Not Present	---	---
	10/02/08	5 - 6	N	Not Present	---	---
	10/02/08	9 - 10	N	Not Present	---	---
	10/02/08	9 - 10	FD	Not Present	---	---
	10/02/08	14 - 15	N	Not Present	---	---

TABLE 3-9j

Sample Results: Asbestos

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Location	Date	Depth (ft bgs)	Sample Type	Asbestos		
				PLM/BULK ¹	CARB435/ ² PLM (%)	TEM ³ (%)
AOC14-7	10/02/08	0 - 0.5	N	Not Present	---	---
	10/02/08	2 - 3	N	Not Present	---	---
	10/02/08	5 - 6	N	Not Present	---	---
	10/02/08	9 - 10	N	Not Present	---	---
	10/02/08	14 - 15	N	Not Present	---	---
AOC14-8	10/02/08	0 - 0.5	N	Not Present	---	---
	10/02/08	2 - 3	N	Not Present	---	---
	10/02/08	5 - 6	N	Not Present	---	---
	10/02/08	9 - 10	N	Not Present	---	---
	10/02/08	9 - 10	FD	Not Present	---	---
	10/02/08	14 - 15	N	Not Present	---	---
AOC14-9	10/01/08	0 - 0.5	N	Not Present	---	---
	10/01/08	2 - 3	N	Present	---	ND (0.07)
	10/01/08	5 - 6	N	Not Present	---	---
	10/01/08	9 - 10	N	Not Present	---	---
	10/01/08	14 - 15	N	Not Present	---	---
AOC14-10	10/01/08	0 - 0.5	N	Not Present	---	---
	10/01/08	2 - 3	N	Not Present	---	---
	10/01/08	5 - 6	N	Not Present	---	---
	10/01/08	5 - 6	FD	Not Present	---	---
	10/01/08	9 - 10	N	Not Present	---	---
	10/01/08	14 - 15	N	Not Present	---	---
AOC14-11	10/01/08	5 - 6	N	Not Present	---	---
	10/01/08	9 - 10	N	Not Present	---	---
	10/01/08	14 - 15	N	Not Present	---	---
AOC14-12	09/30/08	5 - 6	N	Present	ND (<0.1)	---
	09/30/08	9 - 10	N	Not Present	---	---
	09/30/08	14 - 15	N	Not Present	---	---
AOC14-13	09/30/08	5 - 6	N	Present	ND (<0.1)	---
	09/30/08	9 - 10	N	Not Present	---	---
	09/30/08	14 - 15	N	Not Present	---	---
	09/30/08	14 - 15	FD	Not Present	---	---
AOC14-SS-1	10/01/08	0 - 0.5	N	Present	ND (<0.1)	---
	10/01/08	2 - 3	N	Present	ND (<0.1)	---
	10/01/08	5 - 6	N	Present	<0.1	---
	10/01/08	9 - 10	N	Not Present	---	---
	10/01/08	14 - 15	N	Not Present	---	---

TABLE 3-9j

Sample Results: Asbestos

AOC 14 – Railroad Debris Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Location	Date	Depth (ft bgs)	Sample Type	Asbestos		
				PLM/BULK ¹	CARB435/ PLM (%) ²	TEM (%) ³
AOC14-SS-2	10/01/08	0 - 0.5	N	Not Present	---	---
	10/01/08	2 - 3	N	Not Present	---	---
	10/01/08	5 - 6	N	Not Present	---	---
	10/01/08	9 - 10	N	Not Present	---	---
	10/01/08	14 - 15	N	---	ND (<0.1)	---
	10/01/08	14 - 15	FD	---	ND (<0.1)	---
AOC14-SS-3	10/02/08	0 - 0.5	N	Not Present	---	---
	10/02/08	2 - 3	N	Not Present	---	---
	10/02/08	5 - 6	N	Not Present	---	---
	10/02/08	9 - 10	N	Not Present	---	---
	10/02/08	14 - 15	N	Not Present	---	---
AOC14-SS-4	10/02/08	0 - 0.5	N	Not Present	---	---
	10/02/08	2 - 3	N	Not Present	---	---
	10/02/08	5 - 6	N	Present	ND (<0.1)	---
	10/02/08	9 - 10	N	Not Present	---	---
	10/02/08	14 - 15	N	Not Present	---	---
	10/02/08	14 - 15	FD	Not Present	---	---
Category 3						
AOC14-13	10/01/08	0.5 - 1.5	N	25	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Θ white powder sample.

Y debris sample

--- not analyzed

ft bgs feet below ground surface

FD field duplicate

N primary sample

1 Polarized light microscopy of bulk samples

2 California Air Resource Board Method 435 / polarized light microscopy of bulk samples

3 Transmission electron microscopy

TABLE 3-9k
Constituent Concentrations in Soil Compared to Screening Values
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶			
Parameter	Units				# of ⁷		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸		# of ⁸	
					Exceedences	(BK)	Exceedences	(ECV)	Exceedences	(RSL)	Exceedences	(ESL)	Exceedences	(CSL)	Exceedences	(ISL)		
Dioxins and Furans																		
TEQ Avian	ng/kg	10	38 / 39 (97%)	780	6	(5.98)	4	(16)	NA	(NE)	NA	(NA)	NA	(NE)	4	(16)		
TEQ Human	ng/kg	10	38 / 39 (97%)	480	10	(5.58)	NA	(NE)	2	(50)	NA	(NA)	1	(220)	2	(50)		
TEQ Mammals	ng/kg	10	38 / 39 (97%)	480	10	(5.58)	10	(1.6)	NA	(NE)	NA	(NA)	NA	(NE)	10	(5.58)		
Metals																		
Antimony	mg/kg	28	2 / 121 (1.7%)	19	NA	(NE)	2	(0.285)	0	(31)	NA	(NA)	0	(470)	2	(0.285)		
Arsenic	mg/kg	28	118 / 121 (98%)	19	2	(11)	2	(11.4)	2	(0.11) *	NA	(NA)	2	(0.36) *	2	(11)		
Barium	mg/kg	28	121 / 121 (100%)	410	0	(410)	0	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	0	(410)		
Beryllium	mg/kg	28	0 / 121 (0%)	ND (11) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)		
Cadmium	mg/kg	28	5 / 121 (4.1%)	7.1	5	(1.1)	5	(0.0151) *	1	(5.2)	NA	(NA)	0	(7.3)	5	(1.1)		
Chromium, Hexavalent	mg/kg	47	26 / 141 (18%)	20	13	(0.83)	0	(139.6)	13	(0.3)	NA	(NA)	2	(6.3)	13	(0.83)		
Chromium, Hexavalent-SPLP	mg/L	1	1 / 1 (100%)	0.0436	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)		
Chromium, total	mg/kg	47	141 / 141 (100%)	420	9	(39.8)	9	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	9	(39.8)		
Chromium-SPLP	mg/L	1	1 / 1 (100%)	0.0425	NA	(NE)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	NA	(NE)		
Cobalt	mg/kg	28	119 / 121 (98%)	17	1	(12.7)	1	(13)	0	(23)	NA	(NA)	0	(350)	1	(12.7)		
Copper	mg/kg	47	139 / 141 (99%)	1,800	12	(16.8)	8	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	12	(16.8)		
Lead	mg/kg	28	121 / 121 (100%)	1,600	21	(8.39)	21	(0.0166) *	3	(80)	NA	(NA)	1	(320)	21	(8.39)		
Mercury	mg/kg	28	6 / 121 (5.0%)	180	NA	(NE)	6	(0.0125)	3	(1)	NA	(NA)	3	(4.5)	6	(0.0125)		
Molybdenum	mg/kg	28	21 / 121 (17%)	63	16	(1.37)	9	(2.25)	0	(390)	NA	(NA)	0	(5,800)	16	(1.37)		
Nickel	mg/kg	47	141 / 141 (100%)	270	2	(27.3)	2	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	2	(27.3)		
Selenium	mg/kg	28	3 / 121 (2.5%)	1.6	2	(1.47)	2	(0.177) *	0	(390)	NA	(NA)	0	(5,800)	2	(1.47)		
Silver	mg/kg	28	0 / 121 (0%)	ND (11) ‡	NA	(NE)	0	(5.15)	0	(390)	NA	(NA)	0	(1,500)	0	(5.15)		
Thallium	mg/kg	28	7 / 121 (5.8%)	2.6	NA	(NE)	1	(2.32)	7	(0.78)	NA	(NA)	0	(12)	7	(0.78)		
Vanadium	mg/kg	28	121 / 121 (100%)	58	1	(52.2)	1	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	1	(52.2)		
Zinc	mg/kg	47	141 / 141 (100%)	2,000	9	(58)	9	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	9	(58)		
Contract Laboratory Program Inorganics																		
Aluminum	mg/kg	9	9 / 9 (100%)	9,000	0	(16,400)	NA	(NE)	0	(77,000)	NA	(NA)	0	(1,100,000)	0	(16,400)		
Calcium	mg/kg	10	10 / 10 (100%)	48,000	0	(66,500)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(66,500)		
Iron	mg/kg	10	10 / 10 (100%)	23,100	0	(29,303)	NA	(NE)	0	(55,000)	NA	(NA)	0	(820,000)	0	(29,303)		
Magnesium	mg/kg	10	10 / 10 (100%)	8,500	0	(12,100)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(12,100)		
Manganese	mg/kg	9	9 / 9 (100%)	290	0	(402)	0	(220)	0	(1,800)	NA	(NA)	0	(6,900)	0	(402)		
Potassium	mg/kg	10	10 / 10 (100%)	2,800	0	(4,400)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(4,400)		
Sodium	mg/kg	10	9 / 10 (90%)	850	0	(2,070)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(2,070)		
Cyanide	mg/kg	9	0 / 9 (0%)	ND (1.02) ‡	NA	(NE)	0	(0.9)	0	(23)	NA	(NA)	0	(150)	0	(0.9)		
Semivolatile Organic Compounds																		
2,4-Dinitrophenol	µg/kg	26	1 / 111 (0.9%)	1,700	NA	(NE)	NA	(NE)	0	(130,000)	NA	(NA)	0	(1,600,000)	0	(130,000)		
4,6-Dinitro-2-methylphenol	µg/kg	26	1 / 111 (0.9%)	1,700	NA	(NE)	NA	(NE)	0	(5,100)	NA	(NA)	0	(66,000)	0	(5,100)		
4-Methylphenol	µg/kg	26	1 / 111 (0.9%)	430	NA	(NE)	0	(500)	0	(6,300,000)	NA	(NA)	0	(82,000,000)	0	(500)		
Benzoic acid	µg/kg	26	1 / 111 (0.9%)	1,700	NA	(NE)	NA	(NE)	0	(250,000,000)	NA	(NA)	0	(3,300,000,000)	0	(250,000,000)		
bis (2-ethylhexyl) phthalate	µg/kg	26	1 / 111 (0.9%)	640	NA	(NE)	0	(2,870)	0	(39,000)	NA	(NA)	0	(160,000)	0	(2,870)		
Butylbenzylphthalate	µg/kg	26	1 / 111 (0.9%)	630	NA	(NE)	NA	(NE)	0	(290,000)	NA	(NA)	0	(1,200,000)	0	(290,000)		

TABLE 3-9k
Constituent Concentrations in Soil Compared to Screening Values
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
Parameter	Units				# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Volatile Organic Compounds																
Hexachlorocyclopentadiene	µg/kg	9	1 / 9 (11%)	660	NA	(NE)	NA	(NE)	0	(1,800)	NA	(NA)	0	(7,500)	0	(1,800)
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	µg/kg	26	1 / 111 (0.9%)	6.8	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)
Anthracene	µg/kg	26	2 / 111 (1.8%)	22	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Benzo (a) anthracene	µg/kg	26	12 / 111 (11%)	1,000	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (a) pyrene	µg/kg	26	11 / 111 (9.9%)	550	NA	(NE)	NA	(NE)	1	(110)	NA	(NA)	0	(2,100)	1	(110)
Benzo (b) fluoranthene	µg/kg	26	16 / 111 (14%)	840	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (ghi) perylene	µg/kg	26	13 / 111 (12%)	40	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
Benzo (k) fluoranthene	µg/kg	26	13 / 111 (12%)	360	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)
Chrysene	µg/kg	26	19 / 111 (17%)	1,100	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)
Dibenzo (a,h) anthracene	µg/kg	26	2 / 111 (1.8%)	17	NA	(NE)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Fluoranthene	µg/kg	26	18 / 111 (16%)	2,100	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Indeno (1,2,3-cd) pyrene	µg/kg	26	11 / 111 (9.9%)	39	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Phenanthrene	µg/kg	26	7 / 111 (6.3%)	380	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Pyrene	µg/kg	26	18 / 111 (16%)	2,100	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
PAH Low molecular weight	µg/kg	26	111 / 111 (100%)	380	2	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	26	111 / 111 (100%)	8,068	3	(267.4)	2	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	2	(1,160)
B(a)P Equivalent	µg/kg	26	22 / 111 (20%)	740	4	(55)	NA	(NE)	2	(110)	NA	(NA)	0	(2,100)	2	(110)
Polychlorinated biphenyls																
Aroclor 1254	µg/kg	16	3 / 39 (7.7%)	52	NA	(NE)	NA	(NE)	0	(240)	NA	(NA)	0	(970)	0	(240)
Total PCBs	µg/kg	16	3 / 39 (7.7%)	52	NA	(NE)	0	(204)	0	(230)	NA	(NA)	0	(940)	0	(204)
Pesticides																
4,4-DDE	µg/kg	17	3 / 40 (7.5%)	4.4	NA	(NE)	3	(2.1)	0	(2,000)	NA	(NA)	0	(9,300)	3	(2.1)
4,4-DDT	µg/kg	17	1 / 40 (2.5%)	3	NA	(NE)	1	(2.1)	0	(1,900)	NA	(NA)	0	(8,500)	1	(2.1)
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	25	23 / 110 (21%)	630	NA	(NE)	NA	(NE)	1	(230)	1	(230)	0	(1,100)	1	(230)
TPH as motor oil	mg/kg	25	49 / 110 (45%)	4,500	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

TABLE 3-9k
Constituent Concentrations in Soil Compared to Screening Values
AOC 14 – Railroad Debris Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RSL	esidential screening level
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

- 1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.
- 2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1
- 3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.
- 4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr
- 5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.
- 6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).
- 8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-10a
Sample Results: Metals
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
24soil-01	01/31/08	2.5 - 3	N	ND (0.4) *	3.1	130	ND (0.1)	0.71	ND (0.4)	15	3.5	7.2	6.4	ND (0.1) *	0.63	6.8	6.2	ND (0.25)	ND (1) *	17	16
24soil-02	01/31/08	2.5 - 3	N	ND (0.4) *	2.9	89	ND (0.1)	0.3	ND (0.4)	15	3.4	9.1	8.7	ND (0.1) *	0.7	7.2	1.4	ND (0.25)	ND (1) *	18	17
AOC27-1	03/18/16	0 - 1	N	ND (2.1) *	3.1	130	ND (1) *	ND (1)	0.35	17	5.8	11	28	ND (0.1) *	ND (1)	9	ND (1)	ND (1)	ND (2.1) *	27	37
	03/18/16	2 - 3	N	ND (2) *	4	160	ND (1) *	ND (1)	ND (0.2)	11	6.3	12	5.4	ND (0.1) *	ND (1)	8.8	ND (1)	ND (1)	ND (2) *	28	31
	03/18/16	5 - 6	N	ND (2) *	2	90	ND (1) *	ND (1)	ND (0.2)	17	6.7	11	2.9	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	31	31
	03/18/16	9 - 10	N	ND (2) *	1.2	98	ND (1) *	ND (1)	ND (0.2)	13	7.2	8.6	1.9	ND (0.1) *	ND (1)	8.7	ND (1)	ND (1)	ND (2) *	32	29
AOC27-18	03/17/16	0 - 1	N	ND (2) *	2.6	110	ND (1) *	ND (1)	0.3	15	4.1	8.3	5.7	ND (0.1) *	ND (1)	7.3	ND (1)	ND (1)	ND (2) *	22	26
	03/17/16	2 - 3	N	ND (2.1) *	3.1	91	ND (1) *	ND (1)	0.36	22	5.4	9.7	8.4	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	24	31
	03/17/16	5 - 6	N	ND (2.1) *	2.5	100	ND (1) *	ND (1)	ND (0.21)	11	4.1	7.4	6.9	ND (0.1) *	ND (1)	7.7	ND (1)	ND (1)	ND (2.1) *	19	27
	03/17/16	9 - 10	N	ND (2.1) *	2.5	81	ND (1) *	ND (1)	1.2	22	3.2	6.8	7.1	ND (0.1) *	ND (1)	5.4	ND (1)	ND (1)	ND (2.1) *	17	47
AOC27-18E	03/17/16	4 - 5	N	ND (2) *	2.7	110	ND (1) *	1.8	ND (0.2)	11	3.9	6.6	10	ND (0.1) *	ND (1)	6.7	ND (1)	ND (1)	ND (2) *	18	250
AOC27-2	03/18/16	0 - 1	N	ND (2) *	4.2	100	ND (1) *	ND (1)	0.2	13	3.2	5.6	3.8	ND (0.1) *	ND (1)	5.2	ND (1)	ND (1)	ND (2) *	19	24
	03/18/16	2 - 3	N	ND (2) *	5.3	150	ND (1) *	ND (1)	0.28	16	3.9	8.1	5.7	ND (0.1) *	ND (1)	5.7	ND (1)	ND (1)	ND (2) *	23	24
	03/18/16	5 - 6	N	ND (2) *	3.5	160	ND (1) *	ND (1)	ND (0.2)	11	5.2	8.5	4.9	ND (0.1) *	ND (1)	7.9	ND (1)	ND (1)	ND (2) *	24	30
	03/18/16	9 - 10	N	ND (2) *	2.1	96	ND (1) *	ND (1)	ND (0.2)	14	6.6	9.3	3.3	ND (0.1) *	ND (1)	9.1	ND (1)	ND (1)	ND (2) *	32	32
AOC27-20	03/01/16	0 - 1	N	ND (2) *	1.9	84	ND (1) *	ND (1)	ND (0.2)	17	7.2	9.2	8.4	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	27	38
	03/01/16	2 - 3	N	ND (2.1) *	3.2	70 J	ND (1) *	ND (1)	ND (0.21)	19	8.8	11	4.6	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	31	42
	03/01/16	2 - 3	FD	ND (2.1) *	3.2	51 J	ND (1.1) *	ND (1.1) *	ND (0.21)	18	8.3	9.7	3.6	ND (0.11) *	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1) *	32	42
	03/01/16	5 - 6	N	ND (2.1) *	2.4	65	ND (1) *	ND (1)	0.29	20	7.2	27	15	0.13	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	27	74
	03/01/16	9 - 10	N	ND (2.1) *	3.5	32	ND (1) *	ND (1)	ND (0.21)	20	9.5	11	2.7	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	38	41
AOC27-24	03/18/16	0 - 1	N	ND (2) *	3.9	180	ND (1) *	ND (1)	0.36	29	6.2	12	6.2	ND (0.1) *	ND (1)	9.2	ND (1)	ND (1)	ND (2) *	31	37
	03/18/16	2 - 3	N	ND (2) *	2.6	150	ND (1) *	ND (1)	ND (0.2)	19	6.6	9.4	3.6	ND (0.1) *	ND (1)	9.8	ND (1)	ND (1)	ND (2) *	33	33
	03/18/16	5 - 6	N	ND (2) *	2.6	120	ND (1) *	ND (1)	ND (0.2)	14	6.5	11	4.1	ND (0.1) *	ND (1)	9.2	ND (1)	ND (1)	ND (2) *	30	30
	03/18/16	9 - 10	N	ND (2) *	2	130	ND (1) *	ND (1)	ND (0.2)	20	7.5	14	3	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	34	34
AOC27-24SW	03/18/16	0 - 1	N	ND (2) *	3.2	150	ND (1) *	ND (1)	ND (0.2)	15	6.9	13	4.3	ND (0.1) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	31	32
	03/18/16	2 - 3	N	ND (2) *	4.4	170	ND (1) *	ND (1)	0.34	17	5.4	8.9	7	ND (0.1) *	ND (1)	8.1	ND (1)	ND (1)	ND (2) *	25	29
	03/18/16	5 - 6	N	ND (2) *	1.8	100	ND (1) *	ND (1)	ND (0.2)	20	7.6	11	2.9	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	29	33
	03/18/16	9 - 10	N	ND (2) *	1.2	97	ND (1) *	ND (1)	ND (0.2)	12	7	9.3	1.9	ND (0.1) *	ND (1)	8.4	ND (1)	ND (1)	ND (2) *	32	29
AOC27-27	03/02/16	0 - 1	N	ND (2) *	3.3	100	ND (1) *	ND (1)	ND (0.2)	22	6.4	11	5.5	0.12	ND (1)	11	ND (1)	ND (1)	ND (2) *	34	38
	03/02/16	2 - 3	N	ND (2.1) *	2.6	100	ND (1) *	ND (1)	ND (0.21)	16	7.6	8.2	3.8	0.1	ND (1)	12	ND (1)	ND (1)	ND (2.1) *	36	38
AOC27-36	03/17/16	0 - 1	N	ND (2.1) J*	4.6	150 J	ND (1) *	ND (1)	ND (0.21)	14	5.4	11	6	ND (0.1) *	ND (1)	11	ND (1) J	ND (1)	ND (2.1) *	25	59 J
	03/17/16	2 - 3	N	ND (2.1) *	4.4	210	ND (1) *	ND (1)	ND (0.21)	14	3.9	7	4.3	ND (0.11) *	ND (1)	7	ND (1)	ND (1)	ND (2.1) *	21	24
	03/17/16	5 - 6	N	ND (2.2) *	2.8	100	ND (1.1) *	ND (1.1) *	ND (0.22)	16	6.1	8.8	3.7	ND (0.11) *	ND (1.1)	9.8	ND (1.1)	ND (1.1)	ND (2.2) *	29	29
	03/17/16	9.6 - 10	N	ND (2.2) *	5.2	81	ND (1.1) *	ND (1.1) *	ND (0.22)	13	5.6	11	6.5	ND (0.11) *	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2) *	27	34
AOC27-4	03/17/16	0 - 1	N	ND (2) *	2.8	110 J	ND (1) *	ND (1)	0.23	16	4	7.5	7.3	ND (0.1) *	ND (1)	7.2	ND (1)	ND (1)	ND (2) *	21	31
	03/17/16	0 - 1	FD	ND (2) *	3.2	150 J	ND (1) *	ND (1)	0.28	16	4.8	8.9	6.6	ND (0.1) *	ND (1)	6.9	ND (1)	ND (1)	ND (2) *	25	31
	03/17/16	2 - 3	N	ND (2) *	4	180	ND (1) *	ND (1)	ND (0.2)	13	5.7	9.5	5.9	ND (0.1) *	ND (1)	8.1	ND (1)	ND (1)	ND (2) *	25	27
	03/17/16	5 - 6	N	ND (2) *	1.1	76	ND (1) *	ND (1)	ND (0.2)	14	7.1	8.1	2	ND (0.099) *	ND (1)	9.1	ND (1)	ND (1)	ND (2) *	36	28

TABLE 3-10a
Sample Results: Metals
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC27-5	03/17/16	0 - 1	N	ND (2) *	3.4	110	ND (1) *	ND (1)	0.31	15	3.7	7.6	7	ND (0.1) *	ND (1)	7.2	ND (1)	ND (1)	ND (2) *	19	48
	03/17/16	2 - 3	N	ND (2) *	4.1	120	ND (1) *	1.5	0.48	21	4.7	14	38	ND (0.1) *	ND (1)	8.8	ND (1)	ND (1)	ND (2) *	24	500
	03/17/16	5 - 6	N	ND (2) *	1.3	82	ND (1) *	ND (1)	ND (0.2)	15	6.9	9.2	2.4	ND (0.099) *	ND (1)	10	ND (1)	ND (1)	ND (2) *	34	32
	03/17/16	9 - 10	N	ND (2) *	1.6	93	ND (1) *	ND (1)	ND (0.2)	13	6.3	8.6	2.5	ND (0.1) *	ND (1)	8.8	ND (1)	ND (1)	ND (2) *	30	33
AOC27-50	03/02/16	0 - 1	N	ND (2) *	2.1	180	ND (1) *	ND (1)	0.3	25	8.3	25	73	0.13	ND (1)	13	ND (1)	ND (1)	ND (2) *	38	250
	03/02/16	2 - 3	N	ND (2.1) J*	4.4	190	ND (1) *	1.1	1.3	50 J	7.6	100 J	190 J	0.47	4.7 J	16	ND (1) J	ND (1.7)	ND (2.1) J*	26 J	330 J
	03/02/16	5 - 6	N	ND (2.1) *	2.1	62	ND (1) *	ND (1)	ND (0.21)	18	8	7.9	2.1	0.13	ND (1)	14	ND (1)	ND (1)	ND (2.1) *	29	39
	03/02/16	9 - 10	N	ND (2.1) *	2.1	36	ND (1) *	ND (1)	ND (0.21)	18	7.7	9.1	2.1	0.12	ND (1)	13	ND (1)	ND (1)	ND (2.1) *	31	38
AOC27-51	02/17/17	0 - 0.5	N	ND (2.1) *	2.3	130	ND (1) *	2.3	ND (0.21)	20	7.7	36	19	ND (0.1) *	ND (1)	15	ND (1) J	ND (1)	ND (2.1) J*	22	1,200
	02/17/17	2 - 3	N	ND (2) *	ND (1)	68	ND (1) *	ND (1)	ND (0.2)	10	5	7.4	1.4	ND (0.1) *	ND (1)	6.9	ND (1) J	ND (1)	ND (2) J*	18	28
	02/17/17	5 - 6	N	ND (2) *	1.4	97	ND (1) *	1.2	ND (0.2)	13	6.3	8.3	ND (1)	ND (0.1) *	ND (1)	8.2	ND (1) J	ND (1)	ND (2) J*	24	30
AOC27-6	02/29/16	0 - 1	N	ND (2.1) *	5.2	200	ND (1.1) *	1.5	0.87 J	43	6.7	500	630	0.51	8.3	22	ND (1.1)	ND (1.1)	ND (2.1) *	23	700
	02/29/16	2 - 3	N	ND (2.1) *	3.4	120	ND (1) *	ND (1)	4.8	24	6.9	76	37	0.26	ND (1)	16	ND (1)	ND (1)	ND (2.1) *	26	130
	02/29/16	5 - 6	N	ND (2.1) *	2.7	70	ND (1) *	ND (1)	ND (0.21)	39	8.6	18	51	0.14	ND (1)	26	ND (1)	ND (1)	ND (2.1) *	33	92
AOC27-7	02/29/16	0 - 1	N	ND (2) *	5.7	190	ND (1) *	1.7	2.7	150	11	580	170	0.32	11	35	ND (1)	ND (1)	ND (2) *	27	420
	02/29/16	2 - 3	N	3.5	20	180	ND (1.1) *	4.5	4	290	16	1,000	570	0.95	26	97	ND (1.1)	ND (1.1)	ND (2.3) *	17	1,300
	03/01/16	5 - 6	N	ND (2) *	2.6	28	ND (1) *	ND (1)	0.5	16	7.7	9.8	2.6	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	29	38
AOC27-8	03/01/16	1 - 2	N	ND (2) *	2	130	ND (1) *	ND (1)	0.49	20	7	29	24	0.17	ND (1)	11	ND (1)	ND (1)	ND (2) *	28	93
	03/01/16	5 - 6	N	ND (2) *	2.5	39	ND (1) *	ND (1)	ND (0.2)	17	7.3	15	6.1	ND (0.1) *	ND (1)	12	ND (1)	ND (1)	ND (2) *	30	45
AOC27-9	03/08/16	0 - 1	N	ND (2) J*	2.2	140	ND (1) *	ND (1)	ND (0.2)	13	5.9	8.2	2.5	ND (0.1) *	ND (1)	9.2	ND (1) J	ND (1)	ND (2) *	25	30 J
	03/08/16	0 - 1	FD	ND (2) J*	2.9	140	ND (1) *	ND (1)	ND (0.2)	14	5.8	14	5.9	ND (0.1) *	ND (1)	9.7	ND (1) J	ND (1)	ND (2) *	25	38 J
	03/08/16	2 - 3	N	ND (2) *	2.1	120	ND (1) *	ND (1)	ND (0.2)	14	5.7	8.3	3.7	ND (0.1) *	ND (1)	9.3	ND (1)	ND (1)	ND (2) *	25	35
	03/08/16	5 - 6	N	ND (2) *	2.1	120	ND (1) *	ND (1)	ND (0.2)	15	6.7	11	2.7	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2) *	33	36
	03/08/16	9 - 10	N	ND (2) *	1.2	88	ND (1) *	ND (1)	ND (0.2)	11	5.8	7.8	1.6	ND (0.1) *	ND (1)	7.9	ND (1)	ND (1)	ND (2) *	28	28
PA-13	01/27/16	0 - 1	N	ND (2.1) *	4.8	200	ND (1) *	ND (1)	0.26	15	6.3	12	5.8	ND (0.1) *	ND (1)	11	ND (1)	ND (1)	ND (2.1) *	27	45
Category 3																					
24debris-01	01/18/08 ^{IO}	Unknown	N	1.3	4.1	89	ND (0.1)	0.49	0.43	9.6	2.9	17	66	ND (0.1) *	0.42	7.3	8	ND (0.25)	ND (1) *	16	26
24debris-02	01/18/08 ^K	Unknown	N	3.8	0.89	43	ND (0.1)	ND (0.1)	ND (0.4)	190	0.7	3.9	830	ND (0.1) *	0.56	1.4	8.9	ND (0.25)	ND (1) *	1.9	170
24debris-03	01/18/08 ^Ψ	Unknown	N	ND (0.4) *	4.6	45	ND (0.1)	0.74	ND (0.4)	16	2.7	5.1	20	ND (0.1) *	1.5	100	6.6	ND (0.25)	ND (1) *	120	41

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

ψ	tar sample
Ж	wood sample
Ю	debris sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

- 1 Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-10b

Sample Results: Contract Laboratory Program Inorganics

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Interim Screening Level ¹ :				16,400	66,500	29,303	12,100	402	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	1,800	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	1,800	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	220	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC27-51	02/17/17	0 - 0.5	N	8,100	21,000	28,000	6,200	310	2,900	460	ND (0.207)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-10c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
Category 1																								
24soil-01	01/31/08	2.5 - 3	N	---	ND (330)	ND (330)	ND (330)	ND (330)	ND (330)	ND (330) *	ND (330)	ND (330)	ND (330)	ND (330)	ND (330) *	ND (330)	ND (330)	ND (330)	ND (330)	450	ND (330)	450	ND	380
24soil-02	01/31/08	2.5 - 3	N	---	ND (330)	ND (330)	ND (330)	ND (330)	ND (330)	ND (330) *	ND (330)	ND (330)	ND (330)	ND (330)	ND (330) *	370	ND (330)	ND (330)	ND (330)	ND (330)	ND (330)	ND	370	380
AOC27-1	03/18/16	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	12	19	82	14	39	52 J	ND (5.3)	38	ND (5.3)	16	ND (5.3)	ND (5.3)	33	ND	305	33
	03/18/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/18/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (3.7)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/18/16	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC27-18	03/17/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12 J	ND (5.1) J	ND (5.1)	6.8	ND (5.1) J	5.4	ND (5.1)	ND (5.1) J	ND (5.1)	ND (5.1)	6.1	ND	30.3	6.8
	03/17/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/17/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/17/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	6.9 J	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	ND (5.2)	ND (5.2)	ND	6.9	6.4
AOC27-18E	03/17/16	4 - 5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	5.1 J	ND (5.1) J	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	ND (5.1)	ND (5.1)	ND	5.1	6.1
AOC27-2	03/18/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/18/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	26	65	15	32	30 J	ND (5.1)	ND (5.1)	ND (5.1)	13	ND (5.1)	ND (5.1)	5.4	ND	197.4	38
	03/18/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/18/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC27-20	03/01/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.4	5.4	14	ND (5.1)	ND (5.1)	8.1	ND (5.1)	12	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	ND	57.9	10
	03/01/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/01/16	2 - 3	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND	ND	ND (6.1)
	03/01/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7.3	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.2	ND	12.5	6.5
	03/01/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC27-24	03/18/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.5 J	ND (5.1)	8.5 J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	17	6.5
	03/18/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	17 J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	17	7.3
	03/18/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.4	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	5.4	6.2
	03/18/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	25	28	16	16	8.5	ND (5.1)	5.1	ND (5.1)	13	ND (5.1)	ND (5.1)	5.1	ND	121.8	32
AOC27-24SW	03/18/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/18/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	18 J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.4	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.1	ND	30.5	7.4
	03/18/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.4 J	ND (5.1)	7.8 J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	13.2	6.2
	03/18/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC27-27	03/02/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.1	14	ND (5.1)	ND (5.1)	10	ND (5.1)	16	ND (5.1)	ND (5.1)	ND (5.1)	5.4	14	5.4	60.1	11
	03/02/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC27-36	03/17/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	8.2	ND (5.1)	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	13.3	6.5
	03/17/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2) J	ND (5.2)	5.2	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	5.2	6.3
	03/17/16	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4) J	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND	ND	ND (6.2)
	03/17/16	9.6 - 10	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5) J	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND	ND	ND (6.4)

TABLE 3-10c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
AOC27-4	03/17/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.8	10	49	5.4 J	17	24	ND (5.1) J	21	ND (5.1)	5.1 J	ND (5.1)	ND (5.1)	20	ND	157.3	19
	03/17/16	0 - 1	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.8	11	12	66	12	22	36 J	ND (5.1)	25	ND (5.1)	12	ND (5.1)	ND (5.1)	24	6.8	220	24
	03/17/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	10	5.1	8.4	8.1 J	ND (5.1)	9.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	ND	51.7	6.7
	03/17/16	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
AOC27-5	03/17/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	14	6.1 J	16 J	65 J	14 J	20 J	30 J	ND (5.1) J	9.9	ND (5.1)	8.5 J	ND (5.1)	ND (5.1)	9.5	14	179	27
	03/17/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	5.1	22	26 J	58 J	190 J	22 J	68 J	89 J	ND (5.1) J	20	ND (5.1)	16 J	ND (5.1)	5.1	21	32.2	510	85
	03/17/16	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	03/17/16	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)	8.7	ND (5)	ND (5)	8.1	ND (5)	15	ND (5)	ND (5)	5.3	16	13	5.3	44.8	6.4
AOC27-50	03/02/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	39	440	270	540	79	160	480	20	1,100	ND (5.1)	81	ND (5.1)	420	870	459	4,040	400
	03/02/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.2 J	1,300	930 J	2,100 J	130	830 J	1,200	ND (5.1)	2,800	ND (5.1)	95	ND (5.1)	770	2,300	779.2	11,685	1,300
	03/02/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	03/02/16	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC27-51	02/17/17	0 - 0.5	N	ND (5.2)	ND (5.2)	8.3	ND (5.2)	55	490 J	250 J	560	140 J	130 J	410 J	ND (5.2)	920	ND (5.2)	140 J	ND (5.2)	480 J	740	543.3	3,780	370
	02/17/17	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	02/17/17	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC27-6	02/29/16	0 - 1	N	ND (5.3)	ND (5.3)	51 J	ND (5.3)	710 J	3,400 J	2,000 J	3,400 J	1,500 J	1,300 J	3,000 J	530 J	8,600 J	9.2 J	1,200 J	6.4 J	3,100 J	6,600 J	3,877	31,530	3,300
	02/29/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.9	560	930 J	1,800 J	22	660 J	580	6.9	660	ND (5.2)	19	ND (5.2)	34	590	40.9	5,828	1,200
	02/29/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.3	13	24	6.9	7.2	10	ND (5.1)	12	ND (5.1)	5.5	ND (5.1)	ND (5.1)	11	ND	98.9	20
AOC27-7	02/29/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	430	340 J	740 J	25 J	410 J	400	ND (5.1)	540	ND (5.1)	24 J	ND (5.1)	25	480	25	3,389	470
	02/29/16	2 - 3	N	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	94 J	ND (57)	260 J	ND (57)	94	100 J	ND (57)	100 J	ND (5.7)	ND (57)	ND (5.7)	60 J	88 J	60	736	96
	03/01/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC27-8	03/01/16	1 - 2	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	28	30	47	16	17	31	ND (5.1)	33	ND (5.1)	13	ND (5.1)	9.2	35	9.2	250	42
	03/01/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.9)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC27-9	03/08/16	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	5.1	6.1
	03/08/16	0 - 1	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.5	ND (5.1)	ND (5.1)	6.1	ND (5.1)	6.5	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.1	ND	27.2	6.4
	03/08/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/08/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	03/08/16	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
PA-13	01/27/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	90	ND (52)	ND (52)	52	ND (52)	56 J	ND (5.2)	ND (52)	ND (5.2)	23 J	43 J	23	241	67
Category 3																								
24debris-01	01/18/08 ^{IO}	Unknown	N	---	ND (3,300)	ND (3,300)	ND (3,300)	ND (3,300)	ND (3,300) *	ND (3,300) *	ND (3,300) *	ND (3,300)	ND (3,300)	ND (3,300)	ND (3,300) *	ND (3,300)	ND (3,300)	ND (3,300) *	ND (3,300)	ND (3,300)	ND (3,300)	ND	ND	ND (3,800) *
24debris-02	01/18/08 ^{JK}	Unknown	N	---	ND (3,300)	ND (3,300)	ND (3,300)	ND (3,300)	ND (3,300) *	ND (3,300) *	ND (3,300) *	ND (3,300)	ND (3,300)	ND (3,300)	ND (3,300) *	ND (3,300)	ND (3,300)	ND (3,300) *	ND (3,300)	ND (3,300)	ND (3,300)	ND	ND	ND (3,800) *
24debris-03	01/18/08 ^Ψ	Unknown	N		ND (160,000)	ND (160,000)	ND (160,000)	ND (160,000)	ND (160,000) *	ND (160,000) *	ND (160,000) *	ND (160,000) *	ND (160,000)	ND (160,000)	ND (160,000) *	ND (160,000)	ND (160,000)	ND (160,000) *	ND (160,000) *	ND (160,000)	ND (160,000)		ND	180,000

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled.

ψ	tar sample
Ж	wood sample
Ю	debris sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).

- USEPA United States Environmental Protection Agency
- 1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
 - 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
 - 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
 - 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
 - 5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-10d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)
Interim Screening Level ¹:				6,800	110,000
Residential Regional Screening Levels ²:				6,800	110,000
Residential DTSC-SL ³:				NE	NE
Ecological Comparison Values ⁴:				NE	NE
Background ⁵:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Bromomethane	Chloro methane
Category 1					
AOC27-1	03/18/16	2 - 3	N	26	11
	03/18/16	5 - 6	N	11	5.3
	03/18/16	9 - 10	N	ND (6.3)	ND (6.3)
AOC27-18	03/17/16	2 - 3	N	ND (6.2)	ND (6.2) J
	03/17/16	5 - 6	N	ND (8.1)	ND (8.1) J
	03/17/16	9 - 10	N	ND (6)	ND (6) J
AOC27-18E	03/17/16	4 - 5	N	ND (5.6)	ND (5.6)
AOC27-2	03/18/16	2 - 3	N	ND (5.2)	ND (5.2)
	03/18/16	5 - 6	N	ND (5.8)	ND (5.8)
	03/18/16	9 - 10	N	ND (5.2)	ND (5.2)
AOC27-20	03/01/16	2 - 3	N	ND (6.8)	ND (6.8)
	03/01/16	2 - 3	FD	ND (7.3)	ND (7.3)
	03/01/16	5 - 6	N	ND (5.6)	ND (5.6)
	03/01/16	9 - 10	N	ND (7.1)	ND (7.1)
AOC27-24	03/18/16	2 - 3	N	ND (7.8)	ND (7.8)
	03/18/16	5 - 6	N	ND (5.5)	ND (5.5)
	03/18/16	9 - 10	N	ND (6)	ND (6)
AOC27-24SW	03/18/16	2 - 3	N	ND (7.4)	ND (7.4)
	03/18/16	5 - 6	N	ND (5.7)	ND (5.7)
	03/18/16	9 - 10	N	ND (290)	ND (290)
AOC27-27	03/02/16	2 - 3	N	ND (8.3)	ND (8.3)
AOC27-36	03/17/16	2 - 3	N	ND (6)	ND (6) J
	03/17/16	5 - 6	N	ND (6.4)	ND (6.4)
	03/17/16	9.6 - 10	N	ND (6.5)	ND (6.5) J
AOC27-4	03/17/16	2 - 3	N	ND (6.8)	ND (6.8)
	03/17/16	5 - 6	N	ND (6.1)	ND (6.1)
AOC27-5	03/17/16	2 - 3	N	ND (5.6)	ND (5.6) J
	03/17/16	5 - 6	N	ND (6.4)	ND (6.4)
	03/17/16	9 - 10	N	ND (5.1)	ND (5.1) J
AOC27-50	03/02/16	2 - 3	N	ND (6.5)	ND (6.5)
	03/02/16	5 - 6	N	ND (7.3)	ND (7.3)
	03/02/16	9 - 10	N	ND (5.8)	ND (5.8)

TABLE 3-10d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)
Interim Screening Level ¹:				6,800	110,000
Residential Regional Screening Levels ²:				6,800	110,000
Residential DTSC-SL ³:				NE	NE
Ecological Comparison Values ⁴:				NE	NE
Background ⁵:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Bromomethane	Chloro methane
AOC27-51	02/17/17	0 - 0.5	N	ND (6.5)	ND (6.5)
AOC27-6	02/29/16	2 - 3	N	ND (8.5)	ND (8.5)
	02/29/16	5 - 6	N	ND (7.1)	ND (7.1)
AOC27-7	02/29/16	2 - 3	N	ND (12)	ND (12)
	03/01/16	5 - 6	N	ND (6.6)	ND (6.6)
AOC27-8	03/01/16	1 - 2	N	23	9.2
	03/01/16	5 - 6	N	ND (4.9)	ND (4.9)
AOC27-9	03/08/16	2 - 3	N	ND (5.4)	5.5
	03/08/16	5 - 6	N	ND (6.7)	ND (6.7)
	03/08/16	9 - 10	N	ND (6.3)	ND (6.3)

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Only detected SVOCs and VOCs are presented.

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
SVOCs	semivolatile organic compounds

1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28 and ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.

5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

TABLE 3-10e

Sample Results: Total Petroleum Hydrocarbons

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
24soil-01	01/31/08	2.5 - 3	N	13	---
24soil-02	01/31/08	2.5 - 3	N	160	---
AOC27-1	03/18/16	0 - 1	N	18	99
	03/18/16	2 - 3	N	ND (10)	ND (10)
	03/18/16	5 - 6	N	ND (10)	ND (10)
	03/18/16	9 - 10	N	ND (10)	ND (10)
AOC27-18	03/17/16	0 - 1	N	12	93
	03/17/16	2 - 3	N	160	520
	03/17/16	5 - 6	N	30	130
	03/17/16	9 - 10	N	27	120
AOC27-18E	03/17/16	4 - 5	N	49	190
AOC27-2	03/18/16	0 - 1	N	ND (10)	ND (10)
	03/18/16	2 - 3	N	ND (10)	ND (10)
	03/18/16	5 - 6	N	ND (10)	ND (10)
	03/18/16	9 - 10	N	ND (10)	ND (10)
AOC27-20	03/01/16	0 - 1	N	ND (10)	ND (10)
	03/01/16	2 - 3	N	ND (10)	ND (10)
	03/01/16	2 - 3	FD	ND (11)	ND (11)
	03/01/16	5 - 6	N	ND (10)	ND (10)
	03/01/16	9 - 10	N	ND (10)	ND (10)
AOC27-24	03/18/16	0 - 1	N	ND (10)	ND (10)
	03/18/16	2 - 3	N	ND (10)	ND (10)
	03/18/16	5 - 6	N	ND (10)	ND (10)
	03/18/16	9 - 10	N	ND (10)	ND (10)
AOC27-24SW	03/18/16	0 - 1	N	ND (10)	ND (10)
	03/18/16	2 - 3	N	ND (10)	ND (10)
	03/18/16	5 - 6	N	ND (10)	ND (10)
	03/18/16	9 - 10	N	ND (10)	ND (10)
AOC27-27	03/02/16	0 - 1	N	ND (10)	ND (10)
	03/02/16	2 - 3	N	ND (10)	ND (10)
AOC27-36	03/17/16	0 - 1	N	ND (10)	ND (10)
	03/17/16	2 - 3	N	ND (10)	ND (10)
	03/17/16	5 - 6	N	ND (11)	ND (11)
	03/17/16	9.6 - 10	N	ND (11)	ND (11)
AOC27-4	03/17/16	0 - 1	N	ND (10)	12
	03/17/16	0 - 1	FD	ND (10)	48
	03/17/16	2 - 3	N	ND (10)	11
	03/17/16	5 - 6	N	ND (10)	12

TABLE 3-10e

Sample Results: Total Petroleum Hydrocarbons

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC27-5	03/17/16	0 - 1	N	ND (10)	54
	03/17/16	2 - 3	N	18	91
	03/17/16	5 - 6	N	ND (10)	ND (10)
	03/17/16	9 - 10	N	ND (10)	ND (10)
AOC27-50	03/02/16	0 - 1	N	ND (10)	16
	03/02/16	2 - 3	N	120	780
	03/02/16	5 - 6	N	ND (10)	ND (10)
	03/02/16	9 - 10	N	ND (10)	ND (10)
AOC27-51	02/17/17	0 - 0.5	N	12	37
	02/17/17	2 - 3	N	ND (10)	15
	02/17/17	5 - 6	N	ND (10)	12
AOC27-6	02/29/16	0 - 1	N	79	200
	02/29/16	2 - 3	N	11	40
	02/29/16	5 - 6	N	ND (10)	17
AOC27-7	02/29/16	0 - 1	N	35	270
	02/29/16	2 - 3	N	96	790
	03/01/16	5 - 6	N	ND (10)	33
AOC27-8	03/01/16	1 - 2	N	ND (10)	56
	03/01/16	5 - 6	N	ND (10)	12
AOC27-9	03/08/16	0 - 1	N	ND (10)	ND (10)
	03/08/16	0 - 1	FD	ND (10)	ND (10)
	03/08/16	2 - 3	N	ND (10)	ND (10)
	03/08/16	5 - 6	N	ND (10)	ND (10)
	03/08/16	9 - 10	N	ND (10)	ND (10)
PA-13	01/27/16	0 - 1	N	ND (10)	34

TABLE 3-10e

Sample Results: Total Petroleum Hydrocarbons

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Levels

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

N primary sample

ND not detected at the listed reporting limit

NE not established

RWQCB Regional Water Quality Control Board

TPH total petroleum hydrocarbon

USEPA United States Environmental Protection Agency

1 The interim screening level is the Regional Water Quality Control Board environmental screening level.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.

5 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.

6 Background values have not been established for TPHs.

TABLE 3-10f

Sample Results: General Chemistry Parameters

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
24soil-01	01/31/08	2.5 - 3	N	8.8
24soil-02	01/31/08	2.5 - 3	N	9.1
AOC27-1	03/18/16	0 - 1	N	9.1
	03/18/16	2 - 3	N	9
	03/18/16	5 - 6	N	8.5
	03/18/16	9 - 10	N	8
AOC27-18	03/17/16	0 - 1	N	8.4
	03/17/16	2 - 3	N	8.5
	03/17/16	5 - 6	N	8.6
	03/17/16	9 - 10	N	8.6
AOC27-18E	03/17/16	4 - 5	N	8.7
AOC27-2	03/18/16	0 - 1	N	9.7
	03/18/16	2 - 3	N	9.3
	03/18/16	5 - 6	N	8.6
	03/18/16	9 - 10	N	8.1
AOC27-20	03/01/16	0 - 1	N	9.2
	03/01/16	2 - 3	N	8.5
	03/01/16	2 - 3	FD	8.3
	03/01/16	5 - 6	N	9.5
	03/01/16	9 - 10	N	8.5
AOC27-24	03/18/16	0 - 1	N	9.2
	03/18/16	2 - 3	N	8.7
	03/18/16	5 - 6	N	8.4
	03/18/16	9 - 10	N	8.4
AOC27-24SW	03/18/16	0 - 1	N	8.1
	03/18/16	2 - 3	N	8.2
	03/18/16	5 - 6	N	8.1
	03/18/16	9 - 10	N	8.3
AOC27-27	03/02/16	0 - 1	N	8.6
	03/02/16	2 - 3	N	7.9
AOC27-36	03/17/16	0 - 1	N	8.2
	03/17/16	2 - 3	N	8.2
	03/17/16	5 - 6	N	8.2
	03/17/16	9.6 - 10	N	8.5

TABLE 3-10f

Sample Results: General Chemistry Parameters

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
AOC27-4	03/17/16	0 - 1	N	8.4
	03/17/16	0 - 1	FD	8.4
	03/17/16	2 - 3	N	8.1
	03/17/16	5 - 6	N	9.2
AOC27-5	03/17/16	0 - 1	N	9.3
	03/17/16	2 - 3	N	8.5
	03/17/16	5 - 6	N	8.4
	03/17/16	9 - 10	N	8.2
AOC27-50	03/02/16	0 - 1	N	9.4
	03/02/16	2 - 3	N	8.2
	03/02/16	5 - 6	N	8.4
	03/02/16	9 - 10	N	8.2
AOC27-6	02/29/16	0 - 1	N	8.2
	02/29/16	2 - 3	N	9.8
	02/29/16	5 - 6	N	9.1
AOC27-7	02/29/16	0 - 1	N	10
	02/29/16	2 - 3	N	10
	03/01/16	5 - 6	N	8.8
AOC27-8	03/01/16	1 - 2	N	10
	03/01/16	5 - 6	N	9
AOC27-9	03/08/16	0 - 1	N	8.3
	03/08/16	0 - 1	FD	8.9
	03/08/16	2 - 3	N	8.2
	03/08/16	5 - 6	N	8.4
	03/08/16	9 - 10	N	8.2
Category 3				
24debris-01	01/18/08 ^{IO}	Unknown	N	11
24debris-02	01/18/08 ^K	Unknown	N	4.6
24debris-03	01/18/08 ^Ψ	Unknown	N	8

TABLE 3-10f

Sample Results: General Chemistry Parameters

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

ψ	tar sample
Ж	wood sample
Ю	debris sample
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
μS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.

5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-10g
Sample Results: Pesticides
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC27-1	03/18/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/18/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50) J
AOC27-18	03/17/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	03/17/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	03/17/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	03/17/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC27-18E	03/17/16	4 - 5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC27-2	03/18/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
AOC27-20	03/01/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/01/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/01/16	2 - 3	FD	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	03/01/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	03/01/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
AOC27-24	03/18/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
AOC27-24SW	03/18/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/18/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
AOC27-27	03/02/16	0 - 1	N	ND (2)	ND (2)	ND (2) J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2) J	ND (2) J	ND (2)	---	ND (1)	ND (1)	ND (1) J	ND (1)	ND (5.1) J	ND (51) J
	03/02/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) J*	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1) J	ND (2.1) J	ND (2.1)	---	ND (1)	ND (1)	ND (1) J	ND (1)	ND (5.2) J	ND (52) J
AOC27-36	03/17/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	03/17/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	03/17/16	5 - 6	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54)
	03/17/16	9.6 - 10	N	ND (2.2) *	ND (2.2) *	ND (2.2) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.5)	ND (55)

TABLE 3-10g
Sample Results: Pesticides
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
AOC27-4	03/17/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	03/17/16	0 - 1	FD	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/17/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/17/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50) J
AOC27-5	03/17/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	03/17/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	03/17/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	03/17/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC27-50	03/02/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/02/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) J*	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1) J	ND (2.1) J	ND (2.1)	---	ND (1)	ND (1)	ND (1) J	ND (1)	ND (5.1) J	ND (51) J
	03/02/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) J*	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1) J	ND (2.1) J	ND (2.1)	---	ND (1)	ND (1)	ND (1) J	ND (1)	ND (5.2) J	ND (52) J
	03/02/16	9 - 10	N	ND (2.1) *	ND (2.1) *	ND (2.1) J*	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1) J	ND (2.1) J	ND (2.1)	---	ND (1)	ND (1)	ND (1) J	ND (1)	ND (5.2) J	ND (52) J
AOC27-51	02/17/17	0 - 0.5	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC27-6	02/29/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
	02/29/16	2 - 3	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
	02/29/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J
AOC27-7	02/29/16	0 - 1	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	02/29/16	2 - 3	N	ND (2.3) *	ND (2.3) *	ND (2.3) *	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.3)	ND (1.1)	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.7)	ND (57) J
	03/01/16	5 - 6	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
AOC27-8	03/01/16	1 - 2	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/01/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
AOC27-9	03/08/16	0 - 1	N	ND (2.1) *	ND (2.1) *	ND (2.1) *	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/08/16	0 - 1	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/08/16	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/08/16	5 - 6	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
	03/08/16	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison values for Additional Chemicals in Soil." July 1.	
5 Background values have not been established for pesticides.	

TABLE 3-10h

Sample Results: Polychlorinated Biphenyls

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)								
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	204	
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	230	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	204	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	
Category 1												
AOC27-1	03/18/16	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	9 - 10	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-18	03/17/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	30 J	ND (17)	30	
	03/17/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/17/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/17/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-18E	03/17/16	4 - 5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	35 J	ND (17)	35	
AOC27-2	03/18/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-20	03/01/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/01/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/01/16	2 - 3	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/01/16	5 - 6	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/01/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-24	03/18/16	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-24SW	03/18/16	0 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/18/16	9 - 10	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	

TABLE 3-10h

Sample Results: Polychlorinated Biphenyls

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)								
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	204	
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	230	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	204	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	
AOC27-27	03/02/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	32	ND (17)	32	
	03/02/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-36	03/17/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	49 J	ND (17)	49	
	03/17/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	20	ND (17)	20	
	03/17/16	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (9)	
	03/17/16	9.6 - 10	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (9)	
AOC27-4	03/17/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/17/16	0 - 1	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	21	ND (17)	21	
	03/17/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/17/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-5	03/17/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	17	ND (17)	17	
	03/17/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/17/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/17/16	9 - 10	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-50	03/02/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/02/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/02/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/02/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-51	02/17/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	02/17/17	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	02/17/17	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-6	02/29/16	0 - 1	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (9)	
	02/29/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	02/29/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-7	02/29/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	02/29/16	2 - 3	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (9.5)	
	03/01/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	

TABLE 3-10h

Sample Results: Polychlorinated Biphenyls

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)								
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	204	
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	230	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	204	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	
AOC27-8	03/01/16	1 - 2	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/01/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
AOC27-9	03/08/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	19	ND (17)	19	
	03/08/16	0 - 1	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/08/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/08/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
	03/08/16	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (8.5)	
PA-13	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	22	ND (17)	47.5	

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
NE	not established
N	primary sample

TABLE 3-10h

Sample Results: Polychlorinated Biphenyls

AOC 27 – MW-24 Bench

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

ND not detected at the listed reporting limit

ND The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

- ¹ Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- ² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- ³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- ⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.
- ⁵ Background values have not been established for polychlorinated biphenyls.

TABLE 3-10i
Sample Results: Dioxins and Furans
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																			
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	NE	NE	NE	NE	NE
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	NE	NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals
Category 1																							
AOC27-1	03/18/16	2 - 3	N	ND (1.4)	ND (0.43)	ND (0.1)	ND (0.093)	ND (0.059)	ND (0.095)	ND (0.058)	ND (0.09)	ND (0.15)	ND (0.073)	ND (0.06)	ND (0.062)	ND (0.063)	ND (0.053)	ND (0.15)	11 J	ND (0.32)	0.2	0.12	0.12
AOC27-18	03/17/16	0 - 1	N	280	ND (1.3)	ND (1.5)	ND (1.7)	1.4 J	7.8 J	2.1 J	4.9 J	ND (0.68)	ND (0.53)	ND (0.47)	ND (65)	ND (0.88)	ND (0.14)	ND (0.68)	3,300	110	6	9.3	9.3
	03/17/16	2 - 3	N	290	ND (170)	ND (4.3)	ND (1.7)	ND (1.9)	11 J	ND (5.8)	ND (2.7)	ND (0.76)	ND (1)	ND (0.95)	1.9 J	ND (1)	ND (0.37)	ND (0.37)	3,300	190	3.8	7.6	7.6
	03/17/16	5 - 6	N	240	ND (100)	ND (2.7)	14	ND (1.3)	ND (1.3)	ND (13)	ND (2.1)	ND (1.5)	ND (0.63)	ND (1.1)	ND (1.3)	ND (1.2)	ND (0.26)	ND (0.41)	2,600	96	4	6.8	6.8
AOC27-18E	03/17/16	4 - 5	N	330	ND (96)	ND (5.5)	ND (1.2)	ND (1.7)	5.4 J	ND (14)	ND (1.1)	ND (2)	ND (0.83)	ND (1.5)	ND (66)	ND (1.6)	ND (0.2)	ND (0.9)	3,800	110	7.4	11	11
AOC27-2	03/18/16	0 - 1	N	16	ND (0.54)	ND (0.64)	ND (0.29)	ND (0.13)	0.56 J	ND (1.3)	ND (0.41)	ND (0.15)	ND (0.27)	ND (0.31)	ND (4.4)	ND (0.33)	ND (0.066)	ND (0.31)	160	6.2 J	0.87	0.84	0.84
	03/18/16	2 - 3	N	15	ND (0.076)	ND (0.31)	ND (0.26)	ND (0.33)	ND (0.44)	ND (0.89)	ND (0.35)	ND (0.39)	ND (0.17)	ND (0.53)	ND (5.6)	ND (0.56)	ND (0.066)	ND (0.34)	130	7.2 J	1	0.83	0.83
AOC27-20	03/01/16	0 - 1	N	470	67	ND (6.4)	4.1 J	ND (2.8)	16	5.5 J	7.3 J	ND (3.2)	ND (1.4)	ND (0.41)	ND (160)	ND (0.92)	ND (0.54)	ND (0.44)	4,200	170	13	19	19
	03/01/16	2 - 3	N	130	15	ND (3.3)	2.2 J	ND (1.1)	5.5 J	1.8 J	ND (5.2)	ND (0.41)	ND (0.4)	ND (0.35)	ND (48)	ND (0.35)	ND (0.16)	ND (0.17)	1,000	36	4	5.8	5.8
	03/01/16	5 - 6	N	200	31	ND (3.8)	ND (1.8)	ND (2.1)	8.8 J	ND (1.9)	ND (3.2)	ND (2.4)	1.6 J	ND (0.59)	ND (75)	ND (0.59)	ND (0.95)	0.54 J	1,700	84	8	10	10
AOC27-4	03/17/16	0 - 1	N	1,100	ND (0.34)	7.1 J	ND (5.4)	8.9 J	20	ND (14)	7.8 J	ND (0.31)	ND (1.4)	ND (0.4)	ND (0.3)	ND (0.43)	ND (0.16)	0.73 J	11,000	260	6.8	20	20
	03/17/16	0 - 1	FD	1,000	45	5.3 J	6 J	7.8 J	18	ND (0.81)	6.9 J	ND (0.76)	1.2 J	ND (0.55)	ND (150)	ND (0.58)	ND (0.24)	ND (0.36)	9,800	200	14	26	26
	03/17/16	2 - 3	N	77	ND (0.39)	ND (1.5)	0.73 J	ND (0.79)	2.1 J	ND (0.77)	1.3 J	ND (0.92)	ND (0.46)	ND (0.35)	ND (15)	ND (0.17)	ND (0.34)	ND (0.33)	790	31	1.9	2.8	2.8
	03/17/16	5 - 6	N	ND (6.2)	ND (0.38)	ND (0.66)	ND (0.36)	ND (0.28)	ND (0.21)	ND (0.25)	ND (0.21)	ND (0.32)	ND (0.19)	ND (0.092)	ND (0.83)	ND (0.093)	ND (0.1)	ND (0.11)	ND (88)	ND (0.29)	ND (0.37)	ND (0.34)	ND (0.34)
AOC27-5	03/17/16	2 - 3	N	740	ND (0.88)	21	ND (3.7)	ND (3.9)	ND (11)	ND (9.7)	ND (5.7)	ND (0.52)	ND (1.5)	ND (0.48)	ND (98)	ND (0.57)	ND (0.24)	ND (0.29)	10,000	200	9.3	18	18
	03/17/16	5 - 6	N	ND (2.4)	ND (0.076)	ND (0.09)	ND (0.2)	ND (0.072)	ND (0.095)	ND (0.095)	ND (0.09)	ND (0.084)	ND (0.099)	ND (0.18)	ND (0.62)	ND (0.19)	ND (0.054)	ND (0.099)	35	ND (0.73)	0.29	0.2	0.2
AOC27-50	03/02/16	0 - 1	N	96	19	ND (1.2)	3.7 J	3.2 J	9.1 J	3.6 J	7.4 J	ND (0.9)	5.8 J	ND (1.9)	4.3 J	3.1 J	ND (1.5)	1.2 J	380	12 J	13	12	12
	03/02/16	2 - 3	N	420	ND (79)	6.6 J	ND (15)	12 J	52	ND (13)	34	ND (3)	32	ND (5.7)	ND (13)	12 J	ND (9.1) *	ND (4.6)	1,100	40	59	57	57
	03/02/16	5 - 6	N	9 J	ND (1.5)	ND (0.95)	ND (0.31)	ND (0.2)	ND (0.27)	ND (0.13)	ND (0.38)	0.55 J	ND (0.17)	ND (0.14)	ND (0.34)	ND (0.14)	ND (0.091)	ND (0.31)	ND (33)	ND (0.89)	0.5	0.41	0.41
AOC27-51	02/17/17	0 - 0.5	N	71	15	ND (0.91)	2.5 J	1.6 J	6.4 J	1.7 J	5.6 J	ND (0.27)	4 J	ND (0.89)	ND (12)	1.5 J	1.3 J	0.78 J	420	34	9.6	9.2	9.2
	02/17/17	2 - 3	N	6.2 J	1.2 J	ND (0.13)	0.29 J	ND (0.072)	0.87 J	ND (0.15)	0.68 J	ND (0.083)	ND (0.51)	ND (0.14)	ND (0.8)	ND (0.14)	ND (0.099)	ND (0.067)	ND (29)	ND (1)	0.58	0.65	0.65
	02/17/17	5 - 6	N	2.2 J	ND (0.27)	ND (0.051)	ND (0.057)	ND (0.094)	ND (0.057)	ND (0.09)	ND (0.056)	ND (0.11)	ND (0.074)	ND (0.11)	ND (0.41)	ND (0.11)	ND (0.038)	ND (0.026)	ND (27)	ND (0.85)	0.17	0.15	0.15
AOC27-6	02/29/16	0 - 1	N	610	99	6.4 J	32	14	77	12 J	67	3.1 J	70	7.6 J	14	11 J	19	5.4	2,300	84	120	120	120
	02/29/16	2 - 3	N	180	24	1.6 J	7.3 J	3.6 J	17	ND (2.8)	16	ND (0.94)	17	2 J	ND (18)	3.2 J	5.7	1.5 J	860	29	32	32	32
	02/29/16	5 - 6	N	47	10 J	ND (0.19)	1.9 J	ND (0.77)	5.2 J	ND (0.92)	ND (4.7)	ND (0.57)	4.3 J	ND (0.29)	ND (5.9)	ND (0.68)	ND (0.87)	ND (0.35)	330	ND (12)	6.2	6.9	6.9
AOC27-7	02/29/16	0 - 1	N	1,500	240	17	38	27	100	26	ND (63)	ND (5.7)	45	16	26	26	6.4	17	6,500	140	110	110	110
	02/29/16	2 - 3	N	1,500	380	36	62	68	160	ND (25)	120	ND (14)	110	39	81	65	29	ND (26)	4,000	190	260	230	230
	03/01/16	5 - 6	N	45	ND (0.48)	ND (0.57)	2 J	1.1 J	4.1 J	0.88 J	ND (3.1)	ND (0.2)	2.4 J	ND (0.59)	ND (1)	0.85 J	ND (0.25)	ND (0.15)	ND (190)	ND (5.4)	4.1	4.3	4.3
AOC27-8	03/01/16	1 - 2	N	330	67	ND (3.9)	11 J	7 J	27	ND (6.6)	21	ND (1)	14	3.9 J	ND (30)	6.7 J	4 J	3.9 J	1,500	53	36	33	33
	03/01/16	5 - 6	N	31	4.7 J	ND (1.2)	1.4 J	0.72 J	ND (1.8)	ND (0.52)	ND (1.3)	ND (1.2)	1.4 J	ND (0.43)	ND (5.1)	0.51 J	ND (0.17)	ND (0.43)	ND (170)	ND (6.8)	2.9	2.8	2.8

TABLE 3-10i
Sample Results: Dioxins and Furans
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																					
Interim Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	16	50	5.58
Residential Regional Screening Levels ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	4.8	NE	NE	NE	4.8	NE	NE	NE	NE	4.8	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	50	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	16	NE	1.6
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	5.98	5.58	5.58
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Avian	TEQ Human	TEQ Mammals		
AOC27-9	03/08/16	0 - 1	N	110	23	ND (1.8)	1.3 J	ND (0.84)	3.7 J	1.3 J	ND (2.2)	ND (0.36)	ND (0.37)	ND (0.69)	ND (36)	ND (0.69)	ND (1.2)	1.4 J	960	120	5.2	5.3	5.3		
	03/08/16	2 - 3	N	60	ND (0.64)	ND (0.76)	ND (0.41)	ND (0.73)	ND (0.35)	ND (0.64)	ND (0.36)	ND (0.83)	ND (0.57)	ND (0.82)	ND (9.7)	ND (0.52)	ND (0.21)	ND (1.9)	540	23 J	2.4	2	2		
	03/08/16	5 - 6	N	20	3.3 J	ND (0.94)	ND (0.7)	ND (0.27)	ND (1.1)	ND (0.32)	ND (0.79)	ND (0.34)	ND (0.32)	ND (0.36)	ND (3.6)	ND (0.33)	ND (0.2)	0.91 J	ND (150)	ND (6.4)	1.7	1	1		

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

--	not analyzed
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC-SL	DTSC Screening Levels
DTSC	California Department of Toxic Substances Control
FD	Field Duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	Primary Sample
NA	NA = not applicable
NE	not established
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	USEPA = United States Environmental Protection Agency

- 1 For individual dioxins and furans, selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher. For TEQ values, selected value is the DTSC-SL.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. JanuaryCalifornia Department of Toxic Substances Control (DTSC). 2017. Human Health Risk Assessment (HHRA) Note 2, Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites. April.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Decteded Chemicals in Soil." July 1.
- 5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

Calculations:

TEQ = Sum of Result xToxic equivalency factor (TEF), 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQ Avian = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TEQMammals = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

Teq Humans = Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.

TABLE 3-10j
Constituent Concentrations in Soil Compared to Screening Values
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
Parameter	Units				# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Dioxins and Furans																
TEQ Avian	ng/kg	13	31 / 32 (97%)	260	15	(5.98)	6	(16)	NA	(NE)	NA	(NA)	NA	(NE)	6	(16)
TEQ Human	ng/kg	13	31 / 32 (97%)	230	18	(5.58)	NA	(NE)	4	(50)	NA	(NA)	1	(220)	4	(50)
TEQ Mammals	ng/kg	13	31 / 32 (97%)	230	18	(5.58)	18	(1.6)	NA	(NE)	NA	(NA)	NA	(NE)	18	(5.58)
Metals																
Antimony	mg/kg	20	1 / 60 (1.7%)	3.5	NA	(NE)	1	(0.285)	0	(31)	NA	(NA)	0	(470)	1	(0.285)
Arsenic	mg/kg	20	59 / 60 (98%)	20	1	(11)	1	(11.4)	1	(0.11) *	NA	(NA)	1	(0.36) *	1	(11)
Barium	mg/kg	20	60 / 60 (100%)	210	0	(410)	0	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	0	(410)
Beryllium	mg/kg	20	0 / 60 (0%)	ND (1.1) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)
Cadmium	mg/kg	20	10 / 60 (17%)	4.5	7	(1.1)	7	(0.0151) *	0	(5.2)	NA	(NA)	0	(7.3)	7	(1.1)
Chromium, Hexavalent	mg/kg	20	21 / 60 (35%)	4.8	6	(0.83)	0	(139.6)	6	(0.3)	NA	(NA)	0	(6.3)	6	(0.83)
Chromium, total	mg/kg	20	60 / 60 (100%)	290	4	(39.8)	4	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	4	(39.8)
Cobalt	mg/kg	20	60 / 60 (100%)	16	1	(12.7)	1	(13)	0	(23)	NA	(NA)	0	(350)	1	(12.7)
Copper	mg/kg	20	60 / 60 (100%)	1,000	10	(16.8)	9	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	10	(16.8)
Lead	mg/kg	20	59 / 60 (98%)	630	16	(8.39)	16	(0.0166) *	4	(80)	NA	(NA)	2	(320)	16	(8.39)
Mercury	mg/kg	20	13 / 60 (22%)	0.95	NA	(NE)	13	(0.0125)	0	(1)	NA	(NA)	0	(4.5)	13	(0.0125)
Molybdenum	mg/kg	20	6 / 60 (10%)	26	4	(1.37)	4	(2.25)	0	(390)	NA	(NA)	0	(5,800)	4	(1.37)
Nickel	mg/kg	20	60 / 60 (100%)	97	2	(27.3)	2	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	2	(27.3)
Selenium	mg/kg	20	2 / 60 (3.3%)	6.2	1	(1.47)	1	(0.177) *	0	(390)	NA	(NA)	0	(5,800)	1	(1.47)
Thallium	mg/kg	20	0 / 60 (0%)	ND (2.3) ‡	NA	(NE)	0	(2.32)	0	(0.78)	NA	(NA)	0	(12)	0	(0.78)
Vanadium	mg/kg	20	60 / 60 (100%)	38	0	(52.2)	0	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	0	(52.2)
Zinc	mg/kg	20	60 / 60 (100%)	1,300	13	(58)	13	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	13	(58)
Contract Laboratory Program Inorganics																
Aluminum	mg/kg	1	1 / 1 (100%)	8,100	0	(16,400)	NA	(NE)	0	(77,000)	NA	(NA)	0	(1,100,000)	0	(16,400)
Calcium	mg/kg	1	1 / 1 (100%)	21,000	0	(66,500)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(66,500)
Iron	mg/kg	1	1 / 1 (100%)	28,000	0	(29,303)	NA	(NE)	0	(55,000)	NA	(NA)	0	(820,000)	0	(29,303)
Magnesium	mg/kg	1	1 / 1 (100%)	6,200	0	(12,100)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(12,100)
Manganese	mg/kg	1	1 / 1 (100%)	310	0	(402)	0	(220)	0	(1,800)	NA	(NA)	0	(6,900)	0	(402)
Potassium	mg/kg	1	1 / 1 (100%)	2,900	0	(4,400)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(4,400)
Sodium	mg/kg	1	1 / 1 (100%)	460	0	(2,070)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(2,070)
Volatile Organic Compounds																
Bromomethane	µg/kg	17	3 / 41 (7.3%)	26	NA	(NE)	NA	(NE)	0	(6,800)	NA	(NA)	0	(30,000)	0	(6,800)
Chloro methane	µg/kg	17	4 / 41 (9.8%)	11	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(460,000)	0	(110,000)
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	µg/kg	20	2 / 60 (3.3%)	51	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)
Acenaphthylene	µg/kg	20	1 / 60 (1.7%)	5.1	NA	(NE)	NA	(NE)	0	(3,600,000)	NA	(NA)	0	(45,000,000)	0	(3,600,000)
Anthracene	µg/kg	20	8 / 60 (13%)	710	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Benzo (a) anthracene	µg/kg	20	16 / 60 (27%)	3,400	NA	(NE)	NA	(NE)	2	(1,100)	NA	(NA)	0	(21,000)	2	(1,100)
Benzo (a) pyrene	µg/kg	20	16 / 60 (27%)	2,000	NA	(NE)	NA	(NE)	6	(110)	NA	(NA)	0	(2,100)	6	(110)
Benzo (b) fluoranthene	µg/kg	20	32 / 60 (53%)	3,400	NA	(NE)	NA	(NE)	3	(1,100)	NA	(NA)	0	(21,000)	3	(1,100)
Benzo (ghi) perylene	µg/kg	20	15 / 60 (25%)	1,500	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
Benzo (k) fluoranthene	µg/kg	20	18 / 60 (30%)	1,300	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)

TABLE 3-10j
Constituent Concentrations in Soil Compared to Screening Values
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
Parameter	Units				# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Polycyclic Aromatic Hydrocarbons																
Chrysene	µg/kg	20	23 / 60 (38%)	3,000	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)
Dibenzo (a,h) anthracene	µg/kg	20	3 / 60 (5.0%)	530	NA	(NE)	NA	(NE)	1	(110)	NA	(NA)	0	(2,100)	1	(110)
Fluoranthene	µg/kg	20	23 / 60 (38%)	8,600	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Fluorene	µg/kg	20	1 / 60 (1.7%)	9.2	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Indeno (1,2,3-cd) pyrene	µg/kg	20	14 / 60 (23%)	1,200	NA	(NE)	NA	(NE)	1	(1,100)	NA	(NA)	0	(21,000)	1	(1,100)
Naphthalene	µg/kg	20	2 / 60 (3.3%)	6.4	NA	(NE)	NA	(NE)	0	(3,800)	NA	(NA)	0	(17,000)	0	(3,800)
Phenanthrene	µg/kg	20	13 / 60 (22%)	3,100	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Pyrene	µg/kg	20	24 / 60 (40%)	6,600	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
PAH Low molecular weight	µg/kg	20	60 / 60 (100%)	3,877	7	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	20	60 / 60 (100%)	31,530	10	(267.4)	6	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	6	(1,160)
B(a)P Equivalent	µg/kg	20	34 / 60 (57%)	3,300	11	(55)	NA	(NE)	8	(110)	NA	(NA)	1	(2,100)	8	(110)
Polychlorinated biphenyls																
Aroclor 1254	µg/kg	18	9 / 58 (16%)	49	NA	(NE)	NA	(NE)	0	(240)	NA	(NA)	0	(970)	0	(240)
Total PCBs	µg/kg	18	9 / 58 (16%)	49	NA	(NE)	0	(204)	0	(230)	NA	(NA)	0	(940)	0	(204)
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	20	15 / 60 (25%)	160	NA	(NE)	NA	(NE)	0	(230)	0	(230)	0	(1,100)	0	(230)
TPH as motor oil	mg/kg	18	25 / 58 (43%)	790	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

TABLE 3-10j
Constituent Concentrations in Soil Compared to Screening Values
AOC 27 – MW-24 Bench
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RSL	esidential screening level
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

- 1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.
- 2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1
- 3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.
- 4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr
- 5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.
- 6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).
- 8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC28-OS1	04/06/11	9 - 9.5	N	---	---	---	---	---	ND (0.41) J	17	---	---	---	---	3.7	---	---	---	---	---	---
AOC28-OS2	04/06/11	2.5 - 3	N	---	---	---	---	---	ND (0.4) J	---	---	---	---	---	---	---	---	---	---	---	---
	04/06/11	8.5 - 9	N	ND (2.1) J*	9.3	240	ND (1) J*	ND (1) J	ND (0.41) J	24	9.1	ND (10)	7.2	ND (0.1) J*	5	17	ND (1) J	ND (1)	ND (2.1) J*	45	70

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- ft bgs feet below ground surface
- mg/kg milligrams per kilogram
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Levels
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- N primary sample
- ND not detected at the listed reporting limit
- NE not established
- USEPA United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-11b
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 28 – Pipeline Drip Legs
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
Category 1																								
AOC28a-01	12/17/15	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8 J	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.2	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	13.2	6.5
	12/17/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	12/17/15	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC28b-01	12/17/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
AOC28c-01	12/17/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.5	15 J	38 J	ND (5.1)	13 J	19	ND (5.1)	37	ND (5.1)	ND (5.1)	ND (5.1)	7.8	36	7.8	166.5	23
	12/17/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.1 J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.8	ND	20	6.2
AOC28d-01	12/17/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	12/17/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	12/17/15	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
AOC28-OS1	04/06/11	0 - 0.5	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	ND	ND	ND (5.8)
	04/06/11	2.5 - 3	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (8.3)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	04/06/11	5.5 - 6	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (6.9)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	04/06/11	9 - 9.5	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	8.8	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	37	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.8)	ND (5.1)	20	ND	65.8	6.6
AOC28-OS2	04/06/11	0 - 0.5	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	5.7	ND (5)	ND (5)	5.7	6	8.4
	04/06/11	2.5 - 3	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (6.6)	ND (5)	ND (5)	ND	ND	ND (5.8)
	04/06/11	5.5 - 6	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (7.8)	ND (5)	ND (5)	ND	ND	ND (5.8)
	04/06/11	8.5 - 9	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (6)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-11c

Sample Results: Total Petroleum Hydrocarbons

AOC 28 – Pipeline Drip Legs

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC28a-01	12/17/15	0 - 0.5	N	ND (10)	130
	12/17/15	2 - 3	N	15	200
	12/17/15	2 - 3	FD	17	210
AOC28b-01	12/17/15	0 - 0.5	N	50	410
AOC28c-01	12/17/15	0 - 0.5	N	ND (10)	53
	12/17/15	2 - 3	N	ND (10)	17
AOC28d-01	12/17/15	0 - 0.5	N	ND (10)	11
	12/17/15	2 - 3	N	ND (10)	73
	12/17/15	5 - 6	N	ND (10)	12
AOC28-OS1	04/06/11	0 - 0.5	N	32	150
	04/06/11	2.5 - 3	N	16	15
	04/06/11	5.5 - 6	N	17	34
	04/06/11	9 - 9.5	N	160	700
AOC28-OS2	04/06/11	0 - 0.5	N	ND (10)	ND (10)
	04/06/11	2.5 - 3	N	17	37
	04/06/11	5.5 - 6	N	ND (10)	ND (10)
	04/06/11	8.5 - 9	N	12	39

TABLE 3-11c

Sample Results: Total Petroleum Hydrocarbons

AOC 28 – Pipeline Drip Legs

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
RWQCB	Regional Water Quality Control Board
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency

- 1 The interim screening level is the Regional Water Quality Control Board environmental screening level.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.
- 5 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 6 Background values have not been established for TPHs.

TABLE 3-11d

Sample Results: General Chemistry Parameters

AOC 28 – Pipeline Drip Legs

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC28-OS1	04/06/11	0 - 0.5	N	8.9
	04/06/11	2.5 - 3	N	8.8
	04/06/11	5.5 - 6	N	8.1
	04/06/11	9 - 9.5	N	9.8
AOC28-OS2	04/06/11	0 - 0.5	N	8.4
	04/06/11	2.5 - 3	N	8.2
	04/06/11	5.5 - 6	N	8.4
	04/06/11	8.5 - 9	N	8.1

Notes:

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Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
µS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.

5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-11e

Sample Results: Polychlorinated Biphenyls

AOC 28 – Pipeline Drip Legs

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)								
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	204	
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	230	
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	204	
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	
Category 1												
AOC28a-01	12/17/15	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	12/17/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	12/17/15	2 - 3	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
AOC28b-01	12/17/15	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
AOC28c-01	12/17/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	12/17/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
AOC28d-01	12/17/15	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	12/17/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	12/17/15	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
AOC28-OS1	04/06/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	04/06/11	2.5 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	04/06/11	5.5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	04/06/11	9 - 9.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
AOC28-OS2	04/06/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	04/06/11	2.5 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	04/06/11	5.5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	
	04/06/11	8.5 - 9	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND	

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

* Reporting limits greater than or equal to the interim screening level.

--- not analyzed

µg/kg micrograms per kilogram

TABLE 3-11e

Sample Results: Polychlorinated Biphenyls

AOC 28 – Pipeline Drip Legs

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
ND	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

¹ Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ Background values have not been established for polychlorinated biphenyls.

TABLE 3-11f
Constituent Concentrations in Soil Compared to Screening Values
AOC 28 – Pipeline Drip Legs
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
Parameter	Units				# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Metals																
Antimony	mg/kg	1	0 / 1 (0%)	ND (2.1) ‡	NA	(NE)	0	(0.285)	0	(31)	NA	(NA)	0	(470)	0	(0.285)
Arsenic	mg/kg	1	1 / 1 (100%)	9.3	0	(11)	0	(11.4)	0	(0.11) *	NA	(NA)	0	(0.36) *	0	(11)
Barium	mg/kg	1	1 / 1 (100%)	240	0	(410)	0	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	0	(410)
Beryllium	mg/kg	1	0 / 1 (0%)	ND (1) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)
Chromium, total	mg/kg	2	2 / 2 (100%)	24	0	(39.8)	0	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	0	(39.8)
Cobalt	mg/kg	1	1 / 1 (100%)	9.1	0	(12.7)	0	(13)	0	(23)	NA	(NA)	0	(350)	0	(12.7)
Lead	mg/kg	1	1 / 1 (100%)	7.2	0	(8.39)	0	(0.0166) *	0	(80)	NA	(NA)	0	(320)	0	(8.39)
Mercury	mg/kg	1	0 / 1 (0%)	ND (0.1) ‡	NA	(NE)	0	(0.0125)	0	(1)	NA	(NA)	0	(4.5)	0	(0.0125)
Molybdenum	mg/kg	2	2 / 2 (100%)	5	2	(1.37)	2	(2.25)	0	(390)	NA	(NA)	0	(5,800)	2	(1.37)
Nickel	mg/kg	1	1 / 1 (100%)	17	0	(27.3)	0	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	0	(27.3)
Thallium	mg/kg	1	0 / 1 (0%)	ND (2.1) ‡	NA	(NE)	0	(2.32)	0	(0.78)	NA	(NA)	0	(12)	0	(0.78)
Vanadium	mg/kg	1	1 / 1 (100%)	45	0	(52.2)	0	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	0	(52.2)
Zinc	mg/kg	1	1 / 1 (100%)	70	1	(58)	1	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	1	(58)
Polycyclic Aromatic Hydrocarbons																
Benzo (a) anthracene	µg/kg	6	2 / 16 (13%)	8.8	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (a) pyrene	µg/kg	6	1 / 16 (6.3%)	15	NA	(NE)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Benzo (b) fluoranthene	µg/kg	6	4 / 16 (25%)	38	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (k) fluoranthene	µg/kg	6	1 / 16 (6.3%)	13	NA	(NE)	NA	(NE)	0	(11,000)	NA	(NA)	0	(210,000)	0	(11,000)
Chrysene	µg/kg	6	2 / 16 (13%)	37	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)
Fluoranthene	µg/kg	6	3 / 16 (19%)	37	NA	(NE)	NA	(NE)	0	(2,400,000)	NA	(NA)	0	(30,000,000)	0	(2,400,000)
Naphthalene	µg/kg	6	1 / 16 (6.3%)	5.7	NA	(NE)	NA	(NE)	0	(3,800)	NA	(NA)	0	(17,000)	0	(3,800)
Phenanthrene	µg/kg	6	1 / 16 (6.3%)	7.8	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
Pyrene	µg/kg	6	3 / 16 (19%)	36	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
PAH Low molecular weight	µg/kg	6	16 / 16 (100%)	7.8	0	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	6	16 / 16 (100%)	166.5	0	(267.4)	0	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	0	(1,160)
B(a)P Equivalent	µg/kg	6	5 / 16 (31%)	23	0	(55)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	6	8 / 16 (50%)	160	NA	(NE)	NA	(NE)	0	(230)	0	(230)	0	(1,100)	0	(230)
TPH as motor oil	mg/kg	6	14 / 16 (88%)	700	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

TABLE 3-11f
Constituent Concentrations in Soil Compared to Screening Values
AOC 28 – Pipeline Drip Legs
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RSL	esidential screening level
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

- 1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.
- 2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1
- 3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.
- 4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr
- 5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.
- 6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).
- 8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-12a
Sample Results: Metals
AOC 31 – Former Teapot Dome Oil Pit
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
PA-08	11/09/15	0 - 1	N	ND (2.2) *	4.8	290	ND (1.1) *	ND (1.1) *	0.82	26	10	62	19	ND (0.11) *	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.2) *	33	94
	01/12/16	2 - 3	N	ND (2.1) J*	4.4	330	ND (1) *	ND (1)	0.26	12	8.6 J	13 J	4.6 J	ND (0.1) *	ND (1)	9.1	ND (1) J	ND (1)	ND (2.1) *	35 J	44
	01/12/16	2 - 3	FD	ND (2.1) *	3.6	280	ND (1) *	ND (1)	0.23	14	6.8 J	5.5	9.3 J	ND (0.1) *	ND (1)	8.9	ND (1)	ND (1)	ND (2.1) *	26 J	38
	01/12/16	5 - 6	N	ND (2) *	2.4	110	ND (1) *	ND (1)	ND (0.2)	7.1	5.9	6.2	1.7	ND (0.1) *	ND (1)	7.1	ND (1)	ND (1)	ND (2) *	21	21
	01/12/16	9 - 10	N	ND (2) *	1.5	140	ND (1) *	ND (1)	ND (0.2)	5.8	5.4	4.8	1.2	ND (0.1) *	ND (1)	5.2	ND (1)	ND (1)	ND (2) *	21	23
PA-OS1	04/06/11	9 - 9.5	N	ND (2) *	2.4	22	ND (1) *	ND (1)	ND (0.4) J	2.9	1.7	ND (2)	2.3	ND (0.1) J*	ND (1)	4.2	ND (1)	ND (1)	ND (2) *	9.2	6.9

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- ft bgs feet below ground surface
- mg/kg milligrams per kilogram
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Levels
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- N primary sample
- ND not detected at the listed reporting limit
- NE not established
- USEPA United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-12b

Sample Results: Contract Laboratory Program Inorganics
AOC 31 – Former Teapot Dome Oil Pit
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Interim Screening Level¹				16,400	66,500	29,303	12,100	402	4,400	2,070	0.9
Residential Regional Screening Levels²				77,000	NE	55,000	NE	1,800	NE	NE	23
Residential DTSC-SL³				NE	NE	NE	NE	1,800	NE	NE	NE
Ecological Comparison Values⁴				NE	NE	NE	NE	220	NE	NE	0.9
Background⁵				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
PA-08	01/12/16	2 - 3	N	9,000	21,000	19,000	6,800	260	3,500	260	ND (0.207)
	01/12/16	2 - 3	FD	8,000	18,000	17,000	5,700	220	3,700 J	300 J	ND (0.209)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-12c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 31 – Former Teapot Dome Oil Pit
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
Category 1																								
PA-08	11/09/15	0 - 1	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	59 J	94	230	ND (54)	87	120 J	ND (54)	140 J	ND (5.4)	ND (54)	ND (5.4)	57 J	110 J	57	840	150
	01/12/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (6)
	01/12/16	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND	ND	ND (58)
	01/12/16	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (50)	ND (50)	ND (50)	ND (5)	ND (50)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND	ND	ND (56)
	01/12/16	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
PA-OS1	04/06/11	0 - 0.5	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (5)	ND	ND	ND (5.8)
	04/06/11	2.5 - 3	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	04/06/11	5.5 - 6	N	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.7)	ND (5)	ND (5)	ND	ND	ND (5.8)
	04/06/11	9 - 9.5	N	ND (5)	5	ND (50)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (6.1)	ND (5)	ND (5)	5	ND	5.8

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the interim screening level are circled.	
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency
1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.	
2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.	
4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.	
5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.	
Calculations:	
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.	
Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.	

TABLE 3-12d

Sample Results: Semivolatile and Volatile Organic Compounds
 AOC 31 – Former Teapot Dome Oil Pit
 RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
 PG&E Topock Compressor Station, Needles, California

				(µg/kg)
Interim Screening Level ¹:				320
Residential Regional Screening Levels ²:				320
Residential DTSC-SL ³:				NE
Ecological Comparison Values ⁴:				NE
Background ⁵:				NE
Location	Date	Depth (ft bgs)	Sample Type	Chloroform
Category 1				
PA-08	01/12/16	2 - 3	N	11
	01/12/16	2 - 3	FD	11
	01/12/16	5 - 6	N	ND (8.7)
	01/12/16	9 - 10	N	ND (5.7)
PA-OS1	04/06/11	2.5 - 3	N	ND (5.5)
	04/06/11	5.5 - 6	N	ND (5.7)
	04/06/11	9 - 9.5	N	ND (6.1)

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Only detected SVOCs and VOCs are presented.

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
SVOCs	semivolatile organic compounds

¹ The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28 and ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

TABLE 3-12e

Sample Results: Total Petroleum Hydrocarbons

AOC 31 – Former Teapot Dome Oil Pit

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Interim Screening Level ¹ :				230	11,000
Residential Regional Screening Levels ² :				NE	NE
Residential DTSC-SL ³ :				NE	NE
RWQCB Environmental Screening Levels ⁴ :				230	11,000
Ecological Comparison Values ⁵ :				NE	NE
Background ⁶ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
PA-08	11/09/15	0 - 1	N	17	35
	01/12/16	2 - 3	N	ND (10)	ND (10)
	01/12/16	2 - 3	FD	ND (10)	ND (10)
	01/12/16	5 - 6	N	ND (10)	ND (10)
	01/12/16	9 - 10	N	ND (10)	ND (10)
PA-OS1	04/06/11	0 - 0.5	N	15	ND (10)
	04/06/11	2.5 - 3	N	14	ND (10)
	04/06/11	5.5 - 6	N	ND (10)	ND (10)
	04/06/11	9 - 9.5	N	ND (10)	ND (10)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Levels

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

N primary sample

ND not detected at the listed reporting limit

NE not established

RWQCB Regional Water Quality Control Board

TPH total petroleum hydrocarbon

USEPA United States Environmental Protection Agency

¹ The interim screening level is the Regional Water Quality Control Board environmental screening level.² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.⁴ California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.⁵ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.⁶ Background values have not been established for TPHs.

TABLE 3-12f

Sample Results: General Chemistry Parameters
 AOC 31 – Former Teapot Dome Oil Pit
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				General Chemistry (pH Units)
Interim Screening Level ¹ :				NE
Residential Regional Screening Levels ² :				NE
Residential DTSC-SL ³ :				NE
Ecological Comparison Values ⁴ :				NE
Background ⁵ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
PA-OS1	04/06/11	0 - 0.5	N	7.8
	04/06/11	2.5 - 3	N	7.9
	04/06/11	5.5 - 6	N	8.2
	04/06/11	9 - 9.5	N	8.7

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
meq/100g	milligrams per kilogram
mg/kg	milligrams per kilogram
mV	millivolts
ft bgs	feet below ground surface
µS/cm	microsiemens per centimeter
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.

5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-12g

Sample Results: Polychlorinated Biphenyls

AOC 31 – Former Teapot Dome Oil Pit

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
PA-08	11/09/15	0 - 1	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	38	ND (18)	---	---	65
	01/12/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/12/16	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/12/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/12/16	9 - 10	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
PA-OS1	04/06/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/06/11	2.5 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/06/11	5.5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/06/11	9 - 9.5	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	---	---	ND (32)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
NE	not established
N	primary sample

TABLE 3-12g

Sample Results: Polychlorinated Biphenyls

AOC 31 – Former Teapot Dome Oil Pit

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

ND not detected at the listed reporting limit

ND The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

- ¹ Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- ² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- ³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- ⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.
- ⁵ Background values have not been established for polychlorinated biphenyls.

TABLE 3-13a
Sample Results: Metals
UA-2 – Former 300B Pipeline Drip Tank Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Interim Screening Level ¹ :				0.285	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	0.0125	1.37	27.3	1.47	5.15	0.78	52.2	58
Residential Regional Screening Levels ² :				31	0.68	15,000	160	71	0.3	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000
Residential DTSC-SL ³ :				NE	0.11	NE	15	5.2	NE	36,000	NE	NE	80	1	NE	490	NE	390	NE	390	NE
Ecological Comparison Values ⁴ :				0.285	11.4	330	23.3	0.0151	139.6	36.3	13	20.6	0.0166	0.0125	2.25	0.607	0.177	5.15	2.32	13.9	0.164
Background ⁵ :				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
UA2-300B-1	09/23/08	0 - 0.5	N	ND (2) *	14	290	ND (1) *	ND (1)	ND (0.42)	25	7.7	13	7.9	ND (0.1) *	ND (1)	16	ND (1)	ND (1)	ND (2) *	28	54
	09/23/08	0.5 - 1	N	ND (2) *	24	280	ND (2) *	ND (1)	ND (0.423)	28	9.1	14	5.8	ND (0.1) *	ND (2) *	19	ND (1)	ND (2)	ND (4) *	31	61
	10/23/08	2.5 - 3	N	ND (2) *	16	300	ND (2) *	ND (1)	ND (0.401)	25	8.8	13	5.6	ND (0.1) *	ND (2) *	18	ND (1)	ND (2)	ND (4) *	29	59
	10/23/08	5.5 - 6	N	ND (2) *	12	150	ND (1) *	ND (1)	ND (0.401)	17	6.7	10	3.2	ND (0.099) *	1.1	13	ND (1)	ND (1)	ND (2) *	22	48
UA2-300B-2	10/03/08	0 - 0.5	N	ND (2) *	8	220	ND (1) *	ND (1)	ND (0.404)	17	7	11	6.6	ND (0.1) *	ND (1)	13	ND (1)	ND (1)	ND (2) *	27	46
	10/03/08	0.5 - 1	N	ND (2) *	15	520	ND (2) *	ND (1)	ND (0.42)	33	10	15	4.3	ND (0.1) *	ND (2) *	22	ND (1)	ND (2)	ND (4) *	35	62
	10/03/08	2 - 3	N	ND (2) *	11	310	ND (2) *	ND (1)	ND (0.408)	34	11	11	3.4	ND (0.1) *	ND (2) *	23	ND (1)	ND (2)	ND (4) *	36	63
UA2-300B-3	10/03/08	0 - 0.5	N	ND (2) *	9.8	250	ND (2) *	ND (1)	ND (0.403)	21	7.9	11	5.3	ND (0.1) *	ND (2) *	16	ND (1)	ND (2)	ND (4) *	33	52
	10/03/08	0.5 - 1	N	ND (2) *	10	220	ND (2) *	ND (1)	ND (0.409)	26	10	13	6.3	ND (0.099) *	ND (2) *	19	ND (1)	ND (2)	ND (4) *	37	60
	10/03/08	0.5 - 1	FD	ND (2) *	10	220	ND (2) *	ND (1)	ND (0.407)	26	9.5	12	4.5	ND (0.1) *	ND (2) *	19	ND (1)	ND (2)	ND (4.1) *	35	58
	10/03/08	2 - 3	N	ND (2) *	12	180	ND (2) *	ND (1)	ND (0.409)	25	9.9	13	4	ND (0.1) *	ND (2) *	20	ND (1)	ND (2)	ND (4.1) *	34	65
	10/03/08	5 - 6	N	ND (2) *	14	890	ND (2) *	ND (1)	ND (0.409)	32	10	9.4	3.6	ND (0.1) *	ND (2) *	22	ND (1)	ND (2)	ND (4.1) *	37	58
UA2-300B-4	10/03/08	0 - 0.5	N	ND (2) *	9.1	230	ND (2) *	ND (1)	ND (0.405)	22	8.4	11	4.4	ND (0.1) *	ND (2) *	17	ND (1)	ND (2)	ND (4) *	33	53
	10/03/08	0.5 - 1	N	ND (2) *	11	190	ND (1) *	ND (1)	ND (0.408)	20	7.4	11	3.4	ND (0.1) *	ND (1)	14	ND (1)	ND (1)	ND (2) *	27	47
	10/03/08	2 - 3	N	ND (2) *	11	220	ND (2) *	ND (1)	ND (0.409)	28	11	15	3.4	ND (0.1) *	ND (2) *	21	ND (1)	ND (2)	ND (4.1) *	38	64
UA2-300B-5	10/03/08	0 - 0.5	N	ND (2) J*	8.4	290 J	ND (1) *	ND (1)	ND (0.405)	22	7	11	13	ND (0.1) *	ND (1)	15	ND (1)	ND (1)	ND (2) *	27	62
	10/03/08	0.5 - 1	N	ND (2) *	10	390	ND (2) *	ND (1)	ND (0.41)	33	11	11	3.9	ND (0.1) *	ND (2) *	24	ND (1)	ND (2)	ND (4.1) *	36	65
	10/03/08	2 - 3	N	ND (2) *	9.4	360	ND (2) *	ND (1)	ND (0.411)	35	11	12	3.4	ND (0.1) *	ND (2) *	25	ND (1)	ND (2)	ND (4.1) *	37	62
Category 3																					
TODT-1	04/16/96	0 - 4	N	ND (5) *	5.5	224	ND (0.5)	0.86	---	20	7.5	12	8.8	ND (0.2) *	ND (2.5) *	14	ND (0.5)	ND (1)	ND (5) *	37	53

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
ft bgs	feet below ground surface
mg/kg	milligrams per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

- ¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the Ecological Comparison Value , residential DTSC-SL, or USEPA residential regional screening value.
- ² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- ³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- ⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
- ⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-13b

Sample Results: Contract Laboratory Program Inorganics
 UA-2 – Former 300B Pipeline Drip Tank Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Interim Screening Level ¹ :				16,400	66,500	29,303	12,100	402	4,400	2,070	0.9
Residential Regional Screening Levels ² :				77,000	NE	55,000	NE	1,800	NE	NE	23
Residential DTSC-SL ³ :				NE	NE	NE	NE	1,800	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	220	NE	NE	0.9
Background ⁵ :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
UA2-300B-1	09/23/08	0 - 0.5	N	11,000	21,000	20,000	7,400	670	2,900	230	ND (1.05) *
UA2-300B-5	10/03/08	0 - 0.5	N	11,000	26,000	27,000	8,900	840	2,400	210	ND (1.01) *

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled; however, if the interim screening level is equal to the background value, only results greater than the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Interim screening level is background value. If background value is not available then the interim screening value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value.

² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

⁴ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

⁵ CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

TABLE 3-13c
Sample Results: Polycyclic Aromatic Hydrocarbons
UA-2 – Former 300B Pipeline Drip Tank Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																				
Interim Screening Level ¹ :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	10,000	1,160	110
Residential Regional Screening Levels ² :				18,000	240,000	3,600,000	3,600,000	18,000,000	1,100	110	1,100	1,800,000	11,000	110,000	110	2,400,000	2,400,000	1,100	3,800	18,000,000	1,800,000	NE	NE	110
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	10,000	1,160	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	37.6	267.4	55
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	PAH Low molecular weight	PAH High molecular weight	B(a)P Equivalent
Category 1																								
UA2-300B-1	09/23/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	09/23/08	0.5 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/23/08	2.5 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	11	ND (5)	11	6.5	5.8
	10/23/08	5.5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.3	6.2	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	11.5	6.1
UA2-300B-2	10/03/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/03/08	0.5 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/03/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
UA2-300B-3	10/03/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/03/08	0.5 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/03/08	0.5 - 1	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/03/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/03/08	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
UA2-300B-4	10/03/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/03/08	0.5 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/03/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
UA2-300B-5	10/03/08	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND	ND	ND (5.8)
	10/03/08	0.5 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
	10/03/08	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND	ND	ND (5.9)
Category 3																								
TODT-1	04/16/96	0 - 4	N	---	ND (8,000)	ND (8,000)	ND (8,000)	ND (8,000)	ND (8,000) *	ND (8,000) *	ND (8,000) *	ND (8,000)	ND (8,000)	ND (8,000)	ND (8,000) *	ND (8,000)	ND (8,000)	ND (8,000) *	ND (8,000) *	ND (8,000)	ND (8,000)	ND	ND	ND (9,200) *

Notes:

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Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
Results greater than or equal to the interim screening level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
JR	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).

- USEPA United States Environmental Protection Agency
- 1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
 - 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
 - 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
 - 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28.
 - 5 CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-13d

Sample Results: Semivolatile and Volatile Organic Compounds

UA-2 – Former 300B Pipeline Drip Tank Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(µg/kg)	(µg/kg)	(µg/kg)
Interim Screening Level ¹:				500	500	2,870
Residential Regional Screening Levels ²:				6,300,000	6,300,000	39,000
Residential DTSC-SL ³:				NE	NE	NE
Ecological Comparison Values ⁴:				500	500	2,870
Background ⁵:				NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4-Methylphenol	4-Methylphenol	bis (2-ethylhexyl) phthalate
Category 1						
UA2-300B-1	09/23/08	0 - 0.5	N	ND (330)	ND (330)	ND (330)
	09/23/08	0.5 - 1	N	ND (330)	ND (330)	ND (330)
	10/23/08	2.5 - 3	N	460	460	1,300
	10/23/08	5.5 - 6	N	ND (330)	ND (330)	ND (330)
UA2-300B-2	10/03/08	0 - 0.5	N	ND (330)	ND (330)	ND (330)
	10/03/08	0.5 - 1	N	ND (330)	ND (330)	ND (330)
	10/03/08	2 - 3	N	ND (330)	ND (330)	ND (330)
UA2-300B-3	10/03/08	0 - 0.5	N	ND (330)	ND (330)	ND (330)
	10/03/08	0.5 - 1	N	ND (330)	ND (330)	ND (330)
	10/03/08	0.5 - 1	FD	ND (330)	ND (330)	ND (330)
	10/03/08	2 - 3	N	ND (330)	ND (330)	ND (330)
	10/03/08	5 - 6	N	ND (330)	ND (330)	ND (330)
UA2-300B-4	10/03/08	0 - 0.5	N	ND (330)	ND (330)	ND (330)
	10/03/08	0.5 - 1	N	ND (330)	ND (330)	ND (330)
	10/03/08	2 - 3	N	ND (330)	ND (330)	ND (330)
UA2-300B-5	10/03/08	0 - 0.5	N	ND (330)	ND (330)	ND (330)
	10/03/08	0.5 - 1	N	ND (330)	ND (330)	ND (330)
	10/03/08	2 - 3	N	ND (340)	ND (340)	ND (340)
Category 3						
TODT-1	04/16/96	0 - 4	N	ND (8,000) *	ND (8,000) *	ND (20,000) *

TABLE 3-13d

Sample Results: Semivolatile and Volatile Organic Compounds

UA-2 – Former 300B Pipeline Drip Tank Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

Only detected SVOCs and VOCs are presented.

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
SVOCs	semivolatile organic compounds

- 1 The selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.
- 4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil". May 28 and ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.
- 5 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California". May.

TABLE 3-13e

Sample Results: Total Petroleum Hydrocarbons

UA-2 – Former 300B Pipeline Drip Tank Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)			
Interim Screening Level ¹ :				NE	230	11,000	11,000
Residential Regional Screening Levels ² :				NE	NE	NE	NE
Residential DTSC-SL ³ :				NE	NE	NE	NE
RWQCB Environmental Screening Levels ⁴ :				NE	230	11,000	11,000
Ecological Comparison Values ⁵ :				NE	NE	NE	NE
Background ⁶ :				NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Total Recoverable Hydrocarbons	TPH as diesel	TPH as motor oil	TPH as motor oil
UA2-300B-1	09/23/08	0 - 0.5	N	---	ND (10)	32.1	32.1
	09/23/08	0.5 - 1	N	---	ND (10)	33.6	33.6
	10/23/08	2.5 - 3	N	---	140	902	902
	10/23/08	5.5 - 6	N	---	ND (10)	60.4	60.4
UA2-300B-2	10/03/08	0 - 0.5	N	---	ND (10)	15.1 J	15.1 J
	10/03/08	0.5 - 1	N	---	ND (10)	12.2 J	12.2 J
	10/03/08	2 - 3	N	---	ND (10)	13 J	13 J
UA2-300B-3	10/03/08	0 - 0.5	N	---	ND (10)	ND (10)	ND (10)
	10/03/08	0.5 - 1	N	---	ND (10)	ND (10)	ND (10)
	10/03/08	0.5 - 1	FD	---	ND (10)	ND (10)	ND (10)
	10/03/08	2 - 3	N	---	ND (10)	ND (10)	ND (10)
	10/03/08	5 - 6	N	---	ND (10) J	ND (10) J	ND (10) J
UA2-300B-4	10/03/08	0 - 0.5	N	---	ND (10)	ND (10)	ND (10)
	10/03/08	0.5 - 1	N	---	ND (10)	ND (10)	ND (10)
	10/03/08	2 - 3	N	---	ND (10)	ND (10)	ND (10)
UA2-300B-5	10/03/08	0 - 0.5	N	---	10.5	59.9 J	59.9 J
	10/03/08	0.5 - 1	N	---	ND (10)	29.7 J	29.7 J
	10/03/08	2 - 3	N	---	ND (10)	11.2 J	11.2 J
HDTF	12/02/94	1.2	N	---	---	100	100
	12/02/94	2	N	---	---	13	13
TODT-1	04/16/96	0 - 4	N	68,000	---	---	---

TABLE 3-13e

Sample Results: Total Petroleum Hydrocarbons

UA-2 – Former 300B Pipeline Drip Tank Area

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California***Notes:**

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than the interim screening level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
RWQCB	Regional Water Quality Control Board
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency

¹ The interim screening level is the Regional Water Quality Control Board environmental screening level.² United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.³ California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.⁴ California Regional Water Quality Control Board (RWQCB). 2016. San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final. February.⁵ ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil. May 28 and ARCADIS. 2009. Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil". July 1.⁶ Background values have not been established for TPHs.

TABLE 3-13f
Sample Results: Pesticides
UA-2 – Former 300B Pipeline Drip Tank Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Interim Screening Level ¹ :				2.1	2.1	2.1	39	86	440	300	300	5	470,000	470,000	470,000	19,000	19,000	19,000	300	440	130	70	320,000	490
Residential Regional Screening Levels ² :				1,900	2,000	1,900	39	86	1,700	300	300	34	470,000	470,000	470,000	19,000	19,000	19,000	570	1,700	130	70	320,000	490
Residential DTSC-SL ³ :				NE	NE	NE	NE	300	440	300	300	NE	NE	NE	NE	NE	NE	NE	300	440	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				2.1	2.1	2.1	NE	NE	470	NE	NE	5	NE	NE	NE	NE	NE	NE	NE	470	NE	NE	NE	NE
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
UA2-300B-1	09/23/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
UA2-300B-5	10/03/08	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
Category 3																								
TODT-1	04/16/96	0 - 4	N	ND (8,000) * ND (8,000) * ND (8,000) * ND (8,000) * ND (8,000) *				---	ND (8,000) * ND (8,000) * ND (8,000) * ND (8,000) * ND (8,000) * ND (8,000)				ND (8,000)	ND (8,000)	ND (8,000)	ND (8,000)	---	ND (8,000) *		---	ND (8,000) * ND (8,000) *		---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

- *

Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg

micrograms per kilogram
- ft bgs

feet below ground surface
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- J

concentration or reporting limit estimated by laboratory or data validation
- NE

not established
- N

primary sample
- ND

not detected at the listed reporting limit
- USEPA

United States Environmental Protection Agency

1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison values for Additional Chemicals in Soil." July 1.

5 Background values have not been established for pesticides.

TABLE 3-13g

Sample Results: Polychlorinated Biphenyls

UA-2 – Former 300B Pipeline Drip Tank Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Interim Screening Level ¹ :				4,100	200	170	230	230	240	240	240	240	204
Residential Regional Screening Levels ² :				4,100	200	170	230	230	240	240	240	240	230
Residential DTSC-SL ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ecological Comparison Values ⁴ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	204
Background ⁵ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
UA2-300B-1	09/23/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	09/23/08	0.5 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/23/08	2.5 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/23/08	5.5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
UA2-300B-2	10/03/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	0.5 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
UA2-300B-3	10/03/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	0.5 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	0.5 - 1	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
UA2-300B-4	10/03/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	0.5 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
UA2-300B-5	10/03/08	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	0.5 - 1	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
	10/03/08	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND
Category 3													
TODT-1	04/16/96	0 - 4	N	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	---	---	ND

Notes:

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Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the interim screening level are circled.

TABLE 3-13g

Sample Results: Polychlorinated Biphenyls

UA-2 – Former 300B Pipeline Drip Tank Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
ND	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Selected value is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.

2 United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

3 California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January.

4 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil." July 1.

5 Background values have not been established for polychlorinated biphenyls.

TABLE 3-13h
Constituent Concentrations in Soil Compared to Screening Values
UA-2 – Former 300B Pipeline Drip Tank Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		Ecological Comparison Value (ECV) ²		Residential Screening Level (RSL) ³		RWQCB Environmental Screening Levels (ESL) ⁴		Commercial Screening Level (CSL) ⁵		Interim Screening Level (ISL) ⁶	
					# of Exceedences ⁷	(BK)	# of Exceedences ⁸	(ECV)	# of Exceedences ⁸	(RSL)	# of Exceedences ⁸	(ESL)	# of Exceedences ⁸	(CSL)	# of Exceedences ⁸	(ISL)
Metals																
Antimony	mg/kg	5	0 / 17 (0%)	ND (2) ‡	NA	(NE)	0	(0.285)	0	(31)	NA	(NA)	0	(470)	0	(0.285)
Arsenic	mg/kg	5	17 / 17 (100%)	24	7	(11)	7	(11.4)	7	(0.11) *	NA	(NA)	7	(0.36) *	7	(11)
Barium	mg/kg	5	17 / 17 (100%)	890	2	(410)	2	(330) *	0	(15,000)	NA	(NA)	0	(220,000)	2	(410)
Beryllium	mg/kg	5	0 / 17 (0%)	ND (2) ‡	0	(0.672)	0	(23.3)	0	(15)	NA	(NA)	0	(210)	0	(0.672)
Chromium, total	mg/kg	5	17 / 17 (100%)	35	0	(39.8)	0	(36.3) *	0	(36,000)	NA	(NA)	0	(170,000)	0	(39.8)
Cobalt	mg/kg	5	17 / 17 (100%)	11	0	(12.7)	0	(13)	0	(23)	NA	(NA)	0	(350)	0	(12.7)
Copper	mg/kg	5	17 / 17 (100%)	15	0	(16.8)	0	(20.6)	0	(3,100)	NA	(NA)	0	(47,000)	0	(16.8)
Lead	mg/kg	5	17 / 17 (100%)	13	1	(8.39)	1	(0.0166) *	0	(80)	NA	(NA)	0	(320)	1	(8.39)
Mercury	mg/kg	5	0 / 17 (0%)	ND (0.1) ‡	NA	(NE)	0	(0.0125)	0	(1)	NA	(NA)	0	(4.5)	0	(0.0125)
Molybdenum	mg/kg	5	1 / 17 (5.9%)	1.1	0	(1.37)	0	(2.25)	0	(390)	NA	(NA)	0	(5,800)	0	(1.37)
Nickel	mg/kg	5	17 / 17 (100%)	25	0	(27.3)	0	(0.607) *	0	(490)	NA	(NA)	0	(3,100)	0	(27.3)
Thallium	mg/kg	5	0 / 17 (0%)	ND (4.1) ‡	NA	(NE)	0	(2.32)	0	(0.78)	NA	(NA)	0	(12)	0	(0.78)
Vanadium	mg/kg	5	17 / 17 (100%)	38	0	(52.2)	0	(13.9) *	0	(390)	NA	(NA)	0	(1,000)	0	(52.2)
Zinc	mg/kg	5	17 / 17 (100%)	65	10	(58)	10	(0.164) *	0	(23,000)	NA	(NA)	0	(350,000)	10	(58)
Contract Laboratory Program Inorganics																
Aluminum	mg/kg	2	2 / 2 (100%)	11,000	0	(16,400)	NA	(NE)	0	(77,000)	NA	(NA)	0	(1,100,000)	0	(16,400)
Calcium	mg/kg	2	2 / 2 (100%)	26,000	0	(66,500)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(66,500)
Iron	mg/kg	2	2 / 2 (100%)	27,000	0	(29,303)	NA	(NE)	0	(55,000)	NA	(NA)	0	(820,000)	0	(29,303)
Magnesium	mg/kg	2	2 / 2 (100%)	8,900	0	(12,100)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(12,100)
Manganese	mg/kg	2	2 / 2 (100%)	840	2	(402)	2	(220)	0	(1,800)	NA	(NA)	0	(6,900)	2	(402)
Potassium	mg/kg	2	2 / 2 (100%)	2,900	0	(4,400)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(4,400)
Sodium	mg/kg	2	2 / 2 (100%)	230	0	(2,070)	NA	(NE)	NA	(NE)	NA	(NA)	NA	(NE)	0	(2,070)
Cyanide	mg/kg	2	0 / 2 (0%)	ND (1.05) ‡	NA	(NE)	0	(0.9)	0	(23)	NA	(NA)	0	(150)	0	(0.9)
Semivolatile Organic Compounds																
4-Methylphenol	µg/kg	5	1 / 17 (5.9%)	460	NA	(NE)	0	(500)	0	(6,300,000)	NA	(NA)	0	(82,000,000)	0	(500)
bis (2-ethylhexyl) phthalate	µg/kg	5	1 / 17 (5.9%)	1,300	NA	(NE)	0	(2,870)	0	(39,000)	NA	(NA)	0	(160,000)	0	(2,870)
Polycyclic Aromatic Hydrocarbons																
Benzo (b) fluoranthene	µg/kg	5	1 / 17 (5.9%)	5.3	NA	(NE)	NA	(NE)	0	(1,100)	NA	(NA)	0	(21,000)	0	(1,100)
Benzo (ghi) perylene	µg/kg	5	1 / 17 (5.9%)	6.2	NA	(NE)	NA	(NE)	0	(1,800,000)	NA	(NA)	0	(23,000,000)	0	(1,800,000)
Chrysene	µg/kg	5	1 / 17 (5.9%)	6.5	NA	(NE)	NA	(NE)	0	(110,000)	NA	(NA)	0	(2,100,000)	0	(110,000)
Phenanthrene	µg/kg	5	1 / 17 (5.9%)	11	NA	(NE)	NA	(NE)	0	(18,000,000)	NA	(NA)	0	(230,000,000)	0	(18,000,000)
PAH Low molecular weight	µg/kg	5	17 / 17 (100%)	11	0	(37.6)	0	(10,000)	NA	(NE)	NA	(NA)	NA	(NE)	0	(10,000)
PAH High molecular weight	µg/kg	5	17 / 17 (100%)	11.5	0	(267.4)	0	(1,160)	NA	(NE)	NA	(NA)	NA	(NE)	0	(1,160)
B(a)P Equivalent	µg/kg	5	2 / 17 (12%)	6.1	0	(55)	NA	(NE)	0	(110)	NA	(NA)	0	(2,100)	0	(110)
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	5	2 / 17 (12%)	140	NA	(NE)	NA	(NE)	0	(230)	0	(230)	0	(1,100)	0	(230)
TPH as motor oil	mg/kg	5	10 / 17 (59%)	902	NA	(NE)	NA	(NE)	0	(11,000)	0	(11,000)	0	(140,000)	0	(11,000)

TABLE 3-13h
Constituent Concentrations in Soil Compared to Screening Values
UA-2 – Former 300B Pipeline Drip Tank Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background threshold value because it is greater than the respective screening level.
‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RSL	esidential screening level
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

- 1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.
- 2 ARCADIS. 2008. "Technical Memorandum 3: Ecological Comparison Values for Metals and Polycyclic Aromatic Hydrocarbons in Soil." May 28. ARCADIS. 2009. "Topock Compression Station - Final Technical Memorandum 4: Ecological Comparison Values for Additional Detected Chemicals in Soil" July 1
- 3 Residential screening level - the lower of the residential DTSC-SL and USEPA regional screening level is used.
- 4 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr
- 5 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used.
- 6 For metals, the ISL is background value. If background value is not available then the ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value. For TPH, ISL is the RWQCB ESL. For dioxin/furan TEQ values, the ISL is the DTSC-SL unless the background value is higher. For all other analytes, ISL is the lower of the ECV, residential DTSC-SL, or USEPA residential regional screening value, unless the background value is higher.
- 7 Number of exceedences are the number of detections exceeding the background threshold value (BTV).
- 8 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-14a
Sample Results: Metals
SWMU 5 – Sludge Drying Beds
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
SWMU5-1	12/08/15	0 - 1	N	ND (2)	2.3	84	ND (1)	ND (1)	0.41	13	4	8.2	4.2	ND (0.1)	ND (1)	8.8	ND (1)	ND (1)	ND (2)	18	22
	12/08/15	2 - 3	N	ND (2.1)	2.2	88	ND (1)	ND (1)	0.4	14	5.7	7.4	7.8	ND (0.1)	ND (1)	9.2	ND (1)	ND (1)	ND (2.1)	22	25
SWMU5-2	12/07/15	0 - 0.5	N	ND (2.1)	3.3	100	ND (1)	ND (1)	ND (0.21)	11	3.8	7.6	4.7	ND (0.1)	ND (1)	7.6	ND (1)	ND (1)	ND (2.1)	20	23
	12/07/15	2 - 3	N	ND (2.1)	2.6	180	ND (1)	ND (1)	0.64	32	6.3	13	6.7	ND (0.1) J	ND (1)	16	ND (1)	ND (1)	ND (2.1)	29	44
	12/07/15	2 - 3	FD	ND (2.1)	2.7	180	ND (1)	ND (1)	0.73	36	6.5	13	8	0.98 J	ND (1)	15	ND (1)	ND (1)	ND (2.1)	28	46
	01/12/17	5 - 6	N	ND (2.1)	3.1	88	ND (1.1)	ND (1.1)	---	32	7.2	13	3.1	ND (0.11)	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	29	43
Category 2																					
EDB-4	12/09/88	2.5 - 3	N	ND (0.3)	1.63	120	ND (1)	ND (0.5)	ND (1)	23	6.4	ND (3)	17	ND (0.002)	ND (1)	12	ND (0.5)	ND (1)	ND (5)	18	34
EDB-5	12/09/88	2.5 - 3	N	ND (0.3)	1.21	110	ND (1)	ND (0.5)	ND (1)	37	8.2	3.8	4.4	0.016	ND (1)	9.3	ND (0.5)	ND (1)	ND (5)	24	53
	12/09/88	2.5 - 3	FD	ND (0.3)	1.14	120	ND (1)	ND (0.5)	ND (1)	47	8.3	1.8	2.8	0.03	ND (1)	9.1	ND (0.5)	ND (1)	ND (5)	29	56
WDB-4	12/09/88	3 - 0	N	0.3	1.84	210	ND (0.05)	0.5	ND (1)	30	8.3	8.1	5.2	0.019	0.11	11	ND (0.1)	ND (0.05)	ND (0.3)	20	100
	12/09/88	3 - 0	FD	ND (0.3)	1.3	78	ND (1)	0.2	ND (1)	18	2.3	3.1	4	0.012	ND (1)	6.5	ND (0.5)	ND (1)	ND (5)	8.1	93
WDB-5	12/09/88	3 - 0	N	ND (0.3)	1.29	110	ND (1)	ND (0.5)	ND (1)	22	7.1	ND (3)	15	0.014	ND (1)	7.5	ND (0.5)	ND (1)	ND (5)	21	33

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- *

Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg

milligrams per kilogram
- ft bgs

feet below ground surface
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- N

primary sample
- ND

not detected at the listed reporting limit
- NE

not established
- J

concentration or reporting limit estimated by laboratory or data validation
- USEPA

United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-14b

Sample Results: Contract Laboratory Program Inorganics
 SWMU 5 – Sludge Drying Beds
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
SWMU5-1	12/08/15	0 - 1	N	5,200	15,000	9,100	4,100	140	1,500	450	ND (0.206)
	12/08/15	2 - 3	N	6,600	30,000	15,000	4,700	160	1,700	180	ND (0.209)
SWMU5-2	01/12/17	5 - 6	N	9,500	28,000	21,000	7,500	260	2,000	590	ND (0.217) J

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-14c
Sample Results: Polycyclic Aromatic Hydrocarbons
SWMU 5 – Sludge Drying Beds
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
SWMU5-1	12/08/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.8	ND (51)	ND (51)	ND (51)	ND (51)	9.5	ND (51)	15	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	14	57	
	12/08/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	16	ND (5.2)	ND (52)	ND (4.7)	ND (5.2)	15	60	
SWMU5-2	12/07/15	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (520)	ND (520)	ND (520)	ND (520)	ND (52)	ND (520)	23 J	ND (5.2)	ND (520)	ND (5.2)	5.8 J	22 J	580	
	12/07/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (520)	ND (520)	ND (520)	ND (520)	ND (52)	ND (520)	20 J	ND (5.2)	ND (520)	ND (4.7)	ND (5.2) J	18 J	580	
	12/07/15	2 - 3	FD	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (520)	ND (5,200) *	ND (5,200)	ND (5,200)	ND (5,200)	ND (520)	ND (5,200) *	640 J	ND (52)	ND (5,200)	ND (4.6)	280 J	560 J	5,800	
	01/12/17	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	11 J	14	31	7.9	6.5	13	ND (5.4)	19	ND (5.4)	7.2	ND (5.4)	5.7	18	22	
	01/12/17	5 - 6	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	5.4	13	ND (5.4)	ND (5.4)	6.5	ND (5.4)	7.6	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	7.9	10	
	01/12/17	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.7 J	9.7	23	ND (5.2)	5.9	11	ND (5.2)	15	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	15	16	

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-14d

Sample Results: Total Petroleum Hydrocarbons

SWMU 5 – Sludge Drying Beds

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
SWMU5-1	12/08/15	0 - 1	N	46	360
	12/08/15	2 - 3	N	38	450
SWMU5-2	12/07/15	0 - 0.5	N	74	500
	12/07/15	2 - 3	N	43	430
	12/07/15	2 - 3	FD	37	360

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-14e

Sample Results: General Chemistry Parameters

SWMU 5 – Sludge Drying Beds

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry	
				(mg/kg)	(pH units)
Commercial Regional Screening Levels ¹ :				47,000	NE
DTSC-SL ² :				NE	NE
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Fluoride	pH
Category 2					
EDB-4	12/09/88	2.5 - 3	N	504	11.25
EDB-5	12/09/88	2.5 - 3	N	791	10.85
	12/09/88	2.5 - 3	FD	621	10.71
WDB-4	12/09/88	3 - 0	N	310	10.35
	12/09/88	3 - 0	FD	130	10.21
WDB-5	12/09/88	3 - 0	N	528	10.53

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for general chemistry parameters.

TABLE 3-14f
Sample Results: Pesticides
SWMU 5 – Sludge Drying Beds
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																					
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100	
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene	
Category 1																									
SWMU5-2	01/12/17	5 - 6	N	ND (2.1)	ND (2.1)	5.6	ND (1.1)	ND (1.1)	1.7	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	2.2	ND (1.1)	ND (1.1)	ND (5.4)	ND (54) J	

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg micrograms per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- NE not established
- N primary sample
- ND not detected at the listed reporting limit
- USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for pesticides.

TABLE 3-14g

Sample Results: Polychlorinated Biphenyls

SWMU 5 – Sludge Drying Beds

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
SWMU5-2	12/07/15	0 - 0.5	N	17 R	34 R	17 R	17 R	17 R	17 R	17 R	34 R
	12/07/15	2 - 3	N	17 R	34 R	17 R	17 R	17 R	17 R	17 R	34 R
	01/12/17	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	27	ND (18)	54
	01/12/17	5 - 6	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	27	ND (18)	54
	01/12/17	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-14h
Sample Results: Dioxins and Furans
SWMU 5 – Sludge Drying Beds
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8,9-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
SWMU5-2	12/07/15	0 - 0.5	N	1,600 J	84 J	ND (5) J	ND (4.4) J	ND (7.1) J	32 J	ND (3.3) J	9.8 J	ND (2.3) J	3.5 J	2.4 J	ND (190) J	4.4 J	ND (0.65) J	ND (1.7) J	19,000 J	150 J	42
	12/07/15	2 - 3	N	1,300 J	86 J	6.3 J	6.2 J	ND (0.86) J	28 J	6.6 J	12 J	ND (0.99) J	ND (3.2) J	3 J	ND (100) J	2.8 J	ND (0.23) J	1.7 J	12,000 J	110 J	31

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

* Reporting limits greater than or equal to the interim screening level.
--- not analyzed
µg/kg micrograms per kilogram
ft bgs feet below ground surface
ng/kg nanograms per kilogram
DTSC California Department of Toxic Substances Control
DTSC-SL DTSC Screening Level
FD field duplicate
J concentration or reporting limit estimated by laboratory or data validation
JR estimated value, one or more input values is “R” qualified.
NA not applicable
NE not established
N primary sample
ND not detected at the listed reporting limit
R The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
2 Background values are not established or not applicable.

TABLE 3-14i

Constituent Concentrations in Soil Compared to Screening Values

SWMU 5 – Sludge Drying Beds

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	1	2 / 2 (100%)	42	2	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	6	1 / 9 (11%)	0.3	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	6	9 / 9 (100%)	3.3	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	6	9 / 9 (100%)	210	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	6	0 / 9 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	6	1 / 9 (11%)	0.5	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	6	3 / 8 (38%)	0.73	0	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	6	9 / 9 (100%)	47	1	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	6	9 / 9 (100%)	8.3	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	6	7 / 9 (78%)	13	0	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	6	9 / 9 (100%)	17	2	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	6	4 / 9 (44%)	0.98	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	6	1 / 9 (11%)	0.11	0	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	6	9 / 9 (100%)	16	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	6	0 / 9 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	6	0 / 9 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	6	0 / 9 (0%)	ND (5) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	6	9 / 9 (100%)	29	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	6	9 / 9 (100%)	100	1	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	2	3 / 3 (100%)	9,500	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	2	3 / 3 (100%)	30,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	2	3 / 3 (100%)	21,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	2	3 / 3 (100%)	7,500	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	2	3 / 3 (100%)	260	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	2	3 / 3 (100%)	2,000	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-14i

Constituent Concentrations in Soil Compared to Screening Values

SWMU 5 – Sludge Drying Beds

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	2	3 / 3 (100%)	590	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	2	0 / 3 (0%)	ND (0.217)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
Benzo (a) anthracene	µg/kg	2	3 / 6 (50%)	11	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	2	2 / 6 (33%)	9.7	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	2	2 / 6 (33%)	31	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	2	1 / 6 (17%)	7.9	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	2	2 / 6 (33%)	6.5	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	2	3 / 6 (50%)	11	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	2	6 / 6 (100%)	640	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	2	1 / 6 (17%)	7.2	NA	(NE)	NA	(NA)	0	(21,000)
Phenanthrene	µg/kg	2	3 / 6 (50%)	280	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	2	6 / 6 (100%)	560	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	2	6 / 6 (100%)	5,800	4	(55)	NA	(NA)	1	(2,100)
Polychlorinated biphenyls										
Aroclor 1016	µg/kg	1	2 / 4 (50%)	17	NA	(NE)	NA	(NA)	0	(27,000)
Aroclor 1221	µg/kg	1	2 / 4 (50%)	34	NA	(NE)	NA	(NA)	0	(830)
Aroclor 1232	µg/kg	1	2 / 4 (50%)	17	NA	(NE)	NA	(NA)	0	(720)
Aroclor 1242	µg/kg	1	2 / 4 (50%)	17	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1248	µg/kg	1	2 / 4 (50%)	17	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1254	µg/kg	1	3 / 4 (75%)	27	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	1	2 / 4 (50%)	17	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	1	3 / 4 (75%)	54	NA	(NE)	NA	(NA)	0	(940)
Pesticides										
4,4-DDT	µg/kg	1	1 / 1 (100%)	5.6	NA	(NE)	NA	(NA)	0	(8,500)
alpha-Chlordane	µg/kg	1	1 / 1 (100%)	1.7	NA	(NE)	NA	(NA)	0	(1,500)
gamma-Chlordane	µg/kg	1	1 / 1 (100%)	2.2	NA	(NE)	NA	(NA)	0	(1,500)

TABLE 3-14i

Constituent Concentrations in Soil Compared to Screening Values

SWMU 5 – Sludge Drying Beds

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	2	4 / 4 (100%)	74	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	2	4 / 4 (100%)	500	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	2	0 / 2 (0%)	ND (0.97)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-14i
 Constituent Concentrations in Soil Compared to Screening Values
 SWMU 5 – Sludge Drying Beds
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-15a
Sample Results: Metals
SWMU 6 – Chromate Reduction Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	NE	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Trivalent Chromium	Vanadium	Zinc
Category 1																						
SWMU6-1	12/07/15	0 - 1	N	ND (2.1)	2.9	110	ND (1)	ND (1)	0.23	11	4.4	8	4.4	ND (0.1)	ND (1)	9.9	ND (1)	ND (1)	ND (2.1)	---	19	22
	12/07/15	2 - 3	N	ND (2.1)	2.4	140	ND (1)	ND (1)	0.64	29	8.6	12	4.8	1.2	ND (1)	15	ND (1)	ND (1)	ND (2.1)	---	31	44
	12/07/15	5 - 6	N	ND (2.1)	2.1	180	ND (1)	ND (1)	0.91	43	6.2	10	4.3	0.18	ND (1)	16	ND (1)	ND (1)	ND (2.1)	---	24	44
	01/12/17	9 - 10	N	ND (2.1)	3.5	110	ND (1)	ND (1)	---	90	6.8	12	5	ND (0.1)	1.1	12	ND (1) J	ND (1)	ND (2.1)	---	30	71
Category 2																						
CRT-4	11/15/89	7.5	N	ND (0.3)	4.3	165	ND (1)	ND (0.5)	1	120	10	14	6	ND (0.002)	ND (1)	19	ND (0.5)	ND (1)	ND (5)	---	25	96
	11/15/89	7.5	FD	---	---	---	---	---	ND (1)	43	---	8.3	---	---	---	8.1	---	---	---	---	---	59
	11/15/89	8	N	ND (0.3)	1.7	103	ND (1)	ND (0.5)	ND (1)	23	9	7	2	ND (0.002)	ND (1)	14	ND (0.5)	ND (1)	ND (5)	---	23	47
	11/15/89	8.5	N	ND (0.3)	2.5	168	ND (1)	ND (0.5)	ND (1)	21	10	8	3	ND (0.002)	ND (1)	18	ND (0.5)	ND (1)	ND (5)	---	24	49
	11/15/89	12 - 12.5	N	ND (1)	1.9	56	0.1	0.2	ND (1)	43	3	8.3	1.9	ND (0.02)	0.67	8.1	ND (0.1)	ND (0.05)	ND (1)	43	14	59

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- *

Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg

milligrams per kilogram
- ft bgs

feet below ground surface
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- N

primary sample
- ND

not detected at the listed reporting limit
- NE

not established
- J

concentration or reporting limit estimated by laboratory or data validation
- USEPA

United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-15b

Sample Results: Contract Laboratory Program Inorganics
 SWMU 6 – Chromate Reduction Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
SWMU6-1	12/07/15	0 - 1	N	5,400	15,000	11,000	4,700	250	1,100	480	ND (0.205)
	12/07/15	2 - 3	N	10,000	27,000	20,000	8,000	240	2,300	600	ND (0.21) J
	12/07/15	5 - 6	N	7,600	21,000	15,000	6,500	200	1,700	470	ND (0.209)
	01/12/17	9 - 10	N	8,200	19,000	17,000	6,500	250	2,400 J	450 J	ND (0.207) J

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-15c
Sample Results: Polycyclic Aromatic Hydrocarbons
SWMU 6 – Chromate Reduction Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
SWMU6-1	12/07/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	6.8 J	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	6.5 J	59
	12/07/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.3	ND (52)	ND (52)	ND (52)	ND (52)	9	ND (52)	14	ND (5.2)	ND (52)	ND (4.4)	ND (5.2)	13	58
	12/07/15	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8	9	17	ND (5.2)	7	12	ND (5.2)	20	ND (5.2)	ND (5.2)	ND (4.7)	ND (5.2)	21	14
	01/12/17	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	14 J	18	39	7	11	19	ND (5.2)	27	ND (5.2)	7	ND (5.2)	8.7	27	27
	01/12/17	9 - 10	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	15 J	19	44	7.3	13	21	ND (5.2)	32	ND (5.2)	7	ND (5.2)	11	32	28

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-15d

Sample Results: Total Petroleum Hydrocarbons

SWMU 6 – Chromate Reduction Tank

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
SWMU6-1	12/07/15	0 - 1	N	42	320
	12/07/15	2 - 3	N	ND (10)	45
	12/07/15	5 - 6	N	ND (10)	35

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-15e

Sample Results: General Chemistry Parameters

SWMU 6 – Chromate Reduction Tank

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry		
				(mg/kg)	(pH units)	(µS/cm)
Commercial Regional Screening Levels ¹ :				47,000	NE	NE
DTSC-SL ² :				NE	NE	NE
Background ³ :				NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Fluoride	pH	Specific conductance
Category 2						
CRT-4	11/15/89	7.5	N	380	8.42	170
	11/15/89	7.5	FD	---	10.01	---
	11/15/89	8	N	490	9.03	65
	11/15/89	8.5	N	400	9.52	45
	11/15/89	12 - 12.5	N	650	10.01	380

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-15f
Sample Results: Pesticides
SWMU 6 – Chromate Reduction Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene	
Category 1																								
SWMU6-1	01/12/17	9 - 10	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg micrograms per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- NE not established
- N primary sample
- ND not detected at the listed reporting limit
- USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for pesticides.

TABLE 3-15g

Sample Results: Polychlorinated Biphenyls

SWMU 6 – Chromate Reduction Tank

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ :				27,000	830	720	950	950	970	990	940
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
SWMU6-1	01/12/17	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	150	ND (17)	175.5
	01/12/17	9 - 10	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	180	ND (17)	205.5

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for polychlorinated biphenyls.

TABLE 3-15h
Sample Results: Dioxins and Furans
SWMU 6 – Chromate Reduction Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
SWMU6-1	01/12/17	9 - 10	N	9,400	1,500	84	48	94	320	70	100	26	21	12 J	ND (2,700)	23	1.7 J	ND (0.15)	150,000	3,000	390

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are not established or not applicable.

TABLE 3-15i

Constituent Concentrations in Soil Compared to Screening Values

SWMU 6 – Chromate Reduction Tank

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	1	1 / 1 (100%)	390	1	(5.58)	NA	(NA)	1	(220)
Metals										
Antimony	mg/kg	2	0 / 8 (0%)	ND (2.1) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	2	8 / 8 (100%)	4.3	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	2	8 / 8 (100%)	180	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	2	1 / 8 (13%)	0.1	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	2	1 / 8 (13%)	0.2	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	2	4 / 7 (57%)	1	2	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	2	8 / 8 (100%)	120	4	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	2	8 / 8 (100%)	10	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	2	8 / 8 (100%)	14	0	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	2	8 / 8 (100%)	6	0	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	2	2 / 8 (25%)	1.2	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	2	2 / 8 (25%)	1.1	0	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	2	8 / 8 (100%)	19	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	2	0 / 8 (0%)	ND (1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	2	0 / 8 (0%)	ND (1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	2	0 / 8 (0%)	ND (5) ‡	NA	(NE)	NA	(NA)	0	(12)
Trivalent Chromium	mg/kg	1	1 / 1 (100%)	43	NA	(NE)	NA	(NA)	NA	(NE)
Vanadium	mg/kg	2	8 / 8 (100%)	31	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	2	8 / 8 (100%)	96	3	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	4 / 4 (100%)	10,000	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	1	4 / 4 (100%)	27,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	4 / 4 (100%)	20,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	4 / 4 (100%)	8,000	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	4 / 4 (100%)	250	0	(402)	NA	(NA)	0	(6,900)

TABLE 3-15i

Constituent Concentrations in Soil Compared to Screening Values

SWMU 6 – Chromate Reduction Tank

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Potassium	mg/kg	1	4 / 4 (100%)	2,400	0	(4,400)	NA	(NA)	NA	(NE)
Sodium	mg/kg	1	4 / 4 (100%)	600	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 4 (0%)	ND (0.21)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
Benzo (a) anthracene	µg/kg	1	3 / 4 (75%)	15	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	1	2 / 4 (50%)	19	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	1	2 / 4 (50%)	44	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	1	1 / 4 (25%)	7.3	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	1	2 / 4 (50%)	13	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	1	3 / 4 (75%)	21	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	1	4 / 4 (100%)	32	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	1	1 / 4 (25%)	7	NA	(NE)	NA	(NA)	0	(21,000)
Phenanthrene	µg/kg	1	1 / 4 (25%)	8.7	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	1	4 / 4 (100%)	32	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	1	4 / 4 (100%)	59	2	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	1	1 / 1 (100%)	180	NA	(NE)	NA	(NA)	0	(970)
Total PCBs	µg/kg	1	1 / 1 (100%)	205.5	NA	(NE)	NA	(NA)	0	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	1	1 / 3 (33%)	42	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	1	3 / 3 (100%)	320	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	1	0 / 2 (0%)	ND (0.99)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-15i
 Constituent Concentrations in Soil Compared to Screening Values
 SWMU 6 – Chromate Reduction Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-16a
Sample Results: Metals
SWMU 8 – Process Pump Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
SWMU8-1	12/09/15	0 - 1	N	ND (2.2)	2.9	62	ND (1.1)	ND (1.1)	ND (0.22)	54	12	21	2.9	ND (0.11)	ND (1.1)	39	ND (1.1)	ND (1.1)	ND (2.2)	47	45
	12/09/15	2 - 3	N	ND (2.2)	2.4	160	ND (1.1)	ND (1.1)	ND (0.22)	51	13	18	2.3	ND (0.11)	ND (1.1)	40	ND (1.1)	ND (1.1)	ND (2.2)	54	43
Category 2																					
PPT-4	02/08/89	2	N	ND (0.3)	1.1	65	ND (1)	ND (0.5)	ND (1)	32	13	19	5	0.02	ND (1)	33	ND (0.5)	ND (1)	ND (5)	41	44
	02/08/89	2	FD	ND (0.3)	1.2	65	ND (1)	ND (0.5)	ND (1)	29	9	15	4	0.027	ND (1)	26	ND (0.5)	ND (1)	ND (5)	32	36
	02/08/89	3	N	ND (0.3)	1.3	50	ND (1)	0.5	ND (1)	26	10	16	5	0.007	ND (1)	25	ND (0.5)	ND (1)	ND (5)	38	44

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- *

Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg

milligrams per kilogram
- ft bgs

feet below ground surface
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- N

primary sample
- ND

not detected at the listed reporting limit
- NE

not established
- J

concentration or reporting limit estimated by laboratory or data validation
- USEPA

United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-16b

Sample Results: Contract Laboratory Program Inorganics
 SWMU 8 – Process Pump Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
SWMU8-1	12/09/15	0 - 1	N	16,000	36,000	31,000	13,000	290	2,900	410	ND (0.217)
	12/09/15	2 - 3	N	18,000	39,000	38,000	15,000	330	3,200	490	ND (0.218)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-16c
Sample Results: Polycyclic Aromatic Hydrocarbons
SWMU 8 – Process Pump Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
SWMU8-1	12/09/15	0 - 1	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	7.5	60
	12/09/15	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.8)	ND (5.4)	ND (5.4)	ND (6.2)

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-16d

Sample Results: Total Petroleum Hydrocarbons

SWMU 8 – Process Pump Tank

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
SWMU8-1	12/09/15	0 - 1	N	130	220
	12/09/15	2 - 3	N	ND (11)	ND (11)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-16e

Sample Results: General Chemistry Parameters

SWMU 8 – Process Pump Tank

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry	
				(mg/kg)	(pH units)
Commercial Regional Screening Levels ¹ :				47,000	NE
DTSC-SL ² :				NE	NE
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Fluoride	pH
Category 2					
PPT-4	02/08/89	2	N	636	8.68
	02/08/89	2	FD	664	8.74
	02/08/89	3	N	576	9.34

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-16f
Sample Results: Dioxins and Furans
SWMU 8 – Process Pump Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8- HpCDD	1,2,3,4,6,7,8- HpCDF	1,2,3,4,7,8,9- HpCDF	1,2,3,4,7,8- HxCDD	1,2,3,4,7,8- HxCDF	1,2,3,6,7,8- HxCDD	1,2,3,6,7,8- HxCDF	1,2,3,7,8,9- HxCDD	1,2,3,7,8,9- HxCDF	1,2,3,7,8- PeCDD	1,2,3,7,8- PeCDF	2,3,4,6,7,8- HxCDF	2,3,4,7,8- PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
SWMU8-1	12/09/15	0 - 1	N	39 J	ND (6.3) J	ND (0.38) J	ND (0.28) J	ND (0.43) J	ND (0.94) J	ND (0.41) J	ND (0.5) J	ND (0.5) J	ND (0.26) J	ND (0.21) J	ND (7) J	ND (0.18) J	ND (0.14) J	ND (0.13) J	440 J	ND (14) J	1.3
	12/09/15	2 - 3	N	34 J	ND (4.4) J	ND (0.45) J	ND (0.2) J	ND (0.24) J	ND (0.2) J	ND (0.23) J	ND (0.44) J	ND (0.27) J	ND (0.15) J	ND (0.11) J	ND (6.2) J	ND (0.11) J	ND (0.11) J	ND (0.099) J	350 J	10 J	1

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are not established or not applicable.

TABLE 3-16g

Constituent Concentrations in Soil Compared to Screening Values

SWMU 8 – Process Pump Tank

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	1	2 / 2 (100%)	1.3	0	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	2	0 / 4 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	2	4 / 4 (100%)	2.9	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	2	4 / 4 (100%)	160	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	2	0 / 4 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	2	1 / 4 (25%)	0.5	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	2	0 / 4 (0%)	ND (1) ‡	0	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	2	4 / 4 (100%)	54	2	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	2	4 / 4 (100%)	13	2	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	2	4 / 4 (100%)	21	3	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	2	4 / 4 (100%)	5	0	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	2	2 / 4 (50%)	0.027	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	2	0 / 4 (0%)	ND (1.1)	0	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	2	4 / 4 (100%)	40	3	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	2	0 / 4 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	2	0 / 4 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	2	0 / 4 (0%)	ND (5) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	2	4 / 4 (100%)	54	1	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	2	4 / 4 (100%)	45	0	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	2 / 2 (100%)	18,000	1	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	1	2 / 2 (100%)	39,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	2 / 2 (100%)	38,000	2	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	2 / 2 (100%)	15,000	2	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	2 / 2 (100%)	330	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	1	2 / 2 (100%)	3,200	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-16g

Constituent Concentrations in Soil Compared to Screening Values

SWMU 8 – Process Pump Tank

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	1	2 / 2 (100%)	490	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 2 (0%)	ND (0.218)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
Pyrene	µg/kg	1	1 / 2 (50%)	7.5	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	1	1 / 2 (50%)	60	1	(55)	NA	(NA)	0	(2,100)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	1	1 / 2 (50%)	130	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	1	1 / 2 (50%)	220	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	1	0 / 1 (0%)	ND (0.9)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-16g
 Constituent Concentrations in Soil Compared to Screening Values
 SWMU 8 – Process Pump Tank
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-17a
Sample Results: Metals
SWMU 9 – Transfer Sump
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 2																					
SumpTS-3	11/15/89	19	N	ND (0.3)	2.1	100	1	ND (0.5)	ND (1)	20	11	8	4	ND (0.002)	ND (1)	16	ND (0.5)	ND (1)	ND (5)	23	54

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- * Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg milligrams per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- N primary sample
- ND not detected at the listed reporting limit
- NE not established
- J concentration or reporting limit estimated by laboratory or data validation
- USEPA United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-17b

Sample Results: General Chemistry Parameters

SWMU 9 – Transfer Sump

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry		
				(mg/kg)	(pH units)	(µS/cm)
Commercial Regional Screening Levels ¹ :				47,000	NE	NE
DTSC-SL ² :				NE	NE	NE
Background ³ :				NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Fluoride	pH	Specific conductance
Category 2						
SumpTS-3	11/15/89	19	N	400	9.05	87

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-17c

Constituent Concentrations in Soil Compared to Screening Values

SWMU 9 – Transfer Sump

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Parameter	Units									
Metals										
Antimony	mg/kg	1	0 / 1 (0%)	ND (0.3) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	1	1 / 1 (100%)	2.1	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	1	1 / 1 (100%)	100	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	1	1 / 1 (100%)	1	1	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	1	0 / 1 (0%)	ND (0.5)	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	1	0 / 1 (0%)	ND (1) ‡	0	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	1	1 / 1 (100%)	20	0	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	1	1 / 1 (100%)	11	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	1	1 / 1 (100%)	8	0	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	1	1 / 1 (100%)	4	0	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	1	0 / 1 (0%)	ND (0.002)	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	1	0 / 1 (0%)	ND (1)	0	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	1	1 / 1 (100%)	16	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	1	0 / 1 (0%)	ND (0.5)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	1	0 / 1 (0%)	ND (1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	1	0 / 1 (0%)	ND (5) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	1	1 / 1 (100%)	23	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	1	1 / 1 (100%)	54	0	(58)	NA	(NA)	0	(350,000)

TABLE 3-17c
 Constituent Concentrations in Soil Compared to Screening Values
 SWMU 9 – Transfer Sump
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-18a
Sample Results: Metals
SWMU 11 – Former Sulfuric Acid Tanks
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
SWMU11-1	01/19/16	0 - 0.5	N	ND (2.1)	5.1	93	ND (1.1)	ND (1.1)	3.4	64	4.4	58	32	ND (0.11)	1.8	12	ND (1.1)	ND (1.1)	ND (2.1)	20	170
	01/19/16	2 - 3	N	ND (2.2)	4.3	60	ND (1.1)	ND (1.1)	0.54	14	3.2	10	6.2	ND (0.11)	ND (1.1)	7.7	ND (1.1)	ND (1.1)	ND (2.2)	12	53
SWMU11-2	01/26/16	0 - 0.5	N	ND (2.1)	4	100	ND (1)	ND (1)	2	35	4.9	27	9.7	ND (0.11)	1.9	12	ND (1)	ND (1)	ND (2.1)	22	53
	01/26/16	2 - 3	N	ND (2.1)	3.7	120	ND (1.1)	ND (1.1)	1.7	40	6.8	15	3.8	ND (0.1)	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	25	27
SWMU11-3	01/19/16	0 - 0.5	N	ND (2.2)	5.8	120	ND (1.1)	ND (1.1)	2.7	70	5.9	33	59	ND (0.11)	2.5	15	ND (1.1)	ND (1.1)	ND (2.2)	22	140
	01/19/16	2 - 3	N	ND (2.2)	4.5	110	ND (1.1)	ND (1.1)	5.4	87	4	14	30	ND (0.11)	ND (1.1)	9.3	ND (1.1)	ND (1.1)	ND (2.2)	15	79
	01/18/17	5 - 6	N	ND (2.1)	3	59	ND (1.1)	ND (1.1)	1	12	2.1	6.6	2.7	ND (0.1)	ND (1.1)	4.6	ND (1.1) J	ND (1.1)	ND (2.1)	9.3	28
	01/18/17	9 - 10	N	---	---	---	---	---	0.69	---	---	---	---	---	---	---	---	---	---	---	---
SWMU11-4	01/25/16	0 - 0.5	N	ND (2.2)	4.7	220	ND (1.1)	ND (1.1)	1.8	37	6.2	16	12	ND (0.11)	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2)	30	54
	01/25/16	2 - 3	N	ND (2.1)	4.3	330	ND (1.1)	ND (1.1)	0.47	17	7.9	11	1.3	ND (0.11)	ND (1.1)	9.1	ND (1.1)	ND (1.1)	ND (2.1)	39	36
SWMU11-5	01/20/16	0 - 0.5	N	ND (2.1)	4.9	110	ND (1.1)	ND (1.1)	1.8	63	5	17	13	ND (0.11)	2.2	9.9	ND (1.1)	ND (1.1)	ND (2.1)	22	89
	01/20/16	2 - 3	N	ND (2.1)	5.7	140	ND (1.1)	ND (1.1)	2.4	67	4.1	18	13	ND (0.11)	4.8	7.1	ND (1.1)	ND (1.1)	ND (2.1)	22	93

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- *

Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg

milligrams per kilogram
- ft bgs

feet below ground surface
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- N

primary sample
- ND

not detected at the listed reporting limit
- NE

not established
- J

concentration or reporting limit estimated by laboratory or data validation
- USEPA

United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-18b

Sample Results: Contract Laboratory Program Inorganics
 SWMU 11 – Former Sulfuric Acid Tanks
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
SWMU11-1	01/19/16	0 - 0.5	N	5,800	20,000	12,000	4,600	180	1,500	1,200	ND (0.215)
	01/19/16	2 - 3	N	5,200	19,000	8,600	3,600	170	1,200	850	ND (0.216)
SWMU11-3	01/18/17	5 - 6	N	3,400	16,000	5,200	3,100	120	800 J	450 J	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-18c
Sample Results: Polycyclic Aromatic Hydrocarbons
SWMU 11 – Former Sulfuric Acid Tanks
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
SWMU11-3	01/19/16	0 - 0.5	N	82 J	84 J	5.3 R	5.3 R	6 J	140 J	190 J	350 J	170 J	150 J	150 J	7.8 J	200 J	5.3 R	52 J	9.5 J	57 J	190 J	250 JR
	01/19/16	2 - 3	N	5.4 R	5.4 R	5.4 R	5.4 R	6.1 J	180 J	290 J	450 J	190 J	190 J	200 J	9.4 J	210 J	5.4 R	140 J	5.4 R	41 J	220 J	380 JR
	01/18/17	5 - 6	N	---	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (7.5)	ND (350)	ND (350)	ND (400)
	01/18/17	9 - 10	N	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	29 J	54 J	110 J	15 J	27 J	55 J	5.4 R	79 J	5.4 R	15 J	5.4 R	31 J	72 J	72 JR

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- ¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- ² Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-18d

Sample Results: General Chemistry Parameters

SWMU 11 – Former Sulfuric Acid Tanks

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels ¹ :				NE
DTSC-SL ² :				NE
Background ³ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
SWMU11-1	01/19/16	0 - 0.5	N	8.8
	01/19/16	2 - 3	N	7.7
SWMU11-2	01/26/16	0 - 0.5	N	11
	01/26/16	2 - 3	N	10
SWMU11-3	01/19/16	0 - 0.5	N	8.2
	01/19/16	2 - 3	N	7.8
SWMU11-4	01/25/16	0 - 0.5	N	10
	01/25/16	2 - 3	N	9.3
SWMU11-5	01/20/16	0 - 0.5	N	9.2
	01/20/16	2 - 3	N	9.1

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-18e
Sample Results: Pesticides
SWMU 11 – Former Sulfuric Acid Tanks
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene	
Category 1																								
SWMU11-3	01/18/17	5 - 6	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for pesticides.

TABLE 3-18f

Sample Results: Polychlorinated Biphenyls

SWMU 11 – Former Sulfuric Acid Tanks

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ :				27,000	830	720	950	950	970	990	940
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
SWMU11-1	01/19/16	0 - 0.5	N	17 R	35 R	17 R	17 R	17 R	600 J	17 R	625.5 JR
	01/19/16	2 - 3	N	17 R	34 R	17 R	17 R	17 R	19 J	17 R	44.5 JR
SWMU11-3	01/19/16	0 - 0.5	N	18 R	35 R	18 R	18 R	18 R	120 J	78 J	216 JR
	01/19/16	2 - 3	N	18 R	36 R	18 R	18 R	18 R	24 J	39 J	81 JR

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-18g
Sample Results: Dioxins and Furans
SWMU 11 – Former Sulfuric Acid Tanks
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
SWMU11-1	01/19/16	0 - 0.5	N	10,000 J	770 J	58 J	53 J	46 J	250 J	31 J	99 J	19 J	ND (30) J*	13 J	ND (1,500) J	16 J	4.3 J	ND (0.53) J	110,000 J	1,800 J	290
	01/19/16	2 - 3	N	650 J	44 J	3.2 J	3.4 J	ND (2.1) J	15 J	2.7 J	ND (5.2) J	ND (0.45) J	1.9 J	ND (1) J	ND (91) J	ND (1) J	ND (0.14) J	ND (0.4) J	8,000 J	69 J	19
SWMU11-3	01/19/16	0 - 0.5	N	5,500 J	470 J	28 J	38 J	35 J	160 J	28 J	66 J	7.6 J	26 J	7.6 J	ND (630) J	12 J	ND (2.7) J	6.9 J	47,000 J	860 J	170
	01/19/16	2 - 3	N	34,000 J	ND (4.2) J	120 J	140 J	ND (3.2) J	730 J	130 J	270 J	25 J	100 J	ND (14) J	ND (2,500) J	41 J	ND (7.7) J	9.4 J	360,000 J	3,900 J	820
	01/18/17	9 - 10	N	200	19	ND (1.1)	1.7 J	ND (1.2)	5.6 J	1.6 J	ND (2.2)	ND (0.67)	1 J	ND (0.45)	ND (32)	ND (0.47)	ND (0.049)	0.66 J	1,700	32	6.6

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

* Reporting limits greater than or equal to the interim screening level.
--- not analyzed
µg/kg micrograms per kilogram
ft bgs feet below ground surface
ng/kg nanograms per kilogram
DTSC California Department of Toxic Substances Control
DTSC-SL DTSC Screening Level
FD field duplicate
J concentration or reporting limit estimated by laboratory or data validation
JR estimated value, one or more input values is “R” qualified.
NA not applicable
NE not established
N primary sample
ND not detected at the listed reporting limit
R The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).

TEQ Human Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA United States Environmental Protection Agency

¹ Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
² Background values are not established or not applicable.

TABLE 3-18h

Constituent Concentrations in Soil Compared to Screening Values

SWMU 11 – Former Sulfuric Acid Tanks

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	2	5 / 5 (100%)	820	5	(5.58)	NA	(NA)	2	(220)
Metals										
Antimony	mg/kg	5	0 / 11 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	5	11 / 11 (100%)	5.8	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	5	11 / 11 (100%)	330	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	5	0 / 11 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	5	0 / 11 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	5	12 / 12 (100%)	5.4	9	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	5	11 / 11 (100%)	87	6	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	5	11 / 11 (100%)	7.9	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	5	11 / 11 (100%)	58	5	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	5	11 / 11 (100%)	59	7	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	5	0 / 11 (0%)	ND (0.11) ‡	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	5	5 / 11 (45%)	4.8	5	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	5	11 / 11 (100%)	15	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	5	0 / 11 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	5	0 / 11 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	5	0 / 11 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	5	11 / 11 (100%)	39	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	5	11 / 11 (100%)	170	5	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	2	3 / 3 (100%)	5,800	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	2	3 / 3 (100%)	20,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	2	3 / 3 (100%)	12,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	2	3 / 3 (100%)	4,600	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	2	3 / 3 (100%)	180	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	2	3 / 3 (100%)	1,500	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-18h

Constituent Concentrations in Soil Compared to Screening Values

SWMU 11 – Former Sulfuric Acid Tanks

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	2	3 / 3 (100%)	1,200	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 2 (0%)	ND (0.216)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	µg/kg	1	3 / 3 (100%)	82	NA	(NE)	NA	(NA)	0	(73,000)
2-Methyl naphthalene	µg/kg	1	3 / 4 (75%)	84	NA	(NE)	NA	(NA)	0	(3,000,000)
Acenaphthene	µg/kg	1	3 / 4 (75%)	5.4	NA	(NE)	NA	(NA)	0	(45,000,000)
Acenaphthylene	µg/kg	1	3 / 4 (75%)	5.4	NA	(NE)	NA	(NA)	0	(45,000,000)
Anthracene	µg/kg	1	3 / 4 (75%)	6.1	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	1	3 / 4 (75%)	180	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	1	3 / 4 (75%)	290	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	1	3 / 4 (75%)	450	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	1	3 / 4 (75%)	190	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	1	3 / 4 (75%)	190	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	1	3 / 4 (75%)	200	NA	(NE)	NA	(NA)	0	(2,100,000)
Dibenzo (a,h) anthracene	µg/kg	1	3 / 4 (75%)	9.4	NA	(NE)	NA	(NA)	0	(2,100)
Fluoranthene	µg/kg	1	3 / 4 (75%)	210	NA	(NE)	NA	(NA)	0	(30,000,000)
Fluorene	µg/kg	1	3 / 4 (75%)	5.4	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	1	3 / 4 (75%)	140	NA	(NE)	NA	(NA)	0	(21,000)
Naphthalene	µg/kg	1	3 / 4 (75%)	9.5	NA	(NE)	NA	(NA)	0	(17,000)
Phenanthrene	µg/kg	1	3 / 4 (75%)	57	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	1	3 / 4 (75%)	220	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	1	3 / 4 (75%)	380	3	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1016	µg/kg	2	4 / 4 (100%)	18	NA	(NE)	NA	(NA)	0	(27,000)
Aroclor 1221	µg/kg	2	4 / 4 (100%)	36	NA	(NE)	NA	(NA)	0	(830)
Aroclor 1232	µg/kg	2	4 / 4 (100%)	18	NA	(NE)	NA	(NA)	0	(720)
Aroclor 1242	µg/kg	2	4 / 4 (100%)	18	NA	(NE)	NA	(NA)	0	(950)

TABLE 3-18h

Constituent Concentrations in Soil Compared to Screening Values

SWMU 11 – Former Sulfuric Acid Tanks

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Polychlorinated biphenyls										
Aroclor 1248	µg/kg	2	4 / 4 (100%)	18	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1254	µg/kg	2	4 / 4 (100%)	600	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	2	4 / 4 (100%)	78	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	2	4 / 4 (100%)	625.5	NA	(NE)	NA	(NA)	0	(940)

TABLE 3-18h
 Constituent Concentrations in Soil Compared to Screening Values
 SWMU 11 – Former Sulfuric Acid Tanks
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-19a
Sample Results: Metals
AOC 5 – Cooling Tower A
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC5-1	01/19/16	0 - 0.5	N	ND (2.2)	4.5	110	ND (1.1)	ND (1.1)	1.3	58	5.6	16	8.2	ND (0.11)	10	15	ND (1.1)	ND (1.1)	ND (2.2)	22	100
	01/19/16	2 - 3	N	ND (2.1)	3.2	62	ND (1)	ND (1)	0.71	13	2.7	4.2	2.3	ND (0.11)	1.3	5.5	ND (1)	ND (1)	ND (2.1)	12	14
	01/19/16	5 - 6	N	ND (2.1)	3.1	85	ND (1)	ND (1)	0.51	15	3.7	4	2.1	ND (0.1)	1.8	8.4	ND (1)	ND (1)	ND (2.1)	15	15
	01/19/16	9 - 10	N	ND (2.1)	3.4	93	ND (1)	ND (1)	0.51	6.8	2.2	3.8	2.4	ND (0.1)	1.7	3.6	ND (1)	ND (1)	ND (2.1)	11	12
AOC5-2	12/08/15	0 - 0.5	N	ND (2.1)	4.2	86	ND (1)	ND (1)	5.5	60	4.6	14	17	ND (0.1)	ND (1)	10	ND (1)	ND (1)	ND (2.1)	20	130
	01/18/17	0.5	N	ND (2.4)	5.1	130	ND (1.2)	ND (1.2)	8.2	170	6.4	24	12	ND (0.12)	5.8	25	ND (1.2) J	ND (1.2)	ND (2.4)	32	340
	12/08/15	2 - 3	N	ND (2.1)	3.5	67	ND (1)	ND (1)	3.4	35	4.2	9.6	23	ND (0.1)	ND (1)	7.6	ND (1)	ND (1)	ND (2.1)	17	76
	01/18/17	5 - 6	N	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
AOC5-3	01/23/16	0 - 0.5	N	ND (2.1)	5	93	ND (1.1)	ND (1.1)	4.3	95	7.6	38	10	ND (0.11)	1.9	28	ND (1.1)	ND (1.1)	ND (2.1)	34	410
	01/23/16	2 - 3	N	ND (2.1)	4.8	94	ND (1.1)	ND (1.1)	0.42	19	5.4	8.9	3.8	ND (0.11)	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1)	24	48
AOC5-4	01/23/16	0 - 0.5	N	3.2	18	240	ND (1.1)	2.5	9.4	730	8.3	530	120	ND (0.11)	23	67	ND (1.1)	ND (1.1)	ND (2.3)	33	1,900
	01/23/16	2 - 3	N	ND (2.2)	3.5	100	ND (1.1)	ND (1.1)	0.93	45	7.7	21	4.5	ND (0.11)	ND (1.1)	24	ND (1.1)	ND (1.1)	ND (2.2)	35	120
	01/19/17	5 - 5.5	N	ND (2.2)	6.7	320	ND (1.1)	ND (1.1)	2.2	150	12	79	15	ND (0.11)	2.1	35	ND (1.1)	ND (1.1)	ND (2.2)	46	310
	01/19/17	6.5 - 7	N	---	---	---	---	---	1.9	---	---	---	---	---	---	---	---	---	---	---	---
AOC5-5	01/14/16	0 - 0.5	N	ND (2.2)	4.6	140	ND (1.1)	ND (1.1)	8.1	190	4.8	26	51	ND (0.11)	23	11	ND (1.1)	ND (1.1)	ND (2.2)	22	250
	01/14/16	2 - 3	N	ND (2.2)	5.9	120	ND (1.1)	ND (1.1)	4.8	200	8.5	41	56	ND (0.11)	1.4	17	ND (1.1)	ND (1.1)	ND (2.2)	30	290
	01/14/16	5 - 6	N	ND (2.2)	5.5	73	ND (1.1)	ND (1.1)	1.1	19	3.2	6.8	6.1	ND (0.11)	5.5	6.4	ND (1.1)	ND (1.1)	ND (2.2)	20	25
	01/14/16	9 - 10	N	ND (2.1)	2.7	50	ND (1)	ND (1)	ND (0.21)	5.2	1.7	2.5	2.6	ND (0.1)	ND (1)	2.7	ND (1)	ND (1)	ND (2.1)	7.8	11
AOC5-6	01/19/16	0 - 0.5	N	ND (2.1)	3.2	93	ND (1.1)	ND (1.1)	1.8	31 J	3.7	8.7 J	9.3 J	0.16	1.4	6.5 J	ND (1.1)	ND (1.1)	ND (2.1)	15	35
	01/19/16	0.5 - 1	FD	ND (2.1)	4.1	88	ND (1)	ND (1)	1.5	40 J	4.3	19 J	14 J	0.22	1.5	9.7 J	ND (1)	ND (1)	ND (2.1)	17	33
	01/19/16	2 - 3	N	ND (2.1)	6.4	66	ND (1.1)	ND (1.1)	1.6	21	3	6.3	13	ND (0.11)	ND (1.1)	5	ND (1.1)	ND (1.1)	ND (2.1)	27	28
AOC5-OS2	12/05/13	0 - 0.5	N	ND (2.2)	4.5	110	ND (1.1)	ND (1.1)	14	160	6.6	41	36	ND (0.11)	3.2	18	ND (1.1)	ND (1.1)	ND (2.2)	31	350
	12/05/13	2 - 3	N	ND (2.1)	4.1	73	ND (1)	ND (1)	5.4	52	4.7	9.8	16	ND (0.1)	ND (1)	9.5	ND (1)	ND (1)	ND (2.1)	23	150
AOC5-OS3	12/05/13	0 - 0.5	N	ND (2.2)	4.4	110	ND (1.1)	ND (1.1)	1	32	5.7	15	5.7	ND (0.11)	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.2)	31	67
	12/05/13	2 - 3	N	ND (2.1)	4	100	ND (1.1)	ND (1.1)	2.5	70	5.4	24	10	ND (0.11)	1.2	14	ND (1.1)	ND (1.1)	ND (2.1)	29	100
AOC5-OS4	12/05/13	0 - 0.5	N	ND (2.2)	11	210	ND (1.1)	ND (1.1)	24	580	4.1	140	220	ND (0.11)	5.6	14	ND (1.1)	ND (1.1)	ND (2.2)	28	690
	12/05/13	2 - 3	N	ND (2.2)	7.4	160	ND (1.1)	ND (1.1)	18	400	5.7	65	92	ND (0.11)	1.9	16	ND (1.1)	ND (1.1)	ND (2.2)	31	380
	12/05/13	2 - 3	FD	ND (2.2)	7.6	190	ND (1.1)	ND (1.1)	16	450	5.6	69	96	ND (0.11)	2.4	17	ND (1.1)	ND (1.1)	ND (2.2)	33	420
PS-13	04/13/99	0	N	---	---	---	---	---	9.8	88	---	14.8	---	---	---	6.8	---	---	---	---	1,250
	04/13/99	3	N	---	---	---	---	---	ND (0.53)	8.4	---	6.7	---	---	---	3.6	---	---	---	---	70.4
PS-14	04/13/99	0	N	---	---	---	---	---	0.7	34.2	---	31.3	---	---	---	10.7	---	---	---	---	82.3
PS-15	04/13/99	0	N	---	---	---	---	---	9.3	535	---	51.6	---	---	---	14.4	---	---	---	---	954
PS-16	04/13/99	0	N	---	---	---	---	---	3	505	---	95.6	---	---	---	10.6	---	---	---	---	685

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-19b

Sample Results: Contract Laboratory Program Inorganics

AOC 5 – Cooling Tower A

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC5-1	01/19/16	0 - 0.5	N	8,000	26,000	15,000	6,200	240	1,700 J	1,700 J	ND (0.217)
	01/19/16	2 - 3	N	3,400	16,000	6,800	3,800	130	820	780	ND (0.208)
AOC5-4	01/19/17	5 - 5.5	N	15,000	39,000	28,000	11,000	320	3,400 J	1,700 J	---
PS-16	04/13/99	0	N	---	---	15,200	---	191	---	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-19c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 5 – Cooling Tower A
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
AOC5-4	01/23/16	0 - 0.5	N	2,400 J	2,900 J	440 J	5.6 R	270 J	3,600 J	1,900 J	3,600 J	970 J	1,300 J	2,600 J	170 J	6,600 J	260 J	770 J	990 J	5,200 J	5,300 J	2,900 JR
	01/23/16	2 - 3	N	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	11 J	7.7 J	16 J	5.7 R	7.3 J	13 J	5.7 R	31 J	5.7 R	5.7 R	5.7 R	20 J	26 J	14 JR
	01/19/17	5 - 5.5	N	110 J	120 J	24 J	ND (370)	28 J	210 J	150 J	270 J	62 J	75 J	560	5.6 R	610 J	19 J	62 J	38 J	400 J	510 J	1,000 JR
AOC5-5	01/14/16	0 - 0.5	N	5.3 R	5.3 R	5.3 R	5.3 R	5.3 R	82 J	87 J	190 J	41 J	63 J	78 J	5.3 R	160 J	5.3 R	35 J	5.3 R	49 J	150 J	120 JR
	01/14/16	2 - 3	N	5.5 R	5.5 R	26 J	5.5 R	48 J	500 J	290 J	480 J	78 J	200 J	370 J	15 J	860 J	17 J	73 J	6.6 J	410 J	690 J	410 JR
	01/14/16	5 - 6	N	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	6.2 R

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).

- USEPA United States Environmental Protection Agency
- 1

Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2

Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-19d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 5 – Cooling Tower A

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)
Commercial Screening Level ¹:				160,000
Background ²:				NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate
Category 1				
AOC5-4	01/19/17	5 - 5.5	N	460

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level or RWQCB ESL are circled.

Only detected SVOCs and VOCs are presented.

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency
SVOCs	semivolatile organic compounds
VOCs	volatile organic compounds

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for SVOCs and VOCs.

TABLE 3-19e

Sample Results: General Chemistry Parameters

AOC 5 – Cooling Tower A

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry	
				(pH units)	(mg/kg)
Commercial Regional Screening Levels¹:				NE	NE
DTSC-SL²:				NE	NE
Background³:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	pH	Sulfate
Category 1					
AOC5-1	01/19/16	0 - 0.5	N	8.3	---
	01/19/16	2 - 3	N	9.8	---
	01/19/16	5 - 6	N	9.2	---
	01/19/16	9 - 10	N	8.9	---
AOC5-2	12/08/15	0 - 0.5	N	9.8	---
	01/18/17	0.5	N	8.4	---
	12/08/15	2 - 3	N	9.8	---
AOC5-3	01/23/16	0 - 0.5	N	8.4	---
	01/23/16	2 - 3	N	9	---
AOC5-4	01/23/16	0 - 0.5	N	8.5	---
	01/23/16	2 - 3	N	9.5	---
AOC5-5	01/14/16	0 - 0.5	N	9.2	---
	01/14/16	2 - 3	N	9.5	---
	01/14/16	5 - 6	N	8.7	---
	01/14/16	9 - 10	N	9.4	---
AOC5-6	01/19/16	0 - 0.5	N	9.6	---
	01/19/16	0.5 - 1	FD	9.7	---
	01/19/16	2 - 3	N	9.6	---
AOC5-OS2	12/05/13	0 - 0.5	N	8.1	---
	12/05/13	2 - 3	N	9.3	---
AOC5-OS3	12/05/13	0 - 0.5	N	8.1	---
	12/05/13	2 - 3	N	8.8	---
AOC5-OS4	12/05/13	0 - 0.5	N	7.6	---
	12/05/13	2 - 3	N	8.5	---
	12/05/13	2 - 3	FD	8.6	---
PS-16	04/13/99	0	N	---	3,690

TABLE 3-19e

Sample Results: General Chemistry Parameters

AOC 5 – Cooling Tower A

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for general chemistry parameters.

TABLE 3-19f
Sample Results: Pesticides
AOC 5 – Cooling Tower A
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene	
Category 1																								
AOC5-4	01/19/17	5 - 5.5	N	ND (2.2)	ND (2.2)	ND (2.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.6)	ND (56) J

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for pesticides.

TABLE 3-19g

Sample Results: Polychlorinated Biphenyls

AOC 5 – Cooling Tower A

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
AOC5-1	01/19/16	0 - 0.5	N	17 R	35 R	17 R	17 R	17 R	490 J	17 R	515.5 JR
	01/19/16	2 - 3	N	17 R	33 R	17 R	17 R	17 R	17 R	17 R	34 R
	01/19/16	5 - 6	N	17 R	34 R	17 R	17 R	17 R	17 R	17 R	34 R
AOC5-2	12/08/15	0 - 0.5	N	17 R	34 R	17 R	17 R	17 R	850 J	17 R	875.5 JR
	12/08/15	2 - 3	N	17 R	34 R	17 R	17 R	17 R	230 J	17 R	255.5 JR
AOC5-4	01/23/16	0 - 0.5	N	18 R	37 R	18 R	18 R	18 R	18 R	67 J	94 JR
	01/23/16	2 - 3	N	19 R	38 R	19 R	19 R	19 R	33 J	19 R	61.5 JR
AOC5-5	01/14/16	0 - 0.5	N	18 R	35 R	18 R	18 R	18 R	1,700 J	18 R	1,727 JR
	01/14/16	2 - 3	N	18 R	36 R	18 R	18 R	18 R	1,300 J	18 R	1,327 JR
	01/14/16	5 - 6	N	18 R	36 R	18 R	18 R	18 R	26 J	18 R	53 JR
	01/14/16	9 - 10	N	16 R	33 R	16 R	16 R	16 R	16 R	16 R	32 R
AOC5-6	01/19/16	0 - 0.5	N	17 R	34 R	17 R	17 R	17 R	330 J	17 R	355.5 JR
	01/19/16	2 - 3	N	17 R	35 R	17 R	17 R	17 R	1,200 J	17 R	1,226 JR

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit

TABLE 3-19g

Sample Results: Polychlorinated Biphenyls

AOC 5 – Cooling Tower A

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

NE not established

R The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-19h
Sample Results: Dioxins and Furans
AOC 5 – Cooling Tower A
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC5-1	01/19/16	0 - 0.5	N	720 J	80 J	ND (4.2) J	6.2 J	8.1 J	23 J	6.9 J	12 J	ND (0.98) J	5.3 J	ND (3.4) J	ND (160) J	ND (0.32) J	ND (0.52) J	ND (0.39) J	7,100 J	140 J	30
	01/19/16	2 - 3	N	14 J	4.9 J	ND (0.89) J	ND (0.7) J	3.4 J	ND (1.3) J	ND (2.2) J	ND (0.66) J	ND (1.1) J	2.5 J	ND (0.33) J	ND (130) J	13 J	ND (0.19) J	ND (0.28) J	100 J	4.4 J	14
	01/19/16	5 - 6	N	ND (9.4) J	3.3 J	1.1 J	ND (0.37) J	ND (2.4) J	ND (1.2) J	ND (1.7) J	ND (0.35) J	ND (1.8) J	ND (0.83) J	ND (0.35) J	ND (90) J	9.1 J	ND (0.13) J	ND (0.3) J	86 J	ND (2.9) J	8.2
AOC5-2	12/08/15	0 - 0.5	N	27,000 J	1,600 J	94 J	84 J	110 J	500 J	ND (67) J	170 J	46 J	53 J	18 J	ND (3,000) J	30 J	7.9 J	ND (0.28) J	270,000 J	3,300 J	680
	12/08/15	2 - 3	N	3,400 J	170 J	13 J	19 J	18 J	67 J	7.4 J	27 J	4.2 J	7.4 J	3.7 J	ND (370) J	ND (3.3) J	0.99 J	ND (0.14) J	33,000 J	340 J	88
	01/18/17	5 - 6	N	3,600	100	7.6 J	14	7.2 J	41	6.5 J	16	2.4 J	3.8 J	ND (1.2)	ND (200)	ND (2)	ND (0.68)	ND (0.15)	31,000	200	70
AOC5-4	01/23/16	0 - 0.5	N	77,000 J	9,600 J	680 J	270 J	1,000 J	3,000 J	ND (1,700) J	560 J	180 J	170 J	ND (0.7) J	350 J	350 J	ND (41) J*	ND (1.1) J	810,000 J	22,000 J	2,000
	01/23/16	2 - 3	N	1,300 J	120 J	9.8 J	ND (3.7) J	ND (7.2) J	41 J	ND (2.9) J	ND (6.9) J	5.2 J	2.8 J	2.6 J	ND (590) J	3.4 J	ND (0.67) J	ND (0.27) J	17,000 J	480 J	59
AOC5-5	01/14/16	0 - 0.5	N	16,000 J	1,400 J	80 J	62 J	78 J	370 J	ND (55) J	110 J	25 J	45 J	20 J	ND (2,200) J	28 J	ND (6.2) J	10 J	160,000 J	3,400 J	460
	01/14/16	2 - 3	N	20,000 J	3,900 J	240 J	110 J	230 J	1,100 J	89 J	190 J	100 J	64 J	50 J	ND (7,400) J	85 J	ND (9) J	ND (1.9) J	250,000 J	14,000 J	970
	01/14/16	5 - 6	N	1,100 J	120 J	8 J	3.4 J	6.7 J	33 J	ND (3) J	7.6 J	ND (3.1) J	2.4 J	ND (1.9) J	ND (280) J	2.8 J	ND (0.43) J	ND (0.12) J	17,000 J	300 J	40
	01/14/16	9 - 10	N	20 J	2.1 J	ND (0.091) J	ND (0.22) J	ND (0.14) J	ND (0.59) J	ND (0.12) J	ND (0.37) J	ND (0.16) J	ND (0.081) J	ND (0.14) J	ND (4.6) J	ND (0.25) J	ND (0.078) J	ND (0.11) J	230 J	5.5 J	0.73
AOC5-6	01/19/16	0 - 0.5	N	900 J	95 J	6.8 J	5.7 J	5.5 J	23 J	6.8 J	9.9 J	2.5 J	3.6 J	ND (4.6) J	ND (170) J	4.7 J	ND (0.46) J	ND (0.26) J	9,400 J	200 J	32
	01/19/16	2 - 3	N	3,400 J	260 J	17 J	17 J	15 J	83 J	ND (14) J	35 J	5.6 J	14 J	ND (13) J	ND (620) J	13 J	ND (1.3) J	ND (0.28) J	31,000 J	430 J	110

- Notes:**
- Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
- Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
- Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
- Results greater than or equal to the Interim Screening Level are circled.
- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg micrograms per kilogram
- ft bgs feet below ground surface
- ng/kg nanograms per kilogram
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- JR estimated value, one or more input values is “R” qualified.
- NA not applicable
- NE not established
- N primary sample
- ND not detected at the listed reporting limit
- R The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
- TEQ Human Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
- USEPA United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are not established or not applicable.

TABLE 3-19i

Constituent Concentrations in Soil Compared to Screening Values

AOC 5 – Cooling Tower A

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	5	14 / 14 (100%)	2,000	13	(5.58)	NA	(NA)	4	(220)
Metals										
Antimony	mg/kg	9	1 / 25 (4.0%)	3.2	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	9	25 / 25 (100%)	18	1	(11)	NA	(NA)	1	(0.36) *
Barium	mg/kg	9	25 / 25 (100%)	320	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	9	0 / 25 (0%)	ND (1.2) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	9	1 / 25 (4.0%)	2.5	1	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	13	30 / 32 (94%)	24	25	(0.83)	NA	(NA)	8	(6.3)
Chromium, total	mg/kg	13	30 / 30 (100%)	730	18	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	9	24 / 24 (100%)	12	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	13	30 / 30 (100%)	530	15	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	9	25 / 25 (100%)	220	16	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	9	2 / 25 (8.0%)	0.22	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	9	17 / 25 (68%)	23	15	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	13	29 / 29 (100%)	67	3	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	9	0 / 25 (0%)	ND (1.2)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	9	0 / 25 (0%)	ND (1.2)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	9	0 / 25 (0%)	ND (2.4) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	9	24 / 24 (100%)	46	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	13	30 / 30 (100%)	1,900	21	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	2	3 / 3 (100%)	15,000	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	2	3 / 3 (100%)	39,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	3	4 / 4 (100%)	28,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	2	3 / 3 (100%)	11,000	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	3	4 / 4 (100%)	320	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	2	3 / 3 (100%)	3,400	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-19i

Constituent Concentrations in Soil Compared to Screening Values

AOC 5 – Cooling Tower A

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	2	3 / 3 (100%)	1,700	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 2 (0%)	ND (0.217)	NA	(NE)	NA	(NA)	0	(150)
Semivolatile Organic Compounds										
bis (2-ethylhexyl) phthalate	µg/kg	1	1 / 1 (100%)	460	NA	(NE)	NA	(NA)	0	(160,000)
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	µg/kg	2	6 / 6 (100%)	2,400	NA	(NE)	NA	(NA)	0	(73,000)
2-Methyl naphthalene	µg/kg	2	6 / 6 (100%)	2,900	NA	(NE)	NA	(NA)	0	(3,000,000)
Acenaphthene	µg/kg	2	6 / 6 (100%)	440	NA	(NE)	NA	(NA)	0	(45,000,000)
Acenaphthylene	µg/kg	2	5 / 6 (83%)	5.7	NA	(NE)	NA	(NA)	0	(45,000,000)
Anthracene	µg/kg	2	6 / 6 (100%)	270	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	2	6 / 6 (100%)	3,600	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	2	6 / 6 (100%)	1,900	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	2	6 / 6 (100%)	3,600	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	2	6 / 6 (100%)	970	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	2	6 / 6 (100%)	1,300	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	2	7 / 7 (100%)	2,600	NA	(NE)	NA	(NA)	0	(2,100,000)
Dibenzo (a,h) anthracene	µg/kg	2	6 / 6 (100%)	170	NA	(NE)	NA	(NA)	0	(2,100)
Fluoranthene	µg/kg	2	6 / 6 (100%)	6,600	NA	(NE)	NA	(NA)	0	(30,000,000)
Fluorene	µg/kg	2	6 / 6 (100%)	260	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	2	6 / 6 (100%)	770	NA	(NE)	NA	(NA)	0	(21,000)
Naphthalene	µg/kg	2	6 / 6 (100%)	990	NA	(NE)	NA	(NA)	0	(17,000)
Phenanthrene	µg/kg	2	6 / 6 (100%)	5,200	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	2	6 / 6 (100%)	5,300	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	2	6 / 6 (100%)	2,900	4	(55)	NA	(NA)	1	(2,100)
Polychlorinated biphenyls										
Aroclor 1016	µg/kg	5	13 / 13 (100%)	19	NA	(NE)	NA	(NA)	0	(27,000)
Aroclor 1221	µg/kg	5	13 / 13 (100%)	38	NA	(NE)	NA	(NA)	0	(830)

TABLE 3-19i

Constituent Concentrations in Soil Compared to Screening Values

AOC 5 – Cooling Tower A

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Polychlorinated biphenyls										
Aroclor 1232	µg/kg	5	13 / 13 (100%)	19	NA	(NE)	NA	(NA)	0	(720)
Aroclor 1242	µg/kg	5	13 / 13 (100%)	19	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1248	µg/kg	5	13 / 13 (100%)	19	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1254	µg/kg	5	13 / 13 (100%)	1,700	NA	(NE)	NA	(NA)	3	(970)
Aroclor 1260	µg/kg	5	13 / 13 (100%)	67	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	5	13 / 13 (100%)	1,727	NA	(NE)	NA	(NA)	3	(940)

TABLE 3-19i
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 5 – Cooling Tower A
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-20a
Sample Results: Metals
AOC 6 – Cooling Tower B
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
2 B-Tower	04/13/99	0	N	---	---	---	---	---	ND (0.5)	78	---	41	---	---	---	8.8	---	---	---	---	120
3 B-Tower	04/13/99	0	N	---	---	---	---	---	ND (0.5)	150	---	110	---	---	---	5.8	---	---	---	---	170
AOC20-OS09	12/20/16	0 - 0.5	N	ND (2.1) J	6.2	180	ND (1)	ND (1)	2.4	70	6.8	30	50	ND (0.1)	10	12	ND (1) J	ND (1)	ND (2.1)	30	130
	12/20/16	4 - 5	N	ND (2.1) J	3.9	180 J	ND (1)	ND (1)	0.63	18	5.6	10	8.2	ND (0.1)	ND (1)	7.7	ND (1) J	ND (1)	ND (2.1)	23	47
	12/20/16	4 - 5	FD	ND (2.1) J	4.3	130 J	ND (1)	ND (1)	0.78	21	5.8	9.6	9	ND (0.1)	ND (1)	8.3	ND (1) J	ND (1)	ND (2.1)	26	48
AOC6-1	01/20/16	0 - 0.5	N	ND (2.2)	5.7	160	ND (1.1)	ND (1.1)	0.69	32	8.1	140	16	ND (0.11)	15	12	ND (1.1)	ND (1.1)	ND (2.2)	28	170
	01/20/16	2 - 3	N	ND (2.2)	4.3	200	ND (1.1)	ND (1.1)	ND (0.22)	18	7.9	11	4.9	ND (0.11)	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.2)	32	78 J
	01/20/16	2 - 3	FD	ND (2.2)	4.3	210	ND (1.1)	ND (1.1)	ND (0.22)	16	7	11	4.5	ND (0.11)	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.2)	29	38 J
AOC6-2	01/20/16	0 - 0.5	N	ND (2.1)	4.6	120	ND (1)	ND (1)	1.9	48	6.5	24	29	ND (0.11)	6.8	13	ND (1)	ND (1)	ND (2.1)	23	140
	01/20/16	2 - 3	N	ND (2.1)	6	120	ND (1.1)	ND (1.1)	0.64	22	4.2	10	5.7	ND (0.11)	1.8	8.1	ND (1.1)	ND (1.1)	ND (2.1)	21	41
AOC6-3	01/20/16	0 - 0.5	N	ND (2.1)	4.1	190	ND (1.1)	ND (1.1)	0.65	23 J	4.9	16	7.2 J	ND (0.11)	ND (1.1)	9.6 J	ND (1.1)	ND (1.1)	ND (2.1)	21 J	42 J
	01/20/16	0 - 0.5	FD	ND (2.1)	5.1	170	ND (1.1)	ND (1.1)	0.66	37 J	5.8	18	9.9 J	ND (0.11)	1.2	13 J	ND (1.1)	ND (1.1)	ND (2.1)	26 J	53 J
	01/20/16	2 - 3	N	ND (2.1)	4.2	280	ND (1.1)	ND (1.1)	ND (0.21)	10	4.7	6.9	4.6	ND (0.1)	ND (1.1)	6.9	ND (1.1)	ND (1.1)	ND (2.1)	22	26
AOC6-4	01/20/16	0 - 0.5	N	ND (2.1)	6.3	270	ND (1.1)	ND (1.1)	0.48	36	9.2	250	9.8	ND (0.1)	11	12	ND (1.1)	ND (1.1)	ND (2.1)	25	110
	01/20/16	2 - 3	N	ND (2.1)	2.9	60	ND (1)	ND (1)	ND (0.21)	7.6	3.6	8.9	2	ND (0.1)	ND (1)	4.7	ND (1)	ND (1)	ND (2.1)	16	17
AOC6-5	01/19/16	0 - 0.5	N	ND (2.1)	4.5	110	ND (1.1)	ND (1.1)	0.3	22	4.4	27	8.3	ND (0.11)	2.6	9	ND (1.1)	ND (1.1)	ND (2.1)	17	43
	01/19/16	2 - 3	N	ND (2.1)	4.3	100	ND (1.1)	ND (1.1)	0.56	26	5.1	27	9.5 J	ND (0.11)	6.9	11 J	ND (1.1)	ND (1.1)	ND (2.1)	20	39
	01/19/16	2 - 3	FD	ND (2.1)	4.4	95	ND (1)	ND (1)	0.51	23	4.5	28	6.6 J	ND (0.1)	4.9	8.5 J	ND (1)	ND (1)	ND (2.1)	17	38
	01/24/17	5 - 6	N	ND (2.2)	4.6	120	ND (1.1)	ND (1.1)	ND (0.22)	11	5.6	11	6.9	ND (0.11)	1.4	9.7	ND (1.1)	ND (1.1) J	ND (2.2)	25	38
	01/24/17	9 - 10	N	ND (2)	2.9	35	ND (1)	ND (1)	ND (0.2)	4.7	1.8	4	2.1	ND (0.1)	ND (1)	2.7	ND (1)	ND (1) J	ND (2)	8.2	12
AOC6-6	11/08/11	0 - 0.5	N	ND (2)	3.5	130	ND (1)	ND (1)	1.2	35	4.5	16	11	ND (0.1)	ND (1)	9	ND (1)	ND (1)	ND (2)	24	64 J
	11/08/11	2 - 3	N	ND (2.1)	3.9	140	ND (1)	ND (1)	1.7	37	4.9	17	17	ND (0.1)	1.9	9.7	ND (1)	ND (1)	ND (2.1)	26	70
	11/08/11	4 - 5	N	ND (2.2)	3.2	190	ND (1.1)	ND (1.1)	ND (0.44)	13	5.5	9.5	6.1	ND (0.11)	ND (1.1)	9.6	ND (1.1)	ND (1.1)	ND (2.2)	26	32
AOC6-7	01/19/16	0 - 0.5	N	ND (2.1)	7.2	180	ND (1.1)	ND (1.1)	1.8	100	7	180	30	ND (0.11)	13	19	ND (1.1)	ND (1.1)	ND (2.1)	25	250
	01/19/16	2 - 3	N	ND (2.1)	4.6	88	ND (1)	ND (1)	2.2	39	3.8	7.8	14	ND (0.1)	ND (1)	6.6	ND (1)	ND (1)	ND (2.1)	18	79
	01/24/17	5 - 6	N	ND (2.2)	3.5	110	ND (1.1)	ND (1.1)	3.9	83	5.4	14	73	ND (0.11)	6.8	10	ND (1.1)	ND (1.1) J	ND (2.2)	26	76
	01/24/17	9 - 10	N	ND (2)	1.5	54	ND (1)	ND (1)	ND (0.2)	6.7	1.7	3	3.1	ND (0.1)	ND (1)	2.5	ND (1)	ND (1) J	2	9.7	14
AOC6-8	01/25/16	0 - 0.5	N	ND (2.1)	4.5	110	ND (1)	ND (1)	1.8	27	4.1	8.6	25	ND (0.11)	1.2	8.3	ND (1)	ND (1)	ND (2.1)	24	51
	01/25/16	2 - 3	N	ND (2.1)	3.1	120	ND (1)	ND (1)	ND (0.21)	8.8	3	4.3	3.8	ND (0.1)	ND (1)	5	ND (1)	ND (1)	ND (2.1)	20	17
	01/25/16	5 - 6	N	ND (2.1)	5.5	130	ND (1.1)	ND (1.1)	0.24	10	3.8	5.3	4.1	ND (0.11)	ND (1.1)	7	ND (1.1)	ND (1.1)	ND (2.1)	23	24
	01/25/16	8 - 9	N	ND (2.1)	3.8	76	ND (1)	ND (1)	ND (0.21)	6.8	2.8	4.4	2	ND (0.1)	ND (1)	3.2	ND (1)	ND (1)	ND (2.1)	15	12
AOC6-OS1	11/08/11	0 - 0.5	N	ND (2.1)	4.7	180	ND (1)	ND (1)	1.5	38	5.1	11	12	ND (0.11)	7.4	9.1	ND (1)	ND (1)	ND (2.1)	27	35
B tower SE standpip	04/13/99	0	N	---	---	---	---	---	ND (0.5)	51	---	9	---	---	---	4.3	---	---	---	---	31
PS-1	04/13/99	0	N	---	---	---	---	---	3.7	115	---	92.3	---	---	---	9	---	---	---	---	336
	04/13/99	1	N	---	---	---	---	---	3.9	118	---	62.6	---	---	---	9.3	---	---	---	---	293
PS-2	04/13/99	0	N	---	---	---	---	---	3.1	72.4	---	40.1	---	---	---	6.3	---	---	---	---	94.6
	04/13/99	3	N	---	---	---	---	---	ND (0.51)	4.9	---	18.7	---	---	---	3.2	---	---	---	---	31.7
PS-3	04/13/99	0	N	---	---	---	---	---	3.3	350	---	59.8	---	---	---	10.1	---	---	---	---	465
	04/13/99	3	N	---	---	---	---	---	1.3	83.3	---	14.5	---	---	---	4.2	---	---	---	---	114

TABLE 3-20a
Sample Results: Metals
AOC 6 – Cooling Tower B
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
PS-4	04/13/99	0	N	---	---	---	---	---	1.5	264	---	70.2	---	---	---	6.3	---	---	---	---	394
PS-5	04/13/99	0	N	---	---	---	---	---	5.9	386	---	58	---	---	---	7.7	---	---	---	---	513
PS-6	04/13/99	0	N	---	---	---	---	---	15.3	459	---	211	---	---	---	11.3	---	---	---	---	1,130
PS-7	04/13/99	0	N	---	---	---	---	---	ND (0.56)	80.5	---	44	---	---	---	14.5	---	---	---	---	181

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- * Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg milligrams per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- N primary sample
- ND not detected at the listed reporting limit
- NE not established
- J concentration or reporting limit estimated by laboratory or data validation
- USEPA United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-20b

Sample Results: Contract Laboratory Program Inorganics
AOC 6 – Cooling Tower B
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC6-5	01/19/16	0 - 0.5	N	6,200	20,000	11,000	4,700	220	1,700	440	ND (0.214)
	01/19/16	2 - 3	N	7,000	22,000	13,000	5,400	280 J	1,900	870	ND (0.213)
	01/19/16	2 - 3	FD	6,700	21,000	12,000	5,000	220 J	1,600	880	ND (0.21)
AOC6-6	11/08/11	0 - 0.5	N	6,500	25,000	13,000	5,200 J	200 J	1,300 J	58	ND (1.02)
AOC6-7	01/24/17	5 - 6	N	6,000	22,000	15,000	4,600	170	1,800 J	510	ND (0.214) J

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-20c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 6 – Cooling Tower B
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
AOC20-OS09	12/20/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	14	130	200	300	130	160	190	ND (5.1)	450	ND (5.1)	110	ND (5.1)	150	390	260
	12/20/16	4 - 5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	25	36 J	56	8.3 J	33 J	39	ND (5.2)	71	ND (5.2)	8.3 J	ND (5.2)	21	63	48
	12/20/16	4 - 5	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	37	66	100	52	55 J	60	ND (5.2)	98	ND (5.2)	16 J	ND (5.2)	28	90	85
AOC6-2	01/20/16	0 - 0.5	N	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	23 J	19 J	51 J	5.5 J	17 J	21 J	5.2 R	39 J	5.2 R	5.2 J	5.2 R	16 J	38 J	30 JR
	01/20/16	2 - 3	N	5.3 R	5.3 R	8.4 J	5.3 R	25 J	780 J	1,300 J	1,800 J	1,000 J	600 J	580 J	310 J	560 J	5.3 R	720 J	5.3 R	160 J	540 J	1,900 JR
AOC6-4	01/20/16	0 - 0.5	N	11 J	11 J	6.8 J	5.1 R	17 J	140 J	200 J	470 J	62 J	160 J	360 J	5.1 R	780 J	5.1 R	65 J	5.1 R	430 J	680 J	270 JR
AOC6-5	01/19/16	0 - 0.5	N	5 R	5 R	5 R	5 R	5 R	5 R	5 R	7.7 J	5 R	5 R	5 R	5 R	5 R	5 R	5 R	5 R	5 R	5 R	6.3 JR
AOC6-6	11/08/11	0 - 0.5	N	12	17	ND (5.1)	ND (5.1)	ND (5.1)	34	39	86	20	29	44	5.1	68	ND (5.1)	18	ND (5.1)	34	61	58
	11/08/11	2 - 3	N	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (6.5)	---	---	---
AOC6-7	01/19/16	0 - 0.5	N	5.3 R	5.3 R	8.1 J	5.3 R	13 J	640 J	670 J	1,100 J	500 J	380 J	650 J	110 J	1,300 J	5.3 J	390 J	5.3 R	530 J	1,200 J	1,000 JR
	01/19/16	2 - 3	N	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	58 J	52 J	79 J	10 J	32 J	47 J	5.2 R	110 J	5.2 R	10 J	5.2 R	46 J	100 J	70 JR
	01/24/17	5 - 6	N	---	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (360)	ND (420)
AOC6-8	01/25/16	0 - 0.5	N	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	8.1 J	12 J	26 J	5.1 R	12 J	12 J	5.1 R	19 J	5.1 R	5.1 R	5.1 R	7.1 J	18 J	18 JR

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-20d

Sample Results: Total Petroleum Hydrocarbons

AOC 6 – Cooling Tower B

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC20-OS09	12/20/16	0 - 0.5	N	29 J	88 J
	12/20/16	4 - 5	N	35 J	64 J
	12/20/16	4 - 5	FD	35 J	69 J
AOC6-6	11/08/11	0 - 0.5	N	13	49

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-20e

Sample Results: General Chemistry Parameters

AOC 6 – Cooling Tower B

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels¹:				NE
DTSC-SL²:				NE
Background³:				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC6-1	01/20/16	0 - 0.5	N	9.6
	01/20/16	2 - 3	N	9.5
	01/20/16	2 - 3	FD	9.5
AOC6-2	01/20/16	0 - 0.5	N	8.7
	01/20/16	2 - 3	N	9.4
AOC6-3	01/20/16	0 - 0.5	N	9.5
	01/20/16	0 - 0.5	FD	9.5
	01/20/16	2 - 3	N	9.7
AOC6-4	01/20/16	0 - 0.5	N	8.7
	01/20/16	2 - 3	N	9.2
AOC6-5	01/19/16	0 - 0.5	N	9.3
	01/19/16	2 - 3	N	8.5
	01/19/16	2 - 3	FD	8.5
AOC6-6	11/08/11	0 - 0.5	N	9.4
	11/08/11	2 - 3	N	9.6
	11/08/11	4 - 5	N	10
AOC6-7	01/19/16	0 - 0.5	N	8.6
	01/19/16	2 - 3	N	9.7
AOC6-8	01/25/16	0 - 0.5	N	9.5
	01/25/16	2 - 3	N	9.8
	01/25/16	5 - 6	N	10
	01/25/16	8 - 9	N	10
AOC6-OS1	11/08/11	0 - 0.5	N	8

TABLE 3-20e

Sample Results: General Chemistry Parameters

AOC 6 – Cooling Tower B

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for general chemistry parameters.

TABLE 3-20f
Sample Results: Pesticides
AOC 6 – Cooling Tower B
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC6-6	11/08/11	0 - 0.5	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
AOC6-7	01/24/17	5 - 6	N	ND (2.2)	ND (2.2)	ND (2.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54)

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg micrograms per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- NE not established
- N primary sample
- ND not detected at the listed reporting limit
- USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for pesticides.

TABLE 3-20g

Sample Results: Polychlorinated Biphenyls

AOC 6 – Cooling Tower B

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC20-OS09	12/20/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	1,900 J	1,300 J	---	---	3,217
	12/20/16	4 - 5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	230 J	130 J	---	---	377
	12/20/16	4 - 5	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	560 J	290 J	---	---	867
AOC6-1	01/20/16	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	54	ND (18)	---	---	81
	01/20/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/20/16	2 - 3	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC6-2	01/20/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	420	180	---	---	617
	01/20/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	250	ND (18)	---	---	277
AOC6-3	01/20/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	130	ND (17)	---	---	155.5
	01/20/16	0 - 0.5	FD	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	130	ND (18)	---	---	157
	01/20/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC6-4	01/20/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	1,100	370	---	---	1,488
	01/20/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	37	ND (17)	---	---	62.5
AOC6-5	01/19/16	0 - 0.5	N	17 R	34 R	17 R	17 R	17 R	17 R	17 R	---	---	34 R
	01/19/16	2 - 3	N	17 R	34 R	17 R	17 R	17 R	230 J	98 J	---	---	345 JR
AOC6-6	11/08/11	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	780	ND (17)	ND (17)	ND (17)	805.5
AOC6-7	01/19/16	0 - 0.5	N	ND (18) J	ND (35)	ND (18)	ND (18)	ND (18)	2,800	1,100 J	---	---	3,918
	01/19/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	2,000	ND (17)	---	---	2,026
	01/24/17	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18) J	ND (18) J	2,000	1,200	---	---	3,218
	01/24/17	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	24	ND (17)	---	---	49.5
AOC6-8	01/25/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	860	ND (17)	---	---	885.5
	01/25/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	36	ND (17)	---	---	61.5
	01/25/16	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/25/16	8 - 9	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	45	ND (17)	---	---	70.5

Notes:

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Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

TABLE 3-20g

Sample Results: Polychlorinated Biphenyls

AOC 6 – Cooling Tower B

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-20h
Sample Results: Dioxins and Furans
AOC 6 – Cooling Tower B
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC6-1	01/20/16	0 - 0.5	N	10,000 J	620 J	45 J	30 J	33 J	140 J	17 J	46 J	9.4 J	15 J	5.6 J	ND (930) J	9.1 J	2.4 J	3.9 J	170,000 J	2,100 J	250
AOC6-2	01/20/16	0 - 0.5	N	4,300 J	390 J	28 J	25 J	25 J	110 J	18 J	47 J	9.6 J	ND (15) J	9.7 J	ND (840) J	9.7 J	ND (2.1) J	5.6 J	31,000 J	1,200 J	130
	01/20/16	2 - 3	N	1,400 J	120 J	8.9 J	8.8 J	ND (8.8) J	39 J	6.8 J	16 J	3.2 J	ND (5.4) J	5.1 J	ND (240) J	4.3 J	ND (0.76) J	ND (0.24) J	17,000 J	350 J	45
AOC6-4	01/20/16	0 - 0.5	N	2,300 J	230 J	16 J	15 J	19 J	66 J	ND (13) J	26 J	4.5 J	ND (9.2) J	11 J	ND (380) J	7.8 J	ND (1.1) J	ND (6) J	24,000 J	550 J	74
AOC6-5	01/19/16	0 - 0.5	N	2,000 J	170 J	14 J	10 J	9.8 J	45 J	6.3 J	18 J	4 J	ND (5.3) J	ND (3.9) J	ND (390) J	ND (4.3) J	ND (0.16) J	ND (0.23) J	28,000 J	470 J	63
	01/19/16	2 - 3	N	1,700 J	170 J	ND (13) J	8.9 J	10 J	44 J	6.8 J	17 J	3.5 J	ND (5.6) J	9.6 J	ND (410) J	ND (3.1) J	ND (0.051) J	ND (0.1) J	23,000 J	470 J	59
AOC6-7	01/19/16	0 - 0.5	N	15,000 J	1,900 J	140 J	62 J	88 J	450 J	ND (270) J	83 J	18 J	ND (31) J*	14 J	77 J	ND (35) J	ND (2.3) J	ND (7.6) J	250,000 J	11,000 J	360
	01/19/16	2 - 3	N	15,000 J	2,800 J	200 J	57 J	150 J	650 J	ND (41) J	97 J	52 J	29 J	32 J	ND (6,600) J	47 J	ND (3.3) J	ND (0.64) J	230,000 J	17,000 J	730
AOC6-8	01/25/16	0 - 0.5	N	1,000 J	100 J	7.7 J	6.1 J	9.2 J	29 J	4.6 J	8.9 J	2.1 J	ND (2.6) J	ND (4.1) J	ND (200) J	5 J	ND (0.36) J	ND (0.42) J	14,000 J	290 J	34

- Notes:**
- Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
- Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
- Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
- Results greater than or equal to the Interim Screening Level are circled.
- | | |
|-----------|---|
| * | Reporting limits greater than or equal to the interim screening level. |
| --- | not analyzed |
| µg/kg | micrograms per kilogram |
| ft bgs | feet below ground surface |
| ng/kg | nanograms per kilogram |
| DTSC | California Department of Toxic Substances Control |
| DTSC-SL | DTSC Screening Level |
| FD | field duplicate |
| J | concentration or reporting limit estimated by laboratory or data validation |
| JR | estimated value, one or more input values is “R” qualified. |
| NA | not applicable |
| NE | not established |
| N | primary sample |
| ND | not detected at the listed reporting limit |
| R | The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time). |
| TEQ Human | Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U. |
| USEPA | United States Environmental Protection Agency |

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are not established or not applicable.

TABLE 3-20i

Constituent Concentrations in Soil Compared to Screening Values

AOC 6 – Cooling Tower B

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	6	9 / 9 (100%)	730	9	(5.58)	NA	(NA)	3	(220)
Metals										
Antimony	mg/kg	10	0 / 26 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	10	26 / 26 (100%)	7.2	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	10	26 / 26 (100%)	280	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	10	0 / 26 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	10	0 / 26 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	20	25 / 39 (64%)	15.3	17	(0.83)	NA	(NA)	1	(6.3)
Chromium, total	mg/kg	20	39 / 39 (100%)	459	16	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	10	26 / 26 (100%)	9.2	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	20	39 / 39 (100%)	250	20	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	10	26 / 26 (100%)	73	14	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	10	0 / 26 (0%)	ND (0.11) ‡	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	10	14 / 26 (54%)	15	12	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	20	39 / 39 (100%)	19	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	10	0 / 26 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	10	0 / 26 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	10	1 / 26 (3.8%)	2	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	10	26 / 26 (100%)	32	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	20	39 / 39 (100%)	1,130	21	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	3	4 / 4 (100%)	7,000	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	3	4 / 4 (100%)	25,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	3	4 / 4 (100%)	15,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	3	4 / 4 (100%)	5,400	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	3	4 / 4 (100%)	280	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	3	4 / 4 (100%)	1,900	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-20i

Constituent Concentrations in Soil Compared to Screening Values

AOC 6 – Cooling Tower B

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	3	4 / 4 (100%)	880	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	3	0 / 4 (0%)	ND (1.02) ±	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	µg/kg	7	8 / 10 (80%)	12	NA	(NE)	NA	(NA)	0	(73,000)
2-Methyl naphthalene	µg/kg	7	8 / 11 (73%)	17	NA	(NE)	NA	(NA)	0	(3,000,000)
Acenaphthene	µg/kg	7	7 / 11 (64%)	8.4	NA	(NE)	NA	(NA)	0	(45,000,000)
Acenaphthylene	µg/kg	7	7 / 11 (64%)	5.3	NA	(NE)	NA	(NA)	0	(45,000,000)
Anthracene	µg/kg	7	8 / 11 (73%)	25	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	7	10 / 11 (91%)	780	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	7	10 / 11 (91%)	1,300	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	7	10 / 11 (91%)	1,800	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	7	10 / 11 (91%)	1,000	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	7	10 / 11 (91%)	600	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	7	10 / 11 (91%)	650	NA	(NE)	NA	(NA)	0	(2,100,000)
Dibenzo (a,h) anthracene	µg/kg	7	8 / 11 (73%)	310	NA	(NE)	NA	(NA)	0	(2,100)
Fluoranthene	µg/kg	7	10 / 11 (91%)	1,300	NA	(NE)	NA	(NA)	0	(30,000,000)
Fluorene	µg/kg	7	7 / 11 (64%)	5.3	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	7	10 / 11 (91%)	720	NA	(NE)	NA	(NA)	0	(21,000)
Naphthalene	µg/kg	7	7 / 12 (58%)	5.3	NA	(NE)	NA	(NA)	0	(17,000)
Phenanthrene	µg/kg	7	10 / 11 (91%)	530	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	7	10 / 11 (91%)	1,200	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	7	10 / 11 (91%)	1,900	7	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1016	µg/kg	9	2 / 21 (9.5%)	17	NA	(NE)	NA	(NA)	0	(27,000)
Aroclor 1221	µg/kg	9	2 / 21 (9.5%)	34	NA	(NE)	NA	(NA)	0	(830)
Aroclor 1232	µg/kg	9	2 / 21 (9.5%)	17	NA	(NE)	NA	(NA)	0	(720)
Aroclor 1242	µg/kg	9	2 / 21 (9.5%)	17	NA	(NE)	NA	(NA)	0	(950)

TABLE 3-20i

Constituent Concentrations in Soil Compared to Screening Values

AOC 6 – Cooling Tower B

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Polychlorinated biphenyls										
Aroclor 1248	µg/kg	9	2 / 21 (9.5%)	17	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1254	µg/kg	9	18 / 21 (86%)	2,800	NA	(NE)	NA	(NA)	5	(970)
Aroclor 1260	µg/kg	9	8 / 21 (38%)	1,300	NA	(NE)	NA	(NA)	3	(990)
Total PCBs	µg/kg	9	18 / 21 (86%)	3,918	NA	(NE)	NA	(NA)	5	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	2	3 / 3 (100%)	35	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	2	3 / 3 (100%)	88	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	2	0 / 3 (0%)	ND (1.5)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-20i
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 6 – Cooling Tower B
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-21a
Sample Results: Metals
AOC 7 – Hazardous Materials Storage Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC7-1	01/06/16	0 - 0.5	N	ND (2.1)	3.7	360	ND (1)	ND (1)	ND (0.21)	22	8.1	9	2.5	ND (0.1)	ND (1)	16	ND (1)	ND (1)	ND (2.1)	38	42
	01/06/16	2 - 3	N	ND (2.1)	4	240	ND (1.1)	ND (1.1)	ND (0.21)	45	11	20	3.9	ND (0.11)	ND (1.1)	30	ND (1.1)	ND (1.1)	ND (2.1)	48	45
AOC7-2	01/06/16	0 - 0.5	N	ND (2.1)	2.9	110	ND (1.1)	ND (1.1)	0.28 J	22 J	7.6	12 J	12 J	ND (0.11)	2.5	13	ND (1.1)	ND (1.1)	ND (2.1)	30	44 J
	01/06/16	0 - 0.5	FD	ND (2.2)	4.1	90	ND (1.1)	ND (1.1)	1.8 J	36 J	7.1	18 J	32 J	ND (0.11)	5	13	ND (1.1)	ND (1.1)	ND (2.2)	27	57 J
	01/06/16	2 - 3	N	ND (2.1)	3.3	150	ND (1.1)	ND (1.1)	ND (0.21)	24	7.9	9.5	5.1	ND (0.11)	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	36	43
AOC7-3	12/09/15	0 - 1	N	ND (2.1)	4.4	130	ND (1.1)	ND (1.1)	0.41	26	5.3	12	10	ND (0.11)	2.1	12	ND (1.1)	ND (1.1)	ND (2.1)	23	34
	12/09/15	2 - 3	N	ND (2.1)	3.5	130	ND (1.1)	ND (1.1)	ND (0.21)	11	3.9	6.4	3.7	ND (0.11)	ND (1.1)	8.3	ND (1.1)	ND (1.1)	ND (2.1)	20	21
AOC7-4	12/09/15	0 - 1	N	ND (2.2)	4.3	130	ND (1.1)	ND (1.1)	1.2	28	13	11	4	ND (0.11)	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2)	31	33
	12/09/15	2 - 3	N	ND (2.2)	3.6	110	ND (1.1)	ND (1.1)	ND (0.22)	17	6.7	7.2	3.5	ND (0.11)	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.2)	26	32
AOC7-5	01/06/16	0 - 0.5	N	ND (2.1)	3.6	97	ND (1)	ND (1)	0.56	25	7.8	10	3	ND (0.11)	ND (1)	15	ND (1)	ND (1)	ND (2.1)	38	43
	01/06/16	2 - 3	N	ND (2.2)	4.3	160	ND (1.1)	ND (1.1)	0.98	29	7.4	12	11	ND (0.11)	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.2)	36	43

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- *

Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg

milligrams per kilogram
- ft bgs

feet below ground surface
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- N

primary sample
- ND

not detected at the listed reporting limit
- NE

not established
- J

concentration or reporting limit estimated by laboratory or data validation
- USEPA

United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-21b

Sample Results: Contract Laboratory Program Inorganics
AOC 7 – Hazardous Materials Storage Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC7-4	12/09/15	0 - 1	N	8,400	24,000	19,000	7,000	210	2,000	630	ND (0.222)
	12/09/15	2 - 3	N	8,900	24,000	17,000	7,600	250	1,700	560	ND (0.218)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-21c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 7 – Hazardous Materials Storage Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC7-1	01/06/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
	01/06/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
AOC7-2	01/06/16	0 - 0.5	N	5.3	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.6	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.1	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.4	6.8
	01/06/16	0 - 0.5	FD	8.7	6.2	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	8	ND (54)	11	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	9.8	60
	01/06/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
AOC7-3	12/09/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (53)	5.3	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	59
	12/09/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.1)	ND (5.3)	ND (5.3)	ND (6.1)	
AOC7-4	12/09/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (61)	
	12/09/15	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.8)	ND (5.4)	ND (5.4)	ND (6.2)	
AOC7-5	01/06/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
	01/06/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (60)	

TABLE 3-21c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 7 – Hazardous Materials Storage Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-21c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 7 – Hazardous Materials Storage Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC7-1	01/06/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
	01/06/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
AOC7-2	01/06/16	0 - 0.5	N	5.3	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.6	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.1	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.4	6.8
	01/06/16	0 - 0.5	FD	8.7	6.2	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	8	ND (54)	11	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	9.8	60
	01/06/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC7-3	12/09/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (53)	5.3	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	59
	12/09/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.1)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC7-4	12/09/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (61)
	12/09/15	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.8)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)
AOC7-5	01/06/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	01/06/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (60)	

TABLE 3-21c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 7 – Hazardous Materials Storage Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:

B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-21d

Sample Results: Total Petroleum Hydrocarbons

AOC 7 – Hazardous Materials Storage Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC7-1	01/06/16	0 - 0.5	N	17	37
	01/06/16	2 - 3	N	ND (11)	ND (11)
AOC7-2	01/06/16	0 - 0.5	N	18	19
	01/06/16	0 - 0.5	FD	27	33
	01/06/16	2 - 3	N	ND (11)	ND (11)
AOC7-3	12/09/15	0 - 1	N	ND (11)	51
	12/09/15	2 - 3	N	ND (11)	ND (11)
AOC7-4	12/09/15	0 - 1	N	270	810
	12/09/15	2 - 3	N	ND (11)	ND (11)
AOC7-5	01/06/16	0 - 0.5	N	ND (11)	ND (11)
	01/06/16	2 - 3	N	57	590

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-21e

Sample Results: General Chemistry Parameters

AOC 7 – Hazardous Materials Storage Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels ¹ :				NE
DTSC-SL ² :				NE
Background ³ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC7-1	01/06/16	0 - 0.5	N	8.1
	01/06/16	2 - 3	N	8.3
AOC7-2	01/06/16	0 - 0.5	N	9.1
	01/06/16	0 - 0.5	FD	8.4
	01/06/16	2 - 3	N	9.5
AOC7-3	12/09/15	0 - 1	N	8.9
	12/09/15	2 - 3	N	8.5
AOC7-4	12/09/15	0 - 1	N	9.8
	12/09/15	2 - 3	N	8.4
AOC7-5	01/06/16	0 - 0.5	N	9
	01/06/16	2 - 3	N	9.3

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-21f

Sample Results: Polychlorinated Biphenyls

AOC 7 – Hazardous Materials Storage Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC7-1	01/06/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	47	23	---	---	87
	01/06/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC7-2	01/06/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	48	46	---	---	112
	01/06/16	0 - 0.5	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/06/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	20	54	---	---	92
AOC7-3	12/09/15	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/09/15	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	110	ND (18)	---	---	137
AOC7-4	12/09/15	0 - 1	N	ND (18) J	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18) J	ND (18)	ND (18)	ND (36)
	12/09/15	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC7-5	01/06/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	37	ND (18)	---	---	64

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

TABLE 3-21f

Sample Results: Polychlorinated Biphenyls

AOC 7 – Hazardous Materials Storage Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

USEPA United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-21g
Sample Results: Dioxins and Furans
AOC 7 – Hazardous Materials Storage Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC7-1	01/06/16	0 - 0.5	N	73 J	7.9 J	ND (0.74) J	1.2 J	0.87 J	2.8 J	ND (0.89) J	ND (1.1) J	ND (0.18) J	ND (0.66) J	ND (1.2) J	ND (10) J	ND (0.13) J	ND (0.15) J	0.83 J	760 J	19 J	2.7

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are not established or not applicable.

TABLE 3-21h

Constituent Concentrations in Soil Compared to Screening Values

AOC 7 – Hazardous Materials Storage Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	1	1 / 1 (100%)	2.7	0	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	5	0 / 10 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	5	10 / 10 (100%)	4.4	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	5	10 / 10 (100%)	360	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	5	0 / 10 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	5	0 / 10 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	5	5 / 10 (50%)	1.8	3	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	5	10 / 10 (100%)	45	1	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	5	10 / 10 (100%)	13	1	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	5	10 / 10 (100%)	20	2	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	5	10 / 10 (100%)	32	3	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	5	0 / 10 (0%)	ND (0.11) ‡	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	5	2 / 10 (20%)	5	2	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	5	10 / 10 (100%)	30	1	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	5	0 / 10 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	5	0 / 10 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	5	0 / 10 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	5	10 / 10 (100%)	48	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	5	10 / 10 (100%)	57	0	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	2 / 2 (100%)	8,900	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	1	2 / 2 (100%)	24,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	2 / 2 (100%)	19,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	2 / 2 (100%)	7,600	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	2 / 2 (100%)	250	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	1	2 / 2 (100%)	2,000	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-21h

Constituent Concentrations in Soil Compared to Screening Values

AOC 7 – Hazardous Materials Storage Area

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	1	2 / 2 (100%)	630	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 2 (0%)	ND (0.222)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	µg/kg	5	1 / 10 (10%)	8.7	NA	(NE)	NA	(NA)	0	(73,000)
2-Methyl naphthalene	µg/kg	5	1 / 10 (10%)	6.2	NA	(NE)	NA	(NA)	0	(3,000,000)
Benzo (b) fluoranthene	µg/kg	5	1 / 10 (10%)	9.6	NA	(NE)	NA	(NA)	0	(21,000)
Chrysene	µg/kg	5	1 / 10 (10%)	8	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	5	2 / 10 (20%)	7.1	NA	(NE)	NA	(NA)	0	(30,000,000)
Pyrene	µg/kg	5	1 / 10 (10%)	9.8	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	5	2 / 10 (20%)	60	2	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	5	5 / 10 (50%)	110	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	5	3 / 10 (30%)	54	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	5	5 / 10 (50%)	137	NA	(NE)	NA	(NA)	0	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	5	4 / 10 (40%)	270	NA	(NE)	1	(230)	0	(1,100)
TPH as motor oil	mg/kg	5	5 / 10 (50%)	810	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	5	0 / 5 (0%)	ND (1.3)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-21h
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 7 – Hazardous Materials Storage Area
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-22a
Sample Results: Metals
AOC 8 – Paint Shed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																				
AOC8-1	01/07/16	0 - 0.5	N	ND (2.2) J	4.2	120	ND (1.1)	ND (1.1)	45 J	10	18	5.5	0.31	ND (1.1)	31	ND (1.1) J	ND (1.1)	ND (2.2)	43	53 J
	01/07/16	2 - 3	N	ND (2.1)	4.6	280	ND (1)	ND (1)	27	10	17	3.3	0.34	ND (1)	25	ND (1)	ND (1)	ND (2.1)	39	41
AOC8-2	12/09/15	0 - 1	N	ND (2.1)	3.7	100	ND (1)	ND (1)	31	5.8	11	8.1	ND (0.1)	2.6	12	ND (1)	ND (1)	ND (2.1)	23	28
	12/09/15	2 - 3	N	ND (2.1)	3.9	83	ND (1)	ND (1)	15	4.7	7.1	2.8	ND (0.1)	5.1	13	ND (1)	ND (1)	ND (2.1)	22	22

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- * Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg milligrams per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- N primary sample
- ND not detected at the listed reporting limit
- NE not established
- J concentration or reporting limit estimated by laboratory or data validation
- USEPA United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-22b

Sample Results: Contract Laboratory Program Inorganics

AOC 8 – Paint Shed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC8-1	01/07/16	0 - 0.5	N	13,000	36,000	23,000	11,000	300	2,700	400	ND (0.0442)
	01/07/16	2 - 3	N	12,000	53,000	24,000	9,600	330	2,600 J	550 J	ND (0.0415)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-22c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 8 – Paint Shed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)	
Commercial Screening Level ¹ :				17,000	
Background ² :				NE	
Location	Date	Depth (ft bgs)	Sample Type	Naphthalene	
Category 1					
AOC8-1	01/07/16	2 - 3	N	ND (5.9)	
AOC8-2	12/09/15	2 - 3	N	ND (6.8)	

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-22d

Sample Results: Total Petroleum Hydrocarbons

AOC 8 – Paint Shed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC8-1	01/07/16	0 - 0.5	N	19	160
	01/07/16	2 - 3	N	ND (10)	ND (10)
AOC8-2	12/09/15	0 - 1	N	37	260
	12/09/15	2 - 3	N	ND (10)	ND (10)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-22e

Constituent Concentrations in Soil Compared to Screening Values

AOC 8 – Paint Shed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Parameter	Units									
Metals										
Antimony	mg/kg	2	0 / 4 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	2	4 / 4 (100%)	4.6	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	2	4 / 4 (100%)	280	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	2	0 / 4 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	2	0 / 4 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, total	mg/kg	2	4 / 4 (100%)	45	1	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	2	4 / 4 (100%)	10	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	2	4 / 4 (100%)	18	2	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	2	4 / 4 (100%)	8.1	0	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	2	2 / 4 (50%)	0.34	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	2	2 / 4 (50%)	5.1	2	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	2	4 / 4 (100%)	31	1	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	2	0 / 4 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	2	0 / 4 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	2	0 / 4 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	2	4 / 4 (100%)	43	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	2	4 / 4 (100%)	53	0	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	2 / 2 (100%)	13,000	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	1	2 / 2 (100%)	53,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	2 / 2 (100%)	24,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	2 / 2 (100%)	11,000	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	2 / 2 (100%)	330	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	1	2 / 2 (100%)	2,700	0	(4,400)	NA	(NA)	NA	(NE)
Sodium	mg/kg	1	2 / 2 (100%)	550	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 2 (0%)	ND (0.0442)	NA	(NE)	NA	(NA)	0	(150)

TABLE 3-22e

Constituent Concentrations in Soil Compared to Screening Values

AOC 8 – Paint Shed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	2	2 / 4 (50%)	37	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	2	2 / 4 (50%)	260	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	2	0 / 2 (0%)	ND (1.2)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-22e
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 8 – Paint Shed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-22c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 8 – Paint Shed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)	
Commercial Screening Level ¹ :				17,000	
Background ² :				NE	
Location	Date	Depth (ft bgs)	Sample Type	Naphthalene	
Category 1					
AOC8-1	01/07/16	2 - 3	N	ND (5.9)	
AOC8-2	12/09/15	2 - 3	N	ND (6.8)	

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-22e

Constituent Concentrations in Soil Compared to Screening Values

AOC 8 – Paint Shed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Metals										
Antimony	mg/kg	2	0 / 4 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	2	4 / 4 (100%)	4.6	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	2	4 / 4 (100%)	280	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	2	0 / 4 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	2	0 / 4 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, total	mg/kg	2	4 / 4 (100%)	45	1	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	2	4 / 4 (100%)	10	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	2	4 / 4 (100%)	18	2	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	2	4 / 4 (100%)	8.1	0	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	2	2 / 4 (50%)	0.34	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	2	2 / 4 (50%)	5.1	2	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	2	4 / 4 (100%)	31	1	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	2	0 / 4 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	2	0 / 4 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	2	0 / 4 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	2	4 / 4 (100%)	43	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	2	4 / 4 (100%)	53	0	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	2 / 2 (100%)	13,000	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	1	2 / 2 (100%)	53,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	2 / 2 (100%)	24,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	2 / 2 (100%)	11,000	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	2 / 2 (100%)	330	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	1	2 / 2 (100%)	2,700	0	(4,400)	NA	(NA)	NA	(NE)
Sodium	mg/kg	1	2 / 2 (100%)	550	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 2 (0%)	ND (0.0442)	NA	(NE)	NA	(NA)	0	(150)

TABLE 3-22e

Constituent Concentrations in Soil Compared to Screening Values

AOC 8 – Paint Shed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	2	2 / 4 (50%)	37	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	2	2 / 4 (50%)	260	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	2	0 / 2 (0%)	ND (1.2)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-22e
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 8 – Paint Shed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																						
AOC13-1	12/05/15	0 - 1	N	ND (2.1)	2.8	460	ND (1.1)	ND (1.1)	ND (0.21)	31 J	7	17	1.1	ND (0.1)	---	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.1)	34	23
	12/05/15	0 - 1	FD	ND (2.1)	2.8	520	ND (1.1)	ND (1.1)	ND (0.21)	22 J	7.1	14	ND (1.1)	ND (0.11)	---	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.1)	29	22
	12/05/15	2 - 3	N	ND (2.1)	3	340	ND (1.1)	ND (1.1)	ND (0.21)	12	5.9	6.4	1.2	ND (0.1)	---	ND (1.1)	8	ND (1.1)	ND (1.1)	ND (2.1)	28	28
AOC13-10	12/14/15	0 - 0.5	N	ND (2.1)	3	83	ND (1)	ND (1)	0.49	22	3.3	26	6.1	ND (0.1)	---	ND (1)	6.5	ND (1)	ND (1)	ND (2.1)	15	18
	12/14/15	2 - 3	N	ND (2.1)	3	90	ND (1.1)	ND (1.1)	ND (0.21)	14	3.9	7.6	3.3	ND (0.11)	---	ND (1.1)	7.8	ND (1.1)	ND (1.1)	ND (2.1)	16	18
AOC13-11	01/05/16	0 - 0.5	N	ND (2.1)	2.9	87	ND (1)	ND (1)	0.31	13 J	4	8	11 J	ND (0.1)	---	1.3	9.2 J	ND (1)	ND (1)	ND (2.1)	21 J	28 J
	01/05/16	0.5 - 1	FD	ND (2.1)	3.2	94	ND (1.1)	ND (1.1)	0.34	18 J	5.2	10	18 J	ND (0.11)	---	1.9	16 J	ND (1.1)	ND (1.1)	ND (2.1)	26 J	46 J
	01/05/16	2 - 3	N	ND (2.1)	4.2	64	ND (1)	ND (1)	ND (0.21)	9	2.9	4.8	3.3	ND (0.1)	---	ND (1)	6.2	ND (1)	ND (1)	ND (2.1)	19	18
AOC13-12	12/05/15	0 - 1	N	ND (2.1)	3.1	100	ND (1.1)	ND (1.1)	ND (0.21)	6.4	2.6	5	3.4 J	ND (0.1)	---	ND (1.1)	4.8	ND (1.1)	ND (1.1)	ND (2.1)	15	16 J
	12/05/15	0 - 1	FD	ND (2.3)	3.4	120	ND (1.2)	ND (1.2)	ND (0.23)	7.6	3.1	6.3	9.4 J	ND (0.12)	---	ND (1.2)	5.8	ND (1.2)	ND (1.2)	ND (2.3)	18	22 J
	12/05/15	2 - 3	N	ND (2.1)	3.9	100	ND (1.1)	ND (1.1)	ND (0.21)	7.1	3.5	5.8	3.1	ND (0.11)	---	ND (1.1)	5.7	ND (1.1)	ND (1.1)	ND (2.1)	19	17
AOC13-13	01/09/16	0 - 0.5	N	ND (2.1) J	4.1	73	ND (1)	ND (1)	0.49	33	6.8	11	6.1	0.13	---	ND (1)	14	ND (1) J	ND (1)	ND (2.1) J	30	53
	01/09/16	2 - 3	N	ND (2.1)	4.2	130	ND (1)	ND (1)	ND (0.21)	6.2	2.8	4.2	2.2	ND (0.1)	---	ND (1)	4.6	ND (1)	ND (1)	ND (2.1)	15	16
AOC13-14	12/14/15	0 - 0.5	N	ND (2)	2.8	90	ND (1)	ND (1)	1.5	23	3	6.9	7.6	ND (0.1)	---	ND (1)	6.3	ND (1)	ND (1)	ND (2)	13	20
	12/14/15	2 - 3	N	ND (2.1)	2.7	74	ND (1)	ND (1)	0.29	8.8	3.1	5	2.7	ND (0.1)	---	ND (1)	7.8	ND (1)	ND (1)	ND (2.1)	14	13
AOC13-15	12/14/15	0 - 0.5	N	ND (2.1) J	3.4	110	ND (1.1)	ND (1.1)	0.96	35	9.8	22	37 J	ND (0.1)	---	1.4	23	ND (1.1) J	ND (1.1) J	ND (2.1)	32	59
	12/14/15	2 - 3	N	ND (2)	2.4	64	ND (1)	ND (1)	ND (0.2)	9.5	3.2	4.7	2.8	ND (0.1)	---	ND (1)	6.9	ND (1)	ND (1)	ND (2)	13	13
	12/14/15	5 - 6	N	ND (2)	2.5	64	ND (1)	ND (1)	ND (0.2)	7.6	2.8	4.3	2.1	ND (0.1)	---	ND (1)	6.1	ND (1)	ND (1)	ND (2)	12	12
AOC13-16	01/05/16	0 - 1	N	ND (2.1) J	4.1	100	ND (1.1)	ND (1.1)	ND (0.21)	7.2	3.2	4.8	4.1	ND (0.1)	---	ND (1.1)	5.7	ND (1.1)	ND (1.1)	ND (2.1)	18	18
	01/05/16	2 - 3	N	ND (2.1)	4.1	100	ND (1)	ND (1)	ND (0.21)	6.9	2.9	4.3	3	ND (0.11)	---	ND (1)	4.8	ND (1)	ND (1)	ND (2.1)	17	15
AOC13-17	12/08/15	0 - 0.5	N	ND (2.1)	2.7	89	ND (1.1)	ND (1.1)	0.76	27	8	16	8.7	0.19	---	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1)	28	37
	12/08/15	2 - 3	N	ND (2.2)	1.8	89	ND (1.1)	ND (1.1)	1.4	38	6.9	12	7.8	ND (0.11)	---	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2)	25	37
AOC13-18	01/06/16	0 - 0.5	N	ND (2)	3.4	85	ND (1)	ND (1)	ND (0.21)	26	8.2	10	5.6	ND (0.1)	---	ND (1)	17	ND (1)	ND (1)	ND (2)	40	52
	01/06/16	0.5 - 1	FD	ND (2)	3.2	90	ND (1)	ND (1)	ND (0.2)	24	8.6	12	5.6	ND (0.1)	---	ND (1)	17	ND (1)	ND (1)	ND (2)	39	52
	01/06/16	2 - 3	N	ND (2.1)	3.3	85	ND (1)	ND (1)	ND (0.21)	24	9.7	12	3.4	ND (0.1)	---	ND (1)	16	ND (1)	ND (1)	ND (2.1)	43	47
AOC13-19	01/08/16	0 - 0.5	N	ND (2.1)	4.2	78	ND (1.1)	ND (1.1)	ND (0.21)	14	6.4	7.6	3	0.17	---	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1)	28	34
	01/08/16	2 - 3	N	ND (2.1)	4	68	ND (1)	ND (1)	ND (0.2)	14	6.8	8.4	4	0.12	---	ND (1)	14	ND (1)	ND (1)	ND (2.1)	23	25
AOC13-2	12/05/15	0 - 1	N	ND (2.1)	2.9	170	ND (1.1)	ND (1.1)	ND (0.21)	34	7.1	14	3.9	ND (0.11)	---	ND (1.1)	23	ND (1.1)	ND (1.1)	ND (2.1)	30	29
	12/05/15	2 - 3	N	ND (2.2)	3	300	ND (1.1)	ND (1.1)	ND (0.22)	20	6.1	6.1	1.3	ND (0.11)	---	ND (1.1)	9.9	ND (1.1)	ND (1.1)	ND (2.2)	25	30
AOC13-20	01/08/16	0 - 0.5	N	ND (2.1)	4	110	ND (1.1)	ND (1.1)	ND (0.21)	18	7.1	10	6	0.38	---	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1)	26	36
	01/08/16	2 - 3	N	ND (2.2)	6.3	120	ND (1.1)	ND (1.1)	ND (0.21)	21	8.1	13	6.9	0.28	---	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.2)	33	49
AOC13-21	01/08/16	0 - 0.5	N	ND (2)	4.4	210	ND (1)	ND (1)	ND (0.2)	12	4.6	8.9	4.2	0.11	---	ND (1)	11 J	ND (1)	ND (1)	ND (2)	18	29
	01/08/16	0 - 0.5	FD	ND (2)	4.5	200	ND (1)	ND (1)	ND (0.2)	10	4.5	8.6	4.3	0.13	---	ND (1)	8.9 J	ND (1)	ND (1)	ND (2)	18	28
	01/08/16	2 - 3	N	ND (2.1)	4.6	110	ND (1)	ND (1)	ND (0.2)	15	6.6	11	5.6	0.18	---	ND (1)	15	ND (1)	ND (1)	ND (2.1)	27	41
AOC13-22	01/08/16	0 - 0.5	N	ND (2.1)	5.6	200	ND (1.1)	ND (1.1)	0.21	20	6.9	14	8.3	0.13	---	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.1)	27	51
	01/08/16	2 - 3	N	ND (2.1)	4.2	140	ND (1)	ND (1)	0.55	19	6.9	11	9.5	0.13	---	ND (1)	13	ND (1)	ND (1)	ND (2.1)	26	41
AOC13-23	01/08/16	0 - 0.5	N	ND (2.1)	4.1	140	ND (1.1)	ND (1.1)	0.39	16	6.8	12	12	0.24	---	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	25	33
	01/08/16	2 - 3	N	ND (2.2)	4.2	150	ND (1.1)	ND (1.1)	0.31	27	6.5	11	13	0.29	---	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2)	29	34

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC13-24	01/08/16	0 - 0.5	N	ND (2.1)	4.8	180	ND (1)	ND (1)	ND (0.21)	8.5 J	3.9	6.1	4.5 J	0.12	---	ND (1)	7.3 J	ND (1)	ND (1)	ND (2.1)	18	25 J
	01/08/16	0 - 0.5	FD	ND (2.1)	5	180	ND (1)	ND (1)	ND (0.21)	12 J	5	9.8	12 J	0.12	---	ND (1)	10 J	ND (1)	ND (1)	ND (2.1)	22	31 J
	01/08/16	2 - 3	N	ND (2.1)	4.7	160	ND (1)	ND (1)	ND (0.21)	12	3.7	7	6.1	ND (0.1)	---	ND (1)	6.3	ND (1)	ND (1)	ND (2.1)	18	28
AOC13-25	01/09/16	0 - 0.5	N	ND (2.1)	3.9	160	ND (1.1)	ND (1.1)	ND (0.21)	18	9.2	12	7.9	0.14	---	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1)	26	33
	01/09/16	2 - 3	N	ND (2.1)	3.8	140	ND (1)	ND (1)	ND (0.21)	17	6.3	12	6.4	0.18	---	ND (1)	13	ND (1)	ND (1)	ND (2.1)	26	32
AOC13-26	01/09/16	0 - 0.5	N	ND (2.1)	4.3	120	ND (1.1)	ND (1.1)	ND (0.21)	15	6.5	18	7.9	ND (0.11)	---	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1)	24	39
	01/09/16	2 - 3	N	ND (2.1)	4.1	150 J	ND (1)	ND (1)	0.56	21 J	5.5	9.3	37	0.12	---	ND (1)	12	ND (1)	ND (1)	ND (2.1)	25	37
	01/09/16	2 - 3	FD	ND (2.1)	3.7	120 J	ND (1.1)	ND (1.1)	0.47	17 J	4.8	9.1	31	0.12	---	1.2	10	ND (1.1)	ND (1.1)	ND (2.1)	21	33
AOC13-27	01/09/16	0 - 0.5	N	ND (2.2)	4.7	140	ND (1.1)	ND (1.1)	0.35	26	7.4	12	5.4	0.14	---	ND (1.1)	18	ND (1.1)	ND (1.1)	ND (2.2)	33	37
	01/09/16	2 - 3	N	ND (2.1)	4.1	200	ND (1.1)	ND (1.1)	0.78	24	6.2	10	8.7	0.12	---	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	27	35
AOC13-28	01/09/16	0 - 0.5	N	ND (2.1)	4.3	130	ND (1)	ND (1)	0.29	26	5.5	22	6.2	0.13	---	ND (1)	12	ND (1)	ND (1)	ND (2.1)	24	40
	01/09/16	2 - 3	N	ND (2.1)	4.6	160	ND (1.1)	ND (1.1)	ND (0.21)	16	6.1	9.1	5.2	0.15	---	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1)	27	32
AOC13-29	01/09/16	0 - 0.5	N	ND (2.1)	4	120 J	ND (1)	ND (1)	ND (0.21)	25 J	7.9	13	3.4	0.16	---	ND (1)	22	ND (1)	ND (1)	ND (2.1)	32	32
	01/09/16	0 - 0.5	FD	ND (2.1)	4	160 J	ND (1)	ND (1)	ND (0.21)	35 J	9.2	13	3.6	0.15	---	ND (1)	25	ND (1)	ND (1)	ND (2.1)	38	33
	01/09/16	2 - 3	N	ND (2.1)	4.5	140	ND (1.1)	ND (1.1)	ND (0.21)	23	8.2	16	6.7	0.14	---	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.1)	31	34
AOC13-3	12/14/15	0 - 0.5	N	ND (2.1)	4.3	200	ND (1)	ND (1)	0.29	17	6.1	14	28	ND (0.11)	---	ND (1)	11	ND (1)	ND (1)	ND (2.1)	25	38
	12/14/15	2 - 3	N	ND (2.3)	4	250	ND (1.1)	ND (1.1)	ND (0.22)	11	5	11	7	ND (0.11)	---	ND (1.1)	8.6	ND (1.1)	ND (1.1)	ND (2.3)	20	28
AOC13-30	01/07/16	0 - 0.5	N	ND (2.2)	3.8	79	ND (1.1)	ND (1.1)	0.82	37	7.4	13	7.2	ND (0.11)	---	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2)	34	53
	01/07/16	2 - 3	N	ND (2.1)	4	200	ND (1.1)	ND (1.1)	0.28	16	6.8	11	4.1	ND (0.11)	---	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1)	32	39
AOC13-31	01/07/16	0 - 0.5	N	ND (2.2)	4.1	68	ND (1.1)	ND (1.1)	ND (0.22)	16	4.8	7.7	5.6 J	ND (0.11)	---	ND (1.1)	9.1	ND (1.1)	ND (1.1)	ND (2.2)	22	33
	01/07/16	0 - 0.5	FD	ND (2.2)	3.8	82	ND (1.1)	ND (1.1)	0.28	16	5.1	7.7	9.7 J	ND (0.11)	---	ND (1.1)	10	ND (1.1)	ND (1.1)	ND (2.2)	26	35
	01/07/16	2 - 3	N	ND (2.1)	3.6	110	ND (1.1)	ND (1.1)	0.49	14	5.8	9	5.7	ND (0.11)	---	ND (1.1)	9.7	ND (1.1)	ND (1.1)	ND (2.1)	24	34
AOC13-32	12/04/15	0 - 0.5	N	ND (2)	4	79	ND (1)	ND (1)	ND (0.2)	12	4.9	7.6	3	ND (0.1)	---	ND (1)	10	ND (1)	ND (1)	ND (2)	23	29
	12/04/15	2 - 3	N	ND (2)	3.3	82	ND (1)	ND (1)	ND (0.2)	8.2	2.7	4.5	4.9	ND (0.1)	---	ND (1)	5.1	ND (1)	ND (1)	ND (2)	15	17
AOC13-33	02/18/17 ^Y		N	ND (2.1)	1.9	280	ND (1.1)	ND (1.1)	ND (0.21)	47	2.6	44	110	ND (0.11)	---	ND (1.1)	4.2	ND (1.1) J	ND (1.1)	ND (2.1) J	10	73
	02/15/17	0 - 0.5	N	ND (2.1)	4	150 J	ND (1)	1.4	3.7 J	160 J	5.3 J	170 J	200 J	0.34	---	1.2	10 J	ND (1) J	ND (1) J	ND (2.1) J	18	230 J
	02/15/17	0 - 0.5	FD	2.7	6.2	210 J	ND (1)	1.9	6.4 J	230 J	7 J	110 J	580 J	0.7	---	2.9	13 J	ND (1) J	ND (1) J	ND (2) J	20	480 J
	02/15/17	2 - 3	N	ND (2.1)	2.9	84	ND (1)	ND (1) J	2.1	61	4.4 J	15	22 J	ND (0.1)	---	ND (1)	9.5	ND (1) J	ND (1) J	ND (2.1) J	19	55 J
AOC13-34	01/21/17	0 - 0.5	N	ND (2.1)	3.2	68	ND (1.1)	ND (1.1)	---	8.5	2.5	4.3	3.2	0.2	---	ND (1.1)	4.5	ND (1.1)	ND (1.1)	2.4	13	15
	01/21/17	2 - 3	N	ND (2.1)	2.3	46	ND (1)	ND (1)	---	5.4	2.3	3.3	2.2	ND (0.1)	---	ND (1)	3.6	ND (1)	ND (1)	2.3	9.8	15
	01/21/17	5 - 6	N	ND (2)	2.1	23	ND (1)	ND (1)	---	3.9	1.3	ND (2)	1.1	ND (0.1)	---	ND (1)	1.9	ND (1)	ND (1)	2.3	7.3	6.8
AOC13-4	12/14/15	0 - 0.5	N	ND (2)	2.9	72 J	ND (1)	ND (1)	ND (0.2)	9.4	3.3	5.2	3.3 J	ND (0.1)	---	ND (1)	6.3	ND (1)	ND (1)	ND (2)	16	17 J
	12/14/15	0 - 0.5	FD	ND (2)	3.7	96 J	ND (1)	ND (1)	0.31	11	3.8	7.8	8 J	ND (0.1)	---	ND (1)	7.7	ND (1)	ND (1)	ND (2)	19	22 J
	12/14/15	2 - 3	N	ND (2)	3.4	110	ND (1)	ND (1)	ND (0.2)	10	4	7	2.9	ND (0.1)	---	ND (1)	7.5	ND (1)	ND (1)	ND (2)	19	19
AOC13-5	01/05/16	0 - 0.5	N	ND (2.2)	3.4	120	ND (1.1)	ND (1.1)	ND (0.22)	17	4.3	7.6	6	ND (0.11)	---	ND (1.1)	8.6	ND (1.1)	ND (1.1)	ND (2.2)	23	22
	01/05/16	2 - 3	N	ND (2.1)	3	86	ND (1)	ND (1)	ND (0.21)	7.7	2.7	4.5	3	ND (0.1)	---	ND (1)	5.6	ND (1)	ND (1)	ND (2.1)	16	16
AOC13-6	01/05/16	0 - 0.5	N	ND (2)	3.2	44	ND (1)	ND (1)	0.45	10	2.2	8.4	6.4	0.12	---	ND (1)	3.8	ND (1)	ND (1)	ND (2)	14	12
	01/05/16	2 - 3	N	ND (2)	2.9	60	ND (1)	ND (1)	ND (0.2)	8.5	2.8	4.7	1.9	ND (0.1)	---	ND (1)	6.6	ND (1)	ND (1)	ND (2)	17	13
AOC13-7	12/14/15	0 - 0.5	N	ND (2.2)	4.8	290	ND (1.1)	1.1	2.1	71	27	30	400	ND (0.11)	---	120	17	ND (1.1)	ND (1.1)	ND (2.2)	22	210
	12/14/15	2 - 3	N	ND (2.1)	2.7	110	ND (1)	ND (1)	0.52	12	2.6	4.6	17	ND (0.1)	---	2.7	5	ND (1)	ND (1)	ND (2.1)	13	17

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC13-8	12/05/15	0 - 1	N	ND (2.1)	3.2	130 J	ND (1)	ND (1)	ND (0.21)	11 J	3.5	5.6	3.6	ND (0.1)	---	ND (1)	7.4	ND (1)	ND (1)	ND (2.1)	19 J	20 J
	12/05/15	0 - 1	FD	ND (2.1) J	2.7	98 J	ND (1)	ND (1)	ND (0.21)	8.4 J	3.2	4.9	3.4	ND (0.1)	---	ND (1)	7.1	ND (1) J	ND (1) J	ND (2.1) J	15 J	15 J
	12/05/15	2 - 3	N	ND (2.1)	3.1	29	ND (1)	ND (1)	ND (0.21)	4.5	1.9	2.5	1.7	ND (0.1)	---	ND (1)	3.8	ND (1)	ND (1)	ND (2.1)	9.2	10
AOC13-9	01/09/16	0 - 0.5	N	ND (2.1)	5.4	150	ND (1)	ND (1)	0.66	66	5.3	14	8.9	ND (0.11)	---	ND (1)	10	ND (1)	ND (1)	ND (2.1)	25	63
	01/09/16	2 - 3	N	ND (2)	3.7	110	ND (1)	ND (1)	ND (0.2)	6.5	3.5	5	3.2	ND (0.1)	---	ND (1)	5	ND (1)	ND (1)	ND (2)	16	16
AOC13-Debris	04/26/17 ^Y		N	23	38	640	ND (1.1)	ND (1.1)	7.7 J	3,800	3.4	140	62	3.7	---	16	11	ND (1.1)	ND (1.1)	ND (2.1)	61	1,800
AOC13-GrabOS1	05/13/08	1	N	3.4	4.2	160	ND (0.1)	0.23	5.68	190	2.5	760	39	ND (0.1)	---	2.8	5.9	ND (1)	ND (0.26)	ND (1)	13	170
	05/13/08	3	N	ND (0.41)	4.1	62	ND (0.1)	ND (0.1)	ND (0.408)	4.5	1.4	4.1	2.6	ND (0.1)	---	2.1	2	3	ND (0.25)	ND (1)	7.2	4.6
	05/14/08	5.5	N	ND (0.41)	4.5	85 J	ND (0.1)	ND (0.1)	ND (0.412)	3.1	2.4	1.7	2.4	ND (0.1)	---	1.3	2.2	2.5	ND (0.26)	ND (1)	7.9	3.4
	05/14/08	5.5	FD	ND (0.41)	4.4	67 J	ND (0.1)	ND (0.1)	ND (0.411)	3.1	2	1.5	2.2	ND (0.1)	---	1.1	2.1	2.9	ND (0.26)	ND (1)	7.3	3.4
AOC13-GrabOS2	05/13/08	1	N	0.77	4.4	89	ND (0.1)	0.29	10.6	44	4.1	21	330	0.19	---	1.9	8.3	ND (1)	ND (0.25)	ND (1)	18	53
	05/13/08	3	N	ND (0.41)	3.9	53	ND (0.1)	ND (0.1)	ND (0.41)	3.9	1.2	1.7	2.3	ND (0.1)	---	0.6	1.8	2.6	ND (0.26)	ND (1)	8.4	4.3
	05/13/08	4 - 4.5	N	ND (0.82)	4.8	81	ND (0.1)	ND (0.1)	0.54	8.3	1.4	4	5.6	ND (0.1)	---	0.81	2.4	2.3	ND (0.26)	ND (1)	9.7	8.8
AOC13-OS1	04/06/11	9 - 9.5	N	ND (2)	2.4	47	ND (1)	ND (1)	ND (0.4) J	4.2	1.9	ND (2)	2.7	ND (0.1) J	---	2	4.2	ND (1)	ND (1)	ND (2)	13	9.3
AOC13-OS11	06/26/13	0 - 0.5	N	ND (2)	3.1	140	ND (1)	ND (1)	ND (0.4)	15	4.9	9.5	7.1	ND (0.099)	---	ND (1)	11	ND (1)	ND (1)	ND (2)	23	28
	06/26/13	2 - 3	N	ND (2)	3.4	160	ND (1)	ND (1)	ND (0.4)	18	4.8	9.4	5.5	ND (0.1)	---	ND (1)	11	ND (1)	ND (1)	ND (2)	24	29
	06/26/13	5 - 6	N	ND (2)	3	110	ND (1)	ND (1)	ND (0.4)	6.7	3	5.9	5.8	ND (0.099)	---	ND (1)	5.6	ND (1)	ND (1)	ND (2)	15	18
AOC13-OS12	06/26/13	0 - 0.5	N	ND (2)	5.5	350	ND (1)	ND (1)	0.48	16	5.9	27	120	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2)	25	36
	06/26/13	2 - 3	N	ND (2)	3.5	130	ND (1)	ND (1)	ND (0.4)	15	5.3	7.7	5.5	ND (0.1)	---	ND (1)	11	ND (1)	ND (1)	ND (2)	22	28
	06/26/13	2 - 3	FD	ND (2) J	3.2	110	ND (1)	ND (1) J	ND (0.4)	13	4.6	7.7	4.7	ND (0.1)	---	ND (1)	10	ND (1)	ND (1)	ND (2) J	20	24 J
AOC13-OS13	06/26/13	0 - 0.5	N	ND (2)	3.2	120	ND (1)	ND (1)	ND (0.4)	9.2	5.3	9.9	10	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2)	20	23
	06/26/13	2 - 3	N	ND (2)	3.6	130	ND (1)	ND (1)	ND (0.4)	9.2	5.4	8.5	5.6	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2)	20	21
AOC13-OS14	07/25/13	0 - 0.5	N	ND (2)	2.8	93	ND (1)	ND (1)	ND (0.4)	14	4	13	7.2	ND (0.1)	---	ND (1)	8.6	ND (1)	ND (1)	ND (2)	21	22
	07/25/13	2 - 3	N	ND (2)	3.6	84	ND (1)	ND (1)	ND (0.4)	11	4.2	6.7	4.9	ND (0.1)	---	ND (1)	8.4	ND (1)	ND (1)	ND (2)	25	25
	07/25/13	2 - 3	FD	ND (2) J	3.8	96 J	ND (1)	ND (1)	ND (0.41)	12	4.5	6.7	4.9	ND (0.1)	---	ND (1)	8.5	ND (1)	ND (1)	ND (2)	26	26
	07/25/13	5 - 6	N	ND (2)	2.8	84	ND (1)	ND (1)	ND (0.41)	11	6.8	10	3.1	ND (0.1)	---	ND (1)	17	ND (1)	ND (1)	ND (2)	31	23
AOC13-OS2	11/08/11	0 - 0.5	N	ND (2.1)	3.3	130	ND (1)	ND (1)	1.5	17	5.6	14	8.9	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2.1)	26	37
	11/08/11	2 - 3	N	ND (2)	4.2	150	ND (1)	ND (1)	ND (0.41)	24	7.2	17	7.9	0.29	---	ND (1)	15	ND (1)	ND (1)	ND (2)	36	48
	11/08/11	2 - 3	FD	ND (2)	4.1	140	ND (1)	ND (1)	ND (0.41)	25	7.3	17	7.9	0.33	---	ND (1)	16	ND (1)	ND (1)	ND (2)	37	48
	11/08/11	5 - 6	N	ND (2.1)	3.4	170	ND (1)	ND (1)	ND (0.42)	30	8.2	41	7.3	ND (0.1)	---	ND (1)	25	ND (1)	ND (1)	ND (2.1)	36	61
AOC13-OS3	11/08/11	0 - 0.5	N	ND (2.1)	4.7	170	ND (1)	ND (1)	ND (0.42)	21	7.4	22	15	ND (0.1)	---	ND (1)	18	ND (1)	ND (1)	ND (2.1)	36	39
	11/08/11	2 - 3	N	ND (2.1)	4.4	99	ND (1)	ND (1)	ND (0.42)	22	8.1	20	4.1	ND (0.1)	---	ND (1)	15	1.2	ND (1)	ND (2.1)	41	44
AOC13-OS4	11/08/11	0 - 0.5	N	ND (2.1)	3.7	160	ND (1.1)	ND (1.1)	ND (0.42)	24	6.4	18	7.5	ND (0.1)	---	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	33	66
	11/08/11	2 - 3	N	ND (2.1)	4	150	ND (1)	ND (1)	ND (0.41)	20	6	14	5	ND (0.1)	---	ND (1)	14	ND (1)	ND (1)	ND (2.1)	29	30
	11/08/11	5 - 6	N	ND (2.1)	3.5	150	ND (1.1)	ND (1.1)	ND (0.43)	27	7.8	32	6	ND (0.11)	---	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.1)	37	38
AOC13-PITOS1	07/26/11	0 - 0.5	N	ND (2)	2.4	91	ND (1)	ND (1)	2.6	54	4.8	15	89 J	ND (0.1)	---	ND (1)	9.8	ND (1)	ND (1)	ND (2)	19	63
	07/26/11	0 - 0.5	FD	ND (2)	2.4	86	ND (1)	ND (1)	2.6	52	3.6	15	56 J	ND (0.1)	---	ND (1)	10	ND (1)	ND (1)	ND (2)	18	61
	07/26/11	2 - 3	N	ND (2) J	3.3	140	ND (1)	ND (1)	ND (0.4)	21	6.7	11	6.7	ND (0.1)	---	ND (1)	14	ND (1)	ND (1)	ND (2) J	31	31 J
	07/26/11	9 - 9.5	N	ND (2)	2.6	110	ND (1)	ND (1)	ND (0.41)	19	5.2	9.3	4.9	ND (0.1)	---	ND (1)	12	ND (1)	ND (1)	ND (2)	26	29 J

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC13-PITOS2	07/26/11	0 - 0.5	N	ND (2)	2.9	150	ND (1)	ND (1)	0.92	33	7	19	13	ND (0.1)	---	ND (1)	15	ND (1)	ND (1)	ND (2)	31	52 J
	07/26/11	2 - 3	N	ND (2)	3.6	170	ND (1)	ND (1)	ND (0.4)	22	6.1	11	7.4	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2)	33	34 J
	07/26/11	4 - 4.5	N	ND (2)	3.1	140	ND (1)	ND (1)	ND (0.4)	21	5.7	11	8.7	ND (0.1)	---	ND (1)	12	ND (1)	ND (1)	ND (2)	29	35 J
AOC13-PITOS3	07/26/11	0 - 0.5	N	ND (2)	3.2	150	ND (1)	ND (1)	ND (0.4)	20	6.1	12	7.2	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2)	30	33 J
	07/26/11	2 - 3	N	ND (2)	2.9	170	ND (1)	ND (1)	ND (0.4)	20	6.6	11	6.4	ND (0.1)	---	ND (1)	12	ND (1)	ND (1)	ND (2)	35	36 J
	07/26/11	2 - 3	FD	ND (2)	2.9	180	ND (1)	ND (1)	ND (0.4)	21	7.5	11	6.1	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2)	35	35
	07/26/11	6 - 6.5	N	ND (2.1)	2.9	170	ND (1)	ND (1)	ND (0.42)	22	6.6	10	7	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2.1)	34	36 J
AOC13-PITOS6	07/26/11	0 - 0.5	N	ND (2) J	2.7	160	ND (1)	ND (1)	ND (0.4)	20	6.8	12	7	ND (0.099)	---	ND (1)	12 J	ND (1) J	ND (1)	ND (2) J	35	36
	07/26/11	2 - 3	N	ND (2)	3	180	ND (1)	ND (1)	ND (0.4)	20	6.6	11	7.7	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2)	33	32
	07/26/11	5 - 6	N	ND (2.1)	2.8	160	ND (1)	ND (1)	ND (0.41)	21	6.6	11	7.2	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2.1)	35	32
	07/26/11	7 - 7.5	N	ND (2)	2.1	180	ND (1)	ND (1)	ND (0.41)	22	7.9	13	7.1	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2)	38	49
AOC13-PITOS7	07/26/11	0 - 0.5	N	ND (2)	2.9	110	ND (1)	ND (1)	ND (0.4)	13	5	13	7.5	ND (0.1)	---	ND (1)	9.7	ND (1)	ND (1)	ND (2)	25	28
	07/26/11	2 - 3	N	ND (2)	2.5	93	ND (1)	ND (1)	ND (0.4)	12	7.9	12	4.1	ND (0.099)	---	ND (1)	19	ND (1)	ND (1)	ND (2)	37	25
	07/26/11	2 - 3	FD	ND (2)	1.9	95	ND (1)	ND (1)	ND (0.4)	13	8.5	11	4	ND (0.099)	---	ND (1)	19	ND (1)	ND (1)	ND (2)	38	26
	07/26/11	5 - 6	N	ND (2)	1.8	96	ND (1)	ND (1)	ND (0.4)	12	8.6	12	3.3	ND (0.1)	---	ND (1)	20	ND (1)	ND (1)	ND (2)	38	24
	07/26/11	8 - 8.5	N	ND (2)	2.1	110	ND (1)	ND (1)	ND (0.4)	15	6.8	11	5.9	ND (0.1)	---	ND (1)	15	ND (1)	ND (1)	ND (2)	32	26
AOC13-PITOS8	07/26/11	0 - 0.5	N	ND (2)	2.8	130	ND (1)	ND (1)	0.73	22	6.5	12	14	ND (0.1)	---	ND (1)	12	ND (1)	ND (1)	ND (2)	36	38
	07/26/11	5 - 6	N	ND (2)	2.7	140	ND (1)	ND (1)	ND (0.41)	14	7.5	11	4.6	ND (0.1)	---	ND (1)	15	ND (1)	ND (1)	ND (2)	37	27
	07/26/11	9 - 10	N	ND (2)	1.8	110	ND (1)	ND (1)	ND (0.4)	14	9.3	13	4	ND (0.1)	---	ND (1)	21	ND (1)	ND (1)	ND (2)	43	27
	07/26/11	11 - 11.5	N	ND (2)	2	130	ND (1)	ND (1)	ND (0.4)	19	9	13	5.4	ND (0.1)	---	ND (1)	16	ND (1)	ND (1)	ND (2)	40	32
AOC13-PITOS9	07/26/11	0 - 0.5	N	ND (2)	2.7	130	ND (1)	ND (1)	ND (0.4)	23	5.7	11	6.4	ND (0.099)	---	ND (1)	12	ND (1)	ND (1)	ND (2)	31	37
	07/26/11	2 - 3	N	ND (2)	2.3	110	ND (1)	ND (1)	ND (0.41)	20	7.7	8.9	5.5	ND (0.1)	---	ND (1)	11	ND (1)	ND (1)	ND (2)	30	31
	07/26/11	5 - 6	N	ND (2)	2.6	110	ND (1)	ND (1)	ND (0.4)	18	5.5 J	7.8	4.7	ND (0.1)	---	ND (1)	10	ND (1)	ND (1)	ND (2)	28	28
	07/26/11	5 - 6	FD	ND (2)	2.4	110	ND (1)	ND (1)	ND (0.4)	17	7.7 J	8.6	4.8	ND (0.1)	---	ND (1)	9.7	ND (1)	ND (1)	ND (2)	27	26
AOC13-PITOS10	07/26/11	0 - 0.5	N	ND (2)	4.2	140	ND (1)	ND (1)	ND (0.16)	15	5.7	9.1	3.9	ND (0.1)	---	ND (1)	9.1	ND (1)	ND (1)	ND (2)	34	27 J
	07/26/11	2 - 3	N	ND (2)	2.8	150	ND (1)	ND (1)	0.29	19	6.1	17	7.1	ND (0.099)	---	ND (1)	11	ND (1)	ND (1)	ND (2)	31	35 J
	07/26/11	5 - 6	N	ND (2)	2.8	170	ND (1)	ND (1)	ND (0.16)	18	6.8	12	4.5	ND (0.1)	---	ND (1)	11	ND (1)	ND (1)	ND (2)	36	33 J
	07/26/11	7 - 7.5	N	ND (2)	2.4	100	ND (1)	ND (1)	ND (0.16)	12	6.2	12	3.7	ND (0.1)	---	ND (1)	8.4	ND (1)	ND (1)	ND (2)	26	25 J
AOC13-PITOS11	07/26/11	0 - 0.5	N	ND (2)	2.8	130	ND (1)	ND (1)	ND (0.4)	13	6	9.3	11	ND (0.1)	---	ND (1)	9.5	ND (1)	ND (1)	ND (2)	26	28 J
	07/26/11	2 - 3	N	ND (2)	2.6	82	ND (1)	ND (1)	ND (0.4)	9.7	3.5	5.5	3.8	ND (0.099)	---	ND (1)	6.9	ND (1)	ND (1)	ND (2)	22	18 J
	07/26/11	2 - 3	FD	ND (2)	2.4	87	ND (1)	ND (1)	ND (0.4)	9.9	3.3	5	3.4	ND (0.1)	---	ND (1)	6.5	ND (1)	ND (1)	ND (2)	21	16
	07/26/11	5 - 6	N	ND (2)	2.2	130	ND (1)	ND (1)	ND (0.4)	11	6.6	10	4.6	ND (0.1)	---	ND (1)	15	ND (1)	ND (1)	ND (2)	30	24 J
	07/26/11	7.5 - 8	N	ND (2)	2.3	110	ND (1)	ND (1)	ND (0.16)	11	5.4	20	12	ND (0.1)	---	ND (1)	12	ND (1)	ND (1)	ND (2)	24	23 J
AOC13-PITOS12	09/27/11	0 - 0.5	N	ND (2)	3.6	250 J	ND (1)	ND (1)	ND (0.41)	14	5.4	15	25 J	ND (0.1)	---	ND (1)	10	ND (1)	ND (1)	ND (2)	25 J	60
	09/27/11	2 - 3	N	ND (2.1)	4.6	250	ND (1)	ND (1)	ND (0.41)	15	5.9	9.4	6.2	ND (0.1)	---	ND (1)	10	ND (1)	ND (1)	ND (2.1)	28	35
	09/27/11	5 - 6	N	ND (2)	2.9	170	ND (1)	ND (1)	ND (0.41)	18	5.9	10	6.4	ND (0.1)	---	ND (1)	11	ND (1)	ND (1)	ND (2)	29	34
	09/27/11	9 - 9.5	N	ND (2)	3.8	240	ND (1)	ND (1)	ND (0.4)	13	4.9	8.7	5.1	ND (0.1)	---	ND (1)	8.5	ND (1)	ND (1)	ND (2)	27	25
	09/27/11	11 - 11.5	N	ND (2)	1.8	89	ND (1)	ND (1)	ND (0.4)	8.7	3.1	15	3.3	ND (0.1)	---	ND (1)	6.5	ND (1)	ND (1)	ND (2)	16	16

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC13-PITOS13	07/26/11	0 - 0.5	N	ND (2)	2.6	140	ND (1)	ND (1)	ND (0.4)	13	4	12	7.4 J	ND (0.1)	---	ND (1)	6.8	ND (1)	ND (1)	ND (2)	21	25 J
	07/26/11	0 - 0.5	FD	ND (2)	2.9	140	ND (1)	ND (1)	0.44	13	4	12	21 J	ND (0.1)	---	1	6.9	ND (1)	ND (1)	ND (2)	24	25
	07/26/11	2 - 3	N	ND (2) J	2.5	130	ND (1)	ND (1)	ND (0.4)	17	5.4	11	12 J	ND (0.1)	---	ND (1)	9.8	ND (1)	ND (1)	ND (2) J	28	30
	07/26/11	5 - 6	N	ND (2)	2.8	170	ND (1)	ND (1)	ND (0.4)	21	6.2	12	8.5	ND (0.1)	---	ND (1)	11	ND (1)	ND (1)	ND (2)	32	35
	07/26/11	9 - 9.5	N	ND (2)	ND (1) *	130	ND (1)	ND (1)	ND (0.4)	16	8	9.6	4.3	ND (0.1)	---	ND (1)	10	ND (1)	ND (1)	ND (2)	40	34
AOC13-PITOS14	07/26/11	0 - 0.5	N	ND (2)	3.3	150	ND (1)	ND (1)	ND (0.16)	14	5	8.1	9.6	ND (0.1)	---	ND (1)	8.5	ND (1)	ND (1)	ND (2)	25	27 J
	07/26/11	2 - 3	N	ND (2)	3.1	170	ND (1)	ND (1)	0.36	23	6.4	11	7.3	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2)	33	34 J
	07/26/11	4 - 4.5	N	ND (2)	2.8	140	ND (1)	ND (1)	0.22	16	5.4	9.7	7.3	ND (0.1)	---	ND (1)	10	ND (1)	ND (1)	ND (2)	29	29 J
AOC13-Wood	04/26/17 ^M		N	78	12	96	ND (1.1)	ND (1.1)	4.1	9,700	ND (1.1)	2,400	23	0.47	---	15	1.2	ND (1.1)	ND (1.1)	2.5	7.6	630
BH-65	03/24/11	0 - 0.5	N	ND (0.26)	2	94	ND (0.26)	ND (0.26)	0.52	12	3.4	5.2	6.7	ND (0.1)	---	0.86	9.7	ND (0.26)	ND (0.26)	ND (0.26)	13	21
	03/24/11	2 - 3	N	ND (0.26)	2.8	150	0.28	ND (0.26)	0.79	17	4.3	8.1	20	ND (0.12)	---	0.57	10	ND (0.26)	ND (0.26)	ND (0.26)	17	28
	03/17/11	9 - 10	N	ND (2.1)	1.7	95	ND (1)	ND (1)	ND (0.41)	15	7.1	7.4	3.5	ND (0.1)	---	ND (1)	11	ND (1)	ND (1)	ND (2.1)	38	66
	03/17/11	14 - 15	N	ND (2.1)	1.5	140	ND (1)	ND (1)	ND (0.42)	16	9	7.5	3	ND (0.1)	---	ND (1)	12	ND (1)	ND (1)	ND (2.1)	35	43
	03/17/11	19 - 20	N	ND (2)	1.6	140	ND (1)	ND (1)	ND (0.41)	24	8.4	7	3	ND (0.1)	---	ND (1)	15	ND (1)	ND (1)	ND (2)	36	50
	03/17/11	29 - 30	N	ND (2) J	0.99	130	ND (1)	ND (1)	ND (0.4)	25	8.6	5.3	1.8 J	ND (0.1)	---	ND (1) J	11	ND (1) J	ND (1)	ND (2) J	36	39
	03/17/11	37 - 40	N	ND (2.1)	2.5	140	ND (1.1)	ND (1.1)	ND (0.42)	48	14	17	3.8	ND (0.1)	---	ND (1.1)	33	ND (1.1)	ND (1.1)	ND (2.1)	50	41
	03/17/11	49 - 50	N	ND (2.1)	2.7	90	ND (1.1)	ND (1.1)	ND (0.43)	50	12	27	4.1	ND (0.11)	---	ND (1.1)	29	ND (1.1)	ND (1.1)	ND (2.1)	50	45
	03/17/11	59 - 60	N	ND (2.1)	2.4	73	ND (1)	ND (1)	ND (0.42)	40	12	8	3.1	ND (0.1)	---	ND (1)	28	ND (1)	ND (1)	ND (2.1)	51	43
	03/18/11	69 - 70	N	ND (2.1)	2.4	94	ND (1.1)	ND (1.1)	ND (0.42)	23	10	14	2.9	ND (0.1)	---	ND (1.1)	19	ND (1.1)	ND (1.1)	ND (2.1)	44	43
	03/18/11	79 - 80	N	ND (2.1)	2.5	110	ND (1.1)	ND (1.1)	ND (0.42)	61	13	21	3.7	ND (0.1)	---	ND (1.1)	44 J	ND (1.1)	ND (1.1)	ND (2.1)	57	50
	03/18/11	79 - 80	FD	ND (2.1)	2.7	93	ND (1)	ND (1)	ND (0.42)	53	12	15	3.5	ND (0.1)	---	ND (1)	35 J	ND (1)	ND (1)	ND (2.1)	54	42
	03/18/11	89 - 90	N	ND (2.1)	2.4	49	ND (1.1)	ND (1.1)	ND (0.43)	20	8.8	12	2.8	ND (0.11)	---	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.1)	36	38
	03/18/11	99 - 100	N	ND (2.1) J	3.3	1,000	ND (1)	ND (1) J	ND (0.42)	66	16	18	3.4 J	ND (0.1)	---	ND (1) J	53	ND (1) J	ND (1)	ND (2.1) J	63	51
	03/18/11	109 - 110	N	ND (2.1)	2.7	88	ND (1.1)	ND (1.1)	ND (0.43)	49	11	20	4.5	ND (0.11)	---	ND (1.1)	34	ND (1.1)	ND (1.1)	ND (2.1)	50	48
	03/18/11	119 - 120	N	ND (2.1)	2.9	50	ND (1)	ND (1)	ND (0.41)	50	14	13	2.8	ND (0.1)	---	ND (1)	41	ND (1)	ND (1)	ND (2.1)	57	46
	03/19/11	129 - 130	N	ND (2.1)	2.4	56	ND (1)	ND (1)	ND (0.42)	26	8.6	20	3	ND (0.11)	---	ND (1)	20	ND (1)	ND (1)	ND (2.1)	32	36
03/19/11	139 - 140	N	ND (2.2)	2.6	140	ND (1.1)	ND (1.1)	ND (0.43)	25	9.7	20	2.6	ND (0.11)	---	ND (1.1)	21	ND (1.1)	ND (1.1)	ND (2.2)	38	44	

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
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PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
BH-66	03/23/11	0 - 0.5	N	ND (0.27)	1.4	70	ND (0.27)	ND (0.27)	ND (0.43)	12	4	5	8.9	ND (0.11)	---	ND (0.27)	11	ND (0.27)	ND (0.27)	ND (0.27)	14	16
	03/23/11	2 - 3	N	ND (0.27)	1.3	62	ND (0.27)	ND (0.27)	ND (0.42)	9.1	3.3	5	3.2	ND (0.11)	---	ND (0.27)	9.3	ND (0.27)	ND (0.27)	ND (0.27)	11	15
	03/23/11	5 - 6	N	ND (0.28)	1.8	76	0.33	ND (0.28)	ND (0.45)	14	4.9	6.2	2.6	ND (0.1)	---	ND (0.28)	11	ND (0.28)	ND (0.28)	ND (0.28)	19	26
	04/12/11	14 - 15	N	ND (2.1)	2.3	72 J	ND (1)	ND (1)	ND (0.41)	5.3 J	2	3.8	2.7	ND (0.1)	---	ND (1)	4	ND (1)	ND (1)	ND (2.1)	12 J	11 J
	04/12/11	14 - 15	FD	ND (2.1)	2.8	100 J	ND (1)	ND (1)	ND (0.42)	15 J	3.5	11	3.8	ND (0.1)	---	ND (1)	6.7	ND (1)	ND (1)	ND (2.1)	15 J	20 J
	04/12/11	19 - 20	N	ND (2)	2.4	86	ND (1)	ND (1)	ND (0.41)	10	2.2	3	3	ND (0.1)	---	ND (1)	4.1	ND (1)	ND (1)	ND (2)	12	14
	04/12/11	29 - 30	N	ND (2.1)	2.3	97	ND (1)	ND (1)	ND (0.41)	7	2.2	2.6	2.7	ND (0.1)	---	ND (1)	4.1	ND (1)	ND (1)	ND (2.1)	12	13
	04/12/11	39 - 40	N	ND (2.1)	2	68	ND (1)	ND (1)	ND (0.41)	28	9.7	9.3	2.7	ND (0.1)	---	ND (1)	23	ND (1)	ND (1)	ND (2.1)	41	38
	04/12/11	49 - 50	N	ND (2.1) J	2 J	130	ND (1)	ND (1)	ND (0.41)	28	9.9	9.5	3	ND (0.1)	---	ND (1) J	23	ND (1)	ND (1)	ND (2.1) J	43	41
	04/13/11	59 - 60	N	ND (2.1)	1.8	28	ND (1.1)	ND (1.1)	ND (0.42)	25	8.2	8.1	2.9	ND (0.1)	---	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1)	35	40
	04/13/11	69 - 70	N	ND (2.1)	2.2	34	ND (1.1)	ND (1.1)	ND (0.43)	18	8.8	13	3.8	ND (0.11)	---	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1)	39	44
	04/13/11	79 - 80	N	ND (2.1)	1.6	100	ND (1)	ND (1)	ND (0.42)	17	8.7	10	2.7	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2.1)	37	43
	04/13/11	89 - 90	N	ND (2.1)	2	29	ND (1.1)	ND (1.1)	ND (0.43)	18	8	10	3	ND (0.1)	---	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	32	39
	04/13/11	99 - 100	N	ND (2.1)	1.8	80	ND (1.1)	ND (1.1)	ND (0.43)	21	7.8	12	3.6	ND (0.11)	---	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1)	34	38
	04/13/11	109 - 110	N	ND (2.1)	1.6	120	ND (1.1)	ND (1.1)	ND (0.42)	22	9.1	9.7	3.4	ND (0.1)	---	ND (1.1)	16	ND (1.1)	ND (1.1)	ND (2.1)	38	41
	04/14/11	119 - 120	N	ND (2.1)	1.7	39 J	ND (1)	ND (1)	ND (0.41)	20	8	12	2.6	ND (0.1)	---	ND (1)	13	ND (1)	ND (1)	ND (2.1)	33	36
	04/14/11	119 - 120	FD	ND (2.1)	1.7	23 J	ND (1)	ND (1)	ND (0.42)	23	7.7	13	2.8	ND (0.1)	---	ND (1)	15	ND (1)	ND (1)	ND (2.1)	33	36
	04/14/11	129 - 130	N	ND (2.1)	2.1	51	ND (1.1)	ND (1.1)	ND (0.43)	29	8.3	12	2.7	ND (0.11)	---	ND (1.1)	19	ND (1.1)	ND (1.1)	ND (2.1)	36	35
BH-67	03/17/11	0 - 0.5	N	ND (2.2)	3.2	120	ND (1.1)	ND (1.1)	ND (0.43)	32	10	14	5	ND (0.11)	---	ND (1.1)	29	ND (1.1)	ND (1.1)	ND (2.2)	45	43
	03/17/11	2 - 3	N	ND (2.1)	2.9	240	ND (1.1)	ND (1.1)	ND (0.42)	11	5.2	3.5	1.8	ND (0.1)	---	ND (1.1)	7.6	ND (1.1)	ND (1.1)	ND (2.1)	31	28
	03/17/11	5 - 6	N	ND (2)	1.9	27	ND (1)	ND (1)	ND (0.4)	2.8	1.4	ND (2)	2.2	ND (0.1)	---	ND (1)	2.3	ND (1)	ND (1)	ND (2)	11	6.7
	04/29/11	9 - 10	N	ND (2.1)	2.8	66	ND (1)	ND (1)	ND (0.42)	4.4	2.3	ND (2.1)	2.6	ND (0.1)	---	ND (1)	4	ND (1)	ND (1)	ND (2.1)	14	12
	04/29/11	14 - 15	N	ND (2)	2.1	35	ND (1)	ND (1)	ND (0.41)	2.4	ND (1)	ND (2)	1.7	ND (0.1)	---	ND (1)	1.4	ND (1)	ND (1)	ND (2)	7.2	5.7
	04/29/11	19 - 20	N	ND (2)	2.6	110	ND (1)	ND (1)	ND (0.41)	6.6	2.2	2.2	2.6	ND (0.1)	---	1.2	3.3	ND (1)	ND (1)	ND (2)	14	12
	04/29/11	29 - 30	N	ND (2)	ND (1) *	220	ND (1)	ND (1)	ND (0.41)	18	14	4.5	ND (1)	ND (0.1)	---	4.6	12	ND (1)	ND (1)	ND (2)	56	69
	04/29/11	39 - 40	N	ND (2)	1.9	15	ND (1)	ND (1)	ND (0.4)	2.4	1.1	ND (2)	2	ND (0.1)	---	ND (1)	1.5	ND (1)	ND (1)	ND (2)	10	5.5
	04/29/11	39 - 40	FD	ND (2)	1.6	15	ND (1)	ND (1)	ND (0.4)	2.1	ND (1)	ND (2)	1.7	ND (0.1)	---	ND (1)	1.2	ND (1)	ND (1)	ND (2)	8.9	4.5
	04/29/11	49 - 50	N	ND (2.1)	2.7	110	ND (1)	ND (1)	ND (0.42)	12	3.3	2.7	2.8	ND (0.1)	---	2.2	4.5	ND (1)	ND (1)	ND (2.1)	20	17
	04/29/11	59 - 60	N	ND (2.3)	8.8	190	ND (1.2)	ND (1.2)	ND (0.47)	18	4.9	12	10	ND (0.12)	---	3.5	13	ND (1.2)	ND (1.2)	ND (2.3)	28	50
	04/29/11	69 - 70	N	ND (2.1)	2.3	110	ND (1)	ND (1)	ND (0.41)	3.2	1.4	ND (2.1)	2.6	ND (0.1)	---	ND (1)	2	ND (1)	ND (1)	ND (2.1)	8.1	7.8
	04/29/11	79 - 80	N	ND (2.2)	6.9	180	ND (1.1)	ND (1.1)	ND (0.44)	13	4.5	6.3	6.9	ND (0.11)	---	ND (2.2)	9.3	ND (1.1)	ND (1.1)	ND (2.2)	23	34
	04/29/11	89 - 90	N	ND (2.2)	4.3	74	ND (1.1)	ND (1.1)	0.78	22	8.7	7.1	4.4	ND (0.11)	---	3.2	17	ND (1.1)	ND (1.1)	ND (2.2)	41	39
	04/29/11	99 - 100	N	ND (2.1)	3.4	46	ND (1)	ND (1)	ND (0.41)	22	9.5	7.8	2.9	ND (0.1)	---	3.4	15	ND (1)	ND (1)	ND (2.1)	43	40
	04/29/11	109 - 110	N	ND (2.1)	1.6	48	ND (1)	ND (1)	ND (0.41)	31	12	8.4	3.5	ND (0.1)	---	4.9	19	ND (1)	ND (1)	ND (2.1)	52	50
	04/29/11	119 - 120	N	ND (2.1)	3	44	ND (1)	ND (1)	ND (0.42)	20	9.7	6.6	2.9	ND (0.1)	---	3.5	14	ND (1)	ND (1)	ND (2.1)	43	44
	04/30/11	129 - 130	N	ND (2.1)	3.3	90	ND (1)	ND (1)	ND (0.42)	26	9.5	12	2.6	ND (0.11)	---	4.3	17	ND (1)	ND (1)	ND (2.1)	41	42
	04/30/11	139 - 140	N	ND (2.1)	ND (5.2) *	39	ND (1)	ND (1)	ND (0.42)	15	7.8	ND (10)	ND (5.2)	ND (0.1)	---	3.3	9.8	ND (1)	ND (1)	ND (2.1)	33	36
	04/30/11	139 - 140	FD	ND (2.1)	3.1	36	ND (1.1)	ND (1.1)	ND (0.42)	19	8.9	6.5	2.6	ND (0.1)	---	4.2	13	ND (1.1)	ND (1.1)	ND (2.1)	40	43
04/30/11	149 - 150	N	ND (2.1)	2.9	510	ND (1)	ND (1)	ND (0.41)	17	8.9	ND (10)	1.5	ND (0.1)	---	3.3	12	ND (1)	ND (1)	ND (2.1)	37	36	
04/30/11	159 - 160	N	ND (2.1)	2.4	35	ND (1)	ND (1)	ND (0.41)	19	10	7.3	2.3	ND (0.1)	---	3.9	13	ND (1)	ND (1)	ND (2.1)	44	41	

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
BH-68	03/17/11	0 - 0.5	N	ND (2.2)	3.8	130	ND (1.1)	ND (1.1)	ND (0.43)	17	5.7	7.4	4.2	ND (0.11)	---	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.2)	30	29
	03/17/11	0 - 0.5	FD	ND (2.2)	3.5	130	ND (1.1)	ND (1.1)	ND (0.43)	22	7.4	12	5.6	ND (0.11)	---	ND (1.1)	19	ND (1.1)	ND (1.1)	ND (2.2)	35	33
	03/17/11	2 - 3	N	ND (2.1)	3.7	55	ND (1.1)	ND (1.1)	ND (0.42)	4.2	1.9	ND (2.1)	2.5	ND (0.11)	---	ND (1.1)	4.2	ND (1.1)	ND (1.1)	ND (2.1)	11	11
	03/17/11	5 - 6	N	ND (2.3)	1.8	51	ND (1.2)	ND (1.2)	ND (0.47)	4.6	1.9	2.5	3.5	ND (0.12)	---	ND (1.2)	3.8	ND (1.2)	ND (1.2)	ND (2.3)	12	13
	05/13/11	9 - 10	N	ND (0.26) J	4.6	130	0.61	ND (0.26)	ND (0.42)	12 J	5.8 J	8.5 J	12 J	ND (0.11)	---	1.2	13 J	ND (0.26)	ND (0.26)	ND (0.26)	27	31
	05/13/11	14 - 15	N	ND (0.25)	1.8	14	ND (0.25)	ND (0.25)	ND (0.41)	2.8	1.1	2	2	ND (0.1)	---	0.92	2.4	ND (0.25)	ND (0.25)	ND (0.25)	6.7	6.3
	05/13/11	19 - 20	N	ND (0.27)	3	200	0.46	ND (0.27)	ND (0.42)	31	8.8	10	3.8	ND (0.11)	---	0.55	21	ND (0.27)	ND (0.27)	ND (0.27)	39	38
	05/13/11	29 - 30	N	ND (0.26)	2.7	52	0.45	ND (0.26)	ND (0.42)	35	8.8	12	3.3	ND (0.1)	---	0.45	27	ND (0.26)	ND (0.26)	ND (0.26)	41	38
	05/13/11	39 - 40	N	ND (0.27)	2.6	55	0.51	ND (0.27)	ND (0.42)	32	8.8	16	4.5	ND (0.11)	---	0.47	27	ND (0.27)	ND (0.27)	ND (0.27)	42	41
	05/13/11	49 - 50	N	ND (0.26)	1.8	46	0.37	ND (0.26)	ND (0.41)	16	6.3	8.5	2.7	ND (0.1)	---	0.46	12	ND (0.26)	ND (0.26)	ND (0.26)	29	35
	05/13/11	59 - 60	N	ND (0.26)	2.6	100	0.5	ND (0.26)	ND (0.42)	22	7.7	12	3.8	ND (0.11)	---	0.45	18	ND (0.26)	ND (0.26)	ND (0.26)	35	36
	05/13/11	69 - 70	N	ND (0.26)	2.3	200	0.53	ND (0.26)	ND (0.42)	26	8.8	13	4.2	ND (0.11)	---	0.5	20	ND (0.26)	ND (0.26)	ND (0.26)	41	39
	05/13/11	79 - 80	N	ND (0.27)	2.5	58	0.55	ND (0.27)	ND (0.42)	36	8.6	13	4	ND (0.11)	---	0.49	24	ND (0.27)	ND (0.27)	ND (0.27)	40	41
	05/13/11	89 - 90	N	ND (0.27)	3.3	44	0.66	ND (0.27)	ND (0.43)	28	7.9	14	5.9	ND (0.11)	---	0.62	23	ND (0.27)	ND (0.27)	ND (0.27)	41	38
	05/13/11	99 - 100	N	ND (0.27)	3.2	49	0.67	ND (0.27)	ND (0.44)	37	8.3	18	5.3	ND (0.11)	---	0.62	30	ND (0.27)	ND (0.27)	ND (0.27)	45	44
	05/13/11	99 - 100	FD	ND (0.27)	3.1	54	0.58	ND (0.27)	ND (0.43)	38	8.6	16	5.1	ND (0.11)	---	0.68	32	ND (0.27)	ND (0.27)	ND (0.27)	44	41
	05/13/11	109 - 110	N	ND (0.26)	1.9	32	0.42	ND (0.26)	ND (0.42)	16	6.1	11	3.4	ND (0.1)	---	0.38	13	ND (0.26)	ND (0.26)	ND (0.26)	31	31
	05/13/11	119 - 120	N	ND (0.27)	2.4	58	0.51	ND (0.27)	ND (0.43)	25	8	16	4.2	ND (0.11)	---	0.49	20	ND (0.27)	ND (0.27)	ND (0.27)	41	38
	05/13/11	129 - 130	N	ND (0.26)	2.1	24	0.39	0.3	ND (0.42)	15	6.3	8.4	2.8	ND (0.11)	---	0.3	12	ND (0.26)	ND (0.26)	ND (0.26)	29	31
	05/14/11	139 - 140	N	ND (0.27)	3.8	120	0.61	ND (0.27)	ND (0.43)	45	11	19	6.1	ND (0.11)	---	0.87	35	ND (0.27)	ND (0.27)	ND (0.27)	48	46
05/14/11	149 - 150	N	ND (0.26)	3.8	68	0.5	ND (0.26)	ND (0.42)	48	11	19	4.3	ND (0.11)	---	0.76	39	ND (0.26)	ND (0.26)	ND (0.26)	50	42	
05/14/11	159 - 160	N	ND (0.26)	2.9	34	0.41	ND (0.26)	ND (0.42)	22	8.8	13	3.2	ND (0.11)	---	0.43	19	ND (0.26)	ND (0.26)	ND (0.26)	38	38	
PA-02	11/09/15	0 - 1	N	ND (2)	3	88	ND (1)	ND (1)	2.2	31	4.9	9.4	20	0.15	---	ND (1)	10	ND (1)	ND (1)	ND (2)	20	42
PA-22	01/27/16	0 - 1	N	ND (2.1)	5.3	97	ND (1)	ND (1)	ND (0.21)	49	5.4	25	32	ND (0.1)	---	1.2	12	ND (1)	ND (1)	ND (2.1)	28	140
PA-OS3	12/10/14	0.5	N	ND (2.1)	3.4	130	ND (1)	ND (1)	0.7	31	6.9	11	8.5	ND (0.1)	---	ND (1)	19	ND (1)	ND (1)	ND (2.1)	36	53
	12/10/14	3	N	ND (2.1)	3.9	200	ND (1)	ND (1)	0.35	53	12	13	4.4	ND (0.1)	---	ND (1)	37	1.1	ND (1)	ND (2.1)	54	41
PGE-LT-OS5	03/08/07	0.5	N	ND (6.1) J	2.6	72	ND (0.51)	ND (0.51)	ND (0.2)	9.1	ND (5.1)	9.7	3.2	ND (0.1)	---	ND (4.1)	7.3	ND (0.51)	ND (1)	ND (1)	19	18
	03/08/07	3	N	ND (6.2)	3	180	ND (0.51)	ND (0.51)	ND (0.21)	22	8.1	20	2.4	ND (0.1)	---	ND (4.1)	14	ND (0.51)	ND (1)	1.2	44	42
PGE-LT-OS6	03/08/07	0.5	N	ND (6.1)	2.8	190	ND (0.51)	ND (0.51)	ND (0.2)	29	7.9	30	4.3	ND (0.1)	---	ND (4.1)	18	ND (0.51)	ND (1)	ND (1)	46	46
	03/08/07	3	N	ND (6.2)	3.6	190	ND (0.52)	ND (0.52)	ND (0.21)	25	7.4	37	4.9	ND (0.1)	---	ND (4.1)	17	ND (0.52)	ND (1)	ND (1)	42	46
PGE-LT-OS7	03/08/07	0.5	N	ND (6.1)	5.4	180	0.54	ND (0.51)	ND (0.2)	27	8.5	37	7.4	ND (0.1)	---	ND (4.1)	23	ND (0.51)	ND (1)	ND (1)	41	52
	03/08/07	3	N	ND (6.1)	3.3	60	ND (0.51)	ND (0.51)	ND (0.2)	10	ND (5.1)	7.8	4.8	ND (0.1)	---	ND (4.1)	9.3	ND (0.51)	ND (1)	ND (1)	20	18
PGE-LT-OS8	03/08/07	0.5	N	ND (6.2)	2.5	170	ND (0.51)	ND (0.51)	ND (0.21)	41	7.4	14	8	ND (0.1)	---	ND (4.1)	24	ND (0.51)	ND (1)	ND (1)	34	38
	03/08/07	3	N	ND (6.1)	3.1	98	ND (0.51)	ND (0.51)	ND (0.2)	15	ND (5.1)	17	4.6	ND (0.1)	---	ND (4.1)	13	0.52	ND (1)	ND (1)	28	28
PGE-LT-OS9	03/08/07	0.5	N	ND (6.2)	2.5	180	ND (0.52)	ND (0.52)	ND (0.21)	26	6.9	18	5	ND (0.1)	---	ND (4.2)	17	ND (0.52)	ND (1)	ND (1)	36	38
	03/08/07	3	N	ND (6.2)	2.8	190	ND (0.51)	0.56	ND (0.21)	34	8.7	35	6.3	ND (0.1)	---	ND (4.1)	25	ND (0.51)	ND (1)	ND (1)	46	46
PGE-UTOS1	03/08/07	0.5	N	ND (6.2)	3.9	190	ND (0.52)	ND (0.52)	ND (0.21)	18	6.1	54	9.4	ND (0.1)	---	ND (4.2)	13	ND (0.52)	ND (1)	ND (1)	33	60
	03/08/07	3	N	ND (6.1)	4.8	170	ND (0.51)	ND (0.51)	ND (0.2)	15	5.8	25	3.7	ND (0.1)	---	ND (4.1)	11	ND (0.51)	ND (1)	ND (1)	32	34
PGE-UTOS2	03/08/07	0.5	N	ND (6.2)	3.9	180	ND (0.52)	ND (0.52)	ND (0.21)	18	5.6	29	56	0.41	---	ND (4.1)	12	ND (0.52)	ND (1)	ND (1)	32	51
	03/08/07	3	N	ND (6.2)	3	69	ND (0.51)	ND (0.51)	ND (0.21)	19	ND (5.1)	43	4.3	ND (0.1)	---	ND (4.1)	14	ND (0.51)	ND (1)	ND (1)	26	37

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
PGE-UTOS3	03/08/07	0.5	N	ND (6.3)	3.3	85	ND (0.52)	ND (0.52)	ND (0.21)	14	5.3	26	8.4	ND (0.1)	---	ND (4.2)	10	0.86	ND (1)	ND (1)	31	40
	03/08/07	3	N	ND (6.4)	3.6	140	ND (0.53)	ND (0.53)	ND (0.21)	23	8.3	22	4.8	ND (0.11)	---	ND (4.2)	23	ND (0.53)	ND (1.1)	ND (1.1)	41	39
PGE-UTOS4	03/08/07	0.5	N	ND (6.2)	3	160	ND (0.52)	0.53	0.48	36	5.4	35	18	ND (0.1)	---	6.5	12	ND (0.52)	ND (1)	ND (1)	30	130
	03/08/07	3	N	ND (6.3)	3.4	140	ND (0.52)	ND (0.52)	ND (0.21)	22	5.5	26	7.5	ND (0.1)	---	ND (4.2)	13	ND (0.52)	ND (1)	ND (1)	31	55
PS-8	04/13/99	0	N	---	---	---	---	---	12.2	743	---	76.6	---	---	---	---	12.9	---	---	---	---	315
	04/13/99	3	N	---	---	---	---	---	1	17.3	---	30.2	---	---	---	---	6	---	---	---	---	26.9
PS-9	04/13/99	0	N	---	---	---	---	---	1.3	66.7	---	40.4	---	---	---	---	12.2	---	---	---	---	169
PS-10	04/13/99	0	N	---	---	---	---	---	ND (0.51)	20.5	---	6.8	---	---	---	---	6.4	---	---	---	---	52.4
PS-11	04/13/99	0	N	---	---	---	---	---	5.2	154	---	18	---	---	---	---	17.6	---	---	---	---	43
PS-12	04/13/99	0	N	---	---	---	---	---	7.6	321	---	13.5	---	---	---	---	8.6	---	---	---	---	51.8
PS-17	04/13/99	0	N	---	---	---	---	---	ND (0.51)	14.6	---	8.2	---	---	---	---	7.4	---	---	---	---	32.4
	04/13/99	3	N	---	---	---	---	---	ND (0.52)	12.6	---	35	---	---	---	---	9.2	---	---	---	---	44
PS-18	04/13/99	0	N	---	---	---	---	---	0.7	24.6	---	12.1	---	---	---	---	13	---	---	---	---	49.1
PS-19	04/13/99	0	N	---	---	---	---	---	ND (0.51)	31.8	---	19.6	---	---	---	---	17.7	---	---	---	---	69.5
PS-20	04/13/99	0	N	---	---	---	---	---	0.6	15.8	---	11	---	---	---	---	10.7	---	---	---	---	45.5
SD-24	03/09/16	0 - 1	N	ND (2.1)	4.2	140	ND (1)	1.2	ND (0.21)	16	4.9	58	22	ND (0.1)	---	2.5	9.6	ND (1)	ND (1)	ND (2.1)	20	1,000
	03/09/16	2 - 3	N	ND (2.1)	3	88	ND (1.1)	ND (1.1)	ND (0.21)	11	3.9	6.1	5.3	ND (0.11)	---	ND (1.1)	7.3	ND (1.1)	ND (1.1)	ND (2.1)	19	21
SD-28	02/05/17	0 - 0.5	N	ND (2.1)	4.7	75	ND (1)	ND (1)	ND (0.21)	13	5	6.6	3.7	ND (0.1)	---	ND (1)	10	ND (1) J	ND (1)	ND (2.1)	16	30
	02/05/17	2 - 3	N	ND (2.2)	4.4	110	ND (1.1)	ND (1.1)	ND (0.22)	13	5.4	9.2	4.1	ND (0.11)	---	ND (1.1)	10	ND (1.1) J	ND (1.1)	ND (2.2)	19	30
	02/05/17	5 - 6	N	ND (2.2)	3.7	140	ND (1.1)	ND (1.1)	ND (0.21)	15	6.8	11	2.9	ND (0.11)	---	ND (1.1)	13	ND (1.1) J	ND (1.1)	ND (2.2)	25	31
	02/05/17	9 - 10	N	ND (2.1)	3.8	120	ND (1.1)	ND (1.1)	ND (0.22)	13	6.4	10	3.4	ND (0.11)	---	ND (1.1)	12	ND (1.1) J	ND (1.1)	ND (2.1)	22	28
SD-29	02/04/17	0 - 0.5	N	ND (2.2)	3.5	250	ND (1.1)	ND (1.1)	0.62	22	5.2	9.9	8.1	ND (0.11)	---	ND (1.1)	11	ND (1.1) J	ND (1.1)	ND (2.2)	21	35
	02/04/17	2 - 3	N	ND (2.2)	2.8	68	ND (1.1)	ND (1.1)	ND (0.22)	10	2.8	4.1	1.8	ND (0.11)	---	ND (1.1)	5.8	ND (1.1) J	ND (1.1)	ND (2.2)	12	14
	02/05/17	4.5 - 5	N	ND (2.1)	3.1	55	ND (1.1)	ND (1.1)	ND (0.21)	5.7	2	3.4	2.2	ND (0.11)	---	ND (1.1)	3	ND (1.1) J	ND (1.1)	ND (2.1)	8.7	12
	02/05/17	7.5 - 8	N	ND (2.1)	2.5	110	ND (1)	ND (1)	ND (0.21)	4.3	1.6	2.9	1.5	ND (0.1)	---	ND (1)	2.3	ND (1) J	ND (1)	ND (2.1)	6.2	8.6
SD-31	02/15/17	0 - 0.5	N	ND (2.1)	3.8	110	ND (1)	ND (1)	1.4 J	170 J	4.1	20 J	27	ND (0.1)	---	ND (1)	7.9 J	ND (1) J	ND (1) J	ND (2.1) J	17	180 J
	02/15/17	0 - 0.5	FD	ND (2.1)	4.7	110	ND (1)	2	1.1 J	45 J	4.6	71 J	31	ND (0.1)	---	ND (1)	11 J	ND (1) J	ND (1) J	ND (2.1) J	14	130 J
	02/15/17	1 - 2	N	ND (2.1)	3.4	100	ND (1)	1.4	1.6	37	5.2	37	30	ND (0.1)	---	ND (1)	12	ND (1) J	ND (1) J	ND (2.1) J	17	500
	02/15/17	2 - 3	N	ND (2.1)	3.1	89	ND (1)	ND (1)	0.28	15	3.9	6.1	3	ND (0.1)	---	ND (1)	5.5	ND (1) J	ND (1) J	ND (2.1) J	16	39
SD-07	12/17/15	0 - 1	N	ND (2)	3	39	ND (1)	ND (1)	ND (0.2)	5.1	2.4	3.7	3.1	ND (0.1)	---	ND (1)	4.1	ND (1)	ND (1)	ND (2)	11	400
	12/17/15	2 - 3	N	ND (2)	4.3	110	ND (1)	ND (1)	0.24	7.1	2.9	6	190	ND (0.1)	---	ND (1)	5.3	ND (1)	ND (1)	ND (2)	16	47
	12/18/15	5 - 6	N	ND (2.1)	3.8	40	ND (1)	ND (1)	0.21	7.6	3.9	6.9	6.7	ND (0.1)	---	ND (1)	7.1	ND (1)	ND (1)	ND (2.1)	25	21
	12/18/15	9 - 10	N	ND (2)	4	43	ND (1)	ND (1)	ND (0.21)	15	3.2	4.4	8.6	ND (0.1)	---	ND (1)	6.2	ND (1)	ND (1)	ND (2)	16	14
	12/18/15	9 - 10	FD	ND (2.1)	3.7	30	ND (1)	ND (1)	ND (0.2)	4.3	2.4	4.2	5.5	ND (0.1)	---	ND (1)	3.7	ND (1)	ND (1)	ND (2.1)	12	12
SD-OS30	07/18/17	0 - 0.5	N	ND (2)	4.2	110	ND (1)	ND (1)	ND (0.2)	27	6.2	20	9.2	ND (0.1)	---	ND (1)	14	ND (1)	ND (1)	2.3	25	55
	07/18/17	2 - 3	N	ND (2.1)	3.6	170	ND (1.1)	ND (1.1)	ND (0.21)	20	6.4	11	3.4	ND (0.11)	---	ND (1.1)	14	ND (1.1)	ND (1.1)	2.4	27	35
	07/18/17	4 - 5	N	ND (2.2)	2.7	200	ND (1.1)	ND (1.1)	0.31	23	6.4	13	3.2	ND (0.11)	---	ND (1.1)	14	ND (1.1)	ND (1.1)	2.5	27	31
	07/18/17	5 - 6	N	ND (2.2)	3.1	200	ND (1.1)	ND (1.1)	0.5	34	6.6	13	4.7	ND (0.11)	---	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.2)	28	37
	07/18/17	7 - 8	N	ND (2.2)	4.3	210	ND (1.1)	ND (1.1)	0.48	24	7.1	14	2.2	ND (0.11)	---	ND (1.1)	16	ND (1.1)	ND (1.1)	2.8	29	30

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SD-OS34	12/02/16	0 - 0.5	N	ND (2.1)	5.7	170	ND (1.1)	3	8.4	160	4.8	470	550	0.95	---	7.6	24	ND (1.1) J	ND (1.1)	ND (2.1) J	12	400
	12/02/16	0.5 - 1	N	6.1	9.4	1,000	ND (1.4)	10	3.6	330	18	830	1,100	25	---	73	210	ND (1.4) J	ND (1.4)	ND (2.8) J	14	1,900
	12/02/16	1 - 1.5	N	ND (2.1)	4	100	ND (1)	4.6	4.3	160	4.7	490	520	2.5	---	1.2	13	ND (1) J	ND (1)	ND (2.1) J	9.7	400
	12/03/16	2 - 3	N	ND (2.1)	2.9	57	ND (1)	ND (1)	0.51	12	2.9	35	26	ND (0.1)	---	ND (1)	5.4	ND (1) J	ND (1)	ND (2.1) J	10	48
	12/03/16	5 - 6	N	ND (2)	2.1	62	ND (1)	ND (1)	0.8	16 J	1.8	42 J	36 J	ND (0.1)	---	ND (1)	4.3	ND (1) J	ND (1)	ND (2) J	7.6	60 J
	12/03/16	5 - 6	FD	ND (2)	1.9	62	ND (1)	ND (1)	0.31	9.5 J	2	23 J	62 J	ND (0.1)	---	ND (1)	2.9	ND (1) J	ND (1)	ND (2) J	8.3	46 J
SD-OS34A	12/02/16	0 - 0.5	N	ND (2)	3.3	100	ND (1)	1.2	2	28	4	170	84	0.13	---	3.1	9.9	ND (1) J	ND (1)	ND (2) J	11	240
	12/02/16	1 - 1.5	N	ND (2.1)	2.9	68	ND (1.1)	ND (1.1)	1	15	3.2	60	34	0.41	---	ND (1.1)	7	ND (1.1) J	ND (1.1)	ND (2.1) J	11	67
	12/02/16	2 - 3	N	ND (2)	2.1	50	ND (1)	ND (1)	2.1	10	1.8	32	28	0.11	---	ND (1)	5.4	ND (1) J	ND (1)	ND (2) J	6.9	43
	12/02/16	5 - 6	N	ND (2)	2.2	35	ND (1)	ND (1)	ND (0.2)	3.2	1.5	6.3	3.2	ND (0.1)	---	ND (1)	2.1	ND (1) J	ND (1)	ND (2) J	5.7	9.5
SD-OS35	12/04/16	0 - 0.5	N	ND (2.1)	3.4	140	ND (1)	ND (1)	2.6	63	2.9	160	40	0.33	---	ND (1)	6.1	ND (1)	ND (1) J	ND (2.1)	9.7	130
	12/04/16	2 - 3	N	ND (2.1)	3.4	160	ND (1.1)	ND (1.1)	0.52	18	3.5	12	3.5	ND (0.11)	---	ND (1.1)	5.3	ND (1.1)	ND (1.1)	ND (2.1)	15	19
	12/05/16	4.5 - 5.5	N	ND (2)	2.5	78	ND (1)	ND (1)	0.23	15	2	23	24	ND (0.1)	---	ND (1)	2.7	ND (1) J	ND (1)	ND (2) J	8.1	35
SD-OS35A	12/05/16	0 - 0.5	N	ND (2)	2.9	85	ND (1)	ND (1)	0.69	14	3.7	17	12	ND (0.1)	---	ND (1)	7.1	ND (1) J	ND (1)	ND (2) J	12	75
	12/05/16	2 - 3	N	ND (2.1)	2.9	100	ND (1)	ND (1)	0.28	11	3.4	5.8	3	ND (0.1)	---	ND (1)	5.4	ND (1) J	ND (1)	ND (2.1) J	13	19
	12/05/16	4.5 - 5.5	N	ND (2.1)	3.6	190	ND (1)	1.3	2.5	86	4	590	70	ND (0.1)	---	ND (1)	10	ND (1) J	ND (1)	ND (2.1) J	19	220
SD-OS36	12/01/16	0 - 0.5	N	ND (2.1)	3	100	ND (1.1)	ND (1.1)	1.4	50	3.7	15	25	ND (0.1)	---	ND (1.1)	7.8	ND (1.1) J	ND (1.1)	ND (2.1) J	15	64
	12/01/16	2.5 - 3	N	ND (2.1)	2.3	43	ND (1)	ND (1)	ND (0.21)	5.3	2.2	3.5	2.4	ND (0.1)	---	ND (1)	4	ND (1) J	ND (1)	ND (2.1) J	8.6	11
	12/01/16	5 - 6	N	ND (2)	2.3	51	ND (1)	ND (1)	ND (0.2)	5	1.9	3.1	2.1	ND (0.1)	---	ND (1)	3.2	ND (1) J	ND (1)	ND (2) J	8.8	10
SD-OS38	12/13/16	0 - 0.5	N	ND (2) J	3.8	140	ND (1)	ND (1) J	ND (0.2)	19	4.8	10	5.9 J	ND (0.1)	---	1.4	10	ND (1) J	ND (1)	ND (2) J	23	32
	12/13/16	3 - 4	N	ND (2.1) J	3	96	ND (1.1)	ND (1.1) J	0.3	19	4.1	12	4.8 J	ND (0.11)	---	3.8	6.4	ND (1.1) J	ND (1.1)	ND (2.1) J	19	25
SD-OS39	11/29/16	0 - 0.5	N	ND (2)	3.2	110	ND (1)	ND (1)	0.46	26	6.6	13	10	ND (0.1)	---	ND (1)	14	ND (1) J	ND (1) J	ND (2) J	23	44
	11/29/16	0 - 0.5	FD	ND (2)	3	110	ND (1)	ND (1)	0.52	30	6.4	12	10	ND (0.099)	---	ND (1)	14	ND (1) J	ND (1)	ND (2) J	23	49
	11/29/16	2.5 - 3	N	ND (2.1)	3.3	120	ND (1)	ND (1)	ND (0.21)	9.1	3.5	5.5	3.2	ND (0.1)	---	ND (1)	6	ND (1) J	ND (1)	ND (2.1) J	15	17
	11/29/16	2.5 - 3	FD	ND (2.1)	3.1	100	ND (1)	ND (1)	ND (0.21)	11	3.2	7.1	3.5	ND (0.1)	---	ND (1)	6	ND (1) J	ND (1)	ND (2.1) J	14	18
SD-OS40	12/06/16	0 - 0.5	N	ND (2)	3.5	130	ND (1)	ND (1)	ND (0.2)	11	4.3	7.3	3.2	ND (0.1)	---	ND (1)	7.2	ND (1) J	ND (1)	ND (2) J	17	24
	12/06/16	2 - 3	N	ND (2.1)	3.6	150	ND (1.1)	ND (1.1)	ND (0.21)	11	4.5	7.1	3.2	ND (0.11)	---	ND (1.1)	7.5	ND (1.1) J	ND (1.1)	ND (2.1) J	19	25
	12/09/16	5 - 6	N	ND (2.1) J	3.7	150	ND (1.1)	ND (1.1) J	ND (0.21)	12	5.5 J	9.4	4.8 J	ND (0.11)	---	ND (1.1)	8.7	ND (1.1) J	ND (1.1)	ND (2.1) J	23	30 J
	12/06/16	5 - 5.5	N	ND (2.1)	3.9	99	ND (1)	ND (1)	ND (0.21)	12	4.6	7.1	2.7	ND (0.1)	---	ND (1)	8	ND (1) J	ND (1)	ND (2.1) J	19	24
	12/09/16	6 - 7	N	ND (2.3) J	3.2	55	ND (1.1)	ND (1.1) J	ND (0.23)	23	5.9	63	8.5 J	ND (0.11)	---	2.2	8	ND (1.1) J	ND (1.1)	ND (2.3) J	17	75
	12/11/16	7 - 8	N	ND (2.1) J	3.5	130	ND (1.1)	ND (1.1) J	ND (0.21)	9	3.7	5.1	2.9 J	ND (0.11)	---	ND (1.1)	4.5	ND (1.1) J	ND (1.1)	ND (2.1) J	17	20
	12/09/16	7 - 8	N	ND (2.1) J	3	120	ND (1.1)	ND (1.1) J	0.65	20	4.5	8.8	2.3 J	ND (0.11)	---	ND (1.1)	6.7	ND (1.1) J	ND (1.1)	ND (2.1) J	19	23
	12/09/16	9 - 10	N	ND (2.1) J	3.2	170	ND (1.1)	ND (1.1) J	0.45	14	3.1	5.3	1.6 J	ND (0.1)	---	ND (1.1)	4.2	ND (1.1) J	ND (1.1)	ND (2.1) J	16	17
SD-OS41	12/13/16	0 - 0.5	N	ND (2) J	3	110	ND (1)	ND (1) J	ND (0.2)	11	5	8.6	7.2 J	ND (0.1)	---	ND (1)	7.9	ND (1) J	ND (1)	ND (2) J	20	26
	12/13/16	2 - 3	N	ND (2.1) J	3.3	160	ND (1.1)	ND (1.1) J	ND (0.21)	17	5.4	8.7	3.1 J	ND (0.1)	---	1.2	9.9	ND (1.1) J	ND (1.1)	ND (2.1) J	25	25
	12/14/16	5 - 6	N	ND (2.3) J	3.6	170	ND (1.1)	ND (1.1) J	0.32	26	5.9	12	35 J	ND (0.11)	---	7.6	11	ND (1.1) J	ND (1.1)	ND (2.3) J	26	36
	12/14/16	8 - 8.5	N	ND (2.2) J	3.5	150	ND (1.1)	ND (1.1) J	1.5	58	5.1	9.5	8.8 J	ND (0.11)	---	4.7	8.9	ND (1.1) J	ND (1.1)	ND (2.2) J	24	30

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SD-OS42	07/17/17	0 - 0.5	N	ND (2.1)	3.7	88	ND (1)	ND (1)	0.34	17	5.4	13	9.9 J	ND (0.1)	---	2.4	10	ND (1)	ND (1)	2.5	24	39
	07/17/17	0 - 0.5	FD	ND (2.1)	4	81	ND (1)	ND (1)	ND (0.21)	18	5.9	15	6.5 J	ND (0.1)	---	1.3	12	ND (1)	ND (1)	2.5	25	38
	07/17/17	2 - 3	N	ND (2.1)	3.7	100	ND (1)	ND (1)	ND (0.21)	8.1	2.8	3.9	2.1	ND (0.11)	---	ND (1)	4.6	ND (1)	ND (1)	2.6	14	13
	07/17/17	3 - 4	N	ND (4.7)	50	520	ND (2.4)	26	ND (0.47)	780	15	730	1,100	2.2	---	220	34	ND (2.4)	ND (2.4)	5.9	54	2,200
	07/17/17	5 - 6	N	ND (2)	4.3	65	ND (1)	ND (1)	0.82	18	2.2	7	6.6	ND (0.1)	---	ND (1)	3.8	ND (1)	ND (1)	2.6	11	25
SD-OS43	07/18/17	0 - 0.5	N	ND (2)	3.6	100	ND (1)	ND (1)	0.46	22	5.7	9.3	6.5	ND (0.099)	---	1.4	9.7	ND (1)	ND (1)	2.4	22	35
	07/18/17	2 - 3	N	ND (2)	4	130	ND (1)	ND (1)	ND (0.2)	8.4	3.8	4.8	2	ND (0.1)	---	ND (1)	5.9	ND (1)	ND (1)	2.3	18	19
	07/18/17	5 - 6	N	ND (2)	4.5	150	ND (1)	ND (1)	ND (0.2)	8.1	3.1	5.9	2.6	ND (0.1)	---	ND (1)	4.7	ND (1)	ND (1)	2.5	17	20
SD-OS44	07/19/17	0 - 0.5	N	ND (2)	4.6	63	ND (1)	ND (1)	ND (0.2)	8	2.8	4.6	2.3	ND (0.1)	---	ND (1)	5.9	ND (1)	ND (1)	4.4	16	18
	07/19/17	2 - 3	N	ND (2.1)	3.4	57	ND (1.1)	ND (1.1)	ND (0.21)	6.6	2.2	2.9	1.6	ND (0.1)	---	ND (1.1)	3.9	ND (1.1)	ND (1.1)	3.9	14	13
	07/19/17	5 - 6	N	ND (2.1)	2.4	55	ND (1)	ND (1)	ND (0.21)	5.4	2.4	3.5	1.6	ND (0.1)	---	ND (1)	3.8	ND (1)	ND (1)	4	15	15
TD-3	11/12/15	0	N	ND (2.2)	3.2	100	ND (1.1)	ND (1.1)	0.3	43	9.2	35	7.3	ND (0.11)	---	ND (1.1)	32	ND (1.1)	ND (1.1)	ND (2.2)	34	240
TD-4	11/12/15	0	N	ND (2.1)	4.5	130	ND (1)	ND (1)	ND (0.21)	15	5.4	58	14	ND (0.1)	---	6.9	12	ND (1)	ND (1)	ND (2.1)	20	540
Category 2																						
BGCS-1	09/08/88	0.5	N	ND (0.3)	2	150	ND (1)	ND (0.5)	ND (1)	47	17	ND (3)	6	0.022	---	ND (1)	56	ND (0.5)	ND (1)	ND (1)	40	75
	09/08/88	1	N	ND (0.3)	2.2	150	1	ND (0.5)	ND (1)	ND (3)	18	ND (3)	5	0.027	---	ND (1)	38	ND (0.5)	ND (1)	ND (1)	39	270
	09/08/88	1.5	N	ND (0.3)	2.2	49	ND (1)	ND (0.5)	ND (1)	19	14	ND (3)	7	0.03	---	ND (1)	34	ND (0.5)	ND (1)	ND (1)	36	61
BGCS-2	09/08/88	0.5	N	ND (0.3)	3.37	190	ND (1)	ND (0.5)	---	11	9	ND (3)	5	0.051	---	ND (1)	16	ND (0.5)	ND (1)	ND (1)	29	47
	09/08/88	0.5	FD	---	---	---	---	---	---	9	---	ND (3)	---	---	---	---	12	---	---	---	---	41
	09/08/88	1	N	8.5	3.6	270	ND (0.2)	0.8	ND (1)	24	6	26	6.7	0.034	---	1.4	17	0.11	ND (0.2)	ND (0.3)	22	54
	09/08/88	1.5	N	7.5	2.5	210	ND (1)	2.4	ND (1)	15	7	15	9	0.029	---	ND (1)	12	ND (0.5)	ND (1)	ND (1)	23	29
BGCS-3	09/08/88	0.5	N	ND (0.3)	1.5	160	ND (1)	ND (0.5)	ND (1)	22	9	ND (3)	9	0.037	---	ND (1)	21	ND (0.5)	ND (1)	ND (1)	26	91
	09/08/88	1	N	ND (0.3)	3.3	220	ND (0.2)	14	ND (1)	26	9	11	15	0.09	---	2.1	18	0.14	ND (0.2)	ND (0.3)	23	76
	09/08/88	1.5	N	ND (0.3)	1.8	180	ND (1)	ND (0.5)	ND (1)	7	10	ND (3)	4	0.036	---	ND (1)	13	ND (0.5)	ND (1)	ND (1)	27	82
BGCS-4	09/08/88	0.5	N	ND (0.3)	1.9	180	ND (1)	ND (0.5)	ND (1)	12	9	ND (3)	7	0.064	---	ND (1)	17	ND (0.5)	ND (1)	ND (1)	24	86
	09/08/88	1	N	ND (0.3)	2.42	220	ND (1)	ND (0.5)	ND (1)	11	9	ND (3)	8	0.046	---	ND (1)	19	ND (0.5)	ND (1)	ND (1)	29	85
	09/08/88	1.5	N	ND (0.3)	1.5	150	ND (1)	ND (0.5)	ND (1)	9	9	ND (3)	6	0.026	---	ND (1)	15	ND (0.5)	ND (1)	ND (1)	28	74
BGCS-5	09/08/88	0.5	N	ND (0.3)	2.4	190	ND (1)	ND (0.5)	ND (1)	14	9	ND (3)	10	0.03	---	ND (1)	23	ND (0.5)	ND (1)	ND (1)	27	7.9
	09/08/88	1	N	ND (0.3)	2.1	160	ND (1)	ND (0.5)	ND (1)	16	8	ND (3)	8	0.134	---	ND (1)	28	ND (0.5)	ND (1)	ND (1)	25	76
	09/08/88	1.5	N	ND (0.3)	2.2	160	ND (1)	ND (0.5)	ND (1)	6	8	ND (3)	7	0.074	---	ND (1)	14	ND (0.5)	ND (1)	ND (1)	20	69
BGCS-6	09/08/88	0.5	N	ND (0.3)	1.7	300	ND (1)	ND (0.5)	ND (1)	23	10	ND (3)	12	0.038	---	ND (1)	30	ND (0.5)	ND (1)	ND (1)	27	77
	09/08/88	1	N	ND (0.3)	1.8	220	ND (1)	ND (0.5)	ND (1)	17	9	ND (3)	7	0.042	---	ND (1)	20	ND (0.5)	ND (1)	ND (1)	21	46
	09/08/88	1.5	N	ND (3)	2	230	ND (1)	ND (0.5)	ND (1)	10	7	ND (3)	7	0.047	---	ND (1)	12	ND (0.5)	ND (1)	ND (1)	18	43
Spill04292006_SS1	05/02/06	0	N	5	4.1	140	0.5	0.5	---	30	6.3	16	11	0.13	---	5.3	16	0.5	0.5	5	35	30
Spill10011995_C1	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.72	---	---	---	---	---	---	---	---
Spill10011995_C2	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.76	---	---	---	---	---	---	---	---
Spill10011995_C3	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.55	---	---	---	---	---	---	---	---
Spill10011995_C4	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.025	---	---	---	---	---	---	---	---
Spill10011995_C5	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.38	---	---	---	---	---	---	---	---
Spill10011995_C6	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	3.4	0.005	---	---	---	---	---	---	---

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Spill10011995_C7	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.071	---	---	---	---	---	---	---	---
Spill10011995_C8	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.26	---	---	---	---	---	---	---	---
Spill10011995_C9(2	12/19/95	0	N	---	---	---	---	---	---	---	---	---	---	0.008	---	---	---	---	---	---	---	---
Spill10011995_C10	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.6	---	---	---	---	---	---	---	---
Spill10011995_C11	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	2.1	0.005	---	---	---	---	---	---	---
Spill10011995_C12	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.083	---	---	---	---	---	---	---	---
Spill10011995_LatNI	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	2.8	0.005	---	---	---	---	---	---	---
Spill10011995_NLat	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.65	---	---	---	---	---	---	---	---
Spill10011995_Nwall	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.19	---	---	---	---	---	---	---	---
Spill10011995_SLatI	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.82	---	---	---	---	---	---	---	---
Spill10011995_Swall	12/12/95	0	N	---	---	---	---	---	---	---	---	---	---	0.12	---	---	---	---	---	---	---	---
Spill12242005_Sam	03/08/06	0	N	5	3.3	120	0.5	0.5	---	34	3.5	13	100	0.16	---	16	8.8	0.54	0.5	5	21	100
Spill12242005_Sam	03/08/06	0	N	5	2.9	96	0.5	0.5	---	13	3.3	7.5	57	0.16	---	2.5	7.8	0.5	0.5	5	16	42
Spill12242005_Sam	03/08/06	0	N	5	4.5	100	0.5	0.5	---	20	4.6	13	24	0.16	---	2.5	13	0.5	0.5	5	30	65
Spill12242005_Sam	03/08/06	0	N	10	3.9	160	1	1	---	51	5	43	170	0.21	---	15	13	1	1	1	23	200
Category 3																						
TC-1	06/14/94	1	N	---	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---	---	---
TC-2	06/14/94	3	N	---	---	---	---	---	---	---	---	---	85	---	---	---	---	---	---	---	---	---
TC-4	06/14/94	0	N	---	---	---	---	---	---	---	---	---	208	---	---	---	---	---	---	---	---	---
TC-6	06/14/94	2.5	N	---	---	---	---	---	---	---	---	---	30	---	---	---	---	---	---	---	---	---
TC-7	06/14/94	2.5	N	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---
TC-9	06/14/94	2.5	N	---	---	---	---	---	---	---	---	---	8	---	---	---	---	---	---	---	---	---
TC-12	06/14/94	2.5	N	---	---	---	---	---	---	---	---	---	14	---	---	---	---	---	---	---	---	---
TC-13	06/14/94	5	N	---	---	---	---	---	---	---	---	---	19	---	---	---	---	---	---	---	---	---
TC-14	06/14/94	5	N	---	---	---	---	---	---	---	---	---	41	---	---	---	---	---	---	---	---	---
TC-15	06/14/94	4.5	N	---	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---	---	---
TC-17	06/14/94	2.5	N	---	---	---	---	---	---	---	---	---	24	---	---	---	---	---	---	---	---	---
TC-18	06/14/94	2.5	N	---	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---	---	---
TC-19	06/14/94	3	N	---	---	---	---	---	---	---	---	---	52	---	---	---	---	---	---	---	---	---
TC-21	06/14/94	2.5	N	---	---	---	---	---	---	---	---	---	9.9	---	---	---	---	---	---	---	---	---
TC-22	06/14/94	4.5	N	---	---	---	---	---	---	---	---	---	27	---	---	---	---	---	---	---	---	---
TC-23	06/14/94	5	N	---	---	---	---	---	---	---	---	---	3.5	---	---	---	---	---	---	---	---	---
TC-24	06/14/94	2.5	N	---	---	---	---	---	---	---	---	---	8	---	---	---	---	---	---	---	---	---
TC-26	06/14/94	2.5	N	---	---	---	---	---	---	---	---	---	9	---	---	---	---	---	---	---	---	---
TG-1	06/13/94	0	N	---	---	---	---	---	---	---	---	---	20	---	---	---	---	---	---	---	---	---
TG-4	06/13/94	0	N	---	---	---	---	---	---	---	---	---	31	---	---	---	---	---	---	---	---	---
TG-6	06/13/94	2.5	N	---	---	---	---	---	---	---	---	---	18	---	---	---	---	---	---	---	---	---
TG-9	06/13/94	2.5	N	---	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---	---	---

TABLE 3-23a
Sample Results: Metals
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	NE	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Mercury, dissolved	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
TG-11	06/13/94	2	N	---	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---	---	---
TG-13	06/13/94	1.5	N	---	---	---	---	---	---	---	---	---	8	---	---	---	---	---	---	---	---	---
TG-14	06/13/94	2	N	---	---	---	---	---	---	---	---	---	19	---	---	---	---	---	---	---	---	---
TG-15	06/13/94	3	N	---	---	---	---	---	---	---	---	---	8	---	---	---	---	---	---	---	---	---

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- Ydebris sample
- Жwood sample
- *Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kgmilligrams per kilogram
- ft bgsfeet below ground surface
- DTSCCalifornia Department of Toxic Substances Control
- DTSC-SLDTSC Screening Level
- FDfield duplicate
- Nprimary sample
- NDnot detected at the listed reporting limit
- NEnot established
- Jconcentration or reporting limit estimated by laboratory or data validation
- USEPAUnited States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-23b

Sample Results: Contract Laboratory Program Inorganics
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC13-10	12/14/15	0 - 0.5	N	3,700	21,000	7,100	3,800	140	880	170	ND (0.206) J
	12/14/15	2 - 3	N	4,200	20,000	8,100	4,100	150	1,100	170	ND (0.217) J
AOC13-22	01/08/16	0 - 0.5	N	9,700	31,000	19,000	8,100	260	1,900 J	970 J	ND (0.0422)
	01/08/16	2 - 3	N	7,000	23,000	15,000	6,200	220	1,600	740	ND (0.0407)
AOC13-34	01/21/17	0 - 0.5	N	2,700	19,000	6,200	3,900	130	710 J	270 J	ND (0.219) J
AOC13-OS2	11/08/11	0 - 0.5	N	7,200	24,000	13,000	5,800	220	1,300	110	ND (1.04)
AOC13-PITOS1	07/26/11	0 - 0.5	N	7,900	15,000	12,000	3,800	160	1,000	93	ND (0.25) J
	07/26/11	0 - 0.5	FD	6,500	14,000	12,000	3,700	140	1,000	89	5 J
AOC13-PITOS2	07/26/11	0 - 0.5	N	11,000	27,000	17,000	7,000	270	1,900	290	ND (0.25)
AOC13-PITOS3	07/26/11	0 - 0.5	N	9,900	32,000	17,000	7,100	270	1,800	280	ND (0.25)
AOC13-PITOS6	07/26/11	0 - 0.5	N	12,000 J	32,000	20,000	7,200	300	2,100 J	290 J	ND (0.25) J
AOC13-PITOS7	07/26/11	0 - 0.5	N	8,300	20,000	14,000	4,900	240	1,400	320	0.73
AOC13-PITOS8	07/26/11	0 - 0.5	N	12,000 J	26,000	19,000	6,100	280	1,800	180	0.38
AOC13-PITOS9	07/26/11	0 - 0.5	N	10,000	22,000	17,000	5,400	260	1,600	ND (10)	1
AOC13-PITOS10	07/26/11	0 - 0.5	N	9,500	28,000	17,000	5,700	250	1,900	110	ND (0.25)
AOC13-PITOS11	07/26/11	0 - 0.5	N	8,100	21,000	14,000	5,200	240	1,300	310	ND (0.25)
AOC13-PITOS12	09/27/11	0 - 0.5	N	8,200 J	33,000	14,000	6,000 J	260	1,300	310	ND (0.25)
AOC13-PITOS13	07/26/11	0 - 0.5	N	6,700	24,000	12,000	4,100	200	1,100 J	91	ND (0.25) J
	07/26/11	0 - 0.5	FD	6,900	25,000	13,000	4,500	220	ND (100) J	84	1.9 J
AOC13-PITOS14	07/26/11	0 - 0.5	N	8,300	29,000	14,000	6,200	240	1,600	430	ND (0.25)
BH-65	03/17/11	14 - 15	N	10,000	17,000	21,000	7,000	350	4,100	650	---
	03/17/11	19 - 20	N	9,300	9,800	23,000	6,400	350	3,300	550	---
BH-67	03/17/11	2 - 3	N	7,200	23,000	15,000	5,400	210	2,200	430	---
	03/17/11	5 - 6	N	1,100	22,000	3,600	2,900	73	400	280	---

TABLE 3-23b

Sample Results: Contract Laboratory Program Inorganics
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
BH-68	03/17/11	2 - 3	N	2,000	6,900	6,700	2,600	70	540	320	---
	03/17/11	5 - 6	N	3,100	20,000	5,000	3,600	130	940	560	---
PS-10	04/13/99	0	N	---	---	9,420	---	179	---	---	---
PS-18	04/13/99	0	N	---	---	17,500	---	311	---	---	---
SD-29	02/04/17	2 - 3	N	3,200	18,000 J	5,600 J	3,400	110	920 J	150 J	ND (0.214) J

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
AOC13-1	12/05/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (59)
	12/05/15	0 - 1	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (59)
	12/05/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC13-10	12/14/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (57)
	12/14/15	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (60)
AOC13-11	01/05/16	0 - 0.5	N	16	13	ND (5.2)	ND (5.2)	ND (5.2)	13	ND (52)	ND (52)	ND (52)	ND (52)	22 J	ND (52)	38 J	ND (5.2)	ND (52)	ND (5.2)	14	34 J	59
	01/05/16	0.5 - 1	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3) J	ND (53)	ND (5.3) J	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3) J	ND (59)
	01/05/16	2 - 3	N	19	18	ND (5.2)	13	24	27	ND (52)	ND (52)	310	ND (52)	170	ND (52)	ND (5.2)	ND (5.2)	76	ND (5.2)	ND (5.2)	ND (5.2)	65
AOC13-12	12/05/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	12/05/15	0 - 1	FD	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (58)	ND (58)	ND (58)	ND (58)	ND (5.8)	ND (58)	ND (5.8)	ND (5.8)	ND (58)	ND (5.8)	ND (5.8)	ND (5.8)	ND (64)
	12/05/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.9)	ND (5.3)	ND (5.3)	ND (6.1)
AOC13-13	01/09/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.2	ND (52)	ND (52)	ND (52)	ND (52)	14	ND (52)	22	ND (5.2)	ND (52)	ND (5.2)	7.3	17	58
	01/09/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
AOC13-14	12/14/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (57)
	12/14/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC13-15	12/14/15	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	16	27	64	12	14	28	ND (5.3)	45	ND (5.3)	13	ND (5.3)	14	41	39
	12/14/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	12/14/15	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC13-16	01/05/16	0 - 1	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (50)	ND (50)	ND (50)	ND (5)	ND (50)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (56)
	01/05/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.6	ND (5.2)	16	ND (5.2)	ND (5.2)	14	ND (5.2)	8.7	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.4	7.8
AOC13-17	12/08/15	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (540)	ND (540)	ND (540)	ND (540)	ND (54)	ND (540)	15 J	ND (5.4)	ND (540)	ND (5.4)	ND (5.4)	13 J	600
	12/08/15	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	14	27	57	7.9	17	24	ND (5.4)	29	ND (5.4)	8.2	ND (5)	ND (5.4)	30	38
AOC13-18	01/06/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	9.9	19 J	ND (5.1)	5.5	14 J	ND (5.1)	28 J	ND (5.1)	ND (5.1)	ND (5.1)	13 J	22 J	16
	01/06/16	0.5 - 1	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	28	26	46 J	9.9	16	38 J	ND (5.1)	83 J	ND (5.1)	10	ND (5.1)	37 J	58 J	37
	01/06/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
AOC13-19	01/08/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.7	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.3	6.6
	01/08/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC13-2	12/05/15	0 - 1	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (60)
	12/05/15	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.2)	ND (5.5)	ND (5.5)	ND (6.4)
AOC13-20	01/08/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	13	ND (53)	ND (53)	ND (53)	ND (53)	22	ND (53)	36	ND (5.3)	ND (53)	ND (5.3)	8.8	33	60
	01/08/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	7.5	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	6.7
AOC13-21	01/08/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	24	ND (51)	74	ND (51)	ND (51)	46	ND (51)	65 J	ND (5.1)	ND (51)	ND (5.1)	26	60 J	64
	01/08/16	0 - 0.5	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	15 J	ND (51)	58	ND (51)	ND (51)	30 J	ND (51)	35 J	ND (5.1)	ND (51)	ND (5.1)	9.5 J	32 J	61
	01/08/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	6.9 J	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	8.6 J	59
AOC13-22	01/08/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	16	ND (53)	ND (53)	ND (53)	ND (53)	24	ND (53)	410	ND (5.3)	ND (53)	ND (5.3)	10	420	60
	01/08/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.1	63	110	180	ND (51)	100	120	ND (51)	170	ND (5.1)	ND (51)	ND (5.1)	49	150	160
AOC13-23	01/08/16	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	7.9	ND (54)	ND (54)	ND (54)	ND (54)	12	ND (54)	18	ND (5.4)	ND (54)	ND (5.4)	7.9	18	60
	01/08/16	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (55)	ND (55)	ND (55)	ND (55)	6.5	ND (55)	11	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	11	61

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
AOC13-24	01/08/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	14	ND (52)	ND (52)	ND (52)	ND (52)	16	ND (52)	28	ND (5.2)	ND (52)	ND (5.2)	11	29	59	
	01/08/16	0 - 0.5	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.2	ND (52)	ND (52)	ND (52)	ND (52)	9.4	ND (52)	11	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	11	58	
	01/08/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
AOC13-25	01/09/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.4	ND (53)	ND (53)	ND (53)	ND (53)	7.4	ND (53)	12	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	12	59	
	01/09/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (55)	ND (55)	ND (55)	ND (55)	ND (55)	ND (55)	ND (55)	9 J	ND (5.2)	ND (55)	ND (5.2)	ND (5.2)	9 J	64	
AOC13-26	01/09/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.6	ND (53)	ND (53)	ND (53)	ND (53)	9.5	ND (53)	19	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	16	59	
	01/09/16	2 - 3	N	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (6)	ND (52)	ND (52)	ND (60)	
	01/09/16	2 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	15 J	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	13 J	60	
AOC13-27	01/09/16	0 - 0.5	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (55)	ND (55)	ND (55)	ND (55)	ND (5.5)	ND (55)	5.9	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	5.9	61	
	01/09/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	9.9 J	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	7.4 J	61	
AOC13-28	01/09/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	27 J	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	7.9 J	21 J	60
	01/09/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.1	56	ND (53)	70	ND (53)	ND (53)	82	ND (53)	60	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	13	64	69
AOC13-29	01/09/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
	01/09/16	0 - 0.5	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
	01/09/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.3	ND (53)	ND (53)	ND (53)	ND (53)	9.5	ND (53)	12	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	12	59	
AOC13-3	12/14/15	0 - 0.5	N	18	11	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	5.3	ND (53)	7	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	7.4	59	
	12/14/15	2 - 3	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (6.5)	
AOC13-30	01/07/16	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	6.9	78	88	160	23	56	80	ND (5.4)	150	ND (5.4)	25	ND (5.4)	59	130	120	
	01/07/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
AOC13-31	01/07/16	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	13	ND (54)	ND (54)	ND (54)	ND (54)	23	ND (54)	34	ND (5.4)	ND (54)	ND (5.4)	12	32	61	
	01/07/16	0 - 0.5	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	9 J	ND (54)	ND (54)	ND (54)	ND (54)	13 J	ND (54)	22 J	ND (5.4)	ND (54)	ND (5.4)	7.5 J	20 J	61	
	01/07/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	18 J	ND (53)	ND (53)	ND (53)	ND (53)	28 J	ND (53)	35 J	ND (5.3)	ND (53)	ND (5.3)	8.1 J	35 J	60	
AOC13-32	12/04/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
	12/04/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
AOC13-33	02/18/17 ^Y		N	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	160 J	ND (54)	ND (54)	ND (54)	ND (54)	79 J	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	64 J	76	
	02/15/17	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	9.3 J	89 J	64	150	33	33	96 J	ND (5.1)	200 J	ND (5.1) J	27	ND (5.1)	120 J	170 J	94	
	02/15/17	0 - 0.5	FD	ND (5.1)	5.1	34 J	7.1	67 J	620 J	350 J	800 J	130	210	600 J	ND (5.1)	1,600 J	28 J	120	13	980 J	1,300 J	510	
	02/15/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.5	62	33 J	69	5.9 J	34 J	57	ND (5.2) J	120 J	ND (5.2)	6.9 J	ND (5.2)	74	93	50	
AOC13-33-Asph 04/26/17 ^B				ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	37 J	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	31	
AOC13-34	01/21/17	0 - 0.5	N	---	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (350)	ND (400)	
AOC13-4	12/14/15	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)	
	12/14/15	0 - 0.5	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)	
	12/14/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
AOC13-5	01/05/16	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (60)	
	01/05/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
AOC13-6	01/05/16	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (50)	ND (50)	ND (50)	ND (50)	ND (5)	ND (50)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	ND (5)	ND (56)	
	01/05/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (57)	

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
AOC13-7	12/14/15	0 - 0.5	N	ND (5.4)	ND (5.4)	11 J	ND (5.4)	23 J	120 J	120	220	ND (54)	100	150 J	ND (54)	230 J	9.1 J	ND (54)	ND (5.4)	120 J	180 J	180
	12/14/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (58)
AOC13-8	12/05/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	17 J	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	19 J	60
	12/05/15	0 - 1	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	10 J	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	11 J	60
	12/05/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
AOC13-9	01/09/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	13	ND (52)	ND (52)	ND (52)	ND (52)	19	ND (52)	38	ND (5.2)	ND (52)	ND (5.2)	9.4	27	59
	01/09/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.8	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.5
AOC13-Asphalt1 04/26/17 ^Β			N	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	540 J	430 J	ND (25)	38 J	ND (25)	87 J	ND (25)	49 J	ND (25)	ND (25)	ND (25)	64 J	320 J	500
AOC13-Asphalt2 04/26/17 ^Β			N	ND (28)	ND (28)	ND (28)	ND (28)	ND (28)	410 J	680 J	ND (28)	55 J	ND (28)	ND (28)	ND (28)	ND (28)	ND (28)	ND (28)	ND (28)	ND (28)	77 J	740
AOC13-Debris 04/26/17 ^Υ			N	ND (5.3)	5.7	40	6.8	150	2,200	2,000 J	2,700 J	940 J	1,000 J	1,700	ND (5.3)	2,600	26	980 J	8.5	890	2,700	2,600
AOC13-GrabOS	05/13/08	1	N	---	ND (5.2)	10	ND (5.2)	17	160	120	350	87	90	160	21	590	ND (5.2)	78	ND (5.2)	150	490	200
	05/13/08	3	N	---	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.7	ND (5.1)	ND (5.1)	5.1	ND (5.1)	8.7	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.3	6.4
	05/14/08	5.5	N	---	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	05/14/08	5.5	FD	---	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC13-GrabOS	05/13/08	1	N	---	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	15	29	48	27	18	31	6	39	ND (5.1)	23	ND (5.1)	9.7	38	44
	05/13/08	3	N	---	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	05/13/08	4 - 4.5	N	---	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7.6	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.4	ND (5.2)	ND (5.2)	ND (4.8)	ND (5.2)	5.3	6.5
AOC13-OS11	06/26/13	0 - 0.5	N	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (58)
	06/26/13	2 - 3	N	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (6.7)	ND (50)	ND (50)	ND (58)
	06/26/13	5 - 6	N	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	50	77	54	ND (50)	54	ND (50)	67	ND (50)	ND (50)	ND (6.5)	ND (50)	71	88
AOC13-OS12	06/26/13	0 - 0.5	N	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	57	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	61
	06/26/13	2 - 3	N	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (8.1)	ND (50)	ND (50)	ND (58)
	06/26/13	2 - 3	FD	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (6.4)	ND (50)	ND (50)	ND (58)
AOC13-OS13	06/26/13	0 - 0.5	N	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (59)
	06/26/13	2 - 3	N	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (6.5)	ND (51)	ND (51)	ND (59)
AOC13-OS14	07/25/13	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	9	ND (5)	ND (5)	ND (5)	ND (5)	5.7	ND (5)	ND (5)	ND (5)	ND (5)	5	6.4
	07/25/13	2 - 3	N	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	5.1 J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	ND (5.1) J	6.1
	07/25/13	2 - 3	FD	ND (5.1) J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.8	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1) J	ND (5.1)	ND (5.1)	6.2
	07/25/13	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.1
AOC13-OS15	04/25/17	3 - 3.1	N	ND (27)	ND (27)	30 J	ND (27)	ND (27)	43 J	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	ND (27)	41 J	34
AOC13-OS16	04/25/17	2.8 - 2.9	N	1,000	1,000	ND (520)	2,000	ND (520)	730 J	ND (520)	ND (520)	ND (520)	ND (520)	ND (520)	ND (520)	ND (520)	ND (520)	ND (520)	ND (520)	29,000	28,000	650
AOC13-OS17	04/26/17	3.8 - 3.9	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	18 J	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	7.8
AOC13-OS18	04/25/17	3.8 - 3.9	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC13-OS19	04/26/17	4.4 - 4.5	N	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	ND (130)	2,000	150

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
AOC13-OS2	11/08/11	0 - 0.5	N	ND (5.2)	6.9	ND (5.2)	ND (5.2)	6.6	67	69	130	33	41	67	10	110	ND (5.2)	33	ND (5.2)	43	95	100
	11/08/11	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	ND (5.1)	ND (5.1)	5.8	ND (5.1)	7.8	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.1	6.8
	11/08/11	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	ND (5.1)	ND (5.1)	5.5	ND (5.1)	7.8	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.2	6.7
	11/15/11	2 - 3	FD	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (22)	---	---	---
	11/08/11	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	15	12	33	7	9.1	18	ND (5.3)	28	ND (5.3)	6.7	ND (5.3)	12	24	20
AOC13-OS3	11/08/11	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
AOC13-OS4	11/08/11	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.9	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.4
	11/08/11	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC13-PITOS1	07/26/11	0 - 0.5	N	ND (5)	7.3	9	ND (5)	30 J	260	320 J	600	72 J	430	310	ND (5)	760	7.3	79	ND (5)	260	580	420
	07/26/11	0 - 0.5	FD	ND (5)	ND (5)	7.7	ND (5)	ND (5) J	170	180 J	410	140 J	120 J	220	ND (5)	660	5.4	130	ND (5)	180	530	250
	07/26/11	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	11	15	26	18	9	ND (5) J	ND (5)	19	ND (5)	14	ND (5)	ND (5)	18	23
	07/26/11	9 - 9.5	N	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	130	58	ND (51)	ND (51) J	ND (51)	100	ND (51)	ND (51)	ND (10)	ND (51)	88	69
AOC13-PITOS2	07/26/11	0 - 0.5	N	7.4	12	ND (5)	ND (5)	12	90	120	260	32	100	120	10	230	ND (5)	35	ND (5)	75	210	170
	07/26/11	2 - 3	N	26	30	ND (5)	ND (5)	6.7	7	9.4	18	9.7	7.7	11	ND (5)	15	ND (5)	7.4	6	ND (5)	14	15
	07/26/11	4 - 4.5	N	ND (5.1)	6.4	ND (5.1)	ND (5.1)	7.4	12	20	44	5.4	17	19	ND (5.1)	31	ND (5.1)	5.7	ND (5.1)	7.4	27	29
AOC13-PITOS3	07/26/11	0 - 0.5	N	ND (5)	5	ND (5)	ND (5)	8	28	35	57	27	21	32	5.4	70	ND (5)	22	ND (5)	18	59	51
	07/26/11	2 - 3	N	ND (5.1)	5.4	ND (5.1)	ND (5.1)	6.8	8.8	16	21	9.5	11	13	ND (5.1)	16	ND (5.1)	8.4	ND (5.1)	ND (5.1)	16	22
	07/26/11	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	14	18	33	11	13	9.4 J	ND (5.1)	22	ND (5.1)	10	ND (5.1)	ND (5.1)	21	26
	07/26/11	6 - 6.5	N	ND (5.2)	5.2	ND (5.2)	ND (5.2)	7	16	27	42	11	21	22	ND (5.2)	33	ND (5.2)	10	ND (5.2)	7.7	31	37
AOC13-PITOS6	07/26/11	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	14	18	39	13	10	12	ND (5)	21	ND (5)	12	ND (5)	5	19	27
	07/26/11	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	13	14	24	9.4	8.7	ND (5)	ND (5)	17	ND (5)	8.7	ND (5)	ND (5)	16	21
	07/26/11	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	10	10	18	5.9	5.9	ND (5.2)	ND (5.2)	14	ND (5.2)	5.5	ND (5.2)	ND (5.2)	13	16
	07/26/11	7 - 7.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	39	55	110	22	24	35	ND (5.1)	37	ND (5.1)	22	ND (5.1)	8.8	37	75
AOC13-PITOS7	07/26/11	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	44	57	120	24	32	58 J	ND (5)	93	ND (5)	25	ND (5)	23	85	79
	07/26/11	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.7	6	11	6.4	5	ND (5) J	ND (5)	10	ND (5)	5	ND (5)	ND (5)	9.4	11
	07/26/11	2 - 3	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6	11	7	5	ND (5)	ND (5)	13	ND (5)	5.4	ND (5)	ND (5)	13	10
	07/26/11	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)
	07/26/11	8 - 8.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	29	32	57	16	20	29	ND (5)	60	ND (5)	16	ND (5)	20	52	45
AOC13-PITOS8	07/26/11	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	16	22	130	19	27	41	ND (5)	30	ND (5)	20	ND (5)	6.7	28	41
	07/26/11	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	07/26/11	9 - 10	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)
	07/26/11	11 - 11.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
AOC13-PITOS9	07/26/11	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.3 J	5.3 J	12 J	ND (5)	ND (5)	ND (5) J	ND (5)	8 J	ND (5)	ND (5)	ND (5)	ND (5)	7.3 J	9.9
	07/26/11	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	13	22	8.1	9.5	6.1 J	ND (5.1)	22	ND (5.1)	7.4	ND (5.1)	ND (5.1)	20	20
	07/26/11	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8.4	7.1	11	ND (5)	5	ND (5) J	ND (5)	11	ND (5)	ND (5)	ND (5)	ND (5)	10	12
	07/26/11	5 - 6	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.4	6.4	10	6	5.4	ND (5)	ND (5)	11	ND (5)	ND (5)	ND (5)	ND (5)	10	11

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
AOC13-PITOS1	07/26/11	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)
	07/26/11	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	19	25	51	13	20	21	ND (5)	41	ND (5)	12	ND (5)	11	37	36
	07/26/11	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	10	9.4	17	7.4	7	ND (5) J	ND (5)	22	ND (5)	6.7	ND (5)	ND (5)	19	15
	07/26/11	7 - 7.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.7	ND (5)	11	ND (5)	ND (5)	ND (5)	ND (5)	7.7	ND (5)	ND (5)	ND (5)	ND (5)	7	6.9
AOC13-PITOS1	07/26/11	0 - 0.5	N	ND (5)	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	7.4	ND (5)	ND (5)	6	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.3
	07/26/11	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)
	07/26/11	2 - 3	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)
	07/26/11	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)
	07/26/11	7.5 - 8	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.5	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	10	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.5	5.9
AOC13-PITOS1	09/27/11	0 - 0.5	N	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	11	14	22	7.8	14	17	ND (5.1)	25	ND (5.1)	7.1	ND (5.1)	13	22	21
	09/27/11	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	11	16	20	12	13	17	ND (5.2)	26	ND (5.2)	10	ND (5.2)	8.6	25	23
	09/27/11	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.8	9.5	5.1	6.5	6.8	ND (5.1)	10	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	10	11
	09/27/11	9 - 9.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8.7	11	14	9.4	10	11	ND (5)	15	ND (5)	8	ND (5)	ND (5)	14	17
	09/27/11	11 - 11.5	N	ND (5)	6.4	ND (5)	ND (5)	6.7	30	27	ND (5)	8.4	ND (5)	51	ND (5)	61	ND (5)	6.7	ND (5)	31	53	33
AOC13-PITOS1	07/26/11	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.7	5.3	14	ND (5)	5	ND (5)	ND (5)	11	ND (5)	ND (5)	ND (5)	ND (5)	9.7	10
	07/26/11	0 - 0.5	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	8.4	ND (5)	ND (5)	ND (5)	ND (5)	7.7	ND (5)	ND (5)	ND (5)	ND (5)	6.3	6.4
	07/26/11	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	10 J	12 J	20 J	9.7 J	9.7 J	ND (5) J	ND (5)	19 J	ND (5)	8.7 J	ND (5)	5 J	18 J	18
	07/26/11	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	21	26	54	12	21	20	ND (5)	39	ND (5)	11	ND (5)	8.4	35	37
	07/26/11	9 - 9.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5) J	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	5.7	5.8
AOC13-PITOS1	07/26/11	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	10	13	27	8.7	8.4	ND (5) J	ND (5)	15	ND (5)	7.7	ND (5)	ND (5)	14	20
	07/26/11	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.4	8.5	17	5.1	7.1	ND (5.1) J	ND (5.1)	11	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	14
	07/26/11	4 - 4.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	25	30	56	27	15	22	ND (5.1)	51	ND (5.1)	22	ND (5.1)	7.4	42	43
AOC13-Tar	04/26/17 Ψ		N	ND (51) J	ND (51) J	ND (51) J	ND (51) J	ND (51) J	400 J	ND (51) J	ND (51) J	ND (51) J	ND (51) J	1,900 J	ND (51) J	140 J	ND (51) J	ND (51) J	ND (51) J	130 J	910 J	98

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
BH-65	03/24/11	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.5	6.5	ND (5.1)	ND (5.1)	ND (5.1)	5.5	ND (5.1)	ND (5.1)	ND (4.5)	ND (5.1)	5.5	6.2
	03/24/11	2 - 3	N	ND (5.2)	6.3	ND (5.2)	ND (5.2)	ND (5.2)	7.3	11	16	9.8	6.3	8.7	ND (5.2)	14	ND (5.2)	6.3	ND (4.5)	ND (5.2)	13	17
	03/17/11	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	03/17/11	14 - 15	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	03/17/11	19 - 20	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.8)	ND (5.1)	ND (5.1)	ND (5.9)
	03/17/11	29 - 30	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (4.8)	ND (5)	ND (5)	ND (5.8)
	03/17/11	37 - 40	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.3)	ND (5.3)	ND (5.3)	ND (6.1)
	03/17/11	49 - 50	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	03/17/11	59 - 60	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	03/18/11	69 - 70	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	03/18/11	79 - 80	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	03/18/11	79 - 80	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.6)	ND (5.2)	ND (5.2)	ND (6)
	03/18/11	89 - 90	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	03/18/11	99 - 100	N	ND (5.2)	5.2	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.4)	ND (5.2)	ND (5.2)	6
	03/18/11	109 - 110	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5)	ND (5.4)	ND (5.4)	ND (6.2)
BH-66	03/18/11	119 - 120	N	ND (5.2)	5.2	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6
	03/19/11	129 - 130	N	ND (5.2)	5.2	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5)	ND (5.2)	ND (5.2)	6
	03/19/11	139 - 140	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.6)	ND (5.4)	ND (5.4)	ND (6.2)
	03/23/11	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.8)	ND (5.4)	ND (5.4)	ND (6.2)
	03/23/11	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.8)	ND (5.3)	ND (5.3)	ND (6.1)
	03/23/11	5 - 6	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (4.5)	ND (5.6)	ND (5.6)	ND (6.5)
	04/12/11	14 - 15	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	04/12/11	14 - 15	FD	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (6)
	04/12/11	19 - 20	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.5	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.6)	ND (5.1)	5.1	6.3
	04/12/11	29 - 30	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.1)	ND (5.2)	ND (5.2)	ND (6)
	04/12/11	39 - 40	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.7)	ND (5.2)	ND (5.2)	ND (6)
	04/12/11	49 - 50	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.5)	ND (5.2)	ND (5.2)	ND (6)
	04/13/11	59 - 60	N	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.3)	ND (5.3)	ND (5.3)	ND (6.1)
	04/13/11	69 - 70	N	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.4)	ND (5.4)	ND (5.4)	ND (6.2)
	04/13/11	79 - 80	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	ND (5.2)	ND (5.2)	ND (6)
	04/13/11	89 - 90	N	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.4)	ND (5.3)	ND (5.3)	ND (6.1)
	04/13/11	99 - 100	N	5.3	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6)	ND (5.3)	ND (5.3)	6.1
	04/13/11	109 - 110	N	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.2)	ND (5.3)	ND (5.3)	ND (6.1)
	04/14/11	119 - 120	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.9)	ND (5.2)	ND (5.2)	ND (6)
	04/14/11	119 - 120	FD	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.3)	ND (5.2)	ND (5.2)	ND (6)
	04/14/11	129 - 130	N	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.6)	ND (5.4)	ND (5.4)	ND (6.2)

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
BH-67	03/17/11	0 - 0.5	N	ND (5.4)	12 J	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.6)	ND (5.4)	ND (5.4)	6.2	
	03/17/11	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.1)	ND (5.3)	ND (5.3)	ND (6.1)	
	03/17/11	5 - 6	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)	
	04/29/11	9 - 10	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.3)	ND (5.2)	ND (5.2)	ND (6)	
	04/29/11	14 - 15	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.5)	ND (5.1)	ND (5.1)	ND (5.9)	
	04/29/11	19 - 20	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.4)	ND (5.1)	ND (5.1)	ND (5.9)
	04/29/11	29 - 30	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.9)	ND (5.1)	ND (5.1)	ND (5.9)
	04/29/11	39 - 40	N	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.7)	ND (5.1)	ND (5.1)	ND (5.9)
	04/29/11	39 - 40	FD	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	ND (5.1)	ND (5.1)	ND (5.9)
	04/29/11	49 - 50	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5)	ND (5.2)	ND (5.2)	ND (6)
	04/29/11	59 - 60	N	ND (5.9)	ND (59)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (4.6)	ND (5.9)	ND (5.9)	ND (6.8)
	04/29/11	69 - 70	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.8)	ND (5.2)	ND (5.2)	ND (6)
	04/29/11	79 - 80	N	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.3)	ND (5.5)	ND (5.5)	ND (6.4)
	04/29/11	89 - 90	N	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (4.5)	ND (5.5)	ND (5.5)	ND (6.4)
	04/29/11	99 - 100	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.4)	ND (5.2)	ND (5.2)	ND (6)
	04/29/11	109 - 110	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6.5)	ND (5.2)	ND (5.2)	ND (6)
	04/29/11	119 - 120	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.7)	ND (5.2)	ND (5.2)	ND (6)
	04/30/11	129 - 130	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.7)	ND (5.2)	ND (5.2)	ND (6)
	04/30/11	139 - 140	N	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.6)	ND (5.3)	ND (5.3)	ND (6.1)
	04/30/11	139 - 140	FD	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.3)	ND (5.2)	ND (5.2)	ND (6)
	04/30/11	149 - 150	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.4)	ND (5.2)	ND (5.2)	ND (6)
	04/30/11	159 - 160	N	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.8)	ND (5.2)	ND (5.2)	ND (6)

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
BH-68	03/17/11	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)	
	03/17/11	0 - 0.5	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.6)	ND (5.4)	ND (5.4)	ND (6.2)	
	03/17/11	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
	03/17/11	5 - 6	N	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (6.7)	
	05/13/11	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	ND (5.3)	ND (5.3)	ND (6.1)	
	05/13/11	14 - 15	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.6)	ND (5.1)	ND (5.1)	ND (5.9)
	05/13/11	19 - 20	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5)	ND (5.3)	ND (5.3)	ND (6.1)	
	05/13/11	29 - 30	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.2)	ND (5.3)	ND (5.3)	ND (6.1)	
	05/13/11	39 - 40	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.2)	ND (5.3)	ND (5.3)	ND (6.1)	
	05/13/11	49 - 50	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.8)	ND (5.2)	ND (5.2)	ND (6)	
	05/13/11	59 - 60	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.1)	ND (5.3)	ND (5.3)	ND (6.1)	
	05/13/11	69 - 70	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.8)	ND (5.3)	ND (5.3)	ND (6.1)	
	05/13/11	79 - 80	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.8)	ND (5.3)	ND (5.3)	ND (6.1)	
	05/13/11	89 - 90	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.5)	ND (5.3)	ND (5.3)	ND (6.1)	
	05/13/11	99 - 100	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.4)	ND (5.5)	ND (5.5)	ND (6.4)	
	05/13/11	99 - 100	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.4)	ND (5.4)	ND (5.4)	ND (6.2)	
	05/13/11	109 - 110	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.7)	ND (5.2)	ND (5.2)	ND (6)	
	05/13/11	119 - 120	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.2)	ND (5.4)	ND (5.4)	ND (6.2)	
	05/13/11	129 - 130	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.6)	ND (5.3)	ND (5.3)	ND (6.1)	
	05/14/11	139 - 140	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.2)	ND (5.3)	ND (5.3)	ND (6.1)	
05/14/11	149 - 150	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.9)	ND (5.3)	ND (5.3)	ND (6.1)		
05/14/11	159 - 160	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.4)	ND (5.3)	ND (5.3)	ND (6.1)		
PA-02	11/09/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	19	ND (5.1)	21	ND (5.1)	ND (5.1)	ND (5.1)	6.4	22	57	
PA-22	01/27/16	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.6	ND (5.2)	ND (5.2)	5.5	ND (5.2)	7.6	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.9	6.6	
PA-OS3	12/10/14	0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.9	13	26	ND (5.1)	7.9	15	ND (5.1)	24	ND (5.1)	ND (5.1)	ND (5.1)	6.5	22	19	
	12/10/14	3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
PGE-LT-OS5	03/08/07	0.5	N	---	---	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
	03/08/07	3	N	---	---	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
PGE-LT-OS6	03/08/07	0.5	N	---	---	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)	
	03/08/07	3	N	---	---	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
PGE-LT-OS7	03/08/07	0.5	N	---	---	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
	03/08/07	3	N	---	---	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
PGE-LT-OS8	03/08/07	0.5	N	---	---	ND (5.2)	ND (5.2)	7.7	71	210	580	160	130	360	46	65	ND (5.2)	140	ND (5.2)	ND (5.2)	81	340	
	03/08/07	3	N	---	---	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	7.1	ND (5.5)	9.1	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	9.4	6.4	
PGE-LT-OS9	03/08/07	0.5	N	---	---	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
	03/08/07	3	N	---	---	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
PGE-UTOS1	03/08/07	0.5	N	---	---	ND (5.5)	ND (5.5)	ND (5.5)	14	28	43	35	14	29	ND (5.5)	45	ND (5.5)	24	ND (5.5)	13	42	39	
	03/08/07	3	N	---	---	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
PGE-UTOS2	03/08/07	0.5	N	---	---	ND (5.2)	ND (5.2)	ND (5.2)	19	44	58	45	22	33	ND (5.2)	53	ND (5.2)	35	ND (5.2)	9.1	53	58
	03/08/07	3	N	---	---	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)
PGE-UTOS3	03/08/07	0.5	N	---	---	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	03/08/07	3	N	---	---	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
PGE-UTOS4	03/08/07	0.5	N	---	---	ND (5.2)	ND (5.2)	ND (5.2)	40	60	88	56	ND (5.2)	46	ND (5.2)	110	ND (5.2)	45	ND (5.2)	31	98	80
	03/08/07	3	N	---	---	ND (5.3)	ND (5.3)	ND (5.3)	7.2	ND (5.3)	ND (5.3)	14	ND (5.3)	8.9	ND (5.3)	16	ND (5.3)	13	ND (5.3)	ND (5.3)	14	7.6
SD-24	03/09/16	0 - 1	N	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	120 J	260 J	670 J	99 J	240 J	270 J	ND (26)	290 J	ND (26)	83 J	ND (26)	68 J	280 J	360
	03/09/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
SD-28	02/05/17	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.3 J	7.7	16	6	ND (5.3)	8.1	ND (5.3)	13	ND (5.3)	ND (5.3)	ND (5.3)	6.7	12	13
	02/05/17	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	9.2 J	13 J	24 J	5.9 J	11 J	11	ND (5.5)	12	ND (5.5)	5.5 J	ND (5.5)	ND (5.5)	13	20
	02/05/17	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	9 J	6.1	16	ND (5.4)	ND (5.4)	11	ND (5.4)	14	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	12	12
	02/05/17	9 - 10	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	5.4	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	6.5
SD-29	02/04/17	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	10 J	ND (5.4)	ND (5.4)	5.7	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	7
	02/04/17	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)
	02/05/17	4.5 - 5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	02/05/17	7.5 - 8	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
SD-31	02/15/17	0 - 0.5	N	6.9	ND (5.1)	30	70	210	1,300 J	1,400 J	2,800 J	1,800 J	930 J	1,400 J	ND (5.1)	2,300 J	23	1,500 J	ND (5.1)	840 J	2,500 J	2,000
	02/15/17	0 - 0.5	FD	9.3	6.2	34	76	230	1,700 J	1,600 J	3,600 J	1,700 J	670 J	1,800 J	ND (5.2)	3,000 J	27	1,500 J	6.2	1,000 J	3,100 J	2,300
	02/15/17	1 - 2	N	14	16	ND (5.2)	ND (5.2)	14	130	140	280	100	80	140	ND (5.2)	230	ND (5.2)	90	ND (5.2)	96	220	190
	02/15/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.3	33	48 J	94	15 J	38 J	35	ND (5.2)	46	ND (5.2)	15 J	ND (5.2)	17	50	65
SD-07	12/17/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.2
	12/17/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (51)	ND (51)	ND (51)	ND (51)	9.9	ND (51)	15	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	14	57
	12/18/15	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	12/18/15	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	12/18/15	9 - 10	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
SD-OS30	07/18/17	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	34	67	150	87	38 J	65	ND (5)	64	ND (5)	71	ND (5)	13	67	95
	07/18/17	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	6.8	16	32	13	9	13	ND (5.4)	15	ND (5.4)	12	ND (5.4)	ND (5.4)	15	24
	07/18/17	4 - 5	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	10	16	28	8.2	15	17	ND (5.6)	23	ND (5.6)	7.5	ND (5.6)	6.3	22	24
	07/18/17	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	11	20 J	43 J	9.4 J	20 J	20	ND (5.4)	20	ND (5.4)	9 J	ND (5.4)	ND (5.4)	21	29
	07/18/17	7 - 8	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	8.1	14	28	8.5	12	15	ND (5.5)	16	ND (5.5)	7.8	ND (5.5)	ND (5.5)	16	21
SD-OS34	12/02/16	0 - 0.5	N	ND (5.3)	ND (5.3)	17	ND (5.3)	35	520 J	480 J	960	78 J	310 J	600	ND (5.3)	1,100	10	94 J	ND (5.3)	420 J	980	640
	12/02/16	0.5 - 1	N	120	120	ND (11)	11	33	410	910 J	1,700 J	260 J	810 J	850	ND (11)	790	ND (11)	260 J	19	140	810	1,200
	12/02/16	1 - 1.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	12/03/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	25	44	66	21	32	41	ND (5.2)	53	ND (5.2)	22	ND (5.2)	10	53	58
	12/03/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	16	28 J	54 J	13	18	28 J	ND (5.1)	38 J	ND (5.1)	14	ND (5.1)	8.5	38 J	39
	12/03/16	5 - 6	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	35	55 J	110 J	22	32	56 J	ND (5.1)	74 J	ND (5.1)	24	ND (5.1)	18	72 J	75

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
SD-OS34A	12/02/16	0 - 0.5	N	13	14	ND (5)	ND (5)	ND (5)	100	150	260	64	110	160	ND (5)	230	ND (5)	69	ND (5)	58	230	200
	12/02/16	1 - 1.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	38	51	76	30	28	51	ND (5.3)	76	ND (5.3)	29	ND (5.3)	23	73	68
	12/02/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	18	33	16	11	21	ND (5.1)	30	ND (5.1)	15	ND (5.1)	7.5	29	27
	12/02/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.8	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.2
SD-OS35	12/04/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	34	53	92	18	47	57	ND (5.2)	77	ND (5.2)	20	ND (5.2)	15	76	71
	12/04/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	12/05/16	4.5 - 5.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
SD-OS35A	12/05/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	26	40	66	25	30	48	ND (5.1)	63	ND (5.1)	24	ND (5.1)	15	63	54
	12/05/16	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.5	7.9	14	5.1	6.5	9.3	ND (5.1)	15	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	14	13
	12/05/16	4.5 - 5.5	N	ND (5.1)	ND (5.1)	7.2 J	ND (5.1)	16 J	340 J	460 J	700 J	120 J	270 J	560 J	ND (5.1)	930 J	ND (5.1)	130 J	5.8 J	250 J	910 J	580
SD-OS36	12/01/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	8.1 J	54 J	54 J	120 J	17 J	40 J	59 J	ND (5.3)	100 J	ND (5.3)	13 J	ND (5.3)	25 J	95 J	76
	12/01/16	2.5 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	12/01/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
SD-OS38	12/13/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	20	35 J	64	16 J	36 J	39	ND (5.1)	43	ND (5.1)	14 J	ND (5.1)	8.8	44	48
	12/13/16	3 - 4	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.8 J	15 J	ND (5.3)	8.2 J	7.1	ND (5.3)	7.5	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	8.2	13
SD-OS39	11/29/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	26	37	82	14	30	41	ND (5.1)	51	ND (5.1)	14	ND (5.1)	14	49	52
	11/29/16	0 - 0.5	FD	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	24	35	90	11	27	41	ND (5)	48	ND (5)	12	ND (5)	11	45	50
	11/29/16	2.5 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.9	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.3
	11/29/16	2.5 - 3	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
SD-OS40	12/06/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.1
	12/06/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.1	13	ND (5.3)	5.3	7.4	ND (5.3)	8.8	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.5	12
	12/06/16	5 - 5.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.6	11	5.2	ND (5.2)	6.6	ND (5.2)	8.3	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.3	11
	12/09/16	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.3	7.8	ND (5.3)	ND (5.3)	5.7	ND (5.3)	6.8	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7.1	9.3
	12/09/16	6 - 7	N	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	67 J	88	220	61	84	110	ND (5.7)	85 J	ND (5.7)	45 J	ND (5.7)	21 J	85 J	120
	12/09/16	7 - 8	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	12/11/16	7 - 8	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	17	28	68	18	21	34	ND (5.3)	21	ND (5.3)	17	ND (5.3)	ND (5.3)	24	41
	12/09/16	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
SD-OS41	12/13/16	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	6.7	12 J	30 J	ND (5)	9.4 J	15	ND (5)	19	ND (5)	ND (5)	ND (5)	6	20	19
	12/13/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	12/14/16	5 - 6	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	12	19 J	42 J	12 J	17 J	20	ND (5.6)	29	ND (5.6)	ND (5.6)	ND (5.6)	8.6	29	28
	12/14/16	8 - 8.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	13 J	ND (5.4)	5.7 J	6.5	ND (5.4)	9.3	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	9.7	7.3
SD-OS42	07/17/17	0 - 0.5	N	ND (5.1) J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	28 J	28 J	110 J	21 J	42 J	60 J	ND (5.1) J	77 J	ND (5.1)	21 J	ND (5.1)	24 J	65 J	47
	07/17/17	0 - 0.5	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	15	26	66	13	28	31 J	ND (5.2)	22 J	ND (5.2)	13	ND (5.2)	ND (5.2) J	23 J	38
	07/17/17	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	07/17/17	3 - 4	N	1,100	1,600	150	100	370	1,400	1,500	1,900	1,200	720	1,500	ND (60)	1,700	ND (60)	640	190 J	1,500	5,300	1,900
	07/17/17	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
SD-OS43	07/18/17	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	13	17 J	54	8 J	18 J	22	ND (5)	35	ND (5)	8 J	ND (5)	14	30	27
	07/18/17	2 - 3	N	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5.8)	
	07/18/17	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	7.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.3

TABLE 3-23c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
SD-OS44	07/19/17	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	07/19/17	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	07/19/17	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
TD-3	11/12/15	0	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	61	99	170	88	59	100	ND (55)	86	ND (5.5)	73	ND (5.5)	24	88	160
TD-4	11/12/15	0	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	56	77	160	ND (53)	ND (53)	140	ND (53)	60	ND (5.3)	ND (53)	17	19	64	130

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

β	black sandy material
Υ	debris sample
ψ	tar sample
*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
Category 1												
AOC13-1	12/05/15	0 - 1	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	12/05/15	0 - 1	FD	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	12/05/15	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (7.8)	ND (7.8)	ND (78)	ND (7.8)	ND (7.8)	---
AOC13-10	12/14/15	0 - 0.5	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	12/14/15	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (5.6)	ND (5.6)	2,200 J	ND (5.6)	ND (5.6)	ND (5.6)
AOC13-11	01/05/16	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	01/05/16	0.5 - 1	FD	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	01/05/16	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (5.8)	ND (5.8)	ND (58)	ND (5.8)	ND (5.8)	---
AOC13-12	12/05/15	0 - 1	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	12/05/15	0 - 1	FD	ND (380)	ND (380)	ND (380)	---	---	---	---	---	---
	12/05/15	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (4.9)	ND (4.9)	ND (49)	ND (4.9)	ND (4.9)	---
AOC13-13	01/09/16	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	01/09/16	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (6.6)	ND (6.6)	ND (66) J	ND (6.6)	ND (6.6)	---
AOC13-14	12/14/15	0 - 0.5	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	12/14/15	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (6.1)	ND (6.1)	ND (61)	ND (6.1)	ND (6.1)	---
AOC13-15	12/14/15	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	12/14/15	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (5.6)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	---
	12/14/15	5 - 6	N	ND (330)	ND (330)	ND (330)	ND (5.8)	ND (5.8)	ND (58)	ND (5.8)	ND (5.8)	---
AOC13-16	01/05/16	0 - 1	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	01/05/16	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	---
AOC13-17	12/08/15	0 - 0.5	N	ND (3,500)	ND (3,500)	ND (350)	---	---	---	---	---	---
	12/08/15	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
AOC13-18	01/06/16	0 - 0.5	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	01/06/16	0.5 - 1	FD	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	01/06/16	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (5.6)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	---
AOC13-19	01/08/16	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	01/08/16	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (5.9)	ND (5.9)	ND (59) J	ND (5.9)	ND (5.9)	---
AOC13-2	12/05/15	0 - 1	N	ND (3,500)	ND (3,500)	ND (350)	---	---	---	---	---	---
	12/05/15	2 - 3	N	ND (360)	ND (360)	ND (360)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	---
AOC13-20	01/08/16	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	01/08/16	2 - 3	N	ND (360)	ND (360)	ND (360)	ND (7)	ND (7)	ND (70) J	ND (7)	ND (7)	---
AOC13-21	01/08/16	0 - 0.5	N	ND (3,400)	ND (3,400)	ND (340)	---	---	---	---	---	---
	01/08/16	0 - 0.5	FD	ND (3,400)	ND (3,400)	ND (340)	---	---	---	---	---	---
	01/08/16	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (6.3)	ND (6.3)	ND (63) J	ND (6.3)	ND (6.3)	---
AOC13-22	01/08/16	0 - 0.5	N	ND (3,500)	ND (3,500)	ND (350)	---	---	---	---	---	---
	01/08/16	2 - 3	N	ND (3,400)	ND (3,400)	ND (340)	ND (5.8)	ND (5.8)	ND (58) J	ND (5.8)	ND (5.8)	ND (5.8)
AOC13-23	01/08/16	0 - 0.5	N	ND (360)	ND (360)	ND (360)	---	---	---	---	---	---
	01/08/16	2 - 3	N	ND (3,600)	ND (3,600)	ND (360)	ND (6.1)	ND (6.1)	ND (61) J	ND (6.1)	ND (6.1)	---
AOC13-24	01/08/16	0 - 0.5	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	01/08/16	0 - 0.5	FD	ND (3,500)	ND (3,500)	ND (350)	---	---	---	---	---	---
	01/08/16	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (6.3)	ND (6.3)	ND (63) J	ND (6.3)	ND (6.3)	---
AOC13-25	01/09/16	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	01/09/16	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (6.4)	ND (6.4)	ND (64) J	ND (6.4)	ND (6.4)	---
AOC13-26	01/09/16	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	01/09/16	2 - 3	N	ND (3,500)	ND (3,500)	ND (350)	ND (6)	ND (6)	ND (60) J	ND (6)	ND (6)	---
	01/09/16	2 - 3	FD	ND (3,500)	ND (3,500)	ND (350)	ND (6.5)	ND (6.5)	ND (65) J	ND (6.5)	ND (6.5)	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylphthalate	Di-n-butyl phthalate	1,2,4- Trimethylbenzene	4- Isopropyltoluene	Acetone	Chloroform	Isopropylbenzene	Methyl acetate
AOC13-27	01/09/16	0 - 0.5	N	ND (360)	ND (360)	ND (360)	---	---	---	---	---	---
	01/09/16	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (6.5)	ND (6.5)	ND (65) J	12	ND (6.5)	---
AOC13-28	01/09/16	0 - 0.5	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	01/09/16	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (6.9)	ND (6.9)	ND (69) J	ND (6.9)	ND (6.9)	---
AOC13-29	01/09/16	0 - 0.5	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	01/09/16	0 - 0.5	FD	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	01/09/16	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (6.2)	ND (6.2)	ND (62) J	ND (6.2)	ND (6.2)	---
AOC13-3	12/14/15	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	12/14/15	2 - 3	N	ND (370)	ND (370)	ND (370)	ND (6.2)	ND (6.2)	ND (62)	ND (6.2)	ND (6.2)	---
AOC13-30	01/07/16	0 - 0.5	N	ND (360)	ND (360)	ND (360)	---	---	---	---	---	---
	01/07/16	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (6.4)	ND (6.4)	ND (64) J	ND (6.4)	ND (6.4)	---
AOC13-31	01/07/16	0 - 0.5	N	ND (360)	ND (360)	ND (360)	---	---	---	---	---	---
	01/07/16	0 - 0.5	FD	ND (360)	ND (360)	ND (360)	---	---	---	---	---	---
	01/07/16	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (5.9)	ND (5.9)	ND (59) J	ND (5.9)	ND (5.9)	---
AOC13-32	12/04/15	0 - 0.5	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	12/04/15	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (5.8)	ND (5.8)	ND (58)	ND (5.8)	ND (5.8)	---
AOC13-33-Asphalt	04/26/17 ¹³		N	ND (1,800)	ND (1,800)	ND (1,800)	---	---	---	---	---	---
AOC13-34	01/21/17	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
AOC13-4	12/14/15	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	12/14/15	0 - 0.5	FD	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	12/14/15	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	---
AOC13-5	01/05/16	0 - 0.5	N	ND (360)	ND (360)	ND (360)	---	---	---	---	---	---
	01/05/16	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (6.8)	ND (6.8)	ND (68)	ND (6.8)	ND (6.8)	---
AOC13-6	01/05/16	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	01/05/16	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (5.9)	ND (5.9)	ND (59)	ND (5.9)	ND (5.9)	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
AOC13-7	12/14/15	0 - 0.5	N	ND (3,600)	ND (3,600)	ND (360)	---	---	---	---	---	---
	12/14/15	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (5.8)	ND (5.8)	ND (58)	ND (5.8)	ND (5.8)	---
AOC13-8	12/05/15	0 - 1	N	ND (3,400)	ND (3,400)	ND (3,400)	---	---	---	---	---	---
	12/05/15	0 - 1	FD	ND (3,400)	ND (3,400)	ND (3,400)	---	---	---	---	---	---
	12/05/15	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	---
AOC13-9	01/09/16	0 - 0.5	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
	01/09/16	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (6)	ND (6)	ND (60) J	ND (6)	ND (6)	---
AOC13-Asphalt1	04/26/17 ^B		N	ND (1,700)	ND (1,700)	ND (1,700)	---	---	---	---	---	---
AOC13-Asphalt2	04/26/17 ^B		N	ND (1,800)	ND (1,800)	ND (1,800)	---	---	---	---	---	---
AOC13-GrabOS1	05/13/08	1	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	05/13/08	3	N	ND (340)	ND (340)	ND (340)	ND (5.5)	ND (5.5)	ND (55)	5.8	ND (5.5)	---
	05/14/08	5.5	N	ND (340)	ND (340)	ND (340)	ND (5.5)	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	---
	05/14/08	5.5	FD	ND (340)	ND (340)	ND (340)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	---
AOC13-GrabOS2	05/13/08	1	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	05/13/08	3	N	ND (340)	ND (340)	ND (340)	ND (5.6)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	---
	05/13/08	4 - 4.5	N	ND (340)	ND (340)	ND (340)	ND (4.8)	ND (4.8)	ND (48)	ND (4.8)	ND (4.8)	---
AOC13-OS11	06/26/13	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	06/26/13	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (6.7)	ND (6.7)	ND (67)	ND (6.7)	ND (6.7)	---
	06/26/13	5 - 6	N	ND (330)	ND (330)	ND (330)	ND (6.5)	ND (6.5)	ND (65)	ND (6.5)	ND (6.5)	---
AOC13-OS12	06/26/13	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	06/26/13	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (8.1)	ND (8.1)	ND (81)	ND (8.1)	ND (8.1)	---
	06/26/13	2 - 3	FD	ND (330)	ND (330)	ND (330)	ND (6.4)	ND (6.4)	ND (64)	ND (6.4)	ND (6.4)	---
AOC13-OS13	06/26/13	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	06/26/13	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (6.5)	ND (6.5)	ND (65)	ND (6.5)	ND (6.5)	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylphthalate	Di-n-butyl phthalate	1,2,4- Trimethylbenzene	4- Isopropyltoluene	Acetone	Chloroform	Isopropylbenzene	Methyl acetate
AOC13-OS14	07/25/13	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/25/13	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (7.9)	ND (7.9)	ND (79)	ND (7.9)	ND (7.9)	---
	07/25/13	2 - 3	FD	ND (340)	ND (340)	ND (340)	ND (7.8)	ND (7.8)	ND (78)	ND (7.8)	ND (7.8)	---
	07/25/13	5 - 6	N	ND (340)	ND (340)	ND (340)	ND (8.9)	ND (8.9)	ND (89)	ND (8.9)	ND (8.9)	---
AOC13-OS2	11/08/11	0 - 0.5	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	11/08/11	2 - 3	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	11/15/11	2 - 3	N	---	---	---	ND (10)	ND (10)	ND (100)	ND (10)	ND (10)	460 J
	11/15/11	2 - 3	FD	---	---	---	ND (22)	ND (22)	ND (220)	ND (22)	ND (22)	1,800 J
	11/08/11	2 - 3	FD	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	11/15/11	5 - 6	N	---	---	---	ND (13)	ND (13)	ND (130)	ND (13)	ND (13)	---
	11/08/11	5 - 6	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
AOC13-OS3	11/08/11	2 - 3	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	11/15/11	2 - 3	N	---	---	---	ND (14)	ND (14)	ND (140)	ND (14)	ND (14)	---
AOC13-OS4	11/08/11	2 - 3	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	11/15/11	2 - 3	N	---	---	---	ND (12)	ND (12)	ND (120)	ND (12)	ND (12)	---
	11/15/11	5 - 6	N	---	---	---	ND (15)	ND (15)	ND (150)	ND (15)	ND (15)	---
	11/08/11	5 - 6	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
AOC13-PITOS1	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	0 - 0.5	FD	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (8.7)	ND (8.7)	ND (87) J	ND (8.7)	ND (8.7)	ND (9)
	07/26/11	9 - 9.5	N	ND (340)	ND (340)	ND (340)	ND (10)	ND (10)	ND (100)	ND (10)	ND (10)	ND (9.6)
AOC13-PITOS2	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (9.9)	ND (9.9)	ND (99)	ND (9.9)	ND (9.9)	ND (10)
	07/26/11	4 - 4.5	N	ND (330)	ND (330)	ND (330)	ND (9.1)	ND (9.1)	ND (91)	ND (9.1)	ND (9.1)	ND (9.5)

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
AOC13-PITOS3	07/26/11	0 - 0.5	N	360	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (9.3)	ND (9.3)	ND (93)	ND (9.3)	ND (9.3)	ND (8.9)
	07/26/11	2 - 3	FD	ND (330)	ND (330)	ND (330)	ND (9.1)	ND (9.1)	ND (91)	ND (9.1)	ND (9.1)	ND (9.3)
	07/26/11	6 - 6.5	N	ND (340)	ND (340)	ND (340)	ND (11)	ND (11)	ND (110)	ND (11)	ND (11)	ND (12)
AOC13-PITOS6	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (7.8)	ND (7.8)	ND (78)	ND (7.8)	ND (7.8)	ND (8.6)
	07/26/11	5 - 6	N	ND (340)	ND (340)	ND (340)	ND (9.5)	ND (9.5)	ND (95)	ND (9.5)	ND (9.5)	---
	07/26/11	7 - 7.5	N	ND (340)	ND (340)	ND (340)	ND (8.5)	ND (8.5)	ND (85)	ND (8.5)	ND (8.5)	---
AOC13-PITOS7	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (8.4)	ND (8.4)	ND (84)	ND (8.4)	ND (8.4)	ND (8.3)
	07/26/11	2 - 3	FD	ND (330)	ND (330)	ND (330)	ND (8.7)	ND (8.7)	ND (87)	ND (8.7)	ND (8.7)	ND (8.6)
	07/26/11	5 - 6	N	ND (330)	ND (330)	ND (330)	ND (8)	ND (8)	ND (80)	ND (8)	ND (8)	ND (8.3)
	07/26/11	8 - 8.5	N	ND (330)	ND (330)	ND (330)	ND (7.8)	ND (7.8)	ND (78)	ND (7.8)	ND (7.8)	ND (7.6)
AOC13-PITOS8	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	5 - 6	N	ND (340)	ND (340)	ND (340)	ND (10)	ND (10)	ND (100)	ND (10)	ND (10)	---
	07/26/11	9 - 10	N	ND (330)	ND (330)	ND (330)	ND (8.7)	ND (8.7)	ND (87)	ND (8.7)	ND (8.7)	---
	07/26/11	11 - 11.5	N	ND (330)	ND (330)	ND (330)	ND (8)	ND (8)	ND (80)	ND (8)	ND (8)	---
AOC13-PITOS9	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (9.3)	ND (9.3)	ND (93)	ND (9.3)	ND (9.3)	ND (8.6)
	07/26/11	5 - 6	N	ND (330)	ND (330)	ND (330)	ND (10)	ND (10)	ND (100)	ND (10)	ND (10)	ND (9.7)
	07/26/11	5 - 6	FD	ND (330)	ND (330)	ND (330)	ND (9)	ND (9)	ND (90)	ND (9)	ND (9)	ND (9.6)
AOC13-PITOS10	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (9.6)	ND (9.6)	ND (96)	ND (9.6)	ND (9.6)	ND (9.2)
	07/26/11	5 - 6	N	ND (330)	ND (330)	ND (330)	ND (8.3)	ND (8.3)	ND (83)	ND (8.3)	ND (8.3)	25
	07/26/11	7 - 7.5	N	ND (330)	ND (330)	ND (330)	ND (7.3)	ND (7.3)	ND (73) J	ND (7.3)	ND (7.3)	ND (7.8)

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylphthalate	Di-n-butyl phthalate	1,2,4- Trimethylbenzene	4- Isopropyltoluene	Acetone	Chloroform	Isopropylbenzene	Methyl acetate
AOC13-PITOS11	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (9.2)	ND (9.2)	140 J	ND (9.2)	ND (9.2)	ND (10)
	07/26/11	2 - 3	FD	ND (330)	ND (330)	ND (330)	ND (9.4)	ND (9.4)	140	ND (9.4)	ND (9.4)	ND (9.4)
	07/26/11	5 - 6	N	ND (330)	ND (330)	ND (330)	ND (9)	ND (9)	ND (90)	ND (9)	ND (9)	ND (8.5)
	07/26/11	7.5 - 8	N	ND (340)	ND (340)	ND (340)	ND (8.8)	ND (8.8)	ND (88)	ND (8.8)	ND (8.8)	ND (9)
AOC13-PITOS12	09/27/11	0 - 0.5	N	ND (340) J	ND (340) J	ND (340) J	---	---	---	---	---	---
	09/27/11	2 - 3	N	ND (340)	ND (340)	ND (340)	ND (11)	ND (11)	ND (110)	ND (11)	ND (11)	ND (11)
	09/27/11	5 - 6	N	ND (340)	ND (340)	ND (340)	ND (11)	ND (11)	ND (110)	ND (11)	ND (11)	ND (11)
	09/27/11	9 - 9.5	N	ND (330)	ND (330)	ND (330)	ND (8.6)	ND (8.6)	ND (86)	ND (8.6)	ND (8.6)	ND (8.6)
	09/27/11	11 - 11.5	N	1,200	ND (330)	ND (330)	ND (9.5)	ND (9.5)	ND (95)	ND (9.5)	ND (9.5)	18
AOC13-PITOS13	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	0 - 0.5	FD	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (12)	ND (12)	ND (120)	ND (12)	ND (12)	ND (11)
	07/26/11	5 - 6	N	ND (330)	ND (330)	ND (330)	ND (9.4)	ND (9.4)	ND (94)	ND (9.4)	ND (9.4)	ND (8.4)
	07/26/11	9 - 9.5	N	ND (330)	ND (330)	ND (330)	ND (8.5)	ND (8.5)	ND (85)	ND (8.5)	ND (8.5)	ND (8.2)
AOC13-PITOS14	07/26/11	0 - 0.5	N	ND (330)	ND (330)	ND (330)	---	---	---	---	---	---
	07/26/11	2 - 3	N	ND (330)	ND (330)	ND (330)	ND (9.1)	ND (9.1)	ND (91)	ND (9.1)	ND (9.1)	ND (9.4)
	07/26/11	4 - 4.5	N	ND (330)	ND (330)	ND (330)	ND (8)	ND (8)	ND (80)	ND (8)	ND (8)	ND (8.4)
AOC13-Tar	04/26/17 ^ψ		N	ND (3,300) J	ND (3,300) J	ND (3,300) J	---	---	---	---	---	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
BH-65	03/24/11	0 - 0.5	N	ND (340)	ND (340)	ND (340)	ND (4.5)	ND (4.5)	ND (45)	ND (4.5)	ND (4.5)	---
	03/24/11	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (4.5)	ND (4.5)	ND (45)	ND (4.5)	ND (4.5)	---
	03/17/11	9 - 10	N	ND (340)	ND (340)	ND (340)	ND (6.9)	ND (6.9)	ND (69)	ND (6.9)	ND (6.9)	---
	03/17/11	14 - 15	N	ND (340)	ND (340)	ND (340)	ND (5.9)	ND (5.9)	ND (59)	ND (5.9)	ND (5.9)	ND (6.3)
	03/17/11	19 - 20	N	ND (340)	ND (340)	ND (340)	ND (4.8)	ND (4.8)	ND (48)	ND (4.8)	ND (4.8)	ND (4.8)
	03/17/11	29 - 30	N	ND (330)	ND (330)	ND (330)	ND (4.8)	ND (4.8)	ND (48)	ND (4.8)	ND (4.8)	---
	03/17/11	37 - 40	N	ND (350)	ND (350)	ND (350)	ND (4.3)	ND (4.3)	ND (43)	ND (4.3)	ND (4.3)	---
	03/17/11	49 - 50	N	ND (350)	ND (350)	ND (350)	ND (6)	ND (6)	ND (60)	ND (6)	ND (6)	---
	03/17/11	59 - 60	N	ND (340)	ND (340)	ND (340)	ND (6.2)	ND (6.2)	ND (62)	ND (6.2)	ND (6.2)	---
	03/18/11	69 - 70	N	ND (350)	ND (350)	ND (350)	ND (5.6)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	---
	03/18/11	79 - 80	N	ND (350)	ND (350)	ND (350)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	---
	03/18/11	79 - 80	FD	ND (350)	ND (350)	ND (350)	ND (4.6)	ND (4.6)	ND (46)	ND (4.6)	ND (4.6)	---
	03/18/11	89 - 90	N	ND (350)	ND (350)	ND (350)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	---
	03/18/11	99 - 100	N	ND (350)	ND (350)	ND (350)	ND (4.4)	ND (4.4)	ND (44)	ND (4.4)	ND (4.4)	---
	03/18/11	109 - 110	N	ND (360)	ND (360)	ND (360)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	---
	03/18/11	119 - 120	N	ND (340)	ND (340)	ND (340)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	---
	03/19/11	129 - 130	N	ND (340)	ND (340)	ND (340)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	---
	03/19/11	139 - 140	N	ND (360)	ND (360)	ND (360)	ND (4.6)	ND (4.6)	ND (46)	ND (4.6)	ND (4.6)	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
BH-66	03/23/11	0 - 0.5	N	ND (350)	ND (350)	ND (350)	ND (4.8)	ND (4.8)	ND (48)	ND (4.8)	ND (4.8)	---
	03/23/11	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (4.8)	ND (4.8)	ND (48)	ND (4.8)	ND (4.8)	---
	03/23/11	5 - 6	N	ND (370)	ND (370)	ND (370)	ND (4.5)	ND (4.5)	ND (45)	ND (4.5)	ND (4.5)	---
	04/12/11	14 - 15	N	ND (340)	ND (340)	ND (340)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	---
	04/12/11	14 - 15	FD	ND (340)	ND (340)	ND (340)	ND (5.7)	ND (5.7)	ND (57)	ND (5.7)	ND (5.7)	---
	04/12/11	19 - 20	N	ND (340)	ND (340)	ND (340)	ND (5.6)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	---
	04/12/11	29 - 30	N	ND (340)	ND (340)	ND (340)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	---
	04/12/11	39 - 40	N	ND (340)	ND (340)	ND (340)	ND (4.7)	ND (4.7)	ND (47)	ND (4.7)	ND (4.7)	---
	04/12/11	49 - 50	N	ND (340)	ND (340)	ND (340)	ND (4.5)	ND (4.5)	ND (45)	ND (4.5)	ND (4.5)	---
	04/13/11	59 - 60	N	ND (350)	ND (350)	ND (350)	ND (4.3)	ND (4.3)	ND (43)	ND (4.3)	ND (4.3)	---
	04/13/11	69 - 70	N	ND (350)	ND (350)	ND (350)	ND (4.4)	ND (4.4)	ND (44)	ND (4.4)	ND (4.4)	---
	04/13/11	79 - 80	N	ND (350)	ND (350)	ND (350)	ND (6)	ND (6)	ND (60)	ND (6)	ND (6)	---
	04/13/11	89 - 90	N	ND (350)	ND (350)	ND (350)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	---
	04/13/11	99 - 100	N	ND (350)	ND (350)	ND (350)	ND (6)	ND (6)	ND (60)	ND (6)	ND (6)	---
	04/13/11	109 - 110	N	ND (350)	ND (350)	ND (350)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	---
	04/14/11	119 - 120	N	ND (340)	ND (340)	ND (340)	ND (4.9)	ND (4.9)	ND (49)	ND (4.9)	ND (4.9)	---
	04/14/11	119 - 120	FD	ND (350)	ND (350)	ND (350)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	---
	04/14/11	129 - 130	N	ND (350)	ND (350)	ND (350)	ND (4.6)	ND (4.6)	ND (46)	ND (4.6)	ND (4.6)	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
BH-67	03/17/11	0 - 0.5	N	ND (360)	ND (360)	ND (360)	ND (4.6)	ND (4.6)	ND (46)	ND (4.6)	ND (4.6)	---
	03/17/11	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (4.9)
	03/17/11	5 - 6	N	ND (330)	ND (330)	ND (330)	ND (5.6)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	ND (5.5)
	04/29/11	9 - 10	N	ND (340)	ND (340)	ND (340)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	---
	04/29/11	14 - 15	N	ND (340)	ND (340)	ND (340)	ND (5.5)	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	---
	04/29/11	19 - 20	N	ND (340)	ND (340)	ND (340)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	---
	04/29/11	29 - 30	N	ND (340)	ND (340)	ND (340)	ND (4.9)	ND (4.9)	ND (49)	ND (4.9)	ND (4.9)	---
	04/29/11	39 - 40	N	ND (330)	ND (330)	ND (330)	ND (5.7)	ND (5.7)	ND (57)	ND (5.7)	ND (5.7)	---
	04/29/11	39 - 40	FD	ND (330)	ND (330)	ND (330)	ND (5.9)	ND (5.9)	ND (59)	ND (5.9)	ND (5.9)	---
	04/29/11	49 - 50	N	ND (350)	ND (350)	ND (350)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	---
	04/29/11	59 - 60	N	ND (390)	ND (390)	ND (390)	ND (4.6)	ND (4.6)	ND (46)	ND (4.6)	6.3	---
	04/29/11	69 - 70	N	ND (340)	ND (340)	ND (340)	ND (5.8)	ND (5.8)	ND (58)	ND (5.8)	ND (5.8)	---
	04/29/11	79 - 80	N	ND (360)	ND (360)	ND (360)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	---
	04/29/11	89 - 90	N	ND (360)	ND (360)	ND (360)	ND (4.5)	ND (4.5)	ND (45)	ND (4.5)	ND (4.5)	---
	04/29/11	99 - 100	N	ND (340)	ND (340)	ND (340)	ND (4.4)	ND (4.4)	ND (44)	ND (4.4)	ND (4.4)	---
	04/29/11	109 - 110	N	ND (340)	ND (340)	ND (340)	ND (6.5)	ND (6.5)	ND (65)	ND (6.5)	ND (6.5)	---
	04/29/11	119 - 120	N	ND (340)	ND (340)	ND (340)	ND (4.7)	ND (4.7)	ND (47)	ND (4.7)	ND (4.7)	---
	04/30/11	129 - 130	N	ND (340)	ND (340)	ND (340)	ND (5.7)	ND (5.7)	ND (57)	ND (5.7)	ND (5.7)	---
	04/30/11	139 - 140	N	ND (350)	ND (350)	ND (350)	ND (4.6)	ND (4.6)	ND (46)	ND (4.6)	ND (4.6)	---
	04/30/11	139 - 140	FD	ND (350)	ND (350)	ND (350)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	---
	04/30/11	149 - 150	N	ND (340)	ND (340)	ND (340)	ND (4.4)	ND (4.4)	ND (44)	ND (4.4)	ND (4.4)	---
	04/30/11	159 - 160	N	ND (340)	ND (340)	ND (340)	ND (4.8)	ND (4.8)	ND (48)	ND (4.8)	ND (4.8)	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
BH-68	03/17/11	0 - 0.5	N	ND (360)	ND (360)	ND (360)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	---
	03/17/11	0 - 0.5	FD	ND (360)	ND (360)	ND (360)	ND (4.6)	ND (4.6)	ND (46)	ND (4.6)	ND (4.6)	---
	03/17/11	2 - 3	N	ND (350)	ND (350)	ND (350)	ND (5.7)	ND (5.7)	ND (57)	ND (5.7)	ND (5.7)	ND (5.8)
	03/17/11	5 - 6	N	ND (380)	ND (380)	ND (380)	ND (5.9)	ND (5.9)	ND (59)	ND (5.9)	ND (5.9)	ND (5.8)
	05/13/11	9 - 10	N	ND (350)	ND (350)	ND (350)	ND (6.1)	ND (6.1)	ND (61)	ND (6.1)	ND (6.1)	---
	05/13/11	14 - 15	N	ND (340)	ND (340)	ND (340)	ND (5.6)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	---
	05/13/11	19 - 20	N	ND (350)	ND (350)	ND (350)	ND (5)	ND (5)	ND (50)	ND (5)	ND (5)	---
	05/13/11	29 - 30	N	ND (350)	ND (350)	ND (350)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	---
	05/13/11	39 - 40	N	ND (350)	ND (350)	ND (350)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	---
	05/13/11	49 - 50	N	ND (340)	ND (340)	ND (340)	ND (4.8)	ND (4.8)	ND (48)	ND (4.8)	ND (4.8)	---
	05/13/11	59 - 60	N	ND (350)	ND (350)	ND (350)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	---
	05/13/11	69 - 70	N	ND (350)	ND (350)	ND (350)	ND (4.8)	ND (4.8)	ND (48)	ND (4.8)	ND (4.8)	---
	05/13/11	79 - 80	N	ND (350)	ND (350)	ND (350)	ND (4.8)	ND (4.8)	ND (48)	ND (4.8)	ND (4.8)	---
	05/13/11	89 - 90	N	ND (350)	ND (350)	ND (350)	ND (5.5)	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	---
	05/13/11	99 - 100	N	ND (360)	ND (360)	ND (360)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	---
	05/13/11	99 - 100	FD	ND (350)	ND (350)	ND (350)	ND (4.4)	ND (4.4)	ND (44)	ND (4.4)	ND (4.4)	---
	05/13/11	109 - 110	N	ND (350)	ND (350)	ND (350)	ND (5.7)	ND (5.7)	ND (57)	ND (5.7)	ND (5.7)	---
	05/13/11	119 - 120	N	ND (350)	ND (350)	ND (350)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	---
	05/13/11	129 - 130	N	ND (350)	ND (350)	ND (350)	ND (5.6)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	---
	05/14/11	139 - 140	N	ND (350)	ND (350)	ND (350)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	---
	05/14/11	149 - 150	N	ND (350)	ND (350)	ND (350)	ND (4.9)	ND (4.9)	ND (49)	ND (4.9)	ND (4.9)	---
	05/14/11	159 - 160	N	ND (350)	ND (350)	ND (350)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	---
PA-02	11/09/15	0 - 1	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
PA-22	01/27/16	0 - 1	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ : Background ² :				160,000 NE	1,200,000 NE	82,000,000 NE	1,800,000 NE	9,900,000 NE	670,000,000 NE	1,400 NE	9,900,000 NE	130,000,000 NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
PA-OS3	12/10/14	0.5	N	ND (340)	ND (340)	ND (340)	---	---	---	---	---	---
	12/10/14	3	N	ND (350)	ND (350)	ND (350)	---	---	---	---	---	---
PGE-LT-OS5	03/08/07	0.5	N	---	---	---	ND (5.1) J	---	ND (51) J	ND (5.1) J	ND (5.1) J	---
	03/08/07	3	N	---	---	---	ND (5.3) J	---	ND (53) J	ND (5.3) J	ND (5.3) J	---
PGE-LT-OS6	03/08/07	0.5	N	---	---	---	ND (5.4) J	---	ND (54) J	ND (5.4) J	ND (5.4) J	---
	03/08/07	3	N	---	---	---	ND (5.2) J	---	ND (52) J	ND (5.2) J	ND (5.2) J	---
PGE-LT-OS7	03/08/07	0.5	N	---	---	---	ND (5.1) J	---	ND (51) J	ND (5.1) J	ND (5.1) J	---
	03/08/07	3	N	---	---	---	ND (5.1) J	---	ND (51) J	ND (5.1) J	ND (5.1) J	---
PGE-LT-OS8	03/08/07	0.5	N	---	---	---	ND (5.2) J	---	ND (52) J	ND (5.2) J	ND (5.2) J	---
	03/08/07	3	N	---	---	---	ND (5.5) J	---	ND (55) J	ND (5.5) J	ND (5.5) J	---
PGE-LT-OS9	03/08/07	0.5	N	---	---	---	ND (5.2) J	---	ND (52) J	ND (5.2) J	ND (5.2) J	---
	03/08/07	3	N	---	---	---	ND (5.2) J	---	ND (52) J	ND (5.2) J	ND (5.2) J	---
PGE-UTOS1	03/08/07	0.5	N	---	---	---	ND (5.5) J	---	ND (55) J	ND (5.5) J	ND (5.5) J	---
	03/08/07	3	N	---	---	---	ND (5.2) J	---	ND (52) J	ND (5.2) J	ND (5.2) J	---
PGE-UTOS2	03/08/07	0.5	N	---	---	---	ND (5.2) J	---	650 J	ND (5.2) J	ND (5.2) J	---
	03/08/07	3	N	---	---	---	ND (5.4) J	---	ND (54) J	ND (5.4) J	ND (5.4) J	---
PGE-UTOS3	03/08/07	0.5	N	---	---	---	ND (5.2) J	---	ND (52) J	ND (5.2) J	ND (5.2) J	---
	03/08/07	3	N	---	---	---	ND (5.3) J	---	ND (53) J	ND (5.3) J	ND (5.3) J	---
PGE-UTOS4	03/08/07	0.5	N	---	---	---	ND (5.2) J	---	ND (52) J	ND (5.2) J	ND (5.2) J	---
	03/08/07	3	N	---	---	---	ND (5.3) J	---	ND (53) J	ND (5.3) J	ND (5.3) J	---
SD-29	02/04/17	2 - 3	N	ND (360)	ND (360)	ND (360)	ND (6.6)	ND (6.6)	ND (66) J	ND (6.6)	ND (6.6)	ND (6.7) J
SD-OS42	07/17/17	3 - 4	N	ND (3,900)	4,000	5,000	43 J	75 J	1,000	ND (18)	25 J	97
	07/17/17	5 - 6	N	ND (340)	ND (340)	ND (340)	ND (6.8)	ND (6.8)	ND (68)	ND (6.8)	ND (6.8)	ND (7.8)
Category 2												
Spill03012004_Sam	05/21/04	0	N	---	---	---	---	---	---	---	---	---

TABLE 3-23d

Sample Results: Semivolatile and Volatile Organic Compounds
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Commercial Screening Level ¹ :				160,000	1,200,000	82,000,000	1,800,000	9,900,000	670,000,000	1,400	9,900,000	130,000,000
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	bis (2-ethylhexyl) phthalate	Butylbenzylpht halate	Di-n-butyl phthalate	1,2,4- Trimethylbenze ne	4- Isopropyltolue ne	Acetone	Chloroform	Isopropylbenzen e	Methyl acetate
Spill03012004_Sam	05/21/04	0	N	---	---	---	---	---	---	---	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level or RWQCB ESL are circled.

Only detected SVOCs and VOCs are presented.

β	black sandy material
ψ	tar sample
---	not analyzed
μg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency
SVOCs	semivolatile organic compounds
VOCs	volatile organic compounds

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for SVOCs and VOCs.

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel
Category 1											
AOC13-1	12/05/15	0 - 1	N	---	---	---	---	---	---	---	12 J
	12/05/15	0 - 1	FD	---	---	---	---	---	---	---	120 J
	12/05/15	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (11)
AOC13-10	12/14/15	0 - 0.5	N	---	---	---	---	---	---	---	82
	12/14/15	2 - 3	N	---	---	---	---	---	---	ND (1.2)	39
AOC13-11	01/05/16	0 - 0.5	N	---	---	---	---	---	---	---	15
	01/05/16	0.5 - 1	FD	---	---	---	---	---	---	---	12
	01/05/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (10)
AOC13-12	12/05/15	0 - 1	N	---	---	---	---	---	---	---	18
	12/05/15	0 - 1	FD	---	---	---	---	---	---	---	13
	12/05/15	2 - 3	N	---	---	---	---	---	---	ND (1)	ND (11)
AOC13-13	01/09/16	0 - 0.5	N	---	---	---	---	---	---	---	31
	01/09/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	ND (10)
AOC13-14	12/14/15	0 - 0.5	N	---	---	---	---	---	---	---	58
	12/14/15	2 - 3	N	---	---	---	---	---	---	ND (1.1)	ND (10)
AOC13-15	12/14/15	0 - 0.5	N	---	---	---	---	---	---	---	13
	12/14/15	2 - 3	N	---	---	---	---	---	---	ND (1.1)	ND (10)
	12/14/15	5 - 6	N	---	---	---	---	---	---	ND (1.1)	ND (10)
AOC13-16	01/05/16	0 - 1	N	---	---	---	---	---	---	---	ND (11)
	01/05/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	ND (10)
AOC13-17	12/08/15	0 - 0.5	N	---	---	---	---	---	---	---	16
	12/08/15	2 - 3	N	---	---	---	---	---	---	ND (0.98)	19
AOC13-18	01/06/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	01/06/16	0.5 - 1	FD	---	---	---	---	---	---	---	ND (10)
	01/06/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (10)
AOC13-19	01/08/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (11)
	01/08/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (10)

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24- C40)	TPH as gasoline	TPH as diesel
AOC13-2	12/05/15	0 - 1	N	---	---	---	---	---	---	---	58
	12/05/15	2 - 3	N	---	---	---	---	---	---	ND (1)	ND (11)
AOC13-20	01/08/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (11)
	01/08/16	2 - 3	N	---	---	---	---	---	---	ND (1.4)	ND (11)
AOC13-21	01/08/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	01/08/16	0 - 0.5	FD	---	---	---	---	---	---	---	ND (10)
	01/08/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (10)
AOC13-22	01/08/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (11)
	01/08/16	2 - 3	N	---	---	---	---	---	---	ND (1.1)	23
AOC13-23	01/08/16	0 - 0.5	N	---	---	---	---	---	---	---	27
	01/08/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	32
AOC13-24	01/08/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	01/08/16	0 - 0.5	FD	---	---	---	---	---	---	---	ND (10)
	01/08/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	10
AOC13-25	01/09/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (11)
	01/09/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	36
AOC13-26	01/09/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (11)
	01/09/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	25
	01/09/16	2 - 3	FD	---	---	---	---	---	---	ND (1.2)	44
AOC13-27	01/09/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (11)
	01/09/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	75
AOC13-28	01/09/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	01/09/16	2 - 3	N	---	---	---	---	---	---	ND (1.4)	ND (11)
AOC13-29	01/09/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	01/09/16	0 - 0.5	FD	---	---	---	---	---	---	---	ND (10)
	01/09/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (11)
AOC13-3	12/14/15	0 - 0.5	N	---	---	---	---	---	---	---	16
	12/14/15	2 - 3	N	---	---	---	---	---	---	ND (1.4)	ND (11)

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel
AOC13-30	01/07/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (11)
	01/07/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	ND (11)
AOC13-31	01/07/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (11)
	01/07/16	0 - 0.5	FD	---	---	---	---	---	---	---	ND (11)
	01/07/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	14
AOC13-32	12/04/15	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	12/04/15	2 - 3	N	---	---	---	---	---	---	ND (1)	22
AOC13-4	12/14/15	0 - 0.5	N	---	---	---	---	---	---	---	11
	12/14/15	0 - 0.5	FD	---	---	---	---	---	---	---	ND (10)
	12/14/15	2 - 3	N	---	---	---	---	---	---	ND (1.1)	ND (10)
AOC13-5	01/05/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (11)
	01/05/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	ND (11)
AOC13-6	01/05/16	0 - 0.5	N	---	---	---	---	---	---	---	31
	01/05/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (10)
AOC13-7	12/14/15	0 - 0.5	N	---	---	---	---	---	---	---	150
	12/14/15	2 - 3	N	---	---	---	---	---	---	ND (1.2)	20
AOC13-8	12/05/15	0 - 1	N	---	---	---	---	---	---	---	120
	12/05/15	0 - 1	FD	---	---	---	---	---	---	---	93
	12/05/15	2 - 3	N	---	---	---	---	---	---	ND (1)	ND (10)
AOC13-9	01/09/16	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	01/09/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	33
AOC13-GrabOS1	05/13/08	1	N	---	---	---	---	---	---	---	120
	05/13/08	3	N	---	---	---	---	---	---	ND (1.1)	ND (10)
	05/14/08	5.5	N	---	---	---	---	---	---	ND (1.1)	ND (10)
	05/14/08	5.5	FD	---	---	---	---	---	---	ND (1.1)	ND (10)
AOC13-GrabOS2	05/13/08	1	N	---	---	---	---	---	---	---	51
	05/13/08	3	N	---	---	---	---	---	---	ND (1.1)	ND (10)
	05/13/08	4 - 4.5	N	---	---	---	---	---	---	ND (0.92)	23

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel
AOC13-OS11	06/26/13	0 - 0.5	N	---	---	---	---	11	88	---	---
	06/26/13	2 - 3	N	---	---	---	---	ND (10)	68	---	---
	06/26/13	5 - 6	N	---	---	---	---	ND (10)	17	---	---
AOC13-OS12	06/26/13	0 - 0.5	N	---	---	---	---	12	70	---	---
	06/26/13	2 - 3	N	---	---	---	---	ND (10)	40	---	---
	06/26/13	2 - 3	FD	---	---	---	---	ND (10)	47	---	---
AOC13-OS13	06/26/13	0 - 0.5	N	---	---	---	---	16	52	---	---
	06/26/13	2 - 3	N	---	---	---	---	62	79	---	---
AOC13-OS14	07/25/13	0 - 0.5	N	---	---	---	---	ND (10)	12 J	---	---
	07/25/13	2 - 3	N	---	---	---	---	ND (10)	ND (10)	---	---
	07/25/13	2 - 3	FD	---	---	---	---	ND (10)	ND (10)	---	---
	07/25/13	5 - 6	N	---	---	---	---	ND (10)	ND (10)	---	---
AOC13-OS15	04/25/17	3 - 3.1	N	---	---	---	---	---	---	ND (1.3) J	6,900
AOC13-OS16	04/25/17	2.8 - 2.9	N	---	---	---	---	---	---	ND (1.2) J	7,100
AOC13-OS17	04/26/17	3.8 - 3.9	N	---	---	---	---	---	---	ND (1.1)	900
AOC13-OS18	04/25/17	3.8 - 3.9	N	---	---	---	---	---	---	ND (1.1)	300
AOC13-OS19	04/26/17	4.4 - 4.5	N	---	---	---	---	---	---	ND (1.2) J	3,500
AOC13-OS2	11/08/11	0 - 0.5	N	---	---	---	---	---	---	---	16
	11/08/11	2 - 3	N	---	---	---	---	---	---	---	23
	11/15/11	2 - 3	N	---	---	---	---	---	---	ND (2.5)	---
	11/08/11	2 - 3	FD	---	---	---	---	---	---	---	31
	11/15/11	2 - 3	FD	---	---	---	---	---	---	ND (2.7)	---
	11/15/11	5 - 6	N	---	---	---	---	---	---	ND (2.9)	---
	11/08/11	5 - 6	N	---	---	---	---	---	---	---	23
AOC13-OS3	11/08/11	2 - 3	N	---	---	---	---	---	---	---	ND (10)
	11/15/11	2 - 3	N	---	---	---	---	---	---	ND (2.7)	---

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel
AOC13-OS4	11/08/11	2 - 3	N	---	---	---	---	---	---	---	11
	11/15/11	2 - 3	N	---	---	---	---	---	---	ND (2.4)	---
	11/08/11	5 - 6	N	---	---	---	---	---	---	---	11
	11/15/11	5 - 6	N	---	---	---	---	---	---	ND (3.4)	---
AOC13-PITOS1	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	16
	07/26/11	0 - 0.5	FD	---	---	---	---	---	---	---	14
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (1.8)	ND (10)
	07/26/11	9 - 9.5	N	---	---	---	---	---	---	ND (2)	56
AOC13-PITOS2	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	20
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (1.9)	12
	07/26/11	4 - 4.5	N	---	---	---	---	---	---	ND (1.7)	12
AOC13-PITOS3	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	12
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (1.7)	14
	07/26/11	2 - 3	FD	---	---	---	---	---	---	ND (1.8)	14
	07/26/11	6 - 6.5	N	---	---	---	---	---	---	ND (2.1)	15
AOC13-PITOS6	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	11
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (1.8)	11
	07/26/11	5 - 6	N	---	---	---	---	---	---	ND (2)	ND (10)
	07/26/11	7 - 7.5	N	---	---	---	---	---	---	ND (1.8)	44
AOC13-PITOS7	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	12
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (1.7)	ND (10)
	07/26/11	2 - 3	FD	---	---	---	---	---	---	ND (1.7)	10
	07/26/11	5 - 6	N	---	---	---	---	---	---	ND (1.8)	ND (10)
	07/26/11	8 - 8.5	N	---	---	---	---	---	---	ND (1.6)	43
AOC13-PITOS8	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	11
	07/26/11	5 - 6	N	---	---	---	---	---	---	ND (1.6)	ND (10)
	07/26/11	9 - 10	N	---	---	---	---	---	---	ND (1.6)	ND (10)
	07/26/11	11 - 11.5	N	---	---	---	---	---	---	ND (2)	42

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24- C40)	TPH as gasoline	TPH as diesel
AOC13-PITOS9	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (1.8)	ND (10)
	07/26/11	5 - 6	N	---	---	---	---	---	---	ND (2)	ND (10)
	07/26/11	5 - 6	FD	---	---	---	---	---	---	ND (1.9)	ND (10)
AOC13-PITOS10	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (1.8)	23
	07/26/11	5 - 6	N	---	---	---	---	---	---	ND (1.6)	ND (10)
	07/26/11	7 - 7.5	N	---	---	---	---	---	---	ND (1.4)	ND (10)
AOC13-PITOS11	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	150
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (1.7)	ND (10)
	07/26/11	2 - 3	FD	---	---	---	---	---	---	ND (1.8)	ND (10)
	07/26/11	5 - 6	N	---	---	---	---	---	---	ND (1.8)	ND (10)
	07/26/11	7.5 - 8	N	---	---	---	---	---	---	ND (1.9)	36
AOC13-PITOS12	09/27/11	0 - 0.5	N	---	---	---	---	---	---	---	18
	09/27/11	2 - 3	N	---	---	---	---	---	---	ND (2)	ND (10)
	09/27/11	5 - 6	N	---	---	---	---	---	---	ND (2)	ND (10)
	09/27/11	9 - 9.5	N	---	---	---	---	---	---	ND (1.9)	ND (10)
	09/27/11	11 - 11.5	N	---	---	---	---	---	---	ND (1.7)	160
AOC13-PITOS13	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	07/26/11	0 - 0.5	FD	---	---	---	---	---	---	---	ND (10)
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (2.4)	11
	07/26/11	5 - 6	N	---	---	---	---	---	---	ND (1.9)	26
	07/26/11	9 - 9.5	N	---	---	---	---	---	---	ND (1.7)	11
AOC13-PITOS14	07/26/11	0 - 0.5	N	---	---	---	---	---	---	---	ND (10)
	07/26/11	2 - 3	N	---	---	---	---	---	---	ND (1.9)	12
	07/26/11	4 - 4.5	N	---	---	---	---	---	---	ND (1.8)	ND (10)

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24- C40)	TPH as gasoline	TPH as diesel
BH-65	03/24/11	0 - 0.5	N	---	---	---	---	---	---	ND (0.89)	22
	03/24/11	2 - 3	N	---	---	---	---	---	---	ND (0.89)	32
	03/17/11	9 - 10	N	---	---	---	---	---	---	ND (1.3)	ND (10)
	03/17/11	14 - 15	N	---	---	---	---	---	---	ND (1.1)	ND (10)
	03/17/11	19 - 20	N	---	---	---	---	---	---	ND (1.2)	ND (10)
	03/17/11	29 - 30	N	---	---	---	---	---	---	ND (0.95)	ND (10)
	03/17/11	37 - 40	N	---	---	---	---	---	---	ND (1.3)	ND (11)
	03/17/11	49 - 50	N	---	---	---	---	---	---	ND (1.1)	ND (11)
	03/17/11	59 - 60	N	---	---	---	---	---	---	ND (1.1)	ND (10)
	03/18/11	69 - 70	N	---	---	---	---	---	---	ND (0.92)	ND (11)
	03/18/11	79 - 80	N	---	---	---	---	---	---	ND (1.2)	ND (11)
	03/18/11	79 - 80	FD	---	---	---	---	---	---	ND (0.99)	ND (10)
	03/18/11	89 - 90	N	---	---	---	---	---	---	ND (0.9)	ND (11)
	03/18/11	99 - 100	N	---	---	---	---	---	---	ND (0.92)	ND (10)
	03/18/11	109 - 110	N	---	---	---	---	---	---	ND (1)	ND (11)
	03/18/11	119 - 120	N	---	---	---	---	---	---	ND (0.91)	ND (10)
	03/19/11	129 - 130	N	---	---	---	---	---	---	ND (1)	ND (10)
	03/19/11	139 - 140	N	---	---	---	---	---	---	ND (0.91)	ND (11)

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24- C40)	TPH as gasoline	TPH as diesel
BH-66	03/23/11	0 - 0.5	N	---	---	---	---	---	---	ND (0.95)	ND (11)
	03/23/11	2 - 3	N	---	---	---	---	---	---	ND (0.92)	ND (11)
	03/23/11	5 - 6	N	---	---	---	---	---	---	ND (0.85)	ND (11)
	04/12/11	14 - 15	N	---	---	---	---	---	---	ND (1)	30
	04/12/11	14 - 15	FD	---	---	---	---	---	---	ND (1.1)	29
	04/12/11	19 - 20	N	---	---	---	---	---	---	ND (1.3)	40
	04/12/11	29 - 30	N	---	---	---	---	---	---	ND (1)	ND (10)
	04/12/11	39 - 40	N	---	---	---	---	---	---	ND (0.85)	ND (10)
	04/12/11	49 - 50	N	---	---	---	---	---	---	ND (1.1)	ND (10)
	04/13/11	59 - 60	N	---	---	---	---	---	---	ND (0.99)	ND (11)
	04/13/11	69 - 70	N	---	---	---	---	---	---	ND (1)	ND (11)
	04/13/11	79 - 80	N	---	---	---	---	---	---	ND (0.98)	ND (10)
	04/13/11	89 - 90	N	---	---	---	---	---	---	ND (1)	ND (11)
	04/13/11	99 - 100	N	---	---	---	---	---	---	ND (0.99)	ND (11)
	04/13/11	109 - 110	N	---	---	---	---	---	---	ND (0.98)	ND (10)
	04/14/11	119 - 120	N	---	---	---	---	---	---	ND (1)	ND (10)
	04/14/11	119 - 120	FD	---	---	---	---	---	---	ND (0.93)	ND (10)
	04/14/11	129 - 130	N	---	---	---	---	---	---	ND (1.1)	ND (11)

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)								
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24- C40)	TPH as gasoline	TPH as diesel	
BH-67	03/17/11	0 - 0.5	N	---	---	---	---	---	---	ND (1)	12	
	03/17/11	2 - 3	N	---	---	---	---	---	---	ND (1)	ND (11)	
	03/17/11	5 - 6	N	---	---	---	---	---	---	ND (1.2)	ND (10)	
	04/29/11	9 - 10	N	---	---	---	---	---	---	ND (1.1)	ND (10)	
	04/29/11	14 - 15	N	---	---	---	---	---	---	ND (1.1)	ND (10)	
	04/29/11	19 - 20	N	---	---	---	---	---	---	ND (1.4)	ND (10)	
	04/29/11	29 - 30	N	---	---	---	---	---	---	ND (1)	ND (10)	
	04/29/11	39 - 40	N	---	---	---	---	---	---	ND (1.3)	ND (10)	
	04/29/11	39 - 40	FD	---	---	---	---	---	---	ND (1.3)	ND (10)	
	04/29/11	49 - 50	N	---	---	---	---	---	---	ND (1.1)	ND (10)	
	04/29/11	59 - 60	N	---	---	---	---	---	---	ND (1.1)	ND (12)	
	04/29/11	69 - 70	N	---	---	---	---	---	---	ND (1.2)	ND (10)	
	04/29/11	79 - 80	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
	04/29/11	89 - 90	N	---	---	---	---	---	---	ND (0.99)	ND (11)	
	04/29/11	99 - 100	N	---	---	---	---	---	---	ND (0.98)	ND (10)	
	04/29/11	109 - 110	N	---	---	---	---	---	---	ND (1.1)	ND (10)	
	04/29/11	119 - 120	N	---	---	---	---	---	---	ND (0.92)	ND (10)	
	04/30/11	129 - 130	N	---	---	---	---	---	---	ND (0.99)	ND (10)	
	04/30/11	139 - 140	N	---	---	---	---	---	---	ND (0.9)	ND (11)	
	04/30/11	139 - 140	FD	---	---	---	---	---	---	ND (0.98)	ND (10)	
	04/30/11	149 - 150	N	---	---	---	---	---	---	ND (1)	ND (10)	
	04/30/11	159 - 160	N	---	---	---	---	---	---	ND (0.97)	ND (10)	

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)								
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel	
BH-68	03/17/11	0 - 0.5	N	---	---	---	---	---	---	ND (1)	ND (11)	
	03/17/11	0 - 0.5	FD	---	---	---	---	---	---	ND (0.96)	ND (11)	
	03/17/11	2 - 3	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
	03/17/11	5 - 6	N	---	---	---	---	---	---	ND (1.1)	ND (12)	
	05/13/11	9 - 10	N	---	---	---	---	---	---	ND (1.2)	ND (11)	
	05/13/11	14 - 15	N	---	---	---	---	---	---	ND (1.3)	ND (10)	
	05/13/11	19 - 20	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
	05/13/11	29 - 30	N	---	---	---	---	---	---	ND (0.94)	ND (11)	
	05/13/11	39 - 40	N	---	---	---	---	---	---	ND (1.2)	ND (11)	
	05/13/11	49 - 50	N	---	---	---	---	---	---	ND (0.96)	ND (10)	
	05/13/11	59 - 60	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
	05/13/11	69 - 70	N	---	---	---	---	---	---	ND (1.2)	ND (11)	
	05/13/11	79 - 80	N	---	---	---	---	---	---	ND (0.94)	ND (11)	
	05/13/11	89 - 90	N	---	---	---	---	---	---	ND (0.9)	ND (11)	
	05/13/11	99 - 100	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
	05/13/11	99 - 100	FD	---	---	---	---	---	---	ND (1)	ND (11)	
	05/13/11	109 - 110	N	---	---	---	---	---	---	ND (1)	ND (10)	
	05/13/11	119 - 120	N	---	---	---	---	---	---	ND (1)	ND (11)	
	05/13/11	129 - 130	N	---	---	---	---	---	---	ND (0.91)	ND (11)	
	05/14/11	139 - 140	N	---	---	---	---	---	---	ND (1)	ND (11)	
	05/14/11	149 - 150	N	---	---	---	---	---	---	ND (0.97)	ND (11)	
	05/14/11	159 - 160	N	---	---	---	---	---	---	ND (0.93)	ND (10)	
PA-02	11/09/15	0 - 1	N	---	---	---	---	---	---	---	33	
PA-22	01/27/16	0 - 1	N	---	---	---	---	---	---	---	ND (10)	
PA-OS3	12/10/14	0.5	N	---	---	---	---	---	---	ND (0.99)	ND (10)	
	12/10/14	3	N	---	---	---	---	---	---	ND (1.1)	ND (10)	
PGE-LT-OS5	03/08/07	0.5	N	---	---	---	---	---	---	ND (1)	ND (10)	
	03/08/07	3	N	---	---	---	---	---	---	ND (1.1)	ND (11)	

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)								
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24- C40)	TPH as gasoline	TPH as diesel	
PGE-LT-OS6	03/08/07	0.5	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
	03/08/07	3	N	---	---	---	---	---	---	ND (1)	ND (10)	
PGE-LT-OS7	03/08/07	0.5	N	---	---	---	---	---	---	ND (1)	ND (10)	
	03/08/07	3	N	---	---	---	---	---	---	ND (1)	ND (10)	
PGE-LT-OS8	03/08/07	0.5	N	---	---	---	---	---	---	ND (1)	18	
	03/08/07	3	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
PGE-LT-OS9	03/08/07	0.5	N	---	---	---	---	---	---	ND (1)	ND (10)	
	03/08/07	3	N	---	---	---	---	---	---	ND (1)	ND (10)	
PGE-UTOS1	03/08/07	0.5	N	---	---	---	---	---	---	ND (1.1)	13	
	03/08/07	3	N	---	---	---	---	---	---	ND (1)	ND (10)	
PGE-UTOS2	03/08/07	0.5	N	---	---	---	---	---	---	ND (1)	19	
	03/08/07	3	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
PGE-UTOS3	03/08/07	0.5	N	---	---	---	---	---	---	ND (1)	32	
	03/08/07	3	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
PGE-UTOS4	03/08/07	0.5	N	---	---	---	---	---	---	ND (1)	ND (10)	
	03/08/07	3	N	---	---	---	---	---	---	ND (1.1)	ND (11)	
SD-24	03/09/16	0 - 1	N	---	---	---	---	---	---	---	37	
	03/09/16	2 - 3	N	---	---	---	---	---	---	ND (1.4)	ND (11)	
SD-28	02/05/17	0 - 0.5	N	---	---	---	---	---	---	ND (1.3)	ND (10)	
	02/05/17	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (11)	
	02/05/17	5 - 6	N	---	---	---	---	---	---	ND (1.2)	ND (11)	
	02/05/17	9 - 10	N	---	---	---	---	---	---	ND (1.3)	12	
SD-29	02/04/17	0 - 0.5	N	---	---	---	---	---	---	ND (1.5)	48	
	02/04/17	2 - 3	N	---	---	---	---	---	---	ND (1.3) J	ND (11)	
	02/05/17	4.5 - 5	N	---	---	---	---	---	---	ND (1.2)	ND (11)	
	02/05/17	7.5 - 8	N	---	---	---	---	---	---	ND (1.3)	ND (10)	

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)								
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel	
SD-31	02/15/17	0 - 0.5	N	---	---	---	---	---	---	ND (1.1)	85	
	02/15/17	0 - 0.5	FD	---	---	---	---	---	---	ND (1.1)	85	
	02/15/17	1 - 2	N	---	---	---	---	---	---	ND (2.4)	30	
	02/15/17	2 - 3	N	---	---	---	---	---	---	ND (1.2)	44	
SD-07	12/17/15	0 - 1	N	---	---	---	---	---	---	---	ND (10)	
	12/17/15	2 - 3	N	---	---	---	---	---	---	ND (1.1)	ND (10)	
	12/18/15	5 - 6	N	---	---	---	---	---	---	ND (1.1)	ND (10)	
	12/18/15	9 - 10	N	---	---	---	---	---	---	ND (1.1)	ND (10)	
	12/18/15	9 - 10	FD	---	---	---	---	---	---	ND (1.1)	ND (10)	
SD-OS30	07/18/17	0 - 0.5	N	---	---	---	---	---	---	ND (1.2)	ND (21)	
	07/18/17	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (18)	
	07/18/17	4 - 5	N	---	---	---	---	---	---	ND (1.4)	ND (19)	
	07/18/17	5 - 6	N	---	---	---	---	---	---	ND (1.4)	ND (18)	
	07/18/17	7 - 8	N	---	---	---	---	---	---	ND (1.5)	ND (16)	
SD-OS34	12/02/16	0 - 0.5	N	---	---	---	---	---	---	ND (1.2) J	57	
	12/02/16	0.5 - 1	N	---	---	---	---	---	---	ND (2.3)	86	
	12/02/16	1 - 1.5	N	---	---	---	---	---	---	ND (1.4)	20	
	12/03/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	12	
	12/03/16	5 - 6	N	---	---	---	---	---	---	ND (1.2)	11	
	12/03/16	5 - 6	FD	---	---	---	---	---	---	ND (1.5)	17	
SD-OS34A	12/02/16	0 - 0.5	N	---	---	---	---	---	---	ND (1.3)	27	
	12/02/16	1 - 1.5	N	---	---	---	---	---	---	ND (1.5)	22	
	12/02/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	13	
	12/02/16	5 - 6	N	---	---	---	---	---	---	ND (1.3)	ND (10)	
SD-OS35	12/04/16	0 - 0.5	N	---	---	---	---	---	---	ND (1.3)	22	
	12/04/16	2 - 3	N	---	---	---	---	---	---	ND (1.3)	11	
	12/05/16	4.5 - 5.5	N	---	---	---	---	---	---	ND (1.5)	ND (10)	

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel
SD-OS35A	12/05/16	0 - 0.5	N	---	---	---	---	---	---	ND (1.1)	12
	12/05/16	2 - 3	N	---	---	---	---	---	---	ND (1.2)	14
	12/05/16	4.5 - 5.5	N	---	---	---	---	---	---	ND (1.3)	39
SD-OS36	12/01/16	0 - 0.5	N	---	---	---	---	---	---	ND (1.5)	49
	12/01/16	2.5 - 3	N	---	---	---	---	---	---	ND (1.3)	32
	12/01/16	5 - 6	N	---	---	---	---	---	---	ND (1.2)	10
SD-OS38	12/13/16	0 - 0.5	N	---	---	---	---	---	---	ND (1.2)	24
	12/13/16	3 - 4	N	---	---	---	---	---	---	ND (1.4)	27
SD-OS39	11/29/16	0 - 0.5	N	---	---	---	---	---	---	ND (1.3)	35
	11/29/16	0 - 0.5	FD	---	---	---	---	---	---	ND (1.2)	38
	11/29/16	2.5 - 3	N	---	---	---	---	---	---	ND (1.2)	11
	11/29/16	2.5 - 3	FD	---	---	---	---	---	---	ND (1.1)	ND (10)
SD-OS40	12/06/16	0 - 0.5	N	---	---	---	---	---	---	ND (1.2)	10
	12/06/16	2 - 3	N	---	---	---	---	---	---	ND (1.5)	20
	12/09/16	5 - 6	N	---	---	---	---	---	---	ND (1.4)	21
	12/06/16	5 - 5.5	N	---	---	---	---	---	---	ND (1.3)	16
	12/09/16	6 - 7	N	---	---	---	---	---	---	ND (1.2)	17
	12/11/16	7 - 8	N	---	---	---	---	---	---	ND (1.2)	11
	12/09/16	7 - 8	N	---	---	---	---	---	---	ND (1.5)	14
	12/09/16	9 - 10	N	---	---	---	---	---	---	ND (1.5)	13
SD-OS41	12/13/16	0 - 0.5	N	---	---	---	---	---	---	ND (1.3)	140
	12/13/16	2 - 3	N	---	---	---	---	---	---	ND (1.4)	77
	12/14/16	5 - 6	N	---	---	---	---	---	---	ND (1.5)	240
	12/14/16	8 - 8.5	N	---	---	---	---	---	---	ND (1.7)	35
SD-OS42	07/17/17	0 - 0.5	N	---	---	---	---	---	---	ND (1.2)	ND (23)
	07/17/17	0 - 0.5	FD	---	---	---	---	---	---	ND (1.4)	ND (19)
	07/17/17	2 - 3	N	---	---	---	---	---	---	ND (1.3)	ND (12)
	07/17/17	3 - 4	N	---	---	---	---	---	---	3.1 J	8,500
	07/17/17	5 - 6	N	---	---	---	---	---	---	ND (1.4)	ND (25)

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel
SD-OS43	07/18/17	0 - 0.5	N	---	---	---	---	---	---	ND (1.3)	ND (37)
	07/18/17	2 - 3	N	---	---	---	---	---	---	ND (1.5)	ND (23)
	07/18/17	5 - 6	N	---	---	---	---	---	---	ND (1.1)	ND (14)
SD-OS44	07/19/17	0 - 0.5	N	---	---	---	---	---	---	ND (1.1)	ND (14)
	07/19/17	2 - 3	N	---	---	---	---	---	---	ND (1.2)	ND (11)
	07/19/17	5 - 6	N	---	---	---	---	---	---	ND (1.2)	ND (16)
TD-3	11/12/15	0	N	---	---	---	---	---	---	---	ND (11)
TD-4	11/12/15	0	N	---	---	---	---	---	---	---	34
Category 2											
BGCS-1	09/08/88	0.5	N	460	---	---	---	---	---	---	---
	09/08/88	1	N	ND (10)	---	---	---	---	---	---	---
	09/08/88	1.5	N	120	---	---	---	---	---	---	---
BGCS-2	09/08/88	0.5	N	155	---	---	---	---	---	---	---
	09/08/88	1	N	25	---	---	---	---	---	---	---
	09/08/88	1.5	N	190	---	---	---	---	---	---	---
BGCS-3	09/08/88	0.5	N	335	---	---	---	---	---	---	---
	09/08/88	1	N	755	---	---	---	---	---	---	---
	09/08/88	1.5	N	245	---	---	---	---	---	---	---
BGCS-4	09/08/88	0.5	N	245	---	---	---	---	---	---	---
	09/08/88	1	N	205	---	---	---	---	---	---	---
	09/08/88	1.5	N	1,145	---	---	---	---	---	---	---
BGCS-5	09/08/88	0.5	N	275	---	---	---	---	---	---	---
	09/08/88	1	N	200	---	---	---	---	---	---	---
	09/08/88	1.5	N	895	---	---	---	---	---	---	---
BGCS-6	09/08/88	0.5	N	2,775	---	---	---	---	---	---	---
	09/08/88	1	N	610	---	---	---	---	---	---	---
	09/08/88	1.5	N	215	---	---	---	---	---	---	---
Spill03012004_Sam	05/21/04	0	N	---	---	---	---	---	---	ND (1)	---
Spill03012004_Sam	05/21/04	0	N	---	---	---	---	---	---	ND (1)	---

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel
Spill04232006_Sam	04/26/06	0	N	---	---	---	8,000	---	---	ND (16,000) *	ND (8,000) *
Spill04232006_Sam	04/26/06	0	N	---	---	---	1,000	---	---	ND (2,000)	ND (1,000)
Spill04232006_Sam	04/26/06	0	N	---	---	---	20	---	---	ND (40)	ND (20)
Spill12192005_Sam	12/20/05	0	N	---	---	---	---	---	---	ND (20)	ND (10)
Spill12192005_Sam	12/20/05	0	N	---	---	---	---	---	---	ND (20)	ND (10)
Spill12192005_Sam	12/20/05	0	N	---	---	---	---	---	---	ND (20)	ND (10)
Spill12192005_Sam	12/20/05	0	N	---	---	---	---	---	---	ND (40)	ND (20)
Spill12192005_Sam	12/20/05	0	N	---	---	---	---	---	---	ND (20)	ND (10)
Spill12242005_Sam	03/08/06	0	N	---	---	---	10	---	---	ND (20)	ND (10)
Spill12242005_Sam	03/08/06	0	N	---	---	---	10	---	---	ND (20)	ND (10)
Spill12242005_Sam	03/08/06	0	N	---	---	---	200	---	---	ND (410)	ND (200)
Spill12242005_Sam	03/08/06	0	N	---	---	---	200	---	---	ND (400)	ND (200)
Category 3											
COM-1	07/21/93	1.7	N	---	13,500	---	---	---	---	---	---
COM-2	07/21/93	1	N	---	9,130	---	---	---	---	---	---
COM-3	07/21/93	1.7	N	---	2,610	---	---	---	---	---	---
COM-4	07/21/93	1.3	N	---	874	---	---	---	---	---	---
COM-5	07/21/93	2.3	N	---	631	---	---	---	---	---	---
COM-6	07/21/93	1	N	---	6,290	---	---	---	---	---	---
COM-7	07/21/93	1.5	N	---	5,930	---	---	---	---	---	---
COM-8	07/21/93	1.5	N	---	49	---	---	---	---	---	---
COM-9	07/21/93	1.5	N	---	8,400	---	---	---	---	---	---
COM-10	07/21/93	1	N	---	20,800	---	---	---	---	---	---
COM-11	07/21/93	2.5	N	---	7,900	---	---	---	---	---	---
COM-12	07/21/93	1.5	N	---	54	---	---	---	---	---	---
COM-13	07/21/93	1.5	N	---	2,950	---	---	---	---	---	---
COM-14	07/21/93	1.5	N	---	2,800	---	---	---	---	---	---
COM-15	07/21/93	1.5	N	---	4,120	---	---	---	---	---	---

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24-C40)	TPH as gasoline	TPH as diesel
COM-16	07/21/93	1.5	N	---	750	---	---	---	---	---	---
COM-17	07/21/93	1.7	N	---	3,930	---	---	---	---	---	---
COM-18	07/21/93	1.3	N	---	2,690	---	---	---	---	---	---
COM-20	07/21/93	2	N	---	111	---	---	---	---	---	---
G-1	07/21/93	1	N	---	83,200	---	---	---	---	---	---
G-2	07/21/93	1.7	N	---	57,600	---	---	---	---	---	---
G-3	07/21/93	1	N	---	10,100	---	---	---	---	---	---
G-4	07/21/93	0.83	N	---	25,300	---	---	---	---	---	---
	07/21/93	2	N	---	44,600	---	---	---	---	---	---
TC-1	06/14/94	1	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-2	06/14/94	3	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-3	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-4	06/14/94	0	N	---	---	ND (4)	---	---	---	ND (5)	ND (5)
	06/14/94	3	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-5	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-6	06/14/94	2.5	N	---	---	102	---	---	---	ND (5)	ND (5)
	06/14/94	6.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-7	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
	06/14/94	8	N	---	---	43	---	---	---	ND (5)	ND (5)
TC-8	06/14/94	3.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-9	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-10	06/14/94	3	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-11	06/14/94	5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-12	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-13	06/14/94	5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-14	06/14/94	5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-15	06/14/94	4.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-16	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24- C40)	TPH as gasoline	TPH as diesel
TC-17	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
	06/14/94	8	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-18	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
	06/14/94	7.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-19	06/14/94	3	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
	06/14/94	13	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-20	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-21	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
	06/14/94	5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
	06/14/94	10	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-22	06/14/94	4.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-23	06/14/94	5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-24	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-25	06/14/94	9.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TC-26	06/14/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-1	06/13/94	0	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-2	06/13/94	0	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-3	06/13/94	0	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
	06/13/94	2	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-4	06/13/94	0	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-5	06/13/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-6	06/13/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-7	06/13/94	1	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-8	06/13/94	2	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-9	06/13/94	2.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-10	06/13/94	2	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-11	06/13/94	2	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-12	06/13/94	0.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)							
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	3,900	1,100
RWQCB Environmental Screening Level ² :				NE	NE	NE	NE	NE	NE	740	230
Background ³ :				NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Oil and Grease	Total Recoverable Hydrocarbons	TPH as heavy oil	TPH as kerosene	TPH-Diesel (C9-C25)	TPH-Oil (C24- C40)	TPH as gasoline	TPH as diesel
TG-13	06/13/94	1.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-14	06/13/94	2	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-15	06/13/94	3	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-17	06/13/94	1.5	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)
TG-18	06/13/94	3	N	---	---	ND (5)	---	---	---	ND (5)	ND (5)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

TABLE 3-23e

Sample Results: Total Petroleum Hydrocarbons

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.
- 3 Background values have not been established for TPHs.

TABLE 3-23f

Sample Results: General Chemistry Parameters

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry						
				(mg/kg)	(mg/kg)	(pH units)	(µS/cm)	(mg/kg)	(mg/L)	(mg/kg)
Commercial Regional Screening Levels ¹ : DTSC-SL ² : Background ³ :				NE	47,000	NE	NE	NE	NE	NE
				NE	NE	NE	NE	NE	NE	NE
				NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Chloride	Fluoride	pH	Specific conductance	Sulfate	Total dissolved solids	Total organic carbon
Category 1										
AOC13-Debris	04/26/17 ^Y		N	---	---	7.1	---	---	---	---
AOC13-OS1	04/06/11	0 - 0.5	N	---	---	8.7	---	---	---	---
	04/06/11	2.5 - 3	N	---	---	8.3	---	---	---	---
	04/06/11	5.5 - 6	N	---	---	8.3	---	---	---	---
	04/06/11	9 - 9.5	N	---	---	9.6	---	---	---	---
AOC13-OS11	06/26/13	0 - 0.5	N	---	---	8	---	---	---	---
	06/26/13	2 - 3	N	---	---	8.3	---	---	---	---
	06/26/13	5 - 6	N	---	---	8.5	---	---	---	---
AOC13-OS12	06/26/13	0 - 0.5	N	---	---	8.1	---	---	---	---
	06/26/13	2 - 3	N	---	---	8.2	---	---	---	---
	06/26/13	2 - 3	FD	---	---	8.6	---	---	---	---
AOC13-OS13	06/26/13	0 - 0.5	N	---	---	8	---	---	---	---
	06/26/13	2 - 3	N	---	---	8	---	---	---	---
AOC13-OS14	07/25/13	0 - 0.5	N	---	---	8.8	---	---	---	---
	07/25/13	2 - 3	N	---	---	8.2	---	---	---	---
	07/25/13	2 - 3	FD	---	---	8.8	---	---	---	---
	07/25/13	5 - 6	N	---	---	8.2	---	---	---	---
AOC13-OS2	11/08/11	0 - 0.5	N	---	---	8.5	---	---	---	---
	11/08/11	2 - 3	N	---	---	7.9	---	---	---	---
	11/08/11	2 - 3	FD	---	---	7.7	---	---	---	---
	11/08/11	5 - 6	N	---	---	7.6	---	---	---	---
AOC13-OS3	11/08/11	0 - 0.5	N	---	---	8.7	---	---	---	---
	11/08/11	2 - 3	N	---	---	7.8	---	---	---	---

TABLE 3-23f

Sample Results: General Chemistry Parameters

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry						
				(mg/kg)	(mg/kg)	(pH units)	(µS/cm)	(mg/kg)	(mg/L)	(mg/kg)
Commercial Regional Screening Levels¹:				NE	47,000	NE	NE	NE	NE	NE
DTSC-SL²:				NE	NE	NE	NE	NE	NE	NE
Background³:				NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Chloride	Fluoride	pH	Specific conductance	Sulfate	Total dissolved solids	Total organic carbon
AOC13-OS4	11/08/11	0 - 0.5	N	---	---	7.9	---	---	---	---
	11/08/11	2 - 3	N	---	---	8.2	---	---	---	---
	11/08/11	5 - 6	N	---	---	8.4	---	---	---	---
AOC13-Wood	04/26/17 ^{JK}		N	---	---	5.8	---	---	---	---
BH-65	03/24/11	0 - 0.5	N	---	---	8.3	---	---	---	3,700
	03/24/11	2 - 3	N	---	---	8.5	---	---	---	4,800
	03/17/11	9 - 10	N	---	---	9.4	---	---	---	1,700
	03/17/11	14 - 15	N	---	---	9.3	---	---	---	2,400 J
	03/17/11	19 - 20	N	---	---	9.3	---	---	---	1,200
	03/17/11	29 - 30	N	---	---	9.6	---	---	---	910
	03/17/11	37 - 40	N	---	---	9.8	---	---	---	12,000
	03/17/11	49 - 50	N	---	---	9	---	---	---	4,200 J
	03/17/11	59 - 60	N	---	---	9.1	---	---	---	3,800
	03/18/11	69 - 70	N	---	---	8.7	---	---	---	2,900
	03/18/11	79 - 80	N	---	---	8.7	---	---	---	5,400 J
	03/18/11	79 - 80	FD	---	---	8.8	---	---	---	8,000 J
	03/18/11	89 - 90	N	---	---	8.4	---	---	---	3,500
	03/18/11	99 - 100	N	---	---	8.6	---	---	---	7,600
	03/18/11	109 - 110	N	---	---	8.2	---	---	---	5,800 J
	03/18/11	119 - 120	N	---	---	8.5	---	---	---	5,300
	03/19/11	129 - 130	N	---	---	7.7	---	---	---	6,300
	03/19/11	139 - 140	N	---	---	8.2	---	---	---	3,800

TABLE 3-23f

Sample Results: General Chemistry Parameters

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry						
				(mg/kg)	(mg/kg)	(pH units)	(µS/cm)	(mg/kg)	(mg/L)	(mg/kg)
Commercial Regional Screening Levels ¹ :				NE	47,000	NE	NE	NE	NE	NE
DTSC-SL ² :				NE	NE	NE	NE	NE	NE	NE
Background ³ :				NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Chloride	Fluoride	pH	Specific conductance	Sulfate	Total dissolved solids	Total organic carbon
BH-66	03/23/11	0 - 0.5	N	---	---	8.2	---	---	---	2,200
	03/23/11	2 - 3	N	---	---	8.5	---	---	---	2,400
	03/23/11	5 - 6	N	---	---	9.5	---	---	---	3,400
	04/12/11	14 - 15	N	---	---	9.8	---	---	---	2,200 J
	04/12/11	14 - 15	FD	---	---	9.2	---	---	---	2,800 J
	04/12/11	19 - 20	N	---	---	9.3	---	---	---	2,200
	04/12/11	29 - 30	N	---	---	9.8	---	---	---	2,600
	04/12/11	39 - 40	N	---	---	9.3	---	---	---	3,900
	04/12/11	49 - 50	N	---	---	9.3	---	---	---	3,100
	04/13/11	59 - 60	N	---	---	9.6	---	---	---	2,400
	04/13/11	69 - 70	N	---	---	9.2	---	---	---	1,800
	04/13/11	79 - 80	N	---	---	9.3	---	---	---	4,900
	04/13/11	89 - 90	N	---	---	9	---	---	---	1,700
	04/13/11	99 - 100	N	---	---	8.8	---	---	---	3,500
	04/13/11	109 - 110	N	---	---	9	---	---	---	4,500
	04/14/11	119 - 120	N	---	---	9	---	---	---	2,500 J
	04/14/11	119 - 120	FD	---	---	9.2	---	---	---	3,200 J
	04/14/11	129 - 130	N	---	---	8.9	---	---	---	2,900

TABLE 3-23f

Sample Results: General Chemistry Parameters

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry						
				(mg/kg)	(mg/kg)	(pH units)	(µS/cm)	(mg/kg)	(mg/L)	(mg/kg)
Commercial Regional Screening Levels ¹ :				NE	47,000	NE	NE	NE	NE	NE
DTSC-SL ² :				NE	NE	NE	NE	NE	NE	NE
Background ³ :				NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Chloride	Fluoride	pH	Specific conductance	Sulfate	Total dissolved solids	Total organic carbon
BH-67	03/17/11	0 - 0.5	N	---	---	8.6	---	---	---	4,400
	03/17/11	2 - 3	N	---	---	8.4	---	---	---	3,500
	03/17/11	5 - 6	N	---	---	9.4	---	---	---	3,500 J
	04/29/11	9 - 10	N	---	---	9.6	---	---	---	2,000 J
	04/29/11	14 - 15	N	---	---	9.1	---	---	---	3,000
	04/29/11	19 - 20	N	---	---	9.1	---	---	---	2,300
	04/29/11	29 - 30	N	---	---	9.2	---	---	---	1,600 J
	04/29/11	39 - 40	N	---	---	9.4	---	---	---	1,700
	04/29/11	39 - 40	FD	---	---	9.4	---	---	---	1,700
	04/29/11	49 - 50	N	---	---	9.2	---	---	---	1,800
	04/29/11	59 - 60	N	---	---	8	---	---	---	6,900
	04/29/11	69 - 70	N	---	---	8.4	---	---	---	1,900
	04/29/11	79 - 80	N	---	---	8.2	---	---	---	7,400
	04/29/11	89 - 90	N	---	---	8.5	---	---	---	2,500
	04/29/11	99 - 100	N	---	---	8.8	---	---	---	3,200
	04/29/11	109 - 110	N	---	---	8.2	---	---	---	42
	04/29/11	119 - 120	N	---	---	8.6	---	---	---	84
	04/30/11	129 - 130	N	---	---	8.5	---	---	---	6,600
	04/30/11	139 - 140	N	---	---	8.8	---	---	---	7,900 J
	04/30/11	139 - 140	FD	---	---	8.4	---	---	---	3,300 J
	04/30/11	149 - 150	N	---	---	8.3	---	---	---	8,700
	04/30/11	159 - 160	N	---	---	8.3	---	---	---	8,000

TABLE 3-23f

Sample Results: General Chemistry Parameters

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry						
				(mg/kg)	(mg/kg)	(pH units)	(µS/cm)	(mg/kg)	(mg/L)	(mg/kg)
Commercial Regional Screening Levels ¹ :				NE	47,000	NE	NE	NE	NE	NE
DTSC-SL ² :				NE	NE	NE	NE	NE	NE	NE
Background ³ :				NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Chloride	Fluoride	pH	Specific conductance	Sulfate	Total dissolved solids	Total organic carbon
BH-68	03/17/11	0 - 0.5	N	---	---	7.9	---	---	---	8,500 J
	03/17/11	0 - 0.5	FD	---	---	8	---	---	---	4,100 J
	03/17/11	2 - 3	N	---	---	9.6	---	---	---	1,700
	03/17/11	5 - 6	N	---	---	9.4	---	---	---	3,400
	05/13/11	9 - 10	N	---	---	8.4	---	---	---	1,000
	05/13/11	14 - 15	N	---	---	9.3	---	---	---	2,600
	05/13/11	19 - 20	N	---	---	9.3	---	---	---	3,400
	05/13/11	29 - 30	N	---	---	9.2	---	---	---	3,700
	05/13/11	39 - 40	N	---	---	9.3	---	---	---	5,800
	05/13/11	49 - 50	N	---	---	9.2	---	---	---	3,200
	05/13/11	59 - 60	N	---	---	9.2	---	---	---	8,600
	05/13/11	69 - 70	N	---	---	9.1	---	---	---	8,900
	05/13/11	79 - 80	N	---	---	9.1	---	---	---	4,700
	05/13/11	89 - 90	N	---	---	9.1	---	---	---	5,600
	05/13/11	99 - 100	N	---	---	9.1	---	---	---	4,400 J
	05/13/11	99 - 100	FD	---	---	9.1	---	---	---	5,600 J
	05/13/11	109 - 110	N	---	---	9.1	---	---	---	7,800
	05/13/11	119 - 120	N	---	---	9	---	---	---	5,300
	05/13/11	129 - 130	N	---	---	9	---	---	---	6,200
	05/14/11	139 - 140	N	---	---	8.6	---	---	---	6,400
	05/14/11	149 - 150	N	---	---	8.6	---	---	---	4,900
	05/14/11	159 - 160	N	---	---	8.4	---	---	---	3,100
PS-10	04/13/99	0	N	---	---	---	---	25	---	---
PS-18	04/13/99	0	N	---	---	---	---	224	---	---

Category 2

TABLE 3-23f

Sample Results: General Chemistry Parameters

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry						
				(mg/kg)	(mg/kg)	(pH units)	(µS/cm)	(mg/kg)	(mg/L)	(mg/kg)
Commercial Regional Screening Levels ¹ :				NE	47,000	NE	NE	NE	NE	NE
DTSC-SL ² :				NE	NE	NE	NE	NE	NE	NE
Background ³ :				NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Chloride	Fluoride	pH	Specific conductance	Sulfate	Total dissolved solids	Total organic carbon
BGCS-1	09/08/88	0.5	N	---	569	9.58	698	---	---	---
	09/08/88	1	N	---	1,695	9.53	566	---	---	---
	09/08/88	1.5	N	---	801	9.73	317	---	---	---
BGCS-2	09/08/88	0.5	N	---	600	8.64	213	---	---	---
	09/08/88	1	N	---	595	8.8	360	---	ND (300)	---
	09/08/88	1.5	N	---	719	8.7	111	---	---	---
BGCS-3	09/08/88	0.5	N	---	495	9.11	111	---	---	---
	09/08/88	1	N	---	870	8.96	435	---	320	---
	09/08/88	1.5	N	---	726	8.41	232	---	---	---
BGCS-4	09/08/88	0.5	N	---	510	8.48	329	---	---	---
	09/08/88	1	N	---	550	8.52	291	---	---	---
	09/08/88	1.5	N	---	510	8.54	345	---	---	---
BGCS-5	09/08/88	0.5	N	---	524	8.76	273	---	---	---
	09/08/88	1	N	---	657	8.79	221	---	---	---
	09/08/88	1.5	N	---	562	8.94	203	---	---	---
BGCS-6	09/08/88	0.5	N	---	595	8.78	66	---	---	---
	09/08/88	1	N	---	550	8.87	56	---	---	---
	09/08/88	1.5	N	---	595	8.78	56	---	---	---
Spill04292006_SS 1	05/02/06	0	N	1,900	---	8.06	900	750	---	---

TABLE 3-23f

Sample Results: General Chemistry Parameters

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

Y	debris sample
Ж	wood sample
*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for general chemistry parameters.

TABLE 3-23g
Sample Results: Pesticides
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC13-34	01/21/17	0 - 0.5	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
AOC13-OS2	11/08/11	0 - 0.5	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
	11/08/11	2 - 3	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	11/08/11	2 - 3	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	11/08/11	5 - 6	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
AOC13-OS3	11/08/11	2 - 3	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC13-OS4	11/08/11	2 - 3	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	11/08/11	5 - 6	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)
AOC13-PITOS1	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	07/26/11	0 - 0.5	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS2	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS3	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS6	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS7	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS8	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS9	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS10	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS11	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS12	09/27/11	0 - 0.5	N	ND (2)	7.2	6	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J
AOC13-PITOS13	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
	07/26/11	0 - 0.5	FD	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
AOC13-PITOS14	07/26/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5)	ND (50)
SD-29	02/04/17	2 - 3	N	ND (2.2)	ND (2.2)	ND (2.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.2)	ND (1.1)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.4)	ND (54) J

Notes:	
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.	
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.	
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.	
Results greater than or equal to the Commercial Screening Level are circled.	
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency
1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.	
2 Background values have not been established for pesticides.	

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC13-1	12/05/15	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/05/15	0 - 1	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/05/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-10	12/14/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/14/15	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC13-11	01/05/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/05/16	0.5 - 1	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/05/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-12	12/05/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/05/15	0 - 1	FD	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (38)
	12/05/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-13	01/09/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	98	ND (17)	---	---	123.5
	01/09/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-14	12/14/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/14/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-15	12/14/15	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	23	ND (17)	---	---	48.5
	12/14/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/14/15	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-16	01/05/16	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/05/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-17	12/08/15	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	52	ND (18)	---	---	79
	12/08/15	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	89	ND (18)	---	---	116
AOC13-18	01/06/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	0.5 - 1	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/06/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-19	01/08/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/08/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC13-2	12/05/15	0 - 1	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	12/05/15	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC13-20	01/08/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	45	ND (18)	---	---	72
	01/08/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	47	ND (18)	---	---	74
AOC13-21	01/08/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/08/16	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/08/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-22	01/08/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	30	36	ND (17)	ND (17)	83
	01/08/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	17	ND (17)	ND (17)	42.5
AOC13-23	01/08/16	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	31	45	---	---	94
	01/08/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	29	41	---	---	88
AOC13-24	01/08/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/08/16	0 - 0.5	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/08/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-25	01/09/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	56	42	---	---	115
	01/09/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	49	30	---	---	96
AOC13-26	01/09/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/09/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/09/16	2 - 3	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	20	19	---	---	56
AOC13-27	01/09/16	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	38	ND (18)	---	---	65
	01/09/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	140	60	---	---	217
AOC13-28	01/09/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	58	ND (17)	---	---	83.5
	01/09/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-29	01/09/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/09/16	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/09/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	23	---	---	48.5
AOC13-3	12/14/15	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	37	ND (17)	---	---	62.5
	12/14/15	2 - 3	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (38)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC13-30	01/07/16	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	260	170	---	---	448
	01/07/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	110	53	---	---	181
AOC13-31	01/07/16	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/07/16	0 - 0.5	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/07/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	53	ND (17)	---	---	78.5
AOC13-32	12/04/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/04/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-33	02/18/17 ^Y		N	ND (18)	ND (35)	ND (18)	ND (18) J	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	02/15/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	2,600 J	920	---	---	3,537
	02/15/17	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	1,100 J	710	---	---	1,827
	02/15/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	650	ND (17)	---	---	675.5
AOC13-33-Asphalt	04/26/17 ^ß		N	ND (18) J	ND (35) J	ND (18) J	ND (18) J	ND (18) J	30 J	ND (18) J	---	---	---
AOC13-4	12/14/15	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/14/15	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/14/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-5	01/05/16	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/05/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-6	01/05/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/05/16	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-7	12/14/15	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	120	---	---	147
	12/14/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-8	12/05/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/05/15	0 - 1	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/05/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-9	01/09/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	250	ND (17)	---	---	275.5
	01/09/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-Asphalt1	04/26/17 ^ß		N	ND (17) J	ND (33) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	---	---	---
AOC13-Asphalt2	04/26/17 ^ß		N	ND (18) J	ND (36) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	ND (18) J	---	---	---
AOC13-Debris	04/26/17 ^Y		N	ND (18) J	ND (35)	ND (18)	ND (18)	ND (18)	2,800	1,200	---	---	4,018

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC13-OS11	06/26/13	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	120	ND (17)	---	---	145.5
	06/26/13	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	80	ND (17)	---	---	105.5
	06/26/13	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	19	ND (17)	---	---	44.5
AOC13-OS12	06/26/13	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	53	60	---	---	130
	06/26/13	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	40	ND (17)	---	---	65.5
	06/26/13	2 - 3	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-OS13	06/26/13	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	19	18	---	---	54
	06/26/13	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-OS14	07/25/13	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	07/25/13	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	07/25/13	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	07/25/13	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC13-OS15	04/25/17	3 - 3.1	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	46	---	---	73
AOC13-OS16	04/25/17	2.8 - 2.9	N	ND (34) J	ND (69)	ND (34)	ND (34)	ND (34)	ND (34)	ND (34)	---	---	ND (68)
AOC13-OS17	04/26/17	3.8 - 3.9	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	170	---	---	197
AOC13-OS18	04/25/17	3.8 - 3.9	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	200	---	---	225.5
AOC13-OS19	04/26/17	4.4 - 4.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	52	---	---	77.5
AOC13-OS2	11/08/11	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	150	ND (17)	ND (17)	ND (17)	175.5
	11/08/11	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	57	ND (17)	ND (17)	ND (17)	82.5
	11/08/11	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	58	ND (17)	ND (17)	ND (17)	83.5
	11/08/11	5 - 6	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	67	ND (17)	ND (17)	ND (17)	92.5
AOC13-OS3	11/08/11	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC13-OS4	11/08/11	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	30	ND (17)	ND (17)	ND (17)	55.5
	11/08/11	5 - 6	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	170	ND (17)	ND (17)	ND (17)	195.5
AOC13-PITOS1	07/26/11	0 - 0.5	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	2,400 J	ND (16)	ND (16)	ND (16)	2,424
	07/26/11	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	2,100 J	ND (17)	ND (17)	ND (17)	2,126
	07/26/11	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	74	ND (17)	ND (17)	ND (17)	99.5
	07/26/11	9 - 9.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC13-PITOS2	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	370 J	ND (17)	ND (17)	ND (17)	395.5
	07/26/11	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	110	ND (17)	ND (17)	ND (17)	135.5
	07/26/11	4 - 4.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	73	ND (17)	ND (17)	ND (17)	98.5
AOC13-PITOS3	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	92	ND (17)	ND (17)	ND (17)	117.5
	07/26/11	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	57	ND (17)	ND (17)	ND (17)	82.5
	07/26/11	2 - 3	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	29	ND (17)	ND (17)	ND (17)	54.5
	07/26/11	6 - 6.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	58	ND (17)	ND (17)	ND (17)	83.5
AOC13-PITOS6	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	210	ND (17)	ND (17)	ND (17)	235.5
	07/26/11	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	370	ND (17)	ND (17)	ND (17)	395.5
	07/26/11	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	91	ND (17)	ND (17)	ND (17)	116.5
	07/26/11	7 - 7.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	50	ND (17)	ND (17)	ND (17)	75.5
AOC13-PITOS7	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	140	ND (17)	ND (17)	165.5
	07/26/11	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	2 - 3	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	8 - 8.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC13-PITOS8	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	24	ND (17)	ND (17)	ND (17)	49.5
	07/26/11	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	9 - 10	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	11 - 11.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC13-PITOS9	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	36	ND (17)	ND (17)	ND (17)	61.5
	07/26/11	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	5 - 6	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	28	ND (17)	ND (17)	ND (17)	53.5
AOC13-PITOS10	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	2 - 3	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	110	ND (16)	ND (16)	ND (16)	134
	07/26/11	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	7 - 7.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC13-PITOS11	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	110	ND (17)	ND (17)	135.5
	07/26/11	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	2 - 3	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	7.5 - 8	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	30	ND (17)	ND (17)	55.5
AOC13-PITOS12	09/27/11	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17) J	ND (17) J	ND (34)
	09/27/11	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17) J	ND (17) J	ND (34)
	09/27/11	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17) J	ND (17) J	ND (34)
	09/27/11	9 - 9.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17) J	ND (17) J	ND (34)
	09/27/11	11 - 11.5	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16) J	ND (16) J	ND (32)
AOC13-PITOS13	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	07/26/11	0 - 0.5	FD	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	70	ND (17)	ND (17)	ND (17)	95.5
	07/26/11	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	62	ND (17)	ND (17)	ND (17)	87.5
	07/26/11	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	84	ND (17)	ND (17)	ND (17)	109.5
	07/26/11	9 - 9.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC13-PITOS14	07/26/11	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	30	ND (17)	ND (17)	55.5
	07/26/11	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	150	ND (17)	ND (17)	ND (17)	175.5
	07/26/11	4 - 4.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	120	ND (17)	ND (17)	ND (17)	145.5
AOC13-Tar	04/26/17 Ψ		N	ND (33) J	ND (67) J	ND (33) J	ND (33) J	ND (33) J	ND (33) J	ND (33) J	---	---	ND (66)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
BH-65	03/24/11	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	03/24/11	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	48	ND (17)	---	---	73.5
	03/17/11	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/17/11	14 - 15	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/17/11	19 - 20	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/17/11	29 - 30	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/17/11	37 - 40	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/17/11	49 - 50	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	03/17/11	59 - 60	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/18/11	69 - 70	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/18/11	79 - 80	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/18/11	79 - 80	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/18/11	89 - 90	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	03/18/11	99 - 100	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/18/11	109 - 110	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	03/18/11	119 - 120	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/19/11	129 - 130	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/19/11	139 - 140	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
BH-66	03/23/11	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	03/23/11	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	03/23/11	5 - 6	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	04/12/11	14 - 15	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/12/11	14 - 15	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/12/11	19 - 20	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	38	ND (17)	---	---	63.5
	04/12/11	29 - 30	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/12/11	39 - 40	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/12/11	49 - 50	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/13/11	59 - 60	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/13/11	69 - 70	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	04/13/11	79 - 80	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/13/11	89 - 90	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	04/13/11	99 - 100	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	04/13/11	109 - 110	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/14/11	119 - 120	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/14/11	119 - 120	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/14/11	129 - 130	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
BH-67	03/17/11	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	03/17/11	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/17/11	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	04/29/11	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	14 - 15	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	19 - 20	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	29 - 30	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	39 - 40	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	39 - 40	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	49 - 50	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	59 - 60	N	ND (19)	ND (39)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (38)
	04/29/11	69 - 70	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	79 - 80	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	04/29/11	89 - 90	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	04/29/11	99 - 100	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	109 - 110	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/29/11	119 - 120	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/30/11	129 - 130	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/30/11	139 - 140	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/30/11	139 - 140	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/30/11	149 - 150	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	04/30/11	159 - 160	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Commercial Screening Level ¹ : Background ² :				Polychlorinated biphenyls (µg/kg)									
				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
BH-68	03/17/11	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	03/17/11	0 - 0.5	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	03/17/11	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	03/17/11	5 - 6	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (38)
	05/13/11	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	05/13/11	14 - 15	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	05/13/11	19 - 20	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	05/13/11	29 - 30	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	05/13/11	39 - 40	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	05/13/11	49 - 50	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	05/13/11	59 - 60	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	05/13/11	69 - 70	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	05/13/11	79 - 80	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	05/13/11	89 - 90	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	05/13/11	99 - 100	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	05/13/11	99 - 100	FD	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	05/13/11	109 - 110	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	05/13/11	119 - 120	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	05/13/11	129 - 130	N	ND (17)	ND (35)	ND (17)	31	ND (17)	ND (17)	ND (17)	---	---	56.5
	05/14/11	139 - 140	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	05/14/11	149 - 150	N	ND (17) J	ND (35) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	---	---	ND (34)
	05/14/11	159 - 160	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
PA-02	11/09/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	110	ND (17)	---	---	135.5
PA-22	01/27/16	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
PA-OS3	12/10/14	0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	230	ND (17)	---	---	255.5
	12/10/14	3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	22	ND (17)	---	---	47.5
SD-24	03/09/16	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	29	33	---	---	79
	03/09/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
SD-28	02/05/17	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	02/05/17	2 - 3	N	ND (18)	ND (37)	ND (18)	ND (18) J	ND (18)	34	ND (18)	---	---	61
	02/05/17	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18) J	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	02/05/17	9 - 10	N	ND (18)	ND (35)	ND (18)	ND (18) J	ND (18)	ND (18)	ND (18)	---	---	ND (36)
SD-29	02/04/17	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18) J	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	02/04/17	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18) J	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	02/05/17	4.5 - 5	N	ND (18)	ND (35)	ND (18)	ND (18) J	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	02/05/17	7.5 - 8	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-31	02/15/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	950 J	280 J	---	---	1,247
	02/15/17	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	1,100 J	400 J	---	---	1,517
	02/15/17	1 - 2	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	1,100	520	---	---	1,637
	02/15/17	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	39	ND (17)	---	---	64.5
SD-07	12/17/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/17/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/18/15	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/18/15	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/18/15	9 - 10	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-OS30	07/18/17	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	310	140	---	---	467
	07/18/17	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	130 J	ND (18)	---	---	157
	07/18/17	4 - 5	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	120	150	---	---	288
	07/18/17	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	160 J	210 J	---	---	388
	07/18/17	7 - 8	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	110 J	96 J	---	---	224
SD-OS34	12/02/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	12/02/16	0.5 - 1	N	ND (23)	ND (47)	ND (23)	ND (23)	ND (23)	480	ND (23)	---	---	514.5
	12/02/16	1 - 1.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	44	---	---	69.5
	12/03/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	38	22	---	---	77
	12/03/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/03/16	5 - 6	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	18	ND (17)	---	---	43.5

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
SD-OS34A	12/02/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	73	ND (17)	---	---	98.5
	12/02/16	1 - 1.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/02/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/02/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-OS35	12/04/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	130	53	---	---	200
	12/04/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	12/05/16	4.5 - 5.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-OS35A	12/05/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/05/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/05/16	4.5 - 5.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	120	ND (17)	---	---	145.5
SD-OS36	12/01/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	12/01/16	2.5 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/01/16	5 - 6	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-OS38	12/13/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	68	94	---	---	179
	12/13/16	3 - 4	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
SD-OS39	11/29/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	95 J	ND (17) J	---	---	120.5
	11/29/16	0 - 0.5	FD	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	260 J	72 J	---	---	348
	11/29/16	2.5 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	11/29/16	2.5 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-OS40	12/06/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/06/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/06/16	5 - 5.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/09/16	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	12/09/16	6 - 7	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	27	ND (19)	---	---	55.5
	12/11/16	7 - 8	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	12/09/16	7 - 8	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/09/16	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
SD-OS41	12/13/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	22	58	---	---	97
	12/13/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/14/16	5 - 6	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	110	53	---	---	182
	12/14/16	8 - 8.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	20	---	---	47
SD-OS42	07/17/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	210	ND (17)	---	---	235.5
	07/17/17	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	62	ND (17)	---	---	87.5
	07/17/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	07/17/17	3 - 4	N	ND (39)	ND (79)	ND (39)	ND (39)	ND (39)	1,900	ND (39)	---	---	1,959
	07/17/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-OS43	07/18/17	0 - 0.5	N	ND (16)	ND (33)	ND (16)	ND (16)	ND (16)	89	ND (16)	---	---	113
	07/18/17	2 - 3	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	07/18/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
SD-OS44	07/19/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	07/19/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	07/19/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
TD-3	11/12/15	0	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	690	370	---	---	1,078
TD-4	11/12/15	0	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
Category 2													
Spill03012004_Sam	05/21/04	0	N	---	---	---	---	---	---	ND (300)	---	---	ND (150)
Spill03012004_Sam	05/21/04	0	N	---	---	---	---	---	---	ND (300)	---	---	ND (150)
Category 3													
COM-1	07/21/93	1.7	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
COM-2	07/21/93	1	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
COM-6	07/21/93	1	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
COM-9	07/21/93	1.5	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
COM-11	07/21/93	2.5	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
COM-12	07/21/93	1.5	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
COM-14	07/21/93	1.5	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
COM-17	07/21/93	1.7	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
COM-20	07/21/93	2	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
G-1	07/21/93	1	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
G-2	07/21/93	1.7	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
G-3	07/21/93	1	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
G-4	07/21/93	0.83	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *
	07/21/93	2	N	ND (1,000)	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	ND (1,000) *	---	---	ND (2,000) *

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

β	black sandy material
Y	debris sample
ψ	tar sample
*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

TABLE 3-23h

Sample Results: Polychlorinated Biphenyls

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-23i
Sample Results: Dioxins and Furans
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human			
Category 1																								
AOC13-10	12/14/15	0 - 0.5	N	38 J	6.2 J	ND (0.59) J	ND (0.38) J	ND (0.74) J	ND (0.38) J	ND (0.57) J	ND (0.37) J	ND (0.68) J	ND (0.59) J	ND (0.47) J	ND (19) J	ND (1.3) J	ND (0.19) J	ND (0.36) J	380 J	ND (6) J	2.3			
	12/14/15	2 - 3	N	ND (7) J	ND (1.1) J	ND (1.3) J	ND (0.59) J	ND (0.68) J	ND (0.59) J	ND (0.65) J	ND (0.58) J	ND (0.79) J	ND (0.76) J	ND (0.54) J	ND (20) J	ND (2.2) J	ND (0.15) J	ND (0.21) J	56 J	ND (1.6) J	2.1			
AOC13-11	01/05/16	0 - 0.5	N	47 J	8.6 J	ND (0.39) J	ND (0.49) J	ND (1.3) J	ND (1.7) J	ND (1) J	ND (0.48) J	ND (0.41) J	ND (0.38) J	ND (0.73) J	ND (7.2) J	ND (1.7) J	ND (0.11) J	ND (0.35) J	350 J	6.2 J	1.8			
	01/05/16	2 - 3	N	ND (1.2) J	ND (0.47) J	ND (0.11) J	ND (0.09) J	ND (0.45) J	ND (0.36) J	ND (0.43) J	ND (0.085) J	ND (0.52) J	ND (0.2) J	2 J	ND (9.2) J	2.1 J	ND (0.056) J	ND (0.064) J	ND (8.1) J	ND (0.19) J	1.4			
AOC13-12	12/05/15	2 - 3	N	49 J	ND (2) J	ND (0.35) J	ND (0.37) J	ND (0.97) J	ND (0.36) J	ND (0.29) J	ND (0.35) J	ND (0.37) J	ND (0.15) J	ND (1.3) J	ND (6.8) J	ND (0.54) J	ND (0.11) J	1.6 J	320 J	9.4 J	1.5			
AOC13-13	01/09/16	0 - 0.5	N	360 J	42 J	ND (2.8) J	ND (1.3) J	ND (0.77) J	11 J	ND (3.2) J	4.9 J	ND (0.89) J	ND (0.79) J	ND (0.77) J	ND (50) J	ND (0.8) J	ND (0.3) J	ND (0.37) J	3,500 J	82 J	10			
	01/09/16	2 - 3	N	ND (11) J	ND (1.2) J	ND (0.44) J	ND (0.29) J	ND (0.26) J	ND (0.49) J	ND (0.25) J	ND (0.34) J	ND (0.3) J	ND (0.24) J	ND (0.17) J	ND (1.4) J	ND (0.18) J	ND (0.11) J	ND (0.15) J	120 J	ND (2.9) J	0.48			
AOC13-15	12/14/15	0 - 0.5	N	170 J	17 J	ND (0.87) J	2.2 J	1.4 J	5.3 J	1.9 J	ND (3.3) J	ND (0.37) J	ND (1) J	ND (0.5) J	ND (13) J	0.83 J	ND (0.11) J	0.67 J	1,400 J	18 J	5.1			
	12/14/15	2 - 3	N	ND (2.5) J	ND (0.61) J	ND (0.14) J	ND (0.17) J	ND (0.41) J	ND (0.2) J	ND (0.39) J	ND (0.17) J	ND (0.47) J	ND (0.21) J	ND (0.38) J	ND (3.3) J	ND (0.98) J	ND (0.09) J	ND (0.14) J	ND (27) J	ND (0.22) J	ND (0.59)			
	12/14/15	5 - 6	N	2.7 J	ND (1.1) J	ND (0.84) J	0.71 J	ND (0.68) J	ND (1.1) J	ND (0.65) J	ND (0.72) J	ND (0.78) J	ND (0.73) J	1.2 J	ND (3.3) J	1.7 J	0.36 J	ND (0.34) J	ND (32) J	2.1 J	1.8			
AOC13-16	01/05/16	0 - 1	N	3.5 J	ND (0.52) J	ND (0.083) J	ND (0.15) J	ND (0.055) J	ND (0.22) J	ND (0.051) J	ND (0.057) J	ND (0.16) J	ND (0.052) J	ND (0.11) J	ND (0.68) J	ND (0.12) J	ND (0.07) J	ND (0.55) J	48 J	ND (0.78) J	0.23			
	01/05/16	2 - 3	N	11 J	2 J	ND (0.28) J	ND (0.13) J	ND (0.17) J	ND (0.56) J	ND (0.16) J	ND (0.12) J	ND (0.2) J	ND (0.063) J	ND (0.22) J	ND (13) J	ND (0.24) J	ND (0.063) J	ND (0.25) J	81 J	9.1 J	0.99			
AOC13-17	12/08/15	0 - 0.5	N	5,500 J	730 J	48 J	19 J	23 J	120 J	18 J	38 J	7.1 J	12 J	4.8 J	ND (920) J	ND (5.6) J	1.7 J	3.9 J	60,000 J	2,100 J	160			
	12/08/15	2 - 3	N	3,400 J	570 J	34 J	29 J	26 J	120 J	38 J	53 J	7.1 J	19 J	4.9 J	ND (600) J	7.4 J	ND (1.9) J	1.4 J	31,000 J	730 J	130			
AOC13-18	01/06/16	0 - 0.5	N	460 J	33 J	ND (2.2) J	2.9 J	ND (1) J	9.1 J	ND (0.92) J	ND (5.1) J	ND (1.2) J	ND (1.5) J	ND (1) J	ND (46) J	ND (0.34) J	ND (0.12) J	ND (0.67) J	5,100 J	89 J	11			
AOC13-19	01/08/16	0 - 0.5	N	120 J	9.3 J	ND (0.55) J	ND (1.4) J	ND (0.22) J	4 J	ND (0.38) J	ND (0.56) J	ND (0.25) J	ND (0.89) J	ND (0.2) J	ND (17) J	ND (0.48) J	ND (0.19) J	1.4 J	1,100 J	21 J	3.8			
	01/08/16	2 - 3	N	12 J	ND (1.5) J	ND (0.18) J	ND (0.26) J	ND (0.38) J	ND (0.25) J	ND (0.34) J	ND (0.25) J	ND (0.44) J	ND (0.29) J	ND (0.21) J	ND (2.1) J	ND (0.21) J	ND (0.13) J	ND (0.2) J	110 J	ND (2.9) J	0.62			
AOC13-22	01/08/16	0 - 0.5	N	2,100 J	150 J	ND (11) J	14 J	8.9 J	50 J	8.3 J	23 J	ND (3) J	6 J	ND (3.5) J	ND (300) J	4.4 J	ND (0.29) J	3 J	24,000 J	370 J	63			
	01/08/16	2 - 3	N	2,700 J	210 J	17 J	16 J	14 J	67 J	12 J	30 J	5 J	10 J	ND (2.3) J	ND (320) J	5.2 J	ND (0.76) J	ND (1.7) J	32,000 J	390 J	81			
AOC13-23	01/08/16	0 - 0.5	N	410 J	18 J	ND (0.75) J	ND (1.7) J	ND (1.3) J	7.1 J	ND (1.9) J	ND (2.7) J	ND (0.77) J	ND (1.2) J	ND (1.3) J	ND (25) J	ND (1.4) J	ND (0.3) J	ND (0.33) J	3,400 J	35 J	8.7			
	01/08/16	2 - 3	N	400 J	17 J	1.2 J	ND (2.3) J	ND (0.82) J	8.9 J	1.7 J	ND (2.2) J	ND (0.95) J	ND (1.3) J	ND (0.7) J	ND (28) J	ND (0.73) J	ND (1) J	ND (0.5) J	3,300 J	37 J	9.3			
AOC13-25	01/09/16	0 - 0.5	N	1,500 J	45 J	3.3 J	5.5 J	2.7 J	36 J	1.8 J	14 J	ND (0.69) J	ND (2.1) J	1.9 J	ND (81) J	ND (0.44) J	ND (0.086) J	ND (0.89) J	10,000 J	82 J	30			
AOC13-27	01/09/16	0 - 0.5	N	ND (64) J	ND (5.9) J	ND (6.6) J	ND (8.4) J	ND (4.7) J	ND (8.1) J	ND (4.2) J	ND (8) J	ND (5.4) J	ND (5.8) J	ND (2.1) J	ND (4.7) J	ND (2.1) J	ND (6.8) J	ND (10) J	400 J	ND (5.9) J	9.8			
	01/09/16	2 - 3	N	990 J	ND (4.4) J	ND (5) J	9.3 J	4.2 J	27 J	ND (4.4) J	15 J	ND (0.97) J	ND (5.5) J	ND (0.37) J	ND (54) J	ND (1.7) J	ND (0.66) J	ND (1.1) J	8,000 J	64 J	24			
AOC13-28	01/09/16	0 - 0.5	N	1,400 J	140 J	11 J	9.6 J	9 J	40 J	4.5 J	19 J	ND (1.6) J	7.2 J	ND (2) J	ND (190) J	2.8 J	ND (1.2) J	1.7 J	16,000 J	360 J	47			
	01/09/16	2 - 3	N	200 J	11 J	0.84 J	ND (0.85) J	1.5 J	ND (3.8) J	ND (0.82) J	1.9 J	ND (0.16) J	ND (0.38) J	0.56 J	ND (16) J	0.57 J	ND (0.076) J	ND (0.32) J	2,100 J	22 J	4.6			
AOC13-30	01/07/16	0 - 0.5	N	14,000 J	1,100 J	93 J	40 J	62 J	290 J	27 J	76 J	22 J	20 J	11 J	ND (3,000) J	21 J	ND (2.7) J	ND (3.1) J	130,000 J	3,700 J	420			
	01/07/16	2 - 3	N	380 J	44 J	3.7 J	ND (1.8) J	ND (2.2) J	11 J	2.7 J	3.2 J	ND (0.44) J	1.2 J	ND (0.66) J	ND (77) J	ND (0.74) J	ND (0.16) J	ND (0.17) J	4,400 J	95 J	13			
AOC13-31	01/07/16	0 - 0.5	N	4,300 J	220 J	18 J	14 J	22 J	81 J	ND (6.2) J	27 J	9.5 J	6.3 J	ND (3.7) J	ND (580) J	9.8 J	ND (0.75) J	3.9 J	43,000 J	520 J	110			
	01/07/16	2 - 3	N	3,600 J	270 J	18 J	19 J	18 J	87 J	ND (9.8) J	33 J	5.8 J	12 J	6.8 J	ND (510) J	ND (4.9) J	ND (1.7) J	ND (0.13) J	47,000 J	620 J	110			
AOC13-33	02/15/17	0 - 0.5	N	62,000	4,900	460	380	420	1,900	260	760	96	320	69	ND (11,000)	120	69	19	680,000 J	14,000	2,200			
	02/15/17	0 - 0.5	FD	46,000 J	4,100	310	380	320	1,600	300	720	92	340	65	ND (7,500)	130	66	ND (22)	380,000 J	9,700	1,800			
	02/15/17	2 - 3	N	18,000	1,900	150 J	88	110 J	400	75	160 J	24	48	ND (14)	ND (2,500)	ND (26)	ND (0.3)	15	140,000	5,700	510			
AOC13-33-Asphalt	04/26/17		N	1,900	ND (9.2)	ND (10)	ND (7.8)	ND (12)	ND (7.8)	ND (11)	ND (7.5)	ND (13)	ND (16)	ND (7.1)	ND (12)	ND (7.3)	ND (4.8)	ND (6.1)	20,000	340	41			

TABLE 3-23i
Sample Results: Dioxins and Furans
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
AOC13-4	12/14/15	0 - 0.5	N	6 J	ND (1.1) J	ND (0.37) J	ND (0.15) J	ND (0.38) J	ND (0.25) J	ND (0.37) J	ND (0.15) J	ND (0.44) J	ND (0.23) J	ND (0.22) J	ND (2.1) J	ND (0.23) J	ND (0.066) J	ND (0.13) J	56 J	ND (0.55) J	0.47
	12/14/15	2 - 3	N	3.2 J	ND (0.18) J	ND (0.22) J	ND (0.077) J	ND (0.058) J	ND (0.077) J	ND (0.056) J	ND (0.075) J	ND (0.067) J	ND (0.086) J	ND (0.077) J	ND (0.6) J	ND (0.18) J	ND (0.062) J	ND (0.05) J	ND (32)	0.93 J	0.19
AOC13-7	12/14/15	0 - 0.5	N	300 J	35 J	3.6 J	3.8 J	ND (0.68) J	10 J	ND (4.4) J	ND (6.2) J	ND (0.79) J	ND (2.2) J	ND (2.9) J	ND (27) J	ND (2.3) J	ND (0.27) J	ND (0.39) J	2,700 J	40 J	9.2
	12/14/15	2 - 3	N	7.4 J	1.6 J	ND (0.52) J	ND (0.45) J	ND (0.57) J	ND (0.23) J	ND (0.54) J	ND (0.22) J	ND (0.66) J	ND (0.41) J	0.86 J	ND (1.7) J	1.1 J	ND (0.17) J	ND (0.17) J	69 J	ND (2.3) J	0.99
AOC13-9	01/09/16	0 - 0.5	N	3,100 J	260 J	22 J	10 J	16 J	68 J	ND (5) J	16 J	7 J	ND (4.4) J	ND (1.6) J	ND (430) J	4.9 J	ND (0.8) J	ND (0.62) J	32,000 J	710 J	81
	01/09/16	2 - 3	N	ND (9.6) J	ND (2.8) J	ND (0.38) J	ND (0.19) J	ND (0.67) J	ND (0.18) J	ND (0.62) J	ND (0.15) J	ND (0.77) J	ND (0.33) J	ND (0.43) J	ND (3.9) J	ND (1.2) J	ND (0.2) J	ND (0.35) J	110 J	8.8 J	0.89
AOC13-Asphalt1	04/26/17		N	ND (240) J	ND (19) J	ND (21) J	ND (19) J	ND (27) J	ND (26) J	ND (25) J	ND (25) J	ND (30) J	ND (42) J*	ND (16) J	120 J	ND (16) J	ND (18) J	ND (12) J	ND (2,200) J	ND (73) J	55
AOC13-Asphalt2	04/26/17		N	ND (1,600) J	ND (470) J	260 J	ND (240) J	ND (220) J	ND (240) J	ND (350) J	ND (230) J	ND (240) J	ND (440) J*	ND (150) J	ND (440) J	ND (170) J	ND (180) J*	ND (160) J	22,000 J	ND (1,800) J	460
AOC13-Debris	04/26/17		N	1,100,000 J	110,000 J	9,600 J	3,400 J	7,600 J	45,000 J	ND (1,800) J	5,600 J	3,600 J	1,300 J	1,600 J	ID (700,000)	3,000 J	ND (140) J*	730 J	550,000 J	250,000 J	56,000
AOC13-OS19	04/26/17	4.4 - 4.5	N	ND (31)	ND (5.3)	ND (9.9)	ND (11)	ND (13)	ND (11)	ND (12)	ND (11)	ND (15)	ND (14)	ND (6)	ND (13)	ND (6.2)	ND (6.5)	ND (7.1)	ND (200) J	ND (33)	ND (16)
AOC13-Tar	04/26/17		N	ND (520) J	ND (480) J	ND (240) J	ND (690) J	ND (760) J	ND (690) J	ND (710) J	ND (670) J	ND (840) J	ND (1,200) J*	ND (790) J	ND (770) J	ND (820) J	ND (520) J*	ND (990) J	ND (5,000) J	ND (1,200) J	ND (1,300) *
BH-65	03/24/11	0 - 0.5	N	1,400	ND (110)	6.3 J	ND (3.3)	5.8 J	41	ND (3.6)	15	ND (2.4)	ND (1.6)	ND (1.5)	4.4 J	2.6 J	0.54 J	0.95 J	11,000	230	27
	03/24/11	2 - 3	N	510	ND (63)	3.2 J	ND (2.1)	3.4 J	13	ND (3)	4 J	1.4 J	ND (0.94)	ND (0.78)	2.7 J	1.2 J	ND (0.088)	ND (0.6)	6,800	80	11
BH-66	03/23/11	0 - 0.5	N	39	ND (5.3)	ND (0.42)	0.31 J	ND (0.29)	ND (1.2)	ND (0.28)	ND (0.41)	ND (0.1)	ND (0.21)	ND (0.076)	0.4 J	ND (0.19)	ND (0.055)	0.19 J	530	12 J	0.95
BH-67	03/17/11	0 - 0.5	N	0.66 J	ND (0.61)	ND (0.097)	ND (0.1)	ND (0.033)	ND (0.09)	ND (0.24)	ND (0.068)	ND (0.039)	ND (0.035)	ND (0.042)	0.11 J	ND (0.057)	ND (0.024)	ND (0.27)	ND (4.5)	ND (0.35)	0.1
	03/17/11	2 - 3	N	0.28 J	ND (0.26)	ND (0.082)	ND (0.099)	ND (0.1)	ND (0.13)	ND (0.15)	ND (0.13)	ND (0.19)	ND (0.18)	0.25 J	ND (0.036)	ND (0.16)	ND (0.15)	ND (0.33)	ND (0.9)	ND (0.22)	0.26
	03/17/11	5 - 6	N	0.27 J	ND (0.21)	ND (0.094)	0.15 J	ND (0.16)	ND (0.18)	ND (0.13)	0.16 J	ND (0.15)	ND (0.22)	0.33 J	ND (0.12)	0.27 J	ND (0.15)	ND (0.35)	ND (1)	ND (0.22)	0.37
BH-68	03/17/11	0 - 0.5	N	0.68 J	ND (0.76)	ND (0.29)	0.63 J	ND (0.64)	ND (0.58)	ND (0.75)	0.59 J	ND (0.42)	ND (0.68)	0.72 J	0.73 J	0.91 J	ND (0.18)	ND (0.33)	ND (3.2)	ND (0.38)	1.1
	03/17/11	0 - 0.5	FD	0.73 J	0.82 J	ND (0.065)	ND (0.11)	ND (0.13)	ND (0.05)	0.46 J	0.16 J	ND (0.11)	ND (0.26)	ND (0.17)	0.35 J	0.56 J	ND (0.13)	ND (0.48)	7.4 J	ND (0.4)	0.52
SD-24	03/09/16	0 - 1	N	220 J	ND (17) J	ND (1.3) J	ND (3.4) J	ND (1.5) J	ND (7.6) J	ND (1.3) J	ND (5.8) J	ND (1.8) J	ND (2.1) J	ND (1.1) J	ND (25) J	ND (1.8) J	ND (0.32) J	ND (1.5) J	2,100 J	39 J	6.8
SD-28	02/05/17	0 - 0.5	N	41	4.1 J	ND (0.61)	ND (0.53)	ND (0.23)	ND (0.51)	ND (0.21)	ND (0.5)	ND (0.27)	ND (0.31)	ND (0.17)	ND (4.3)	ND (0.17)	ND (0.11)	ND (0.25)	340	8.1 J	1.1
	02/05/17	2 - 3	N	320	32	2.5 J	1.4 J	1.4 J	8.3 J	1 J	3 J	0.75 J	ND (1.1)	ND (0.31)	ND (77)	0.79 J	ND (0.14)	0.7 J	3,200	77	11
SD-31	02/15/17	0 - 0.5	N	12,000	1,000	86	62	43	250	31	110	13	37	ND (7.5)	ND (1,800)	15	ND (4.6)	ND (8.3)	120,000	3,200	350
SD-OS34	12/02/16	0 - 0.5	N	37,000	2,400	120	140	120	620	95	280	21	68	15	ND (1,400)	24	7.8	9.3	350,000	6,800	780

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

- ß
- black sandy material
- Y
- debris sample
- ψ
- tar sample
- *
- Reporting limits greater than or equal to the interim screening level.
-
- not analyzed
- µg/kg
- micrograms per kilogram
- ft bgs
- feet below ground surface
- ng/kg
- nanograms per kilogram

TABLE 3-23i
Sample Results: Dioxins and Furans
AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are not established or not applicable.

TABLE 3-23j

Constituent Concentrations in Soil Compared to Screening Values

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	29	49 / 51 (96%)	2,200	26	(5.58)	NA	(NA)	5	(220)
Metals										
Antimony	mg/kg	100	11 / 316 (3.5%)	10	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	100	314 / 316 (99%)	50	1	(11)	NA	(NA)	1	(0.36) *
Arsenic, STLC	mg/L	1	1 / 1 (100%)	0.24	NA	(NE)	NA	(NA)	NA	(NE)
Barium	mg/kg	100	316 / 316 (100%)	1,000	5	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	100	25 / 316 (7.9%)	1	2	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	100	24 / 316 (7.6%)	26	12	(1.1)	NA	(NA)	3	(7.3)
Cadmium, STLC	mg/L	1	1 / 1 (100%)	0.072	NA	(NE)	NA	(NA)	NA	(NE)
Chromium, Hexavalent	mg/kg	103	85 / 318 (27%)	12.2	29	(0.83)	NA	(NA)	5	(6.3)
Chromium, total	mg/kg	109	326 / 327 (100%)	780	35	(39.8)	NA	(NA)	0	(170,000)
Chromium-STLC	mg/L	1	1 / 1 (100%)	2.9	NA	(NE)	NA	(NA)	NA	(NE)
Cobalt	mg/kg	100	311 / 316 (98%)	27	11	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	109	303 / 327 (93%)	830	72	(16.8)	NA	(NA)	0	(47,000)
Copper, STLC	mg/L	1	1 / 1 (100%)	1.5	NA	(NE)	NA	(NA)	NA	(NE)
Lead	mg/kg	100	315 / 316 (100%)	1,100	80	(8.39)	NA	(NA)	7	(320)
Lead, STLC	mg/L	1	1 / 1 (100%)	2	NA	(NE)	NA	(NA)	NA	(NE)
Mercury	mg/kg	117	77 / 333 (23%)	25	NA	(NE)	NA	(NA)	1	(4.5)
Mercury, dissolved	mg/L	3	3 / 3 (100%)	0.005	NA	(NE)	NA	(NA)	NA	(NE)
Mercury, STLC	mg/L	1	0 / 1 (0%)	ND (0.0005)	NA	(NE)	NA	(NA)	NA	(NE)
Molybdenum	mg/kg	100	69 / 316 (22%)	220	40	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	109	327 / 327 (100%)	210	20	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	100	15 / 316 (4.7%)	3	4	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	100	5 / 316 (1.6%)	1	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	100	13 / 316 (4.1%)	5.9	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	100	316 / 316 (100%)	63	6	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	109	327 / 327 (100%)	2,200	50	(58)	NA	(NA)	0	(350,000)

TABLE 3-23j

Constituent Concentrations in Soil Compared to Screening Values

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	20	25 / 25 (100%)	12,000	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	20	25 / 25 (100%)	33,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	22	27 / 27 (100%)	23,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	20	25 / 25 (100%)	8,100	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	22	27 / 27 (100%)	350	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	20	25 / 25 (100%)	4,100	0	(4,400)	NA	(NA)	NA	(NE)
Sodium	mg/kg	20	24 / 25 (96%)	970	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	17	5 / 19 (26%)	5	NA	(NE)	NA	(NA)	0	(150)
Semivolatile Organic Compounds										
bis (2-ethylhexyl) phthalate	µg/kg	63	2 / 214 (0.93%)	1,200	NA	(NE)	NA	(NA)	0	(160,000)
Butylbenzylphthalate	µg/kg	63	1 / 214 (0.47%)	4,000	NA	(NE)	NA	(NA)	0	(1,200,000)
Di-n-butyl phthalate	µg/kg	63	1 / 214 (0.47%)	5,000	NA	(NE)	NA	(NA)	0	(82,000,000)
Volatile Organic Compounds										
1,2,4-Trimethylbenzene	µg/kg	68	1 / 174 (0.57%)	43	NA	(NE)	NA	(NA)	0	(1,800,000)
4-Isopropyltoluene	µg/kg	59	1 / 156 (0.64%)	75	NA	(NE)	NA	(NA)	0	(9,900,000)
Acetone	µg/kg	68	4 / 174 (2.3%)	2,200	NA	(NE)	NA	(NA)	0	(670,000,000)
Chloroform	µg/kg	68	2 / 174 (1.1%)	12	NA	(NE)	NA	(NA)	0	(1,400)
Isopropylbenzene	µg/kg	68	2 / 174 (1.1%)	25	NA	(NE)	NA	(NA)	0	(9,900,000)
Methyl acetate	µg/kg	19	4 / 39 (10%)	1,800	NA	(NE)	NA	(NA)	0	(130,000,000)
Methylene chloride	µg/kg	68	2 / 174 (1.1%)	5.7	NA	(NE)	NA	(NA)	0	(24,000)
N-Butylbenzene	µg/kg	68	1 / 174 (0.57%)	290	NA	(NE)	NA	(NA)	0	(6,400,000)
N-Propylbenzene	µg/kg	68	1 / 174 (0.57%)	110	NA	(NE)	NA	(NA)	0	(24,000,000)
sec-Butylbenzene	µg/kg	68	1 / 174 (0.57%)	82	NA	(NE)	NA	(NA)	0	(12,000,000)
Toluene	µg/kg	70	2 / 176 (1.1%)	5.9	NA	(NE)	NA	(NA)	0	(5,400,000)
Xylene, m,p-	µg/kg	68	1 / 174 (0.57%)	19	NA	(NE)	NA	(NA)	0	(2,500,000)
Xylenes, total	µg/kg	70	2 / 176 (1.1%)	27	NA	(NE)	NA	(NA)	0	(2,500,000)

TABLE 3-23j

Constituent Concentrations in Soil Compared to Screening Values

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	µg/kg	81	12 / 268 (4.5%)	1,100	NA	(NE)	NA	(NA)	0	(73,000)
2-Methyl naphthalene	µg/kg	84	26 / 275 (9.5%)	1,600	NA	(NE)	NA	(NA)	0	(3,000,000)
Acenaphthene	µg/kg	93	9 / 293 (3.1%)	150	NA	(NE)	NA	(NA)	0	(45,000,000)
Acenaphthylene	µg/kg	93	6 / 293 (2.0%)	2,000	NA	(NE)	NA	(NA)	0	(45,000,000)
Anthracene	µg/kg	93	27 / 293 (9.2%)	370	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	93	102 / 293 (35%)	1,700	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	93	85 / 293 (29%)	1,600	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	93	111 / 293 (38%)	3,600	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	93	77 / 293 (26%)	1,800	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	93	77 / 293 (26%)	930	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	93	102 / 293 (35%)	1,800	NA	(NE)	NA	(NA)	0	(2,100,000)
Dibenzo (a,h) anthracene	µg/kg	93	6 / 293 (2.0%)	46	NA	(NE)	NA	(NA)	0	(2,100)
Fluoranthene	µg/kg	93	126 / 293 (43%)	3,000	NA	(NE)	NA	(NA)	0	(30,000,000)
Fluorene	µg/kg	93	5 / 293 (1.7%)	28	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	93	67 / 293 (23%)	1,500	NA	(NE)	NA	(NA)	0	(21,000)
Naphthalene	µg/kg	93	7 / 292 (2.4%)	190	NA	(NE)	NA	(NA)	0	(17,000)
Phenanthrene	µg/kg	93	72 / 293 (25%)	29,000	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	93	130 / 293 (44%)	28,000	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	93	150 / 293 (51%)	2,300	62	(55)	NA	(NA)	1	(2,100)
Polychlorinated biphenyls										
Aroclor 1242	µg/kg	81	1 / 268 (0.37%)	31	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1254	µg/kg	81	78 / 268 (29%)	2,600	NA	(NE)	NA	(NA)	4	(970)
Aroclor 1260	µg/kg	83	35 / 270 (13%)	920	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	83	92 / 270 (34%)	3,537	NA	(NE)	NA	(NA)	6	(940)
Pesticides										
4,4-DDE	µg/kg	17	1 / 20 (5.0%)	7.2	NA	(NE)	NA	(NA)	0	(9,300)
4,4-DDT	µg/kg	17	1 / 20 (5.0%)	6	NA	(NE)	NA	(NA)	0	(8,500)

TABLE 3-23j

Constituent Concentrations in Soil Compared to Screening Values

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Parameter	Units									
Total Petroleum Hydrocarbons										
Oil and Grease	mg/kg	6	17 / 18 (94%)	2,775	NA	(NE)	NA	(NA)	NA	(NE)
TPH as kerosene	mg/kg	7	7 / 7 (100%)	8,000	NA	(NE)	NA	(NA)	NA	(NE)
TPH-Diesel (C9-C25)	mg/kg	4	4 / 10 (40%)	62	NA	(NE)	NA	(NA)	NA	(NE)
TPH-Gasoline (C6-C12)	mg/kg	4	0 / 6 (0%)	ND (1.8)	NA	(NE)	NA	(NA)	NA	(NE)
TPH-Oil (C24-C40)	mg/kg	4	8 / 10 (80%)	88	NA	(NE)	NA	(NA)	NA	(NE)
TPH as diesel	mg/kg	99	116 / 292 (40%)	8,500	NA	(NE)	7	(230)	4	(1,100)
TPH as motor oil	mg/kg	99	188 / 292 (64%)	240,000	NA	(NE)	6	(11,000)	1	(140,000)
TPH as gasoline	mg/kg	97	1 / 239 (0.42%)	3.1	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-23j
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 13 – Unpaved Areas within the Compressor Station
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-23k

Sample Results: Volatile Organic Compounds in Soil Gas

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Soil Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

	Location	AOC13-5	AOC13-5	AOC13-6	AOC13-6	AOC13-11	AOC13-11	AOC13-16	AOC13-16
	Date	1/13/2016	2/10/2017	1/13/2016	2/10/2017	1/13/2016	2/11/2017	1/14/2016	2/11/2017
	Sample Type	LS	LS	LS	LS	LS	LS	LS	LS
	Depth (ft bgs)	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3	5 - 6	5 - 6
Analyte * (µg/m³)									
1,1,1-Trichloroethane		4.1 U	3.66 U	3.9 U	4.15 U	3.96 U	3.66 U	4.83 U	3.66 U
1,1,2,2-Tetrachloroethane		5.14 U	4.6 U	4.9 U	5.21 U	4.97 U	4.6 U	6.07 U	4.6 U
1,1,2-Trichloroethane		4.1 U	3.66 U	3.9 U	4.15 U	3.96 U	3.66 U	4.83 U	3.66 U
1,1,2-Trichlorotrifluoroethane (Freon 113)		5.74 U	5.13 U	5.48 U	5.82 U	5.55 U	5.13 U	6.78 U	5.13 U
1,1-Dichloroethane		3.03 U	2.71 U	2.89 U	3.07 U	2.93 U	2.71 U	3.58 U	2.71 U
1,1-Dichloroethene		2.97 U	2.65 U	2.83 U	3.01 U	2.87 U	2.65 U	3.5 U	2.65 U
1,2,4-Trichlorobenzene		27.8 U	24.9 U	26.5 U	28.2 U	26.9 U	24.9 U	32.8 U	24.9 U
1,2,4-Trimethylbenzene		3.69 U	3.3 U	3.52 U	3.74 U	3.57 U	3.3 U	4.35 U	3.3 U
1,2-Dibromoethane		5.76 U	5.15 U	5.49 U	5.84 U	5.57 U	5.15 U	6.8 U	5.15 U
1,2-Dichlorobenzene		4.52 U	4.03 U	4.3 U	4.58 U	4.36 U	4.03 U	5.33 U	4.03 U
1,2-Dichloroethane		3.03 U	2.71 U	2.89 U	3.07 U	2.93 U	2.71 U	3.58 U	2.71 U
1,2-Dichloropropane		3.46 U	3.1 U	3.3 U	3.51 U	3.35 U	3.1 U	4.09 U	3.1 U
1,3,5-Trimethylbenzene		3.69 U	3.3 U	3.52 U	3.74 U	3.57 U	3.3 U	4.35 U	3.3 U
1,3-Dichlorobenzene		4.52 U	4.03 U	4.3 U	4.58 U	4.36 U	4.03 U	5.33 U	4.03 U
1,4-Dichlorobenzene		4.52 U	4.03 U	4.3 U	4.58 U	4.36 U	4.03 U	5.33 U	4.03 U
2-Hexanone		6.15 U	5.49 U	5.86 U	6.23 U	5.95 U	5.49 U	7.26 U	5.49 U
Acetone		42.3	30.7	27.6	18.3	39.1	32.7	55.3	64.3
Benzene		2.4 U	2.14 U	2.29 U	2.43 U	2.32 U	2.14 U	2.83 U	2.14 U
Bromodichloromethane		5.03 U	4.49 U	4.79 U	5.09 U	4.86 U	4.49 U	5.93 U	4.49 U
Bromoform		7.76 U	6.93 U	7.39 U	7.86 U	7.5 U	6.93 U	9.15 U	6.93 U
Bromomethane		2.91 U	2.6 U	2.77 U	2.95 U	2.81 U	2.6 U	3.43 U	2.6 U
Carbon disulfide		2.34 U	4.47	2.23 U	5.06	2.26 U	4.38	2.76 U	4.51
Carbon tetrachloride		4.73 U	4.22 U	4.5 U	4.79 U	4.57 U	4.22 U	5.58 U	4.22 U
Chloro methane		1.54 U	1.38 U	1.47 U	1.57 U	1.49 U	1.38 U	1.82 U	1.38 U
Chlorobenzene		3.45 U	3.08 U	3.29 U	3.5 U	3.34 U	3.08 U	4.07 U	3.08 U
Chloroethane		1.98 U	1.77 U	1.89 U	2.01 U	1.91 U	1.77 U	2.34 U	1.77 U
Chloroform		3.66 U	5.04	3.49 U	3.71 U	3.54 U	3.27 U	4.32 U	3.27 U
cis-1,2-Dichloroethene		2.97 U	2.65 U	2.83 U	3.01 U	2.87 U	2.65 U	3.5 U	2.65 U
cis-1,3-Dichloropropene		3.4 U	3.04 U	3.25 U	3.45 U	3.29 U	3.04 U	4.02 U	3.04 U
Dibromochloromethane		6.39 U	5.71 U	6.09 U	6.48 U	6.18 U	5.71 U	7.54 U	5.71 U
Dichlorodifluoromethane		3.7 U	3.31 U	3.53 U	3.75 U	3.58 U	3.31 U	4.37 U	3.31 U
Ethyl- benzene		3.26 U	2.91 U	3.1 U	3.3 U	3.15 U	2.91 U	3.84 U	2.91 U
Hexachlorobutadiene		16 U	14.3 U	15.3 U	16.2 U	15.5 U	14.3 U	18.9 U	14.3 U

TABLE 3-23k

Sample Results: Volatile Organic Compounds in Soil Gas

AOC 13 – Unpaved Areas within the Compressor Station

RFI/RI Report, Volume 3 – Soil Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

	Location	AOC13-5	AOC13-5	AOC13-6	AOC13-6	AOC13-11	AOC13-11	AOC13-16	AOC13-16
	Date	1/13/2016	2/10/2017	1/13/2016	2/10/2017	1/13/2016	2/11/2017	1/14/2016	2/11/2017
	Sample Type	LS	LS	LS	LS	LS	LS	LS	LS
	Depth (ft bgs)	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3	2 - 3	5 - 6	5 - 6
Methyl ethyl ketone		6.15	6.09	4.22 U	4.48 U	5.05	13.1	7.1	11.2
Methyl isobutyl ketone		6.15 U	5.49 U	5.86 U	6.23 U	5.95 U	5.49 U	7.26 U	5.49 U
Methyl tert-butyl ether (MTBE)		10.8 U	9.66 U	10.3 U	11 U	10.5 U	9.66 U	12.8 U	9.66 U
Methylene chloride		5.21 U	4.65 U	4.97 U	5.27 U	5.04 U	4.65 U	6.15 U	8.84
Styrene		3.2 U	2.85 U	3.05 U	3.24 U	3.09 U	2.85 U	3.77 U	2.85 U
Tetrachloroethene		5.08 U	8.18	4.85 U	5.15 U	4.92 U	4.54 U	6 U	4.54 U
Toluene		15.3	2.52 U	6.68	2.86 U	9.34	2.52 U	16	2.52 U
trans-1,2-Dichloroethene		2.97 U	2.65 U	2.83 U	3.01 U	2.87 U	2.65 U	3.5 U	2.65 U
trans-1,3-Dichloropropene		3.4 U	3.04 U	3.25 U	3.45 U	3.29 U	3.04 U	4.02 U	3.04 U
Trichloroethene		4.04 U	3.6 U	3.85 U	4.09 U	3.9 U	3.6 U	4.76 U	3.6 U
Trichlorofluoromethane (Freon 11)		4.22 U	3.77 U	4.02 U	4.27 U	4.07 U	3.77 U	4.97 U	3.77 U
Vinyl chloride		1.92 U	1.72 U	1.83 U	1.95 U	1.86 U	1.72 U	2.27 U	1.72 U
Xylene, m,p-		6.51 U	5.82 U	6.21 U	6.6 U	6.29 U	5.82 U	7.68 U	5.82 U
Xylene, o-		3.26 U	2.91 U	3.1 U	3.3 U	3.15 U	2.91 U	3.84 U	2.91 U

* All data presented are Category 1 data.

µg/m³ = micrograms per cubic meter

ft bgs = feet below ground surface

LS = laboratory sample

J = concentration or reporting limit estimated by laboratory or data validation

U = not detected at the listed reporting limit

TABLE 3-24a
Sample Results: Metals
AOC 15 – Auxiliary Jacket Cooling Water Pumps
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC15-1	01/22/16	0 - 0.5	N	ND (2.2)	5.3	140	ND (1.1)	ND (1.1)	43	590	5.9	17	33	ND (0.11)	900	14	ND (1.1)	ND (1.1)	ND (2.2)	23	53
	01/22/16	2 - 3	N	ND (2.2)	4.1	210	ND (1.1)	ND (1.1)	3.4	38	6.7	11	2.6	ND (0.11)	190	16	ND (1.1)	ND (1.1)	ND (2.2)	26	30
	01/19/17	5 - 6	N	ND (2.1)	2.6	58	ND (1)	ND (1)	1.1	33	5.6	7.2	1.7	ND (0.1)	83	16	ND (1) J	ND (1)	ND (2.1)	23	19
	01/20/17	9 - 10	N	ND (2)	2.5	52	ND (1)	ND (1)	1.3	14	1.2	ND (2)	1.5	ND (0.1)	4.5	1.7	ND (1) J	ND (1)	ND (2)	8.1	6.7
	01/20/17	14 - 15	N	ND (2)	2.6	76	ND (1)	ND (1)	1.1	26	2.1	2.9	2.7	ND (0.1)	65	3.4	ND (1) J	ND (1)	ND (2)	12	12
AOC15-2	01/22/16	0 - 0.5	N	ND (2.1)	5	100	ND (1)	ND (1)	80	950	6	28	67	ND (0.11)	780	15	ND (1)	ND (1)	ND (2.1)	22	59
	01/22/16	2 - 3	N	ND (2.2)	3.5	95	ND (1.1)	ND (1.1)	4.2	64	6.2	25	7.3	ND (0.11)	22	15	ND (1.1)	ND (1.1)	ND (2.2)	24	32
AOC15-3	01/22/16	0 - 0.5	N	ND (2)	4.1	170	ND (1)	ND (1)	8.4	100	3.1	42	280	ND (0.1)	22	7.6	ND (1)	ND (1)	ND (2)	13	120
	01/22/16	2 - 3	N	ND (2.1)	3.6	99 J	ND (1)	ND (1)	ND (0.21)	8.2 J	2.8	4	2.7	ND (0.1)	ND (1)	5.1 J	ND (1)	ND (1)	ND (2.1)	14	14
	01/22/16	2 - 3	FD	ND (2.1)	3.3	76 J	ND (1)	ND (1)	0.34	15 J	3	5.1	2.8	ND (0.1)	ND (1)	7 J	ND (1)	ND (1)	ND (2.1)	15	14
AOC15-4	01/22/16	0 - 0.5	N	ND (2.1)	6.9	140	ND (1.1)	ND (1.1)	10	220	6.3	33	42	ND (0.11)	84	17	ND (1.1)	ND (1.1)	ND (2.1)	34	51
	01/22/16	2 - 3	N	ND (2.2)	4.9	110	ND (1.1)	ND (1.1)	1.5	70	9	16	5.1	ND (0.11)	34	26	ND (1.1)	ND (1.1)	ND (2.2)	37	37
AOC15-5	01/22/16	0 - 0.5	N	ND (2.1)	3.9	150	ND (1)	ND (1)	18	490	7.4	17 J	35 J	ND (0.11)	500 J	20	ND (1)	ND (1)	ND (2.1)	33	54
	01/22/16	0 - 0.5	FD	ND (2.1)	3.6	150	ND (1)	ND (1)	19	530	7.7	23 J	17 J	ND (0.11)	400 J	19	ND (1)	ND (1)	ND (2.1)	33	56
	01/22/16	2 - 3	N	ND (2.1)	3.2	97	ND (1.1)	ND (1.1)	1.3	28	4.1	7.2	2.8	ND (0.1)	7.9	9.6	ND (1.1)	ND (1.1)	ND (2.1)	21	18
AOC15-6	01/22/16	0 - 0.5	N	ND (2)	3.7	97	ND (1)	ND (1)	1.7 J	17 J	3	12	32 J	ND (0.1)	ND (1)	5.1	ND (1)	ND (1)	ND (2)	15	23
	01/22/16	0 - 0.5	FD	ND (2)	3.2	100	ND (1)	ND (1)	5.6 J	22 J	2.4	9.4	48 J	ND (0.1)	4	4.6	ND (1)	ND (1)	ND (2)	14	25
	01/22/16	2 - 3	N	ND (2.1)	3.3	91	ND (1.1)	ND (1.1)	0.33	11	2.5	5	4.5	ND (0.11)	ND (1.1)	4.5	ND (1.1)	ND (1.1)	ND (2.1)	14	14
AOC15-7	01/22/16	0 - 0.5	N	ND (2.1) J	3.3	69 J	ND (1)	ND (1)	0.31 J	9.1 J	2.5	6.2 J	15 J	ND (0.1)	1.3 J	4.6	ND (1)	ND (1)	ND (2.1)	13	18 J
	01/22/16	0 - 0.5	FD	ND (2.1)	4	110 J	ND (1)	ND (1)	2.3 J	31 J	3	18 J	87 J	ND (0.1)	9.9 J	7	ND (1)	ND (1)	ND (2.1)	15	48 J
	01/22/16	2 - 3	N	ND (2.1)	2.9	52	ND (1)	ND (1)	ND (0.21)	5.4	2	3	2.2	ND (0.11)	ND (1)	3.8	ND (1)	ND (1)	ND (2.1)	11	9.9
AOC15-OS1	12/05/13	0 - 0.5	N	ND (2.1)	3.4	120	ND (1)	ND (1)	69	1,700	4.8	41	200	ND (0.1)	1,300	15	ND (1)	ND (1)	ND (2.1)	26	100
	12/05/13	2 - 3	N	ND (2.2)	3.7	140	ND (1.1)	ND (1.1)	23	480	6.3	20	33	ND (0.11)	450	17	ND (1.1)	ND (1.1)	ND (2.2)	33	49
AOC15-OS2	12/05/13	0 - 0.5	N	ND (2.1)	3.7	93	ND (1)	ND (1)	170	1,600	4.7	24	52	ND (0.1)	1,000	14	ND (1)	ND (1)	ND (2.1)	24	65
	12/05/13	2 - 3	N	ND (2.2)	3.3	130	ND (1.1)	ND (1.1)	34	430	5	19	220	ND (0.11)	350	14	ND (1.1)	ND (1.1)	ND (2.2)	27	46
AOC15-OS5	12/05/13	0 - 0.5	N	ND (2.1)	3.4	72	ND (1)	ND (1)	22	100	3.3	21	47	ND (0.1)	590	8	ND (1)	ND (1)	ND (2.1)	24	37
	12/05/13	2 - 3	N	ND (2.2)	4.1	170	ND (1.1)	ND (1.1)	13	110	7.4	16	12	ND (0.11)	76	19	ND (1.1)	ND (1.1)	ND (2.2)	33	35
JP-1-S	04/24/97	0	N	---	---	---	---	---	1.2	81	---	---	28	---	300	---	---	---	---	---	39
JP-1-3	04/25/97	3	N	---	---	---	---	---	8.3 J	72	---	---	6	---	310	---	---	---	---	---	44
JP-1-4.5	04/25/97	4.5	N	---	---	---	---	---	3.4	35	---	---	4.4	---	52	---	---	---	---	---	20
JP-2-S	04/24/97	0	N	---	---	---	---	---	53	2,100	---	---	820	---	720	---	---	---	---	---	180
JP-2-3	04/25/97	3	N	---	---	---	---	---	1.4	41	---	---	5.4	---	24	---	---	---	---	---	57
JP-3-S	04/24/97	0	N	---	---	---	---	---	16	330	---	---	200	---	710	---	---	---	---	---	150
JP-4-S	04/24/97	0	N	---	---	---	---	---	3.8	86	---	---	60	---	330	---	---	---	---	---	94
JP-5-S	04/24/97	0	N	---	---	---	---	---	10	89	---	---	28	---	260	---	---	---	---	---	49
JP-6-S	04/24/97	0	N	---	---	---	---	---	12	730	---	---	52	---	210	---	---	---	---	---	180
JP-7-S	04/24/97	0	N	---	---	---	---	---	0.47	270	---	---	28	---	25	---	---	---	---	---	100
JP-8-S	11/13/98	0	N	---	---	---	---	---	5.9	920	---	316	---	---	---	16.6	---	---	---	---	133

TABLE 3-24a
Sample Results: Metals
AOC 15 – Auxiliary Jacket Cooling Water Pumps
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
JP-8-3	11/13/98	3	N	---	---	---	---	---	3.5	48.1	---	9.4	---	---	---	12.2	---	---	---	---	28.4
JP-9-S	11/13/98	0	N	---	---	---	---	---	13.7	1,340	---	40.2	---	---	---	12	---	---	---	---	158
JP-9-3	11/13/98	3	N	---	---	---	---	---	4	135	---	27.1	---	---	---	17	---	---	---	---	42.7
JP-10-S	11/13/98	0	N	---	---	---	---	---	32.3	930	---	33.5	---	---	---	11.8	---	---	---	---	53.4
JP-10-2	11/13/98	2	N	---	---	---	---	---	2.5	117	---	22.3	---	---	---	19.6	---	---	---	---	46.9
JP-10-3	11/13/98	3	N	---	---	---	---	---	0.8	25.7	---	7.6	---	---	---	6.1	---	---	---	---	42.3

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- * Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg milligrams per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- N primary sample
- ND not detected at the listed reporting limit
- NE not established
- J concentration or reporting limit estimated by laboratory or data validation
- USEPA United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.
³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-24b

Sample Results: Contract Laboratory Program Inorganics
AOC 15 – Auxiliary Jacket Cooling Water Pumps
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC15-1	01/19/17	5 - 6	N	6,100	20,000	13,000	5,900	160	1,500 J	660 J	---
AOC15-6	01/22/16	0 - 0.5	N	3,700 J	22,000 J	7,300	3,500	140	810 J	230	ND (0.207)
	01/22/16	0 - 0.5	FD	2,900 J	16,000 J	6,200	3,300	120	600 J	190	ND (0.207)
	01/22/16	2 - 3	N	3,600	21,000	6,500	3,500	120	750	260	ND (0.212)
AOC15-7	01/22/16	0 - 0.5	N	3,300	18,000	6,300	3,500	120	660	140	ND (0.208)
	01/22/16	0 - 0.5	FD	3,900	19,000	7,600	3,600	130	720	160	ND (0.208)
	01/22/16	2 - 3	N	2,200	17,000	5,100	2,900	110	440	150	ND (0.209)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-24c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 15 – Auxiliary Jacket Cooling Water Pumps
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
AOC15-1	01/22/16	0 - 0.5	N	26 R	26 R	26 R	26 R	26 R	58 J	26 R	26 R	26 R	26 R	26 R	26 R	26 R	26 R	26 R	26 R	26 R	26 R	35 JR
	01/22/16	2 - 3	N	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	5.5 R	6.4 R
	01/19/17	5 - 6	N	---	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (390)
AOC15-6	01/22/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	19	23	40 J	10	15	25	ND (5.2)	40	ND (5.2)	10	ND (5.2)	12	39	33
	01/22/16	0 - 0.5	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	32	40	71 J	14	22	39	ND (5.1)	65	ND (5.1)	14	ND (5.1)	21	64	55
	01/22/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
AOC15-7	01/22/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	18	26	49	13	14	24	ND (5.2)	35	ND (5.2)	13	ND (5.2)	10	36	37
	01/22/16	0 - 0.5	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	17	26	48	11	17	24	ND (5.2)	33	ND (5.2)	11	ND (5.2)	9	34	36
	01/22/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-24d

Sample Results: General Chemistry Parameters

AOC 15 – Auxiliary Jacket Cooling Water Pumps

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry	
				(pH units)	(PERC)
Commercial Regional Screening Levels ¹ :				NE	NE
DTSC-SL ² :				NE	NE
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	pH	Total dissolved solids
Category 1					
AOC15-1	01/22/16	0 - 0.5	N	9.5	---
	01/22/16	2 - 3	N	9.2	---
AOC15-2	01/22/16	0 - 0.5	N	9.9	---
	01/22/16	2 - 3	N	9.9	---
AOC15-3	01/22/16	0 - 0.5	N	8.5	---
	01/22/16	2 - 3	N	9.5	---
	01/22/16	2 - 3	FD	9.5	---
AOC15-4	01/22/16	0 - 0.5	N	9.5	---
	01/22/16	2 - 3	N	9.8	---
AOC15-5	01/22/16	0 - 0.5	N	9	---
	01/22/16	0 - 0.5	FD	9.1	---
	01/22/16	2 - 3	N	10	---
AOC15-6	01/22/16	0 - 0.5	N	9.3	---
	01/22/16	0 - 0.5	FD	9.3	---
	01/22/16	2 - 3	N	9.7	---
AOC15-7	01/22/16	0 - 0.5	N	9.2	---
	01/22/16	0 - 0.5	FD	9.1	---
	01/22/16	2 - 3	N	9.4	---
AOC15-OS1	12/05/13	0 - 0.5	N	9.9	---
	12/05/13	2 - 3	N	9.7	---
AOC15-OS2	12/05/13	0 - 0.5	N	9.8	---
	12/05/13	2 - 3	N	9.5	---
AOC15-OS5	12/05/13	0 - 0.5	N	10	---
	12/05/13	2 - 3	N	9.9	---
JP-1-S	04/24/97	0	N	---	92
JP-1-3	04/25/97	3	N	---	91
JP-1-4.5	04/25/97	4.5	N	---	94
JP-2-S	04/24/97	0	N	---	97
JP-2-3	04/25/97	3	N	---	93
JP-3-S	04/24/97	0	N	---	99
JP-4-S	04/24/97	0	N	---	99
JP-5-S	04/24/97	0	N	---	89
JP-6-S	04/24/97	0	N	---	90
JP-7-S	04/24/97	0	N	---	96
JP-8-S	11/13/98	0	N	8.62	---
JP-8-3	11/13/98	3	N	9.51	---
JP-9-S	11/13/98	0	N	9.27	---
JP-9-3	11/13/98	3	N	9.44	---

TABLE 3-24d

Sample Results: General Chemistry Parameters

AOC 15 – Auxiliary Jacket Cooling Water Pumps

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry	
				(pH units)	(PERC)
Commercial Regional Screening Levels ¹ :				NE	NE
DTSC-SL ² :				NE	NE
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	pH	Total dissolved solids
JP-10-S	11/13/98	0	N	9.16	---
JP-10-2	11/13/98	2	N	9.36	---
JP-10-3	11/13/98	3	N	8.7	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-24e
Sample Results: Pesticides
AOC 15 – Auxiliary Jacket Cooling Water Pumps
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene	
Category 1																								
AOC15-1	01/19/17	5 - 6	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52) J

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg micrograms per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- NE not established
- N primary sample
- ND not detected at the listed reporting limit
- USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for pesticides.

TABLE 3-24f

Sample Results: Polychlorinated Biphenyls

AOC 15 – Auxiliary Jacket Cooling Water Pumps

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC15-1	01/22/16	0 - 0.5	N	17 R	35 R	17 R	17 R	17 R	17 R	17 R	---	---	34 R
	01/22/16	2 - 3	N	18 R	36 R	18 R	18 R	18 R	18 R	18 R	---	---	36 R
AOC15-6	01/22/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/22/16	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/22/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC15-7	01/22/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/22/16	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	39	ND (17)	ND (17)	ND (17)	64.5
	01/22/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

TABLE 3-24f

Sample Results: Polychlorinated Biphenyls

AOC 15 – Auxiliary Jacket Cooling Water Pumps

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-24g

Constituent Concentrations in Soil Compared to Screening Values

AOC 15 – Auxiliary Jacket Cooling Water Pumps

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Metals										
Antimony	mg/kg	10	0 / 23 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	10	23 / 23 (100%)	6.9	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	10	23 / 23 (100%)	210	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	10	0 / 23 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	10	0 / 23 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	27	39 / 40 (98%)	170	35	(0.83)	NA	(NA)	18	(6.3)
Chromium, total	mg/kg	27	40 / 40 (100%)	2,100	28	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	10	23 / 23 (100%)	9	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	17	29 / 30 (97%)	316	16	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	20	33 / 33 (100%)	820	20	(8.39)	NA	(NA)	1	(320)
Mercury	mg/kg	10	0 / 23 (0%)	ND (0.11) ‡	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	20	30 / 33 (91%)	1,300	30	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	17	30 / 30 (100%)	26	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	10	0 / 23 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	10	0 / 23 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	10	0 / 23 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	10	23 / 23 (100%)	37	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	27	40 / 40 (100%)	180	11	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	3	5 / 5 (100%)	6,100	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	3	5 / 5 (100%)	22,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	3	5 / 5 (100%)	13,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	3	5 / 5 (100%)	5,900	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	3	5 / 5 (100%)	160	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	3	5 / 5 (100%)	1,500	0	(4,400)	NA	(NA)	NA	(NE)
Sodium	mg/kg	3	5 / 5 (100%)	660	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	2	0 / 4 (0%)	ND (0.212)	NA	(NE)	NA	(NA)	0	(150)

TABLE 3-24g

Constituent Concentrations in Soil Compared to Screening Values

AOC 15 – Auxiliary Jacket Cooling Water Pumps

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	µg/kg	3	2 / 6 (33%)	26	NA	(NE)	NA	(NA)	0	(73,000)
2-Methyl naphthalene	µg/kg	3	2 / 7 (29%)	26	NA	(NE)	NA	(NA)	0	(3,000,000)
Acenaphthene	µg/kg	3	2 / 7 (29%)	26	NA	(NE)	NA	(NA)	0	(45,000,000)
Acenaphthylene	µg/kg	3	2 / 7 (29%)	26	NA	(NE)	NA	(NA)	0	(45,000,000)
Anthracene	µg/kg	3	2 / 7 (29%)	26	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	3	4 / 7 (57%)	58	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	3	4 / 7 (57%)	40	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	3	4 / 7 (57%)	71	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	3	4 / 7 (57%)	26	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	3	4 / 7 (57%)	26	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	3	4 / 7 (57%)	39	NA	(NE)	NA	(NA)	0	(2,100,000)
Dibenzo (a,h) anthracene	µg/kg	3	2 / 7 (29%)	26	NA	(NE)	NA	(NA)	0	(2,100)
Fluoranthene	µg/kg	3	4 / 7 (57%)	65	NA	(NE)	NA	(NA)	0	(30,000,000)
Fluorene	µg/kg	3	2 / 7 (29%)	26	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	3	4 / 7 (57%)	26	NA	(NE)	NA	(NA)	0	(21,000)
Naphthalene	µg/kg	3	2 / 7 (29%)	26	NA	(NE)	NA	(NA)	0	(17,000)
Phenanthrene	µg/kg	3	4 / 7 (57%)	26	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	3	4 / 7 (57%)	64	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	3	4 / 7 (57%)	55	0	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1016	µg/kg	3	2 / 6 (33%)	18	NA	(NE)	NA	(NA)	0	(27,000)
Aroclor 1221	µg/kg	3	2 / 6 (33%)	36	NA	(NE)	NA	(NA)	0	(830)
Aroclor 1232	µg/kg	3	2 / 6 (33%)	18	NA	(NE)	NA	(NA)	0	(720)
Aroclor 1242	µg/kg	3	2 / 6 (33%)	18	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1248	µg/kg	3	2 / 6 (33%)	18	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1254	µg/kg	3	3 / 6 (50%)	39	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	3	2 / 6 (33%)	18	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	3	3 / 6 (50%)	64.5	NA	(NE)	NA	(NA)	0	(940)

TABLE 3-24g
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 15 – Auxiliary Jacket Cooling Water Pumps
 RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
 Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-25a
Sample Results: Metals
AOC 16 – Sandblast Shelter
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC16-1	01/11/16	0 - 0.5	N	ND (2.1)	4.5	57	ND (1)	ND (1)	---	12	5.3	13	4.2	0.12	ND (1)	12	ND (1)	ND (1)	ND (2.1)	19	21
	01/11/16	2 - 3	N	ND (2.1)	3.4	130	ND (1)	ND (1)	---	17	6.1	21	5	0.17	ND (1)	13	ND (1)	ND (1)	ND (2.1)	25	32
AOC16-2	01/11/16	0 - 0.5	N	ND (2.1)	3	94	ND (1)	ND (1)	---	22	6.8	31	8.1	0.1	2.1	16	ND (1)	ND (1)	ND (2.1)	22	62
	01/11/16	2 - 3	N	ND (2.2)	3.3	240	ND (1.1)	ND (1.1)	---	29	9.3	21	3.3	0.16	ND (1.1)	25	ND (1.1)	ND (1.1)	ND (2.2)	37	31
AOC16-3	01/11/16	0 - 0.5	N	ND (2.1)	3.4	85 J	ND (1)	ND (1)	---	15	5.5	98	6.5	0.12	3.6	13	ND (1)	ND (1)	ND (2.1)	17	38
	01/11/16	2 - 3	N	ND (2.2)	3.7	130	ND (1.1)	ND (1.1)	---	22	6.4	16	6.6	0.22	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.2)	26	45
AOC16-4	01/11/16	0 - 1	N	ND (2.1)	2.4	65	ND (1)	ND (1)	---	15	6.1	12	6.9	0.14	ND (1)	13	ND (1)	ND (1)	ND (2.1)	21	27
AOC16-grit	01/05/17	0 - 0.5	N	ND (2)	12	130	ND (1)	2.4	---	38	21	1,500	19	ND (0.1)	79	13	ND (1) J	ND (1)	ND (2) J	28	190
AOC2A	02/20/03	0.4	N	---	---	---	---	---	ND (4.2)	26.1	---	10.2	---	---	---	12.4	---	---	---	---	367
AOC2B	02/20/03	0.4	N	---	---	---	---	---	ND (3.8)	17.3	---	11.2	---	---	---	17	---	---	---	---	23.9

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- * Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg milligrams per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- N primary sample
- ND not detected at the listed reporting limit
- NE not established
- J concentration or reporting limit estimated by laboratory or data validation
- USEPA United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-25b

Sample Results: Contract Laboratory Program Inorganics

AOC 16 – Sandblast Shelter

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC16-1	01/11/16	0 - 0.5	N	5,800	9,800	11,000	4,800	150	1,200 J	120 J	ND (0.207) J
	01/11/16	2 - 3	N	7,200	20,000	14,000	6,300	220	1,800	350	ND (0.208) J

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-25c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 16 – Sandblast Shelter
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC16-grit	01/05/17	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	18	19	44	10	10	22	ND (5.1)	45	ND (5.1)	10	ND (5.1)	20	37	29	

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-25d

Sample Results: General Chemistry Parameters

AOC 16 – Sandblast Shelter

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

					General Chemistry
					(pH units)
Commercial Regional Screening Levels ¹ :					NE
DTSC-SL ² :					NE
Background ³ :					NE
Location	Date	Depth (ft bgs)	Sample Type		pH
Category 1					
AOC2A	02/20/03	0.4	N		9.6
AOC2B	02/20/03	0.4	N		8.2

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-25e

Sample Results: Polychlorinated Biphenyls

AOC 16 – Sandblast Shelter

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
AOC16-grit	01/05/17	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-25f
Sample Results: Dioxins and Furans
AOC 16 – Sandblast Shelter
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC16-4	01/11/16	0 - 1	N	29 J	2.8 J	ND (0.44) J	ND (0.77) J	ND (0.41) J	ND (1.1) J	ND (0.71) J	ND (0.43) J	ND (0.2) J	ND (0.85) J	0.41 J	ND (3) J	0.64 J	ND (0.24) J	1.1 J	220 J	ND (3.3) J	1.6

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are not established or not applicable.

TABLE 3-25g

Constituent Concentrations in Soil Compared to Screening Values

AOC 16 – Sandblast Shelter

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	1	1 / 1 (100%)	1.6	0	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	5	0 / 8 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	5	8 / 8 (100%)	12	1	(11)	NA	(NA)	1	(0.36) *
Barium	mg/kg	5	8 / 8 (100%)	240	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	5	0 / 8 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	5	1 / 8 (13%)	2.4	1	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	2	0 / 2 (0%)	ND (4.2) ‡	0	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	7	10 / 10 (100%)	38	0	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	5	8 / 8 (100%)	21	1	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	7	10 / 10 (100%)	1,500	5	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	5	8 / 8 (100%)	19	1	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	5	7 / 8 (88%)	0.22	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	5	3 / 8 (38%)	79	3	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	7	10 / 10 (100%)	25	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	5	0 / 8 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	5	0 / 8 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	5	0 / 8 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	5	8 / 8 (100%)	37	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	7	10 / 10 (100%)	367	3	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	2 / 2 (100%)	7,200	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	1	2 / 2 (100%)	20,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	2 / 2 (100%)	14,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	2 / 2 (100%)	6,300	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	2 / 2 (100%)	220	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	1	2 / 2 (100%)	1,800	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-25h

Constituent Concentrations in Soil Compared to Screening Values

AOC 16 – Sandblast Shelter

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	1	2 / 2 (100%)	350	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 2 (0%)	ND (0.208)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
Benzo (a) anthracene	µg/kg	1	1 / 1 (100%)	18	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	1	1 / 1 (100%)	19	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	1	1 / 1 (100%)	44	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	1	1 / 1 (100%)	10	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	1	1 / 1 (100%)	10	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	1	1 / 1 (100%)	22	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	1	1 / 1 (100%)	45	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	1	1 / 1 (100%)	10	NA	(NE)	NA	(NA)	0	(21,000)
Phenanthrene	µg/kg	1	1 / 1 (100%)	20	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	1	1 / 1 (100%)	37	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	1	1 / 1 (100%)	29	0	(55)	NA	(NA)	0	(2,100)

TABLE 3-25h
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 16 – Sandblast Shelter
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-26a
Sample Results: Metals
AOC 17 – Onsite Septic System
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC17-1	12/06/15	0 - 1	N	ND (2.1)	2.1	63	ND (1.1)	ND (1.1)	0.49	17	5.3	11	22	ND (0.11)	ND (1.1)	9.5	ND (1.1)	ND (1.1)	ND (2.1)	26	39
	12/06/15	0 - 1	FD	ND (2.1)	2.2	67	ND (1.1)	ND (1.1)	0.46	20	4.9	9.4	23	ND (0.11)	ND (1.1)	10	ND (1.1)	ND (1.1)	ND (2.1)	26	42
	12/06/15	2 - 3	N	ND (2.2)	3.8	91	ND (1.1)	ND (1.1)	ND (0.22)	16	5.6	9.3	3.6	ND (0.11)	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.2)	27	37
	12/06/15	5 - 6	N	ND (2.3)	4.1	120	ND (1.1)	ND (1.1)	ND (0.22)	16	6.6	9.8	3.3	ND (0.11)	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.3)	31	35
	12/06/15	9 - 10	N	ND (2.1)	2.4	78	ND (1)	ND (1)	ND (0.21)	7.3	2.7	3.9	2.2	ND (0.1)	ND (1)	5.8	ND (1)	ND (1)	ND (2.1)	14	13
AOC17-2	12/06/15	0 - 1	N	ND (2.2)	3.2	130	ND (1.1)	ND (1.1)	ND (0.22)	13	3.9	7.9	5.1	ND (0.11)	ND (1.1)	7.9	ND (1.1)	ND (1.1)	ND (2.2)	21	23
	12/06/15	2 - 3	N	ND (2.3)	2.6	80	ND (1.1)	ND (1.1)	ND (0.23)	16	5.3	7.5	4.1	ND (0.11)	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.3)	24	28
	12/06/15	5 - 6	N	ND (2.1)	2.6	83	ND (1)	ND (1)	ND (0.21)	4.3	1.6	2.2	1.9	ND (0.1)	ND (1)	2.9	ND (1)	ND (1)	ND (2.1)	12	9.7
	12/06/15	9 - 10	N	ND (2.1)	2.3	110	ND (1)	ND (1)	ND (0.21)	6	2.1	2.5	1.8	ND (0.1)	ND (1)	3.3	ND (1)	ND (1)	ND (2.1)	14	9.8
AOC17-3	12/06/15	0 - 1	N	ND (2.2)	2.4	120 J	ND (1.1)	ND (1.1)	0.28	16	4.1	13	13 J	ND (0.11)	ND (1.1)	7.4 J	ND (1.1)	ND (1.1)	ND (2.2)	18 J	58 J
	12/06/15	0 - 1	FD	ND (2.3)	2.5	80 J	ND (1.1)	ND (1.1)	0.25	16	5.4	8.5	6.8 J	ND (0.11)	ND (1.1)	11 J	ND (1.1)	ND (1.1)	ND (2.3)	23 J	24 J
	12/06/15	2 - 3	N	ND (2.2)	4.3	87	ND (1.1)	ND (1.1)	ND (0.22)	12	4.4	8.5	2.9	ND (0.11)	ND (1.1)	9.1	ND (1.1)	ND (1.1)	ND (2.2)	26	28
	12/06/15	5 - 6	N	ND (2.1)	2.3	51	ND (1.1)	1.6	ND (0.21)	11	2.7	3.2	1.7	ND (0.11)	ND (1.1)	5.7	ND (1.1)	ND (1.1)	ND (2.1)	13	71
	12/06/15	9 - 10	N	ND (2.1)	2.2	53	ND (1.1)	1.1	ND (0.21)	5.4	2	2.6	1.7	ND (0.1)	ND (1.1)	4.3	ND (1.1)	ND (1.1)	ND (2.1)	12	29
AOC17-4	12/06/15	0 - 1	N	ND (2.1)	2.3	100	ND (1.1)	ND (1.1)	0.32	17	4.6	11	6.3	ND (0.11)	ND (1.1)	9	ND (1.1)	ND (1.1)	ND (2.1)	23	30
	12/06/15	2 - 3	N	ND (2.2)	2.1	58	ND (1.1)	ND (1.1)	ND (0.22)	20	6.3	7.9	2	ND (0.11)	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.2)	29	32
	12/06/15	5 - 6	N	ND (2.2)	2.4	170	ND (1.1)	2.3	0.25	8	3.3	6.3	1.8	ND (0.11)	ND (1.1)	5.1	ND (1.1)	ND (1.1)	ND (2.2)	17	42
AOC17-5	12/06/15	0 - 1	N	ND (2.1)	2.4	74	ND (1.1)	ND (1.1)	0.41	15	4.4	11	24	ND (0.11)	ND (1.1)	7.8	ND (1.1)	ND (1.1)	ND (2.1)	22	33
	12/06/15	2 - 3	N	ND (2.2)	2.1	110 J	ND (1.1)	ND (1.1)	ND (0.22)	19	4.7	7.5	3.1	ND (0.11)	ND (1.1)	9.5	ND (1.1)	ND (1.1)	ND (2.2)	23	28 J
	12/06/15	2 - 3	FD	ND (2.2) J	3.2	230 J	ND (1.1)	ND (1.1) J	ND (0.22)	16	5.5	9.4	3.3	ND (0.11)	ND (1.1)	11	ND (1.1) J	ND (1.1)	ND (2.2) J	28	36 J
	12/06/15	5 - 6	N	ND (2.1)	2.8	87	ND (1.1)	ND (1.1)	ND (0.21)	14	3.9	7.2	2.6	ND (0.11)	ND (1.1)	9.6	ND (1.1)	ND (1.1)	ND (2.1)	18	19
	12/06/15	9 - 10	N	ND (2.1)	2.5	51	ND (1)	ND (1)	ND (0.21)	6.4	2.4	3.3	2	ND (0.1)	ND (1)	5.2	ND (1)	ND (1)	ND (2.1)	11	11

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-26b

Sample Results: Contract Laboratory Program Inorganics
AOC 17 – Onsite Septic System
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC17-5	12/06/15	0 - 1	N	6,900	16,000	16,000	4,300	160	1,700	210	ND (0.214)
	12/06/15	2 - 3	N	9,400	34,000 J	17,000	5,600	220 J	2,300	370	ND (0.223)
	12/06/15	2 - 3	FD	9,900	45,000 J	19,000	6,600	360 J	1,800	500	ND (0.219)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-26c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 17 – Onsite Septic System
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
AOC17-1	12/06/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (59)
	12/06/15	0 - 1	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.7	ND (53)	ND (53)	ND (53)	ND (53)	7.8	ND (53)	13	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	13	59
	12/06/15	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (4.8)	ND (5.5)	ND (5.5)	ND (6.4)
	12/06/15	5 - 6	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (4.7)	ND (5.6)	ND (5.6)	ND (6.5)
	12/06/15	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.6)	ND (5.2)	ND (5.2)	ND (6)
AOC17-2	12/06/15	0 - 1	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (6.5)
	12/06/15	2 - 3	N	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (4.8)	ND (5.7)	ND (5.7)	ND (6.6)
	12/06/15	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	12/06/15	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5)	ND (5.2)	ND (5.2)	ND (6)
AOC17-3	12/06/15	0 - 1	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (56)	ND (56)	ND (56)	ND (56)	7.1	ND (56)	7.5	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	8.2	62
	12/06/15	0 - 1	FD	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (6.6)
	12/06/15	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.2)	ND (5.4)	ND (5.4)	ND (6.2)
	12/06/15	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	12/06/15	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.2)	ND (5.3)	ND (5.3)	ND (6.1)
AOC17-4	12/06/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (59)
	12/06/15	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5)	ND (5.4)	ND (5.4)	ND (6.2)
	12/06/15	5 - 6	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (6.4)
AOC17-5	12/06/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.5	ND (53)	ND (53)	ND (53)	ND (53)	17	ND (53)	18	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	21	60
	12/06/15	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.2)	ND (5.5)	ND (5.5)	ND (6.4)
	12/06/15	2 - 3	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (4.7)	ND (5.4)	ND (5.4)	ND (6.2)
	12/06/15	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	12/06/15	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)

TABLE 3-26c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 17 – Onsite Septic System
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-26d

Sample Results: Semivolatile and Volatile Organic Compounds
AOC 17 – Onsite Septic System
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				(ug/kg)
Commercial Screening Level ¹:				670,000,000
Background ²:				NE
Location	Date	Depth (ft bgs)	Sample Type	Acetone
Category 1				
AOC17-1	12/06/15	2 - 3	N	ND (48)
	12/06/15	5 - 6	N	ND (47)
	12/06/15	9 - 10	N	ND (46)
AOC17-2	12/06/15	2 - 3	N	ND (48)
	12/06/15	5 - 6	N	ND (51)
	12/06/15	9 - 10	N	ND (50)
AOC17-3	12/06/15	2 - 3	N	ND (52)
	12/06/15	5 - 6	N	ND (54)
	12/06/15	9 - 10	N	ND (52)
AOC17-4	12/06/15	2 - 3	N	ND (50)
	12/06/15	5 - 6	N	160
AOC17-5	12/06/15	2 - 3	N	ND (52)
	12/06/15	2 - 3	FD	ND (47)
	12/06/15	5 - 6	N	ND (54)
	12/06/15	9 - 10	N	ND (53)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level or RWQCB ESL are circled.

Only detected SVOCs and VOCs are presented.

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency
SVOCs	semivolatile organic compounds
VOCs	volatile organic compounds

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for SVOCs and VOCs.

TABLE 3-26e

Sample Results: Total Petroleum Hydrocarbons

AOC 17 – Onsite Septic System

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC17-1	12/06/15	0 - 1	N	21	210
	12/06/15	0 - 1	FD	29	270
	12/06/15	2 - 3	N	ND (11)	ND (11)
	12/06/15	5 - 6	N	ND (11)	ND (11)
	12/06/15	9 - 10	N	ND (10)	ND (10)
AOC17-2	12/06/15	0 - 1	N	32	250
	12/06/15	2 - 3	N	ND (11)	65
	12/06/15	5 - 6	N	ND (10)	ND (10)
	12/06/15	9 - 10	N	ND (10)	ND (10)
AOC17-3	12/06/15	0 - 1	N	56	570 J
	12/06/15	0 - 1	FD	15	210 J
	12/06/15	2 - 3	N	ND (11)	14
	12/06/15	5 - 6	N	ND (11)	ND (11)
	12/06/15	9 - 10	N	ND (11)	ND (11)
AOC17-4	12/06/15	0 - 1	N	73	630
	12/06/15	2 - 3	N	ND (11)	53
	12/06/15	5 - 6	N	ND (11)	12
AOC17-5	12/06/15	0 - 1	N	33	310
	12/06/15	2 - 3	N	ND (11)	ND (11)
	12/06/15	2 - 3	FD	ND (11)	ND (11)
	12/06/15	5 - 6	N	ND (11)	ND (11)
	12/06/15	9 - 10	N	ND (10)	ND (10)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

TABLE 3-26e

Sample Results: Total Petroleum Hydrocarbons

AOC 17 – Onsite Septic System

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.
- 3 Background values have not been established for TPHs.

TABLE 3-26f

Sample Results: Polychlorinated Biphenyls

AOC 17 – Onsite Septic System

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC17-1	12/06/15	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	18	ND (17)	---	---	43.5
	12/06/15	0 - 1	FD	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	23	ND (18)	---	---	50
AOC17-2	12/06/15	0 - 1	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (38)
	12/06/15	2 - 3	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (38)
AOC17-3	12/06/15	0 - 1	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (38)
	12/06/15	0 - 1	FD	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	---	---	ND (38)
AOC17-4	12/06/15	0 - 1	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	12/06/15	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC17-5	12/06/15	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	18	ND (17)	ND (17)	ND (17)	43.5

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

TABLE 3-26f

Sample Results: Polychlorinated Biphenyls

AOC 17 – Onsite Septic System

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-26g
Sample Results: Dioxins and Furans
AOC 17 – Onsite Septic System
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC17-2	12/06/15	0 - 1	N	120	28	ND (2.5)	ND (1.5)	ND (1.8)	4.2 J	ND (1.7)	ND (1.7)	ND (0.86)	ND (0.27)	ND (1.2)	ND (24)	ND (0.96)	ND (0.36)	ND (0.97)	1,100	52	4.4
	12/06/15	2 - 3	N	15	6.5 J	ND (1)	ND (0.86)	ND (0.86)	ND (1.3)	ND (1.1)	0.97 J	ND (0.34)	1 J	0.86 J	ND (7.9)	ND (0.82)	ND (0.37)	ND (0.34)	120	11 J	2.3
AOC17-4	12/06/15	0 - 1	N	77	15	ND (0.98)	ND (1.1)	ND (1.6)	2.9 J	ND (1.8)	ND (2.1)	ND (0.77)	1.4 J	ND (0.15)	ND (13)	ND (0.92)	ND (0.53)	ND (0.86)	740	28	4.3
	12/06/15	2 - 3	N	ND (6)	ND (1.3)	ND (0.62)	ND (0.5)	ND (0.65)	0.85 J	ND (0.65)	ND (0.58)	ND (0.56)	ND (0.69)	ND (0.73)	ND (0.53)	0.74 J	ND (0.3)	ND (0.29)	37	2.5 J	1.1

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

* Reporting limits greater than or equal to the interim screening level.
--- not analyzed
µg/kg micrograms per kilogram
ft bgs feet below ground surface
ng/kg nanograms per kilogram
DTSC California Department of Toxic Substances Control
DTSC-SL DTSC Screening Level
FD field duplicate
J concentration or reporting limit estimated by laboratory or data validation
JR estimated value, one or more input values is "R" qualified.
NA not applicable
NE not established
N primary sample
ND not detected at the listed reporting limit
R The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are not established or not applicable.

TABLE 3-26h

Constituent Concentrations in Soil Compared to Screening Values

AOC 17 – Onsite Septic System

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	2	4 / 4 (100%)	4.4	0	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	5	0 / 19 (0%)	ND (2.3) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	5	19 / 19 (100%)	4.3	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	5	19 / 19 (100%)	230	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	5	0 / 19 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	5	3 / 19 (16%)	2.3	2	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	5	5 / 19 (26%)	0.49	0	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	5	19 / 19 (100%)	20	0	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	5	19 / 19 (100%)	6.6	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	5	19 / 19 (100%)	11	0	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	5	19 / 19 (100%)	24	2	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	5	0 / 19 (0%)	ND (0.11) ‡	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	5	0 / 19 (0%)	ND (1.1)	0	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	5	19 / 19 (100%)	17	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	5	0 / 19 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	5	0 / 19 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	5	0 / 19 (0%)	ND (2.3) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	5	19 / 19 (100%)	31	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	5	19 / 19 (100%)	71	1	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	2 / 2 (100%)	9,900	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	1	2 / 2 (100%)	45,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	2 / 2 (100%)	19,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	2 / 2 (100%)	6,600	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	2 / 2 (100%)	360	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	1	2 / 2 (100%)	2,300	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-26h

Constituent Concentrations in Soil Compared to Screening Values

AOC 17 – Onsite Septic System

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter		Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
						# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics											
Sodium	mg/kg	1	2 / 2 (100%)	500	0	(2,070)	NA	(NA)	NA	(NE)	
Cyanide	mg/kg	1	0 / 2 (0%)	ND (0.219)	NA	(NE)	NA	(NA)	0	(150)	
Volatile Organic Compounds											
Acetone	µg/kg	5	1 / 14 (7.1%)	160	NA	(NE)	NA	(NA)	0	(670,000,000)	
Polycyclic Aromatic Hydrocarbons											
Benzo (a) anthracene	µg/kg	5	2 / 19 (11%)	9.5	NA	(NE)	NA	(NA)	0	(21,000)	
Chrysene	µg/kg	5	3 / 19 (16%)	17	NA	(NE)	NA	(NA)	0	(2,100,000)	
Fluoranthene	µg/kg	5	3 / 19 (16%)	18	NA	(NE)	NA	(NA)	0	(30,000,000)	
Pyrene	µg/kg	5	3 / 19 (16%)	21	NA	(NE)	NA	(NA)	0	(23,000,000)	
B(a)P Equivalent	µg/kg	5	3 / 19 (16%)	62	3	(55)	NA	(NA)	0	(2,100)	
Polychlorinated biphenyls											
Aroclor 1254	µg/kg	5	2 / 7 (29%)	23	NA	(NE)	NA	(NA)	0	(970)	
Total PCBs	µg/kg	5	2 / 7 (29%)	50	NA	(NE)	NA	(NA)	0	(940)	
Total Petroleum Hydrocarbons											
TPH as diesel	mg/kg	5	5 / 19 (26%)	73	NA	(NE)	0	(230)	0	(1,100)	
TPH as motor oil	mg/kg	5	9 / 19 (47%)	630	NA	(NE)	0	(11,000)	0	(140,000)	
TPH as gasoline	mg/kg	5	0 / 14 (0%)	ND (1.1)	NA	(NE)	0	(740)	0	(3,900)	

TABLE 3-26h
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 17 – Onsite Septic System
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-27a
Sample Results: Metals
AOC 18 – Combined Hazardous Waste Transference Pipelines
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	NE	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Trivalent Chromium	Vanadium	Zinc
Category 1																						
AOC18-1	01/12/16	0 - 0.5	N	ND (2.1)	4.2	120	ND (1)	ND (1)	0.25	19 J	5.7	12	8.7 J	0.14	1.2	14 J	ND (1)	ND (1)	ND (2.1)	---	24	36
	01/12/16	0 - 0.5	FD	ND (2.1)	3.6	110	ND (1)	ND (1)	0.23	14 J	4.6	8.9	6.2 J	ND (0.1)	ND (1)	10 J	ND (1)	ND (1)	ND (2.1)	---	20	32
	01/12/16	2 - 3	N	ND (2.1)	3.4	160	ND (1.1)	ND (1.1)	0.59	26	7.5	11	9.1	0.11	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1)	---	29	41
	01/12/16	5 - 6	N	ND (2.1)	3.3	180	ND (1)	ND (1)	ND (0.21)	24	8.5	14	4	ND (0.1)	1.4	17	ND (1)	ND (1)	ND (2.1)	---	38	40
AOC18-10	12/16/15	0 - 0.5	N	ND (2)	3.4	150	ND (1)	ND (1)	0.29	17	6.3	10	5.8	ND (0.1)	ND (1)	13	ND (1)	ND (1)	ND (2)	---	28	36
	12/16/15	2 - 3	N	ND (2.1) J	2.5	170	ND (1)	ND (1)	0.37	24	8.2	12	4.5	ND (0.1)	ND (1)	15	ND (1) J	ND (1)	ND (2.1)	---	33	45
	12/16/15	5 - 6	N	ND (2.1)	1.9	76	ND (1)	ND (1)	ND (0.21)	13	6.3	11	2.7	ND (0.1)	ND (1)	10	ND (1)	ND (1)	ND (2.1)	---	27	34
AOC18-11	01/11/16	0 - 0.5	N	ND (2.1)	4.3	130	ND (1.1)	ND (1.1)	0.64	17	6.2	11	17	0.13	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1)	---	27	38
	01/11/16	2 - 3	N	ND (2.1)	5.2	160	ND (1.1)	ND (1.1)	ND (0.21)	25	8.6	12	3.5	0.15	ND (1.1)	22	ND (1.1)	ND (1.1)	ND (2.1)	---	38	32
	01/11/16	5 - 6	N	ND (2.1)	2.3	95	ND (1)	ND (1)	ND (0.21)	11	6.1	7.8	3.3	ND (0.1)	ND (1)	9.1	ND (1)	ND (1)	ND (2.1)	---	24	28
AOC18-12	12/04/15	0 - 0.5	N	ND (2.1)	3.4	95	ND (1)	ND (1)	0.36	16	5.2	9.1	5.2	ND (0.1)	ND (1)	9.8	ND (1)	ND (1)	ND (2.1)	---	21	24
	12/04/15	2 - 3	N	ND (2.1)	4.7	120	ND (1.1)	ND (1.1)	ND (0.21)	7.8	3.7	5.9	2.6	ND (0.11)	ND (1.1)	6	ND (1.1)	ND (1.1)	ND (2.1)	---	23	22
	12/04/15	5 - 6	N	ND (2.2)	3.2	180	ND (1.1)	ND (1.1)	ND (0.22)	13	4.5	9	3.6	ND (0.11)	ND (1.1)	8.9	ND (1.1)	ND (1.1)	ND (2.2)	---	18	23
AOC18-2	01/12/16	0 - 0.5	N	ND (2.1)	4.1	130	ND (1.1)	ND (1.1)	0.23	21	6.9	9.6	5.1	ND (0.11)	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	---	28	36
	01/12/16	2 - 3	N	ND (2.2)	4.2	170	ND (1.1)	ND (1.1)	ND (0.22)	24	7.3	10	6.8	ND (0.11)	ND (1.1)	17	ND (1.1)	ND (1.1)	ND (2.2)	---	30	33
	01/12/16	5 - 6	N	ND (2.1)	3.9	180	ND (1.1)	ND (1.1)	ND (0.21)	13	5.2	9.6	4.1	ND (0.11)	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1)	---	23	27
AOC18-3	01/12/16	0 - 0.5	N	ND (2.1)	3.3	110	ND (1.1)	ND (1.1)	ND (0.21)	14	4.9	11	11	ND (0.11)	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1)	---	19	28
	01/12/16	2 - 3	N	ND (2.1)	3.7	180	ND (1)	ND (1)	0.22	26	6.9	11	6.2	ND (0.1)	ND (1)	16	ND (1)	ND (1)	ND (2.1)	---	29	35
	01/12/16	5 - 6	N	ND (2.1)	3.4	100	ND (1)	ND (1)	ND (0.21)	9.5	4.5	7.5	4.5	ND (0.1)	ND (1)	9.2	ND (1)	ND (1)	ND (2.1)	---	18	24
AOC18-4	12/04/15	0 - 0.5	N	ND (2.1)	2.9	99	ND (1)	ND (1)	ND (0.21)	15	4.6	9.3	6.7	ND (0.1)	ND (1)	11	ND (1)	ND (1)	ND (2.1)	---	21	29
	12/04/15	2 - 3	N	ND (2.1)	3	110	ND (1)	ND (1)	ND (0.21)	18	4.3	8.6	7.2	ND (0.11)	ND (1)	10	ND (1)	ND (1)	ND (2.1)	---	20	26
	12/05/15	5 - 6	N	ND (2.1)	2.7	100	ND (1.1)	ND (1.1)	ND (0.21)	11	4.5	7.2	4.6	ND (0.11)	ND (1.1)	9	ND (1.1)	ND (1.1)	ND (2.1)	---	20	27
AOC18-5	12/04/15	0 - 0.5	N	ND (2.1) J	3.1 J	82 J	ND (1) J	ND (1) J	0.31	16	3.9 J	8.9	5.3 J	ND (0.1)	ND (1) J	10 J	ND (1) J	ND (1) J	ND (2.1) J	---	17	24
	12/04/15	2 - 3	N	ND (2.2)	3.3	140	ND (1.1)	ND (1.1)	ND (0.22)	30	6.6	11	4.7	ND (0.11)	ND (1.1)	21	ND (1.1)	ND (1.1)	ND (2.2)	---	28	31
	12/04/15	5 - 6	N	ND (2.2)	3.2	130	ND (1.1)	ND (1.1)	0.31	22	5	9.9	4.4	ND (0.11)	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.2)	---	23	29
AOC18-6	12/04/15	0 - 0.5	N	ND (2.2)	3.5	140	ND (1.1)	ND (1.1)	0.28	38	5.8	12	6.2	ND (0.11)	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.2)	---	26	32
	12/04/15	2 - 3	N	ND (2.1)	3.6	130	ND (1.1)	ND (1.1)	0.26	20	5.5	14	7.1	ND (0.11)	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1)	---	24	28
	12/04/15	2 - 3	FD	ND (2.2)	4	150	ND (1.1)	ND (1.1)	ND (0.22)	18	5.3	10	4.2	ND (0.11)	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.2)	---	25	26
	12/04/15	5 - 6	N	ND (2.2)	4	180	ND (1.1)	ND (1.1)	ND (0.22)	15	5.2	9	3.7	ND (0.11)	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.2)	---	24	25
AOC18-7	12/08/15	0 - 0.5	N	ND (2.1)	3.1	97	ND (1.1)	ND (1.1)	ND (0.22)	26	6.4	13	4.7	ND (0.11)	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.1)	---	29	37
	12/08/15	2 - 3	N	ND (2.2)	3.4	80	ND (1.1)	ND (1.1)	ND (0.22)	31	9	15	3	ND (0.11)	ND (1.1)	28	1.4	ND (1.1)	ND (2.2)	---	37	35
AOC18-8	12/08/15	0 - 1	N	ND (2.2)	2.3	72 J	ND (1.1)	ND (1.1)	0.23	20 J	6.5 J	9.9	2.7	ND (0.11)	ND (1.1)	17 J	ND (1.1)	ND (1.1)	ND (2.2)	---	29 J	29
	12/08/15	2 - 3	N	ND (2.3)	2.3	120 J	ND (1.2)	ND (1.2)	ND (0.23)	31 J	8.9 J	16	2.6	ND (0.12)	ND (1.2)	25 J	ND (1.2)	ND (1.2)	ND (2.3)	---	37 J	32
AOC18-9	12/07/15	0 - 0.5	N	ND (2.1)	2.1	77	ND (1)	ND (1)	ND (0.21)	10	4	7.4	3.5	0.24	ND (1)	9	ND (1)	ND (1)	ND (2.1)	---	17	22
	12/07/15	0 - 0.5	FD	ND (2)	2.5	77	ND (1)	ND (1)	ND (0.2)	11	4	7.8	3.9	0.14	ND (1)	9.6	ND (1)	ND (1)	ND (2)	---	18	23
	12/07/15	2 - 3	N	ND (2.1)	1.8	130	ND (1.1)	ND (1.1)	0.39	22	5.8	11	3.7	ND (0.11)	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1)	---	25	26
Category 2																						
PA-3	11/19/89	1	N	ND (0.3)	---	---	ND (1)	ND (0.5)	ND (1)	---	ND (3)	---	14.8	0.058	ND (1)	14	ND (0.5)	ND (1)	ND (5)	---	---	---
	11/19/89	1	FD	---	2.6	169	---	---	---	49	---	8	---	---	---	---	---	---	---	---	25	91

TABLE 3-27a
Sample Results: Metals
AOC 18 – Combined Hazardous Waste Transference Pipelines
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	NE	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Trivalent Chromium	Vanadium	Zinc
PC-1	11/14/89	1	N	ND (0.3)	2	123	ND (1)	ND (0.5)	ND (1)	10	6	10	9.4	0.032	ND (1)	16	ND (0.5)	ND (1)	ND (5)	---	10	26
PF-6	11/18/89	1	N	ND (0.3)	2	80	0.12	0.11	ND (1)	26	1.8	6.7	28.5	ND (0.002)	0.27	8	ND (0.1)	ND (0.05)	ND (1)	26	8	51
PF-8	11/18/89	1	N	ND (0.3)	1.9	92	ND (1)	ND (0.5)	ND (1)	12	ND (3)	7	9	0.007	0.82	7	ND (0.5)	ND (1)	ND (5)	---	ND (1)	27
PG-2	11/15/89		N	ND (0.3)	---	---	ND (1)	ND (0.5)	ND (1)	---	ND (3)	---	10.6	0.026	ND (1)	9.6	ND (0.5)	4.4	ND (5)	---	---	92.8
	11/15/89		FD	---	3	219	---	---	---	26	---	9	---	---	---	---	---	---	---	---	7	---
PH1	12/05/88		N	ND (0.3)	3.19	---	ND (1)	ND (0.5)	ND (1)	23	---	ND (3)	---	0.061	ND (1)	8.5	ND (0.5)	ND (1)	---	---	---	---
	12/05/88		FD	---	---	180	---	---	---	---	5.1	---	20	---	---	---	---	---	ND (1)	---	15	33
PH2	12/05/88		N	ND (0.3)	2.42	150	ND (1)	0.6	1.9	510	6	8.7	38	0.076	ND (1)	6.7	ND (0.5)	ND (1)	ND (5)	---	13	210
PH-3	11/14/89	3	N	ND (0.3)	2.1	199	ND (1)	ND (0.5)	2	25	7	9	4	0.032	ND (1)	16	ND (0.5)	ND (1)	ND (5)	---	23	37
PH-4	11/14/89	3	N	5.8	2.1	175	ND (1)	ND (0.5)	ND (1)	35	6	8	9	0.006	ND (1)	17	ND (0.5)	ND (1)	ND (5)	---	23	53
PH-5	11/14/89	6	N	ND (0.3)	---	216	ND (1)	ND (0.5)	ND (1)	12	7	---	6	---	---	11	ND (0.5)	ND (1)	ND (5)	---	13	---
	11/14/89	6	FD	---	2.7	---	---	---	---	---	---	5	---	0.172	15	---	---	---	---	---	---	29
PH-6	11/18/89	1.5	N	ND (0.3)	1.7	66	ND (1)	ND (0.5)	ND (1)	10	9	13	2.3	0.045	ND (1)	32	ND (0.5)	ND (1)	ND (5)	---	29	58
PH-7	11/18/89	5	N	ND (0.3)	1.7	149	---	---	ND (1)	52	7	---	9.6	0.034	---	25	---	---	---	---	23	118
	11/18/89	5	FD	---	---	---	0.2	0.19	---	---	---	11	---	---	0.2	---	ND (0.1)	ND (0.05)	ND (1)	27	---	---
PH-8	11/18/89	3	N	ND (0.3)	2.1	83	1	ND (0.5)	ND (1)	37	6	16	6.1	ND (0.002)	ND (1)	25	ND (0.5)	ND (1)	ND (5)	---	42	41
PH-9	11/20/89	3	N	ND (0.3)	1.7	56	ND (1)	ND (0.5)	ND (1)	34	ND (3)	15	6.4	0.011	ND (1)	24	ND (0.5)	ND (1)	ND (5)	---	40	61
PH-10	11/20/89	2	N	ND (0.3)	1.4	113	0.26	ND (0.5)	ND (1)	26	ND (3)	5.1	20	0.075	ND (1)	18	0.6	ND (1)	ND (5)	---	25	12
PH-11	11/21/89	4	N	ND (0.3)	1.7	111	1	ND (0.5)	ND (1)	26	5	12	8	ND (0.002)	ND (1)	18	ND (0.5)	ND (1)	ND (5)	---	33	47
PH-12	11/21/89	4	N	ND (0.3)	2.2	90	1	ND (0.5)	ND (1)	28	4	12	8	ND (0.002)	ND (1)	19	ND (0.5)	ND (1)	ND (5)	---	35	44
PH-13	11/21/89	6	N	ND (0.3)	2.5	216	ND (1)	ND (0.5)	ND (1)	37	ND (3)	8	12.5	0.009	ND (1)	9	ND (0.5)	ND (1)	ND (5)	---	24	102

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-27b

Sample Results: Contract Laboratory Program Inorganics
AOC 18 – Combined Hazardous Waste Transference Pipelines
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC18-7	12/08/15	2 - 3	N	14,000	36,000	26,000	9,700	270	2,600	1,700	ND (0.215)
AOC18-8	12/08/15	0 - 1	N	9,800 J	40,000	23,000	7,200 J	200	1,800	580	ND (0.218)
	12/08/15	2 - 3	N	13,000 J	42,000	25,000	9,300 J	210	2,500	620	ND (0.233)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-27c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 18 – Combined Hazardous Waste Transference Pipelines
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC18-1	01/12/16	0 - 0.5	N	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (260)	ND (260)	ND (260)	ND (260)	47	ND (260)	56	ND (26)	ND (260)	ND (26)	ND (26)	ND (26)	56	290
	01/12/16	0 - 0.5	FD	ND (26)	ND (26)	ND (26)	ND (26)	ND (26)	ND (260)	ND (260)	ND (260)	ND (260)	ND (260)	ND (260)	ND (260)	60	ND (26)	ND (260)	ND (26)	ND (26)	ND (26)	64	300
	01/12/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	14	ND (53)	ND (53)	ND (53)	ND (53)	24	ND (53)	34	ND (5.3)	ND (53)	ND (5.2)	9.5	34	60	
	01/12/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
AOC18-10	12/16/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	14 J	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	13 J	59
	12/16/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	5.2	ND (52)	8	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	8.7	58
	12/16/15	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (57)	
AOC18-11	01/11/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.7	ND (53)	ND (53)	ND (53)	ND (53)	8.1	ND (53)	19	ND (5.3)	ND (53)	ND (5.3)	7.1	17	59	
	01/11/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
	01/11/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
AOC18-12	12/04/15	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.6	80	77	140	ND (52)	ND (52)	76	ND (52)	140	ND (5.2)	ND (52)	ND (5.2)	50	120	130	
	12/04/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.1)	ND (5.3)	ND (5.3)	ND (6.1)	
	12/04/15	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)	
AOC18-2	01/12/16	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	8.2	ND (54)	16	ND (5.4)	ND (54)	ND (5.4)	5.7	15	60	
	01/12/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	5.8	ND (54)	ND (54)	ND (54)	ND (54)	7.9	ND (54)	13	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	12	60	
	01/12/16	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
AOC18-3	01/12/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	17	37	5.3	15	15	ND (5.3)	20	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	21	24	
	01/12/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	11	19	ND (5.2)	10	11	ND (5.2)	16	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	17	16	
	01/12/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.2	8.7	13	ND (5.2)	5.6	8.3	ND (5.2)	9.4	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	9.7	13	
AOC18-4	12/04/15	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	14	22	46	7.3	15	20	ND (5.2)	33	ND (5.2)	7.7	ND (5.2)	6.3	31	32	
	12/04/15	2 - 3	N	9.1	12	ND (5.3)	ND (5.3)	ND (5.3)	7.7	13	23	ND (5.3)	9.1	12	ND (5.3)	14	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	15	19	
	12/05/15	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.8	12	21	5.3	9.2	12	ND (5.3)	14	ND (5.3)	5.3	ND (4.7)	ND (5.3)	15	18	
AOC18-5	12/04/15	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	10	75	80	140	ND (52)	56	74	ND (52)	150	ND (5.2)	ND (52)	ND (5.2)	63	130	130	
	12/04/15	2 - 3	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	11	ND (56)	ND (56)	ND (56)	ND (56)	17	ND (56)	25	ND (5.6)	ND (56)	ND (4.5)	5.6	25	63	
	12/04/15	5 - 6	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	16	ND (55)	55	ND (55)	ND (55)	27	ND (55)	680	ND (5.5)	ND (55)	ND (5.5)	410	530	65	
AOC18-6	12/04/15	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	23	ND (54)	75	ND (54)	ND (54)	35	ND (54)	45	ND (5.4)	ND (54)	ND (5.4)	8.2	46	67	
	12/04/15	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	17	ND (54)	54	ND (54)	ND (54)	27	ND (54)	37	ND (5.4)	ND (54)	ND (5.4)	6.8	38	64	
	12/04/15	2 - 3	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	17	25	43	8.7	16	23	ND (5.4)	34	ND (5.4)	9.4	ND (4.7)	6.1	34	35	
	12/04/15	5 - 6	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (4.7)	ND (5.6)	ND (5.6)	ND (6.5)	
AOC18-7	12/08/15	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (62)	
	12/08/15	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.3)	ND (5.5)	ND (5.5)	ND (6.4)	
AOC18-8	12/08/15	0 - 1	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (62)	
	12/08/15	2 - 3	N	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.7)	ND (5.8)	ND (5.8)	ND (6.7)	
AOC18-9	12/07/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	19 J	ND (5.1)	ND (51)	ND (5.1)	8.2 J	17 J	59	
	12/07/15	0 - 0.5	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (510)	ND (510)	ND (510)	ND (510)	51	ND (510)	21 J	ND (5.1)	ND (510)	ND (5.1)	14 J	17 J	570	
	12/07/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (61)	

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-27d

Sample Results: Total Petroleum Hydrocarbons

AOC 18 – Combined Hazardous Waste Transference Pipelines

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC18-1	01/12/16	0 - 0.5	N	87	500
	01/12/16	0 - 0.5	FD	88	460
	01/12/16	2 - 3	N	23	340
	01/12/16	5 - 6	N	ND (10)	13
AOC18-10	12/16/15	0 - 0.5	N	18	260
	12/16/15	2 - 3	N	ND (10)	82
	12/16/15	5 - 6	N	ND (10)	34
AOC18-11	01/11/16	0 - 0.5	N	ND (11)	35
	01/11/16	2 - 3	N	ND (11)	ND (11)
	01/11/16	5 - 6	N	ND (10)	ND (10)
AOC18-12	12/04/15	0 - 0.5	N	100	570
	12/04/15	2 - 3	N	ND (11)	ND (11)
	12/04/15	5 - 6	N	ND (11)	13
AOC18-2	01/12/16	0 - 0.5	N	ND (11)	32
	01/12/16	2 - 3	N	ND (11)	41
	01/12/16	5 - 6	N	ND (11)	ND (11)
AOC18-3	01/12/16	0 - 0.5	N	ND (11)	55
	01/12/16	2 - 3	N	ND (10)	64
	01/12/16	5 - 6	N	ND (10)	11
AOC18-4	12/04/15	0 - 0.5	N	ND (10)	41
	12/04/15	2 - 3	N	ND (11)	76
	12/05/15	5 - 6	N	ND (11)	36
AOC18-5	12/04/15	0 - 0.5	N	11	34
	12/04/15	2 - 3	N	ND (11)	19
	12/04/15	5 - 6	N	ND (11)	35
AOC18-6	12/04/15	0 - 0.5	N	ND (11)	46
	12/04/15	2 - 3	N	ND (11)	53
	12/04/15	2 - 3	FD	ND (11)	22
	12/04/15	5 - 6	N	ND (11)	ND (11)
AOC18-7	12/08/15	0 - 0.5	N	180	600
	12/08/15	2 - 3	N	ND (11)	ND (11)
AOC18-8	12/08/15	0 - 1	N	44	390
	12/08/15	2 - 3	N	ND (12)	110
AOC18-9	12/07/15	0 - 0.5	N	120	640
	12/07/15	0 - 0.5	FD	110	640
	12/07/15	2 - 3	N	61	480

Notes:

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Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

TABLE 3-27d

Sample Results: Total Petroleum Hydrocarbons

AOC 18 – Combined Hazardous Waste Transference Pipelines

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.
- 3 Background values have not been established for TPHs.

TABLE 3-27e

Sample Results: General Chemistry Parameters

AOC 18 – Combined Hazardous Waste Transference Pipelines

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry		
				(mg/kg)	(pH units)	(µS/cm)
Commercial Regional Screening Levels¹:				47,000	NE	NE
DTSC-SL²:				NE	NE	NE
Background³:				NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Fluoride	pH	Specific conductance
Category 1						
AOC18-1	01/12/16	0 - 0.5	N	---	8	---
	01/12/16	0 - 0.5	FD	---	8	---
	01/12/16	2 - 3	N	---	9.1	---
	01/12/16	5 - 6	N	---	9.5	---
AOC18-10	12/16/15	0 - 0.5	N	---	8.1	---
	12/16/15	2 - 3	N	---	9.1	---
	12/16/15	5 - 6	N	---	9.2	---
AOC18-11	01/11/16	0 - 0.5	N	---	9.4	---
	01/11/16	2 - 3	N	---	8.6	---
	01/11/16	5 - 6	N	---	8.9	---
AOC18-12	12/04/15	0 - 0.5	N	---	8.8 J	---
	12/04/15	2 - 3	N	---	8.6 J	---
	12/04/15	5 - 6	N	---	9.4 J	---
AOC18-2	01/12/16	0 - 0.5	N	---	8.2	---
	01/12/16	2 - 3	N	---	8.4	---
	01/12/16	5 - 6	N	---	8.3	---
AOC18-3	01/12/16	0 - 0.5	N	---	8.5	---
	01/12/16	2 - 3	N	---	8	---
	01/12/16	5 - 6	N	---	8.2	---
AOC18-4	12/04/15	0 - 0.5	N	---	9 J	---
	12/04/15	2 - 3	N	---	8.6 J	---
	12/05/15	5 - 6	N	---	9	---
AOC18-5	12/04/15	0 - 0.5	N	---	9.4 J	---
	12/04/15	2 - 3	N	---	9.1 J	---
	12/04/15	5 - 6	N	---	9.2 J	---
AOC18-6	12/04/15	0 - 0.5	N	---	8.7 J	---
	12/04/15	2 - 3	N	---	8.5 J	---
	12/04/15	2 - 3	FD	---	8.7 J	---
	12/04/15	5 - 6	N	---	9.4 J	---
AOC18-7	12/08/15	0 - 0.5	N	---	9.8	---
	12/08/15	2 - 3	N	---	10	---
AOC18-8	12/08/15	0 - 1	N	---	9.5	---
	12/08/15	2 - 3	N	---	9.8	---
AOC18-9	12/07/15	0 - 0.5	N	---	8.6	---
	12/07/15	0 - 0.5	FD	---	8.4	---
	12/07/15	2 - 3	N	---	8.7	---
Category 2						
PA-3	11/19/89	1	N	583	8.2	244
PC-1	11/14/89	1	N	310	8.59	120
PF-6	11/18/89	1	N	380	8.69	980

TABLE 3-27e

Sample Results: General Chemistry Parameters
 AOC 18 – Combined Hazardous Waste Transference Pipelines
 RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
 PG&E Topock Compressor Station, Needles, California

				General Chemistry		
				(mg/kg)	(pH units)	(µS/cm)
Commercial Regional Screening Levels ¹ :				47,000	NE	NE
DTSC-SL ² :				NE	NE	NE
Background ³ :				NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Fluoride	pH	Specific conductance
PF-8	11/18/89	1	N	519	8.5	98
PG-2	11/15/89		N	890	9	---
	11/15/89		FD	---	---	686
PH1	12/05/88		N	---	8.57	---
	12/05/88		FD	502	---	---
PH2	12/05/88		N	500	8.45	---
PH-3	11/14/89	3	N	520	9.96	320
PH-4	11/14/89	3	N	480	9.14	270
PH-5	11/14/89	6	N	570	8.42	160
PH-6	11/18/89	1.5	N	506	10.3	412
PH-7	11/18/89	5	FD	650	10.26	810
PH-8	11/18/89	3	N	584	10.2	449
PH-9	11/20/89	3	N	851	9.7	368
PH-10	11/20/89	2	N	516	10.2	418
PH-11	11/21/89	4	N	617	8.6	225
PH-12	11/21/89	4	N	629	8.9	303
PH-13	11/21/89	6	N	670	8.5	328

Notes:

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Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-27f

Sample Results: Polychlorinated Biphenyls

AOC 18 – Combined Hazardous Waste Transference Pipelines

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

S&E Topsoil Compressor Station, Needles, California				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC18-1	01/12/16	0 - 0.5	N	ND (17) J	ND (34)	ND (17)	ND (17)	ND (17)	67	ND (17) J	---	---	92.5
	01/12/16	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	36	ND (17)	---	---	61.5
	01/12/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	87	54	---	---	158
	01/12/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC18-10	12/16/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/16/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	120	52	---	---	189
	12/16/15	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC18-11	01/11/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/11/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/11/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC18-12	12/04/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	18	ND (17)	---	---	43.5
	12/04/15	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	12/04/15	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC18-2	01/12/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	29	ND (18)	---	---	56
	01/12/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	85	ND (18)	---	---	112
	01/12/16	5 - 6	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC18-3	01/12/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	26	ND (18)	---	---	53
	01/12/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	24	ND (17)	---	---	49.5
	01/12/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC18-4	12/04/15	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/04/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/05/15	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC18-5	12/04/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	69	120	---	---	206
	12/04/15	2 - 3	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	42	42	---	---	102
	12/04/15	5 - 6	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	20	28	---	---	66

TABLE 3-27f

Sample Results: Polychlorinated Biphenyls

AOC 18 – Combined Hazardous Waste Transference Pipelines

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
AOC18-6	12/04/15	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	20	38	---	---	76
	12/04/15	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	22	45	---	---	85
	12/04/15	2 - 3	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	37	43	---	---	98
	12/04/15	5 - 6	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
AOC18-7	12/08/15	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	12/08/15	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC18-8	12/08/15	0 - 1	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	12/08/15	2 - 3	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (38)
AOC18-9	12/07/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/07/15	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	12/07/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

TABLE 3-27f

Sample Results: Polychlorinated Biphenyls

AOC 18 – Combined Hazardous Waste Transference Pipelines

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

- ¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- ² Background values have not been established for polychlorinated biphenyls.

TABLE 3-27g
Sample Results: Dioxins and Furans
AOC 18 – Combined Hazardous Waste Transference Pipelines
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC18-1	01/12/16	0 - 0.5	N	7,500 J	330 J	16 J	18 J	30 J	110 J	ND (9.6) J	33 J	9.1 J	ND (8.4) J	4.8 J	ND (480) J	10 J	ND (0.22) J	2.7 J	90,000 J	600 J	160
AOC18-12	12/04/15	0 - 0.5	N	940 J	110 J	6.2 J	ND (7) J	ND (0.82) J	26 J	ND (5.7) J	13 J	ND (0.94) J	ND (4.5) J	ND (0.97) J	ND (120) J	1.9 J	ND (0.28) J	ND (0.33) J	8,800 J	190 J	27
AOC18-3	01/12/16	0 - 0.5	N	470 J	31 J	ND (2) J	2.5 J	1.9 J	9.9 J	ND (1.7) J	4.3 J	ND (0.22) J	ND (1.3) J	ND (1.1) J	ND (38) J	ND (0.14) J	ND (0.2) J	ND (0.98) J	4,500 J	77 J	11
AOC18-5	12/04/15	0 - 0.5	N	870 J	100 J	8.1 J	ND (5.1) J	8.2 J	23 J	7.9 J	9.6 J	ND (0.55) J	ND (3.2) J	6.3 J	ND (130) J	4.9 J	ND (0.59) J	3.5 J	8,700 J	190 J	28
AOC18-9	12/07/15	0 - 0.5	N	1,100 J	54 J	ND (1.8) J	ND (3) J	ND (3.6) J	19 J	ND (0.98) J	8 J	ND (1.2) J	ND (2) J	ND (1.5) J	ND (100) J	2.2 J	ND (0.29) J	ND (1.6) J	13,000 J	100 J	26

- Notes:**
- Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
- Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
- Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.
- Results greater than or equal to the Interim Screening Level are circled.
- | | |
|-----------|---|
| * | Reporting limits greater than or equal to the interim screening level. |
| --- | not analyzed |
| µg/kg | micrograms per kilogram |
| ft bgs | feet below ground surface |
| ng/kg | nanograms per kilogram |
| DTSC | California Department of Toxic Substances Control |
| DTSC-SL | DTSC Screening Level |
| FD | field duplicate |
| J | concentration or reporting limit estimated by laboratory or data validation |
| JR | estimated value, one or more input values is “R” qualified. |
| NA | not applicable |
| NE | not established |
| N | primary sample |
| ND | not detected at the listed reporting limit |
| R | The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time). |
| TEQ Human | Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U. |
| USEPA | United States Environmental Protection Agency |

¹ Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values are not established or not applicable.

TABLE 3-27h

Constituent Concentrations in Soil Compared to Screening Values

AOC 18 – Combined Hazardous Waste Transference Pipelines

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	5	5 / 5 (100%)	160	5	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	30	1 / 51 (2.0%)	5.8	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	30	51 / 51 (100%)	5.2	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	30	51 / 51 (100%)	219	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	30	6 / 51 (12%)	1	3	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	30	3 / 51 (5.9%)	0.6	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	30	16 / 51 (31%)	2	2	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	30	50 / 50 (100%)	510	3	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	30	44 / 50 (88%)	9	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	30	50 / 51 (98%)	16	0	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	30	51 / 51 (100%)	38	15	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	30	19 / 51 (37%)	0.24	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	30	6 / 51 (12%)	15	2	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	30	50 / 50 (100%)	32	2	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	30	2 / 51 (3.9%)	1.4	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	30	1 / 51 (2.0%)	4.4	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	30	0 / 51 (0%)	ND (5) ‡	NA	(NE)	NA	(NA)	0	(12)
Trivalent Chromium	mg/kg	2	2 / 2 (100%)	27	NA	(NE)	NA	(NA)	NA	(NE)
Vanadium	mg/kg	30	49 / 50 (98%)	42	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	30	50 / 50 (100%)	210	6	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	2	3 / 3 (100%)	14,000	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	2	2 / 2 (100%)	42,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	2	2 / 2 (100%)	26,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	2	2 / 2 (100%)	9,700	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	2	2 / 2 (100%)	270	0	(402)	NA	(NA)	0	(6,900)

TABLE 3-27h

Constituent Concentrations in Soil Compared to Screening Values

AOC 18 – Combined Hazardous Waste Transference Pipelines

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Potassium	mg/kg	2	2 / 2 (100%)	2,600	0	(4,400)	NA	(NA)	NA	(NE)
Sodium	mg/kg	2	2 / 2 (100%)	1,700	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	2	0 / 3 (0%)	ND (0.233)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	µg/kg	12	1 / 33 (3.0%)	9.1	NA	(NE)	NA	(NA)	0	(73,000)
2-Methyl naphthalene	µg/kg	12	1 / 33 (3.0%)	12	NA	(NE)	NA	(NA)	0	(3,000,000)
Anthracene	µg/kg	12	2 / 33 (6.1%)	10	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	12	13 / 33 (39%)	80	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	12	9 / 33 (27%)	80	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	12	11 / 33 (33%)	140	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	12	4 / 33 (12%)	8.7	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	12	8 / 33 (24%)	56	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	12	19 / 33 (58%)	76	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	12	20 / 33 (61%)	680	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	12	3 / 33 (9.1%)	9.4	NA	(NE)	NA	(NA)	0	(21,000)
Phenanthrene	µg/kg	12	11 / 33 (33%)	410	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	12	20 / 33 (61%)	530	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	12	20 / 33 (61%)	570	14	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	12	13 / 33 (39%)	120	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	12	7 / 33 (21%)	120	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	12	13 / 33 (39%)	206	NA	(NE)	NA	(NA)	0	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	12	9 / 33 (27%)	180	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	12	27 / 33 (82%)	640	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	12	0 / 21 (0%)	ND (1.5)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-27h
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 18 – Combined Hazardous Waste Transference Pipelines
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-28a
Sample Results: Metals
AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	NE	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	NE	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																						
AOC19-10	12/16/15	0 - 0.5	N	ND (2.1)	4.5	110	ND (1.1)	ND (1.1)	14	320	320	3.5	170	110	ND (0.1)	240	8.9	ND (1.1)	ND (1.1)	ND (2.1)	16	280
	12/16/15	2 - 3	N	ND (2.2)	4.3	130	ND (1.1)	ND (1.1)	9.3	210	210	4.5	16	43	ND (0.11)	81	10	ND (1.1)	ND (1.1)	ND (2.2)	18	64
	01/22/17	5 - 5.5	N	ND (2.1)	2.2	20	ND (1)	ND (1)	0.85	3.4	3.4	1.1	ND (2.1)	ND (1)	ND (0.1)	ND (1)	2	ND (1)	ND (1)	2.2	4.4	5.5
	01/22/17	6.5 - 7	N	ND (2.1)	2.9	58	ND (1)	ND (1)	0.52	15	15	2.1	3.7	2.8	ND (0.1)	6.4	3.3	ND (1)	ND (1)	2.2	12	13
AOC19-11	03/10/16	0 - 1	N	ND (2)	6.6	170	ND (1)	ND (1)	2.3	29	29	6.4	100	24	ND (0.1)	510	11	ND (1)	ND (1)	ND (2)	22	76
	03/10/16	2 - 3	N	ND (2.1)	4.5	120	ND (1.1)	ND (1.1)	0.21	8.9	8.9	4.2	7.3	6.6	ND (0.1)	13 J	9.3	ND (1.1)	ND (1.1)	ND (2.1)	18	26
	03/10/16	2 - 3	FD	ND (2.1)	5.4	130	ND (1.1)	ND (1.1)	ND (0.21)	10	10	8.2	9.1	7.2	ND (0.11)	5 J	10	ND (1.1)	ND (1.1)	ND (2.1)	17	26
	01/23/17	5 - 6	N	ND (2)	2.1	46	ND (1)	ND (1)	1.6	21	21	1.9	4.2	1.7	ND (0.1)	1.5	3	ND (1)	ND (1)	ND (2)	8.4	11
	01/23/17	9 - 10	N	ND (2.1)	3.2	83	ND (1)	ND (1)	1.1	13	13	4.6	7.1	3	ND (0.1)	5.8	6.7	ND (1)	ND (1)	ND (2.1)	12	16
AOC19-12	01/21/17	0 - 0.5	N	ND (2.2)	3.6	110	ND (1.1)	1.4	0.4	20	20	3.2	8.5	63	ND (0.11)	1.2	6.2	ND (1.1)	ND (1.1)	ND (2.2)	16	34
	01/21/17	2 - 3	N	ND (2.1)	1.6	82 J	ND (1.1)	ND (1.1)	ND (0.21)	4.4	4.4	1.9	3.6	2.7	ND (0.11)	ND (1.1)	3.6	ND (1.1)	ND (1.1)	ND (2.1)	8.4	14
	01/21/17	2 - 3	FD	ND (2)	2.1	61 J	ND (1)	ND (1)	ND (0.2)	3.8	3.8	1.8	3.1	2.4	ND (0.1)	ND (1)	3	ND (1)	ND (1)	2.1	7.8	12
	01/21/17	4 - 5	N	ND (2)	2	49	ND (1)	ND (1)	ND (0.2)	3.4	3.4	1.5	3	2	ND (0.1)	ND (1)	2.6	ND (1)	ND (1)	2.1	7.2	10
AOC19-13	01/22/17	0 - 0.5	N	ND (2.1)	3.8	110	ND (1.1)	ND (1.1)	0.52	23	23	4.3	10	13	ND (0.1)	2.6	8.1	ND (1.1)	ND (1.1)	ND (2.1)	18	40
	01/22/17	2 - 3	N	ND (2.2)	3.5	120	ND (1.1)	ND (1.1)	0.35	18	18	4.2	7.9	5	ND (0.11)	ND (1.1)	7.2	ND (1.1)	ND (1.1)	ND (2.2)	20	26
	01/22/17	5 - 6	N	ND (2.1)	3.2	65	ND (1)	ND (1)	ND (0.2)	5.8	5.8	3	4.7	2.1	ND (0.1)	ND (1)	5.9	ND (1)	ND (1)	2.1	13	13
AOC19-14	01/21/17	0 - 0.5	N	ND (2.1)	3.8	78 J	ND (1)	7.2 J	1.4	24 J	24 J	2.8	7.4	17 J	ND (0.1)	2.8	5	ND (1)	ND (1)	ND (2.1)	14 J	47
	01/21/17	0 - 0.5	FD	ND (2.1)	4.9	97 J	ND (1)	14 J	1.2	34 J	34 J	3.4	11	43 J	ND (0.1)	4	6.8	ND (1)	ND (1) J	ND (2.1)	18 J	54
	01/21/17	2 - 3	N	ND (2.1)	2.4	79	ND (1)	ND (1)	0.24	10	10	2.3	2.9	1.8	ND (0.1)	ND (1)	3.7	ND (1)	ND (1) J	2.1	12	13
	01/21/17	5 - 6	N	ND (2.1)	3.8	71	ND (1)	ND (1)	0.22	13	13	2.6	3.9	3	ND (0.1)	ND (1)	5.2	ND (1)	ND (1) J	ND (2.1)	17	17
AOC19-15	01/21/17	0 - 0.5	N	ND (2.1)	4.6	66	ND (1.1)	ND (1.1)	ND (0.21)	16	16	6.1	6	4	ND (0.1)	ND (1.1)	12	ND (1.1)	ND (1.1) J	ND (2.1)	26	33
	01/21/17	2 - 3	N	ND (2.2)	4.8	110	ND (1.1)	ND (1.1)	0.3	16	16	5.8	7	5.2	ND (0.11)	ND (1.1)	11	ND (1.1)	ND (1.1) J	ND (2.2)	25	27
	01/21/17	5 - 6	N	ND (2)	2.8	57	ND (1)	ND (1)	ND (0.2)	11	11	3.3	4.1	3.9	ND (0.1)	ND (1)	5.5	ND (1)	ND (1) J	ND (2)	18	21
AOC19-5	12/06/15	0 - 0.5	N	ND (2.1)	2.5	91	ND (1.1)	ND (1.1)	2.1	54	54	3.7	8.7	20	4.6	ND (1.1)	9.6	ND (1.1)	ND (1.1)	ND (2.1)	20	27
	12/06/15	2 - 3	N	ND (2.1)	3.1	89	ND (1.1)	ND (1.1)	2	50	50	3.1	7.8	24	6	ND (1.1)	7.2	ND (1.1)	ND (1.1)	ND (2.1)	19	29
AOC19-6	01/23/16	0 - 0.5	N	ND (2.1)	4	110	ND (1)	1.4	7	240	240	5	37	310	ND (0.1)	4.4	8.6	ND (1)	ND (1)	ND (2.1)	18	170
	01/23/16	2 - 3	N	ND (2.2)	3	62	ND (1.1)	ND (1.1)	0.51	22	22	2.9	7	8.3	ND (0.11)	ND (1.1)	6.4	ND (1.1)	ND (1.1)	ND (2.2)	14	19
AOC19-7	01/23/16	0 - 0.5	N	ND (2.3)	6.4	150	ND (1.2)	ND (1.2)	11 J	440 J	440 J	7	26 J	200 J	ND (0.12)	2.5	14	ND (1.2) J	ND (1.2)	ND (2.3)	26 J	88 J
	01/23/16	0 - 0.5	FD	ND (2.4)	5.6	150	ND (1.2)	ND (1.2)	14 J	230 J	230 J	5.7	19 J	60 J	ND (0.12)	1.7	13	ND (1.2)	ND (1.2)	ND (2.4)	26	59 J
	01/23/16	2 - 3	N	ND (2.3)	5.7	160	ND (1.2)	ND (1.2)	7.2	300	300	5.7	26	120	ND (0.12)	3.1	12	ND (1.2)	ND (1.2)	ND (2.3)	25	94
AOC19-8	12/16/15	0 - 0.5	N	ND (2.1)	3.8	130	ND (1.1)	ND (1.1)	13	310	310	3.9	8.2	23	ND (0.1)	17	8.6	ND (1.1)	ND (1.1)	ND (2.1)	17	29
	12/16/15	2 - 3	N	ND (2.1)	2.8	89	ND (1)	ND (1)	8	67	67	2.6	4.2	3	ND (0.1)	2	4.7	ND (1)	ND (1)	ND (2.1)	12	14
	12/16/15	5 - 6	N	ND (2)	2.2	23	ND (1)	ND (1)	2.8	17	17	1.8	3	2	ND (0.1)	1.8	3.4	ND (1)	ND (1)	ND (2)	8.7	11
	12/16/15	9 - 10	N	ND (2)	2.4	23	ND (1)	ND (1)	2.6	15	15	1.5	2.3	1.9	ND (0.1)	2	2.3	ND (1)	ND (1)	ND (2)	7.6	8.3
AOC19-9	12/05/15	0 - 0.5	N	ND (2.1)	3.1	130	ND (1.1)	ND (1.1)	0.59	23	23	4.9	8.3	3.3	ND (0.11)	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1)	23	23
	12/05/15	2 - 3	N	ND (2)	2.9	52	ND (1)	ND (1)	ND (0.2)	5.1	5.1	2	3.2	2.1	ND (0.1)	1.2	3.2	ND (1)	ND (1)	ND (2)	13	10
	12/06/15	5 - 6	N	ND (2.1)	3.4	130	ND (1)	ND (1)	ND (0.21)	8.3	8.3	4.3	5.1	3	ND (0.1)	ND (1)	5.1	ND (1)	ND (1)	ND (2.1)	19	22
AOC19-OS1	01/12/11	0 - 0.5	N	ND (2)	4	130	ND (1)	ND (1)	1.1	25	25	3.5	5.9	7.3	ND (0.1)	8.8	7.5	ND (1)	ND (1)	ND (2)	19	25
	01/12/11	1 - 2	N	ND (2.1)	4.6	130	ND (1)	ND (1)	0.91	17	17	3.1	8.7	15	ND (0.1)	18	6.4	ND (1)	ND (1)	ND (2.1)	18	38

TABLE 3-28a
Sample Results: Metals
AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	NE	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	NE	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC19-OS10	12/04/13	0 - 0.5	N	ND (2.1)	4.2	130	ND (1.1)	ND (1.1)	22	370	370	4.1	17	120	ND (0.11)	140	9.2	ND (1.1)	ND (1.1)	ND (2.1)	20	98
	12/04/13	2 - 3	N	ND (2.1)	2.6	76	ND (1)	ND (1)	3	24	24	2.1	4.6	6.1	ND (0.1)	37	4.8	ND (1)	ND (1)	ND (2.1)	13	18
AOC19-OS2	01/12/11	0 - 0.5	N	ND (2.1)	4.2	100	ND (1)	ND (1)	1	18	18	3	4.6	5	ND (0.1)	27	7.2	ND (1)	ND (1)	ND (2.1)	18	18
	01/12/11	1 - 2	N	ND (2.1)	4.9	110	ND (1)	ND (1)	0.92	12	12	4	6.2	5.1	ND (0.1)	110	6.3	ND (1)	ND (1)	ND (2.1)	17	20
AOC19-OS3	01/12/11	0 - 0.5	N	ND (2)	4.7	140	ND (1)	ND (1)	ND (0.41)	7.9	7.9	2.9	ND (4.1)	5.1	ND (0.1)	ND (2)	5.7	ND (1)	ND (1)	ND (2)	17	17
	01/12/11	1 - 2	N	ND (2.1)	4.4	110	ND (1)	ND (1)	ND (0.41)	6.8	6.8	3.6	2.9	3.7	ND (0.1)	ND (1)	5.5	ND (1)	ND (1)	ND (2.1)	16	16
AOC19-OS4	01/12/11	0 - 0.5	N	ND (2.1)	4.9	130	ND (1.1)	ND (1.1)	ND (0.42)	12	12	3.3	5.3	4.8	ND (0.11)	ND (1.1)	7.7	ND (1.1)	ND (1.1)	ND (2.1)	20	19
	01/12/11	1 - 2	N	ND (2.1)	4.2	130	ND (1.1)	ND (1.1)	ND (0.43)	10	10	3	3.6	4.4	ND (0.11)	ND (1.1)	5.9	ND (1.1)	ND (1.1)	ND (2.1)	16	18
AOC19-OS7	12/04/13	0 - 0.5	N	ND (2.2)	4.4	190	ND (1.1)	ND (1.1)	27	510	510	5.5	37	240	ND (0.11)	9.9	12	ND (1.1)	ND (1.1)	ND (2.2)	20	340
	12/04/13	2 - 3	N	ND (2.2)	4.2	160	ND (1.1)	ND (1.1)	31	1,100	1,100	6.1	20	54	ND (0.11)	5.1	15	ND (1.1)	ND (1.1)	ND (2.2)	25	280
AOC19-OS8	12/04/13	0 - 0.5	N	ND (2) J	3.1	110	ND (1)	ND (1)	13	160	160	2.3	9.8	86	ND (0.1)	190	5.1	ND (1)	ND (1)	ND (2)	15	43
	12/04/13	2 - 3	N	ND (2)	3.2	74	ND (1)	ND (1)	1.4	20	20	2.4	5.5	14	ND (0.1)	77	4.9	ND (1)	ND (1)	ND (2)	15	21
Category 2																						
SS#1	01/30/06	0	N	12	3.4	150	0.5	1.6	---	3,000	3,000	3.8	37	300	0.051	30	10	2	0.99	0.99	15	200
SS#2	01/30/06	0	N	10	2.7	320	ND (0.48)	2	---	30	30	3.9	50	790	ND (0.05)	61	9.3	ND (1.9)	ND (0.96)	ND (0.96)	12	350
SS#3	01/30/06	0	N	12	3.8	370	ND (0.49)	2.3	---	2,800	2,800	4.7	70	890	0.095	80	10	ND (2)	ND (0.98)	1	15	480
SS#4	01/30/06	0	N	5.8	3.2	290	ND (0.5)	2.7	---	2,100	2,100	5	84	600	0.075	300	11	ND (2)	ND (1)	ND (1)	15	380
SS#5	01/30/06	0	N	3.8	3.2	180	ND (0.48)	4.5	---	13	13	5	43	480	0.1	130	12	ND (1.9)	ND (0.95)	ND (0.95)	13	470
SS#6	01/30/06	0	N	16	2.6	160	ND (0.5)	1.5	---	4,300	4,300	3.6	49	290	ND (0.049)	70	9.7	ND (2)	ND (0.99)	ND (0.99)	12	320
SS#7	01/30/06	0	N	14	2.3	220	ND (0.49)	1.9	---	34	34	4	37	710	0.1	23	10	ND (2)	ND (0.98)	ND (0.98)	12	270

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- *

Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg

milligrams per kilogram
- ft bgs

feet below ground surface
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- N

primary sample
- ND

not detected at the listed reporting limit
- NE

not established
- J

concentration or reporting limit estimated by laboratory or data validation
- USEPA

United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-28b

Sample Results: Contract Laboratory Program Inorganics
 AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC19-10	01/22/17	5 - 5.5	N	670	17,000	2,400	3,100	64	170 J	280 J	ND (0.208) J
AOC19-12	01/21/17	2 - 3	N	2,600	21,000	4,200	4,700	140	570 J	660 J	ND (0.205) J
AOC19-8	12/16/15	0 - 0.5	N	5,600	25,000	14,000	5,300	170	1,400	1,400	ND (0.0421) J
	12/16/15	2 - 3	N	4,100	20,000	6,300	4,200	120	1,000	950	ND (0.0413) J
AOC19-OS8	12/04/13	0 - 0.5	N	3,700	23,000	7,300	4,100	140	920	990	ND (1) J
	12/04/13	2 - 3	N	3,400	22,000	7,400	4,200	130	870	480	ND (1) J

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-28c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC19-10	12/16/15	0 - 0.5	N	5.4 R	5.4 R	5.4 R	5.4 R	14 J	220 J	260 J	460 J	210 J	160 J	200 J	5.4 R	450 J	5.4 R	160 J	5.4 R	140 J	410 J	350 JR	
	12/16/15	2 - 3	N	5.4 R	5.4 R	5.4 R	5.4 R	5.4 R	19 J	29 J	58 J	7.6 J	28 J	26 J	5.4 R	38 J	5.4 R	7.6 J	5.4 R	8.4 J	39 J	40 JR	
	01/22/17	5 - 5.5	N	---	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (390)	
AOC19-11	03/10/16	0 - 1	N	5.1 R	5.1 R	5.1 R	5.1 R	5.1 R	20 J	31 J	85 J	14 J	26 J	36 J	5.1 R	43 J	5.1 R	12 J	5.1 R	13 J	40 J	46 JR	
AOC19-12	01/21/17	0 - 0.5	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	15	19 J	53 J	6.5 J	11 J	21	ND (5.4)	28	ND (5.4)	6.5 J	ND (5.4)	7.6	28	29	
	01/21/17	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
	01/21/17	2 - 3	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
	01/21/17	4 - 5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
AOC19-13	01/22/17	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	35	56	130	23 J	31 J	55	ND (5.3)	55	ND (5.3)	22 J	ND (5.3)	13	57	78	
	01/22/17	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	6.2	8.3 J	19 J	ND (5.4)	5.8 J	9.8	ND (5.4)	10	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	11	14	
	01/22/17	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
AOC19-14	01/21/17	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	25 J	35 J	84 J	17 J	26	39 J	ND (5.2)	49 J	ND (5.2)	16 J	ND (5.2)	14	48 J	50	
	01/21/17	0 - 0.5	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	64 J	100	240	80	59	110 J	ND (5.2)	120 J	ND (5.2)	73	ND (5.2)	31	130 J	140	
	01/21/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
	01/21/17	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
AOC19-15	01/21/17	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.3	12	ND (5.3)	ND (5.3)	6	ND (5.3)	7.4	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7	9.7	
	01/21/17	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	6.3	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	6.7	
	01/21/17	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	12	25	9.6	8.6	13	ND (5.1)	13	ND (5.1)	8.6	ND (5.1)	ND (5.1)	14	19	
AOC19-5	12/06/15	2 - 3	N	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	27 J	26 J	78 J	8.7 J	32 J	32 J	5.2 R	36 J	5.2 R	8.3 J	5.2 R	5.2 R	41 J	40 JR	
AOC19-6	01/23/16	0 - 0.5	N	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	5.5 J	8 J	26 J	5.2 R	10 J	12 J	5.2 R	13 J	5.2 R	5.2 R	5.2 R	5.2 R	12 J	14 JR	
AOC19-7	01/23/16	0 - 0.5	N	5.8 R	5.8 R	5.8 R	5.8 R	5.8 R	11 J	5.8 R	50 J	5.8 R	22 J	22 J	5.8 R	31 J	5.8 R	5.8 R	5.8 R	10 J	29 J	12 JR	
	01/23/16	2 - 3	N	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	5.7 R	6.6 R	
AOC19-8	12/16/15	0 - 0.5	N	5.2 R	5.2 R	5.2 R	5.2 R	5.2 R	14 J	21 J	56 J	7.6 J	22 J	19 J	5.2 R	25 J	5.2 R	7 J	5.2 R	5.9 J	27 J	32 JR	
AOC19-OS1	01/12/11	0 - 0.5	N	ND (5.1)	6.5 J	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	12	9.2	8.8	10	ND (5.1)	5.8	ND (5.1)	ND (5.1)	7.1	ND (5.1)	ND (5.1)	ND (5.1)	20	
	01/12/11	1 - 2	N	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	35	50	94	76	25	57	34	71	ND (10)	66	ND (10)	15	66	100	
AOC19-OS2	01/12/11	0 - 0.5	N	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	35	ND (10)	ND (10)	26	ND (10)	ND (10)	28	ND (10)	ND (10)	ND (10)	35	
	01/12/11	1 - 2	N	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	19	34	42	ND (10)	21	22	20	ND (10)	35	ND (10)	ND (10)	20	48	
AOC19-OS3	01/12/11	0 - 0.5	N	ND (5.1)	5.8	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.9	
	01/12/11	1 - 2	N	ND (5.2)	6.6	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8.3	21	5.9	ND (5.2)	17	ND (5.2)	ND (5.2)	19	ND (5.2)	ND (5.2)	ND (5.2)	23	
AOC19-OS4	01/12/11	0 - 0.5	N	ND (5.3)	5.6	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.1	
	01/12/11	1 - 2	N	ND (5.3)	5.7	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.7	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6.4	

TABLE 3-28c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-28d

Sample Results: General Chemistry Parameters

AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels ¹ :				NE
DTSC-SL ² :				NE
Background ³ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC19-10	12/16/15	0 - 0.5	N	9.6
	12/16/15	2 - 3	N	9.5
AOC19-11	03/10/16	0 - 1	N	9
	03/10/16	2 - 3	N	9.1
	03/10/16	2 - 3	FD	9.1
AOC19-5	12/06/15	0 - 0.5	N	9.4
	12/06/15	2 - 3	N	9.7
AOC19-6	01/23/16	0 - 0.5	N	8.9
	01/23/16	2 - 3	N	9.2
AOC19-7	01/23/16	0 - 0.5	N	9.5
	01/23/16	0 - 0.5	FD	9.4
	01/23/16	2 - 3	N	9.7
AOC19-8	12/16/15	0 - 0.5	N	10
	12/16/15	2 - 3	N	10
	12/16/15	5 - 6	N	9.8
	12/16/15	9 - 10	N	9.7
AOC19-9	12/05/15	0 - 0.5	N	9.1
	12/05/15	2 - 3	N	8.9
	12/06/15	5 - 6	N	9.5
AOC19-OS1	01/12/11	0 - 0.5	N	9.7
	01/12/11	1 - 2	N	9.8
AOC19-OS10	12/04/13	0 - 0.5	N	9
	12/04/13	2 - 3	N	9.4
AOC19-OS2	01/12/11	0 - 0.5	N	10
	01/12/11	1 - 2	N	9.9
AOC19-OS3	01/12/11	0 - 0.5	N	8.7
	01/12/11	1 - 2	N	8.5
AOC19-OS4	01/12/11	0 - 0.5	N	8.9
	01/12/11	1 - 2	N	9.1
AOC19-OS7	12/04/13	0 - 0.5	N	9.5
	12/04/13	2 - 3	N	9.7
AOC19-OS8	12/04/13	0 - 0.5	N	8.4
	12/04/13	2 - 3	N	8.4

TABLE 3-28d

Sample Results: General Chemistry Parameters

AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for general chemistry parameters.

TABLE 3-28e
Sample Results: Pesticides
AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC19-10	01/22/17	5 - 5.5	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC19-12	01/21/17	2 - 3	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53)

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg micrograms per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- NE not established
- N primary sample
- ND not detected at the listed reporting limit
- USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for pesticides.

TABLE 3-28f

Sample Results: Polychlorinated Biphenyls

AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
AOC19-10	12/16/15	0 - 0.5	N	18 R	35 R	18 R	18 R	18 R	18 R	31 J	58 JR
	12/16/15	2 - 3	N	18 R	36 R	18 R	18 R	18 R	18 R	18 R	36 R
AOC19-11	03/10/16	0 - 1	N	ND (17) J	ND (33) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (17) J	ND (34)
AOC19-12	01/21/17	0 - 0.5	N	ND (18)	ND (36)	ND (18)	ND (18) J	ND (18) J	97	ND (18)	124
	01/21/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
	01/21/17	2 - 3	FD	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
	01/21/17	4 - 5	N	ND (17)	ND (33)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
AOC19-13	01/22/17	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
	01/22/17	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18) J	ND (18) J	ND (18)	ND (18)	ND (36)
	01/22/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
AOC19-14	01/21/17	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
	01/21/17	0 - 0.5	FD	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
	01/21/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
	01/21/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
AOC19-15	01/21/17	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
	01/21/17	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18) J	ND (18) J	ND (18)	ND (18)	ND (36)
	01/21/17	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17) J	ND (17) J	ND (17)	ND (17)	ND (34)
AOC19-5	12/06/15	2 - 3	N	17 R	34 R	17 R	17 R	17 R	17 R	17 R	34 R
AOC19-6	01/23/16	0 - 0.5	N	17 R	34 R	17 R	17 R	17 R	17 R	17 R	34 R
AOC19-7	01/23/16	0 - 0.5	N	19 R	38 R	19 R	19 R	19 R	47 J	34 J	100 JR
	01/23/16	2 - 3	N	19 R	38 R	19 R	19 R	19 R	19 R	19 R	38 R
AOC19-8	12/16/15	0 - 0.5	N	17 R	34 R	17 R	17 R	17 R	17 R	17 R	34 R

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

* Reporting limits greater than or equal to the commercial screening level.

TABLE 3-28f

Sample Results: Polychlorinated Biphenyls

AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-28g
Sample Results: Dioxins and Furans
AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC19-10	12/16/15	0 - 0.5	N	31,000 J	1,500 J	120 J	63 J	81 J	420 J	37 J	97 J	28 J	21 J	23 J	ND (2,000) J	21 J	ND (4.1) J	6.5 J	320,000 J	4,500 J	630
	12/16/15	2 - 3	N	3,500 J	180 J	15 J	7.9 J	21 J	63 J	9.4 J	15 J	5.3 J	ND (3.4) J	4.6 J	ND (370) J	6.3 J	ND (0.7) J	2.6 J	35,000 J	470 J	83
AOC19-11	03/10/16	0 - 1	N	23 J	1.7 J	ND (0.2) J	ND (0.48) J	ND (0.28) J	ND (0.74) J	ND (0.27) J	ND (0.62) J	ND (0.33) J	ND (0.3) J	ND (0.09) J	ND (2) J	ND (0.24) J	ND (0.075) J	ND (0.21) J	240 J	ND (2.3) J	0.79
AOC19-12	01/21/17	0 - 0.5	N	1,500	55	ND (5.2)	3.4 J	8.9 J	24	6.1 J	7.2 J	2.7 J	ND (2.2)	2.7 J	ND (110)	5.6 J	ND (0.15)	3.1 J	14,000	80	34
	01/21/17	2 - 3	N	ND (4.6)	1.3 J	ND (0.93)	ND (0.54)	ND (0.39)	ND (0.75)	ND (0.39)	ND (0.79)	0.65 J	0.44 J	0.39 J	ND (0.93)	ND (0.18)	ND (0.12)	ND (0.11)	ND (20)	ND (1.5)	0.84
	01/21/17	2 - 3	FD	ND (2.6)	ND (0.61)	ND (0.73)	ND (0.2)	ND (0.32)	ND (0.63)	ND (0.16)	ND (0.33)	ND (0.4)	ND (0.35)	ND (0.22)	ND (0.53)	ND (0.11)	ND (0.089)	ND (0.15)	ND (14)	ND (0.59)	ND (0.4)
	01/21/17	4 - 5	N	16	2 J	ND (1.6)	ND (0.66)	ND (0.65)	ND (0.82)	0.39 J	ND (0.7)	ND (0.71)	ND (0.34)	ND (0.34)	ND (2.7)	ND (0.93)	ND (0.081)	ND (0.34)	120	ND (2.8)	0.95
AOC19-13	01/22/17	0 - 0.5	N	90	8.7 J	ND (0.65)	1 J	ND (0.73)	ND (2.8)	ND (0.77)	2.6 J	ND (0.14)	ND (0.96)	ND (0.28)	ND (12)	ND (0.72)	ND (0.13)	ND (0.38)	690	14 J	3.1
	01/22/17	2 - 3	N	ND (12)	2.3 J	ND (1.1)	0.58 J	ND (0.48)	ND (0.87)	0.56 J	ND (0.95)	0.69 J	0.58 J	ND (0.37)	ND (1.9)	ND (0.39)	ND (0.15)	ND (0.16)	95	ND (3.6)	1.2
	01/22/17	5 - 6	N	ND (2.2)	ND (0.9)	ND (0.82)	0.43 J	ND (0.36)	ND (0.29)	0.47 J	0.76 J	0.58 J	0.31 J	ND (0.18)	ND (0.5)	ND (0.22)	ND (0.14)	ND (0.11)	ND (11)	ND (1.5)	0.72
AOC19-14	01/21/17	0 - 0.5	N	180 J	13	ND (1.1)	2.2 J	ND (1.1)	5.5 J	ND (1.3) J	3.6 J	ND (0.25)	1.5 J	ND (0.58)	ND (18)	ND (1.2)	ND (0.2)	ND (0.17)	1,500 J	17 J	6.4
	01/21/17	0 - 0.5	FD	93 J	ND (5.6)	ND (1.3)	1.4 J	ND (0.28)	3.2 J	1.2 J	ND (2.3)	ND (0.32)	1.4 J	ND (0.44)	ND (9.5)	1.4 J	ND (0.095)	ND (0.14)	800 J	7.7 J	4.3
	01/21/17	2 - 3	N	21	ND (2)	0.64 J	0.51 J	ND (0.32)	ND (0.77)	0.46 J	ND (1)	ND (0.61)	ND (0.18)	ND (0.28)	ND (2.8)	ND (0.19)	ND (0.059)	ND (0.076)	150	3.7 J	0.8
	01/21/17	5 - 6	N	6.1 J	ND (0.96)	0.47 J	ND (0.09)	ND (0.082)	ND (0.088)	ND (0.075)	ND (0.39)	ND (0.32)	ND (0.37)	ND (0.098)	ND (0.89)	ND (0.061)	ND (0.071)	ND (0.071)	60	2.1 J	0.42
AOC19-15	01/21/17	0 - 0.5	N	32	ND (3.3)	ND (0.57)	ND (0.22)	0.47 J	ND (0.22)	ND (0.32)	0.75 J	ND (0.36)	0.43 J	ND (0.22)	ND (6.9)	ND (0.29)	ND (0.034)	ND (0.084)	450	6.3 J	1.5
	01/21/17	2 - 3	N	5.9 J	ND (1.1)	ND (1.1)	ND (0.46)	ND (0.083)	0.61 J	ND (0.42)	ND (0.15)	ND (0.36)	ND (0.14)	ND (0.09)	ND (0.84)	ND (0.095)	ND (0.078)	ND (0.32)	42	ND (1.9)	0.4
	01/21/17	5 - 6	N	ND (6.4)	1.3 J	ND (0.73)	ND (0.36)	ND (0.36)	ND (0.12)	ND (0.74)	0.74 J	ND (0.44)	ND (0.075)	ND (0.31)	ND (1)	ND (0.32)	ND (0.067)	ND (0.11)	41	ND (2.5)	0.42
AOC19-5	12/06/15	2 - 3	N	270 J	13 J	ND (0.73) J	2.5 J	ND (0.26) J	4.8 J	ND (0.2) J	2.4 J	ND (0.24) J	ND (0.69) J	0.74 J	ND (22) J	ND (0.53) J	ND (0.087) J	ND (0.21) J	3,100 J	21 J	6.4
AOC19-6	01/23/16	0 - 0.5	N	220 J	ND (21) J	ND (2.6) J	ND (2.8) J	ND (1.7) J	ND (6) J	ND (1.6) J	ND (2.6) J	ND (2) J	ND (2.1) J	ND (0.79) J	ND (33) J	ND (0.82) J	ND (0.56) J	ND (0.8) J	2,100 J	41 J	7
AOC19-7	01/23/16	0 - 0.5	N	180 J	ND (3.1) J	ND (3.5) J	ND (3.5) J	ND (3.2) J	ND (3.5) J	ND (3.1) J	ND (3.3) J	ND (3.7) J	ND (2.8) J	ND (1) J	20 J	ND (1.1) J	ND (1.2) J	ND (1) J	1,600 J	ND (20) J	7.6
	01/23/16	2 - 3	N	ND (5.7) J	0.99 J	ND (0.29) J	ND (0.15) J	ND (0.3) J	ND (0.15) J	ND (0.28) J	ND (0.14) J	ND (0.34) J	ND (0.17) J	ND (0.2) J	ND (1.8) J	ND (0.11) J	ND (0.049) J	ND (0.099) J	49 J	ND (1) J	0.35
AOC19-8	12/16/15	0 - 0.5	N	160 J	11 J	ND (0.7) J	ND (1) J	1 J	ND (3.8) J	1.1 J	ND (2) J	ND (0.49) J	ND (0.83) J	ND (0.3) J	ND (10) J	1.1 J	ND (0.19) J	ND (0.26) J	1,100 J	15 J	4

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

- *

Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg

micrograms per kilogram
- ft bgs

feet below ground surface
- ng/kg

nanograms per kilogram
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- J

concentration or reporting limit estimated by laboratory or data validation
- JR

estimated value, one or more input values is “R” qualified.

TABLE 3-28g
Sample Results: Dioxins and Furans
AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are not established or not applicable.

TABLE 3-28h

Constituent Concentrations in Soil Compared to Screening Values

AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	10	20 / 20 (100%)	630	7	(5.58)	NA	(NA)	1	(220)
Metals										
Antimony	mg/kg	25	7 / 54 (13%)	16	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	25	54 / 54 (100%)	6.6	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	25	54 / 54 (100%)	370	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	25	1 / 54 (1.9%)	0.5	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	25	10 / 54 (19%)	7.2	10	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	18	36 / 47 (77%)	31	26	(0.83)	NA	(NA)	11	(6.3)
Chromium, Hexavalent-STLC	mg/L	7	7 / 7 (100%)	4.5	NA	(NE)	NA	(NA)	NA	(NE)
Chromium, total	mg/L	25	7 / 7 (100%)	34	NA	(NE)	NA	(NA)	NA	(NE)
	mg/kg		54 / 54 (100%)	4,300	20	(39.8)			0	(170,000)
Cobalt	mg/kg	25	54 / 54 (100%)	8.2	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	25	52 / 54 (96%)	170	15	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	25	53 / 54 (98%)	890	25	(8.39)	NA	(NA)	5	(320)
Mercury	mg/kg	25	7 / 54 (13%)	6	NA	(NE)	NA	(NA)	2	(4.5)
Molybdenum	mg/kg	25	35 / 54 (65%)	510	33	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	25	54 / 54 (100%)	15	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	25	1 / 54 (1.9%)	2	1	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	25	1 / 54 (1.9%)	0.99	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	25	8 / 54 (15%)	2.2	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	25	54 / 54 (100%)	26	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	25	54 / 54 (100%)	480	16	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	4	6 / 6 (100%)	5,600	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	4	6 / 6 (100%)	25,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	4	6 / 6 (100%)	14,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	4	6 / 6 (100%)	5,300	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	4	6 / 6 (100%)	170	0	(402)	NA	(NA)	0	(6,900)

TABLE 3-28h

Constituent Concentrations in Soil Compared to Screening Values

AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Potassium	mg/kg	4	6 / 6 (100%)	1,400	0	(4,400)	NA	(NA)	NA	(NE)
Sodium	mg/kg	4	6 / 6 (100%)	1,400	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	4	0 / 6 (0%)	ND (1) ‡	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	µg/kg	14	8 / 28 (29%)	5.8	NA	(NE)	NA	(NA)	0	(73,000)
2-Methyl naphthalene	µg/kg	14	13 / 29 (45%)	6.6	NA	(NE)	NA	(NA)	0	(3,000,000)
Acenaphthene	µg/kg	14	8 / 29 (28%)	5.8	NA	(NE)	NA	(NA)	0	(45,000,000)
Acenaphthylene	µg/kg	14	8 / 29 (28%)	5.8	NA	(NE)	NA	(NA)	0	(45,000,000)
Anthracene	µg/kg	14	8 / 29 (28%)	14	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	14	14 / 29 (48%)	220	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	14	17 / 29 (59%)	260	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	14	20 / 29 (69%)	460	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	14	17 / 29 (59%)	210	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	14	16 / 29 (55%)	160	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	14	16 / 29 (55%)	200	NA	(NE)	NA	(NA)	0	(2,100,000)
Dibenzo (a,h) anthracene	µg/kg	14	13 / 29 (45%)	34	NA	(NE)	NA	(NA)	0	(2,100)
Fluoranthene	µg/kg	14	16 / 29 (55%)	450	NA	(NE)	NA	(NA)	0	(30,000,000)
Fluorene	µg/kg	14	8 / 29 (28%)	5.8	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	14	17 / 29 (59%)	160	NA	(NE)	NA	(NA)	0	(21,000)
Naphthalene	µg/kg	14	8 / 29 (28%)	5.8	NA	(NE)	NA	(NA)	0	(17,000)
Phenanthrene	µg/kg	14	12 / 29 (41%)	140	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	14	16 / 29 (55%)	410	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	14	23 / 29 (79%)	350	4	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1016	µg/kg	10	7 / 20 (35%)	19	NA	(NE)	NA	(NA)	0	(27,000)
Aroclor 1221	µg/kg	10	7 / 20 (35%)	38	NA	(NE)	NA	(NA)	0	(830)
Aroclor 1232	µg/kg	10	7 / 20 (35%)	19	NA	(NE)	NA	(NA)	0	(720)

TABLE 3-28h

Constituent Concentrations in Soil Compared to Screening Values

AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Polychlorinated biphenyls										
Aroclor 1242	µg/kg	10	7 / 20 (35%)	19	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1248	µg/kg	10	7 / 20 (35%)	19	NA	(NE)	NA	(NA)	0	(950)
Aroclor 1254	µg/kg	10	8 / 20 (40%)	97	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	10	7 / 20 (35%)	34	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	10	8 / 20 (40%)	124	NA	(NE)	NA	(NA)	0	(940)

TABLE 3-28h
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 19 – Former Cooling Liquid Mixing Area and Former Hotwell
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-29a
Sample Results: Metals
AOC 20 – Industrial Floor Drains
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC20-OS08	12/18/16	0 - 0.5	N	ND (2) J	4.6	180	ND (1)	1.2	1.3	88	6.3	140	63	0.17	1.9 J	15	ND (1) J	ND (1)	ND (2) J	24	170
	12/18/16	4 - 5	N	ND (2.3) J	4.9	110	ND (1.2)	1.3	ND (0.23)	50	12	31	5.8	ND (0.12)	ND (1.2)	35	ND (1.2) J	ND (1.2)	ND (2.3) J	49	52
AOC20-1	01/26/16	0 - 1	N	ND (2.1)	2.9	100	ND (1.1)	ND (1.1)	0.32	12	4	11	8.3	ND (0.1)	ND (1.1)	8.5	ND (1.1)	ND (1.1)	ND (2.1)	16	31
	01/26/16	2 - 3	N	ND (2.1)	3.5	84	ND (1.1)	ND (1.1)	ND (0.21)	11	4	6.9	4.2	ND (0.11)	ND (1.1)	9	ND (1.1)	ND (1.1)	ND (2.1)	18	23
	01/26/16	2 - 3	FD	ND (2.1)	3	79	ND (1.1)	ND (1.1)	ND (0.21)	13	4.3	6.4	3.2	ND (0.11)	ND (1.1)	10	ND (1.1)	ND (1.1)	ND (2.1)	20	23
AOC20-OS11	12/21/16	0 - 0.5	N	ND (2) J	4.5	130	ND (1)	ND (1)	ND (0.2)	20	6	10	6.1	ND (0.1)	ND (1)	11	ND (1) J	ND (1)	ND (2)	28	39
	12/21/16	2 - 3	N	ND (2.1) J	4.6	150	ND (1.1)	ND (1.1)	ND (0.21)	19	6	9.5	5.5	ND (0.11)	ND (1.1)	12	ND (1.1) J	ND (1.1)	ND (2.1)	28	31
	12/21/16	6 - 7	N	ND (2.2) J	4.3	150	ND (1.1)	ND (1.1)	0.23	13	4.7	7.4	6.6	ND (0.11)	ND (1.1)	8.6	ND (1.1) J	ND (1.1)	ND (2.2)	22	25
AOC20-OS12	12/21/16	0 - 0.5	N	ND (2) J	5.9	130	ND (1)	ND (1)	5.1	140	5.9	29	42	ND (0.1)	44	11	ND (1) J	ND (1)	ND (2)	25	260
	12/21/16	2 - 3	N	ND (2.1) J	6.8	130	ND (1.1)	ND (1.1)	3.6	220	3.8	28	78	ND (0.11)	1.6	7.4	ND (1.1) J	ND (1.1)	ND (2.1)	26	280
	12/21/16	5 - 6	N	ND (2.1) J	3.6	91	ND (1)	ND (1)	0.28	17	2.5	4.3	5.6	ND (0.1)	ND (1)	3.9	ND (1) J	ND (1)	ND (2.1)	13	25
AOC20-OS13	12/21/16	0 - 0.5	N	ND (2) J	6.3	150	ND (1)	ND (1)	1.6	38	6.1	19	21	ND (0.1)	ND (1)	14	ND (1) J	ND (1)	ND (2)	30	78
	12/21/16	2 - 3	N	ND (2.2) J	4.9	120	ND (1.1)	ND (1.1)	1	58	7.4	22	21 J	ND (0.11)	ND (1.1)	21 J	ND (1.1) J	ND (1.1)	ND (2.2)	34	85
	12/21/16	2 - 3	FD	ND (2.2) J	4.6	140	ND (1.1)	ND (1.1)	1.1	58	8.6	22	29 J	ND (0.11)	ND (1.1)	26 J	ND (1.1) J	ND (1.1)	ND (2.2)	36	92
	12/21/16	5 - 6	N	ND (2.2) J	4.3	76	ND (1.1)	ND (1.1)	0.53	50	11	20	11	ND (0.11)	ND (1.1)	29	ND (1.1) J	ND (1.1)	ND (2.2)	44	58
AOC20-OS14	12/19/16	0 - 0.5	N	ND (2.1) J	3	84	ND (1)	ND (1)	0.27	17	5.4	11	7.3	0.14	ND (1)	11	ND (1) J	ND (1)	ND (2.1) J	23	33
	12/19/16	2 - 3	N	ND (2.1) J	2.4	41	ND (1)	ND (1)	ND (0.21)	4	2.6	4.9	2	ND (0.1)	ND (1)	3.3	ND (1) J	ND (1)	ND (2.1) J	9.3	9.9
	12/20/16	6 - 7	N	ND (2.1) J	3	56	ND (1)	ND (1)	0.25	7.9	2.1	11	5.4	ND (0.1)	ND (1)	3.1	ND (1) J	ND (1)	ND (2.1) J	9.3 J	22
	12/20/16	6 - 7	FD	ND (2.1) J	3.5	60	ND (1)	ND (1)	ND (0.21)	8.6	3.1	9.8	2.9	ND (0.1)	ND (1)	5.1	ND (1) J	ND (1)	ND (2.1) J	13 J	19
AOC20-OS16	12/19/16	0 - 0.5	N	ND (2.1) J	4.1	100	ND (1.1)	ND (1.1)	ND (0.21)	21	9	12	6.7	ND (0.1)	ND (1.1)	17	ND (1.1) J	ND (1.1)	ND (2.1) J	35	35
	12/19/16	2 - 3	N	ND (2.1) J	3.3	120	ND (1)	ND (1)	ND (0.21)	10	3.7	5.8	4.5	ND (0.1)	ND (1)	7.4	ND (1) J	ND (1)	ND (2.1) J	18	20
	12/19/16	5 - 6	N	ND (2.1) J	3.5	85	ND (1.1)	ND (1.1)	ND (0.21)	8.3	3	5.2	4.5	ND (0.11)	ND (1.1)	6.1	ND (1.1) J	ND (1.1)	ND (2.1) J	15	18
	12/19/16	9 - 9.5	N	ND (2.2) J	2.7	68 J	ND (1.1)	ND (1.1)	1.4	63	1.8	15	7.1 J	ND (0.11)	7.1 J	3.5	ND (1.1) J	ND (1.1)	ND (2.2) J	9.3 J	97 J
	12/19/16	9 - 9.5	FD	ND (2.2) J	3.3	100 J	ND (1.1)	ND (1.1)	1.4	70	2.7	17	9 J	ND (0.11)	8.8 J	5.1	ND (1.1) J	ND (1.1)	ND (2.2) J	14 J	130 J
AOC20-OS18	12/17/16	0 - 0.5	N	ND (2.1) J	3.1	80	ND (1)	ND (1)	ND (0.21)	11	4.4	11	3.5	ND (0.1)	ND (1)	8.7	ND (1) J	ND (1)	ND (2.1) J	17	20
	12/17/16	3 - 3.5	N	ND (2) J	3.3	54	ND (1)	ND (1)	ND (0.2)	4.9	1.9	2.8	2	ND (0.1)	ND (1)	3.7	ND (1) J	ND (1)	ND (2) J	9.9	9.1
AOC20-2	12/18/15	0 - 1	N	ND (2.1)	3	100	ND (1)	ND (1)	ND (0.21)	11	3.7	9.9	2.9	ND (0.11)	ND (1)	8.4	ND (1)	ND (1)	ND (2.1)	16	19
	12/18/15	2 - 3	N	ND (2.2)	4.8	210	ND (1.1)	ND (1.1)	ND (0.22)	17	4.8	12	4.2	ND (0.11)	ND (1.1)	10	ND (1.1)	ND (1.1)	ND (2.2)	24	26
	12/18/15	5 - 6	N	ND (2.1)	3.1	110	ND (1.1)	ND (1.1)	ND (0.21)	11	3.6	7.7	3.5	ND (0.11)	ND (1.1)	7.3	ND (1.1)	ND (1.1)	ND (2.1)	17	18
	12/18/15	9 - 10	N	ND (2.1)	3.1	78	ND (1)	ND (1)	ND (0.21)	8.6	3.9	8.5	5.8	ND (0.1)	ND (1)	7.4	ND (1)	ND (1)	ND (2.1)	17	27
AOC20-OS21	12/20/16	0 - 0.5	N	ND (2) J	4.4	110	ND (1)	ND (1)	ND (0.2)	16	5.5	12	10	ND (0.1)	ND (1)	9.7	ND (1) J	ND (1)	ND (2) J	23	32
	12/20/16	2 - 3	N	ND (2.1) J	4.3	120	ND (1)	ND (1)	ND (0.21)	15	4.9	16	11	ND (0.1)	ND (1)	8.8	ND (1) J	ND (1)	ND (2.1)	26	31
	12/20/16	5 - 6	N	ND (2.1) J	4	89	ND (1)	ND (1)	0.21	9.6	3.1	7.1	4.5	ND (0.1)	1.1	4.7	ND (1) J	ND (1)	ND (2.1)	19	17
	12/20/16	8.5 - 9	N	ND (2.1) J	3.9	140	ND (1)	ND (1)	0.97	51 J	3.4	15	10 J	ND (0.1)	10	5.8 J	ND (1) J	ND (1)	ND (2.1)	19	68 J
	12/20/16	8.5 - 9	FD	ND (2.1) J	4.4	150	ND (1)	ND (1)	0.92	64 J	4	17	13 J	ND (0.1)	12	7.8 J	ND (1) J	ND (1)	ND (2.1)	23	84 J
AOC20-3	12/18/15	0 - 1	N	ND (2.1)	4.7	94	ND (1)	ND (1)	0.7	36	3.8	9.1	8.6	ND (0.1)	1.2	7.8	ND (1)	ND (1)	ND (2.1)	18	40
	12/18/15	2 - 3	N	ND (2.1)	3.9	75	ND (1)	ND (1)	0.22	13	2.9	5.8	7.2	ND (0.1)	ND (1)	6.1	ND (1)	ND (1)	ND (2.1)	16	25
	12/18/15	7 - 8	N	ND (2)	2.4	17	ND (1)	ND (1)	ND (0.2)	2.5	ND (1)	2.2	1.2	ND (0.1)	ND (1)	1.7	ND (1)	ND (1)	ND (2)	5.6	6

TABLE 3-29a
Sample Results: Metals
AOC 20 – Industrial Floor Drains
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
AOC20-4	12/15/15	0 - 1	N	ND (2.1)	3.1	150	ND (1)	ND (1)	ND (0.21)	12 J	5.8	19 J	4.5	ND (0.1)	ND (1)	9	ND (1)	ND (1)	ND (2.1)	20	32
	12/15/15	0 - 1	FD	ND (2)	3.4	130	ND (1)	ND (1)	ND (0.21)	15 J	5.3	27 J	5	ND (0.1)	ND (1)	11	ND (1)	ND (1)	ND (2)	21	36
	12/15/15	1.9 - 2	N	ND (2)	4.4	130	ND (1)	1.6	ND (0.2)	24	7	71	17	ND (0.1)	2.6	15	ND (1)	ND (1)	ND (2)	23	210
	12/15/15	2 - 3	N	ND (2)	3.1	110	ND (1)	ND (1)	ND (0.2)	13	4.6	7.6	5.2	ND (0.1)	ND (1)	9.2	ND (1)	ND (1)	ND (2)	19	27
AOC20-5	12/15/15	0 - 1	N	ND (2.1)	4.2	120	ND (1)	ND (1)	0.27	18	4.7	12	5.9	ND (0.1)	ND (1)	10	ND (1)	ND (1)	ND (2.1)	20	32
	12/15/15	2 - 3	N	ND (2.1)	4.2	87	ND (1)	ND (1)	0.44	14	4.2	5.8	4.8	ND (0.1)	ND (1)	11	ND (1)	ND (1)	ND (2.1)	18	26
AOC20-6	12/15/15	0 - 1	N	ND (2.1)	3.7	120	ND (1)	ND (1)	ND (0.21)	14	5.2	9.3	8.2	ND (0.1)	ND (1)	11	ND (1)	ND (1)	ND (2.1)	22	29
	12/15/15	2 - 3	N	ND (2.1)	3.4	110	ND (1)	ND (1)	ND (0.21)	14	4.7	8.1	4.3	ND (0.1)	ND (1)	11	ND (1)	ND (1)	ND (2.1)	19	27
AOC20-7	12/18/15	0 - 1	N	ND (2.1)	2.5	80	ND (1)	ND (1)	ND (0.21)	10	4.6	22	4	ND (0.1)	ND (1)	10	ND (1)	ND (1)	ND (2.1)	19	18
	12/18/15	2 - 3	N	ND (2.1)	2.3	86	ND (1)	ND (1)	ND (0.21)	10	3.8	7.2	2.5	ND (0.1)	ND (1)	8.2	ND (1)	ND (1)	ND (2.1)	15	18
	12/18/15	5 - 5.5	N	ND (2)	3	53	ND (1)	ND (1)	ND (0.2)	3.2	1.4	2.2	1.9	ND (0.1)	ND (1)	3	ND (1)	ND (1)	ND (2)	8.2	8.7

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

* Reporting limits greater than or equal to the Commercial Screening Level.
--- not analyzed
mg/kg milligrams per kilogram
ft bgs feet below ground surface
DTSC California Department of Toxic Substances Control
DTSC-SL DTSC Screening Level
FD field duplicate
N primary sample
ND not detected at the listed reporting limit
NE not established
J concentration or reporting limit estimated by laboratory or data validation
USEPA United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-29b
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 20 – Industrial Floor Drains
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC20-OS08	12/18/16	0 - 0.5	N	ND (5)	ND (5)	ND (5)	ND (5)	24	340	440	720	230	280	500	ND (5)	850	ND (5)	230	ND (5)	210	830	570	
	12/18/16	4 - 5	N	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (6.7)	
AOC20-1	01/26/16	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.6	ND (53)	ND (53)	ND (53)	ND (53)	7.4	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	10	59	
	01/26/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (60)	
	01/26/16	2 - 3	FD	5.4	5.4	5.4	5.4	5.4	5.4	ND (54)	ND (54)	ND (54)	ND (54)	5.4	ND (54)	5.4	5.4	ND (54)	5.4	5.4	5.4	60	
AOC20-OS11	12/21/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.5	17	30	8.1	13	16	ND (5.1)	20	ND (5.1)	7.8	ND (5.1)	ND (5.1)	20	24	
	12/21/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	8.8	16	28	6	14	14	ND (5.3)	16	ND (5.3)	5.7	ND (5.3)	ND (5.3)	17	23	
	12/21/16	6 - 7	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	8	5.8	ND (5.4)	ND (5.4)	ND (5.4)	5.4	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	5.8	6.8	
AOC20-OS12	12/21/16	0 - 0.5	N	5.1	5.1	ND (5.1)	ND (5.1)	6.1	61	85	160	88	71	79	ND (5.1)	130	ND (5.1)	71	ND (5.1)	43	120	120	
	12/21/16	2 - 3	N	ND (5.3)	ND (5.3)	6.7	ND (5.3)	17	160	190	340	91	110 J	170	ND (5.3)	410	ND (5.3)	85	ND (5.3)	120	280	250	
	12/21/16	5 - 6	N	57	88	430	ND (5.2)	660	2,000	1,200	1,900	130	940	1,800	ND (5.2)	5,600	320	170	1,100	4,900	4,300	1,600	
AOC20-OS13	12/21/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	38	75	130	78	61	62	ND (5.1)	77	ND (5.1)	58	ND (5.1)	18	74	100	
	12/21/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	37	58	98	58	58	52	ND (5.4)	94	ND (5.4)	16 J	ND (5.4)	32	84	76	
	12/21/16	2 - 3	FD	ND (5.4)	5.4	ND (5.4)	ND (5.4)	ND (5.4)	50	75	130	68	65	69	ND (5.4)	120	ND (5.4)	57	ND (5.4)	44	110	100	
	12/21/16	5 - 6	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	26	41	69	25	28	37	ND (5.4)	62	ND (5.4)	21	ND (5.4)	19	54	56	
AOC20-OS14	12/19/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	11	11 J	28 J	7.3 J	15 J	15	ND (5.2)	24	ND (5.2)	ND (5.2)	ND (5.2)	8	28	18	
	12/19/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
	12/20/16	6 - 7	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
	12/20/16	6 - 7	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
AOC20-OS16	12/19/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	6	6.5	
	12/19/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
	12/19/16	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
	12/19/16	9 - 9.5	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (6.4)	
	12/19/16	9 - 9.5	FD	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (8.2)	ND (9.5)	
AOC20-OS18	12/17/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	9.4 J	20 J	7.6 J	10 J	8.3	ND (5.2)	7.6	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	8	15	
	12/17/16	3 - 3.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	6.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.1	
AOC20-2	12/18/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.9	12	ND (5.2)	5.2	5.9	ND (5.2)	5.6	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.6	10	
	12/18/15	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	5.4	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	6.5	
	12/18/15	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.2	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.3	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	5.3	6.8	
	12/18/15	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
AOC20-OS21	12/20/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.8	55	84	160	24	54 J	59	ND (5.1)	77	ND (5.1)	24	ND (5.1)	11	76	110	
	12/20/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	17	28	56	8.6	25 J	23	ND (5.2)	29	ND (5.2)	8.6	ND (5.2)	5.2	29	39	
	12/20/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.5	6.8	13	ND (5.1)	6.8 J	7.9	ND (5.1)	12	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	11	12	
	12/20/16	8.5 - 9	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	11 J	ND (5.2)	5.9 J	ND (5.2)	ND (5.2)	7 J	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	6.3 J	6.9	
	12/20/16	8.5 - 9	FD	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	5.9 J	13 J	5.2 J	6.3 J	ND (5.2)	ND (5.2)	7.3 J	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	7 J	10	
AOC20-3	12/18/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	63	96	170	55	62	110	ND (52)	200	ND (5.2)	52	ND (5.2)	61	170	150	
	12/18/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	31	ND (52)	58	ND (52)	ND (52)	43	ND (52)	86	ND (5.2)	ND (52)	ND (5.2)	22	75	64	
	12/18/15	7 - 8	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.4	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	9.5	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	8.8	6.3	

TABLE 3-29b
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 20 – Industrial Floor Drains
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
AOC20-4	12/15/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	17	21	39	6.5	16	22	ND (5.2)	41 J	ND (5.2)	6.5	ND (5.2)	14	38 J	30
	12/15/15	0 - 1	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	7.2	ND (51)	11 J	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	10 J	57
	12/15/15	1.9 - 2	N	110 J	190 J	9 J	ND (5)	19 J	160	160	320	70	73	220	ND (50)	460	ND (5)	70	32 J	180 J	400	240
	12/15/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.4	11	ND (5.1)	ND (5.1)	5.4	ND (5.1)	6.8	ND (5.1)	ND (5.1)	ND (4.9)	ND (5.1)	6.8	9.6
AOC20-5	12/15/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (5.2)	ND (52)	6.2	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	6.2	58
	12/15/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	8.2	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	7.9	57
AOC20-6	12/15/15	0 - 1	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	8.5 J	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	7.8 J	59
	12/15/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	5.2	58
AOC20-7	12/18/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	12/18/15	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	ND (58)
	12/18/15	5 - 5.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-29c

Sample Results: Semivolatile and Volatile Organic Compounds

AOC 20 – Industrial Floor Drains

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)
Commercial Screening Level ¹ :				2,500,000	2,500,000
Background ² :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Xylene, m,p-	Xylenes, total
Category 1					
AOC20-OS08	12/18/16	0 - 0.5	N	ND (8.3)	ND (8.3)
	12/18/16	4 - 5	N	ND (6.1)	ND (6.1)
AOC20-1	01/26/16	2 - 3	N	ND (6.8)	ND (6.8)
	01/26/16	2 - 3	FD	ND (6.7)	ND (6.7)
AOC20-OS11	12/21/16	0 - 0.5	N	ND (6.6)	ND (6.6)
	12/21/16	2 - 3	N	ND (7.7)	ND (7.7)
	12/21/16	6 - 7	N	ND (7.3)	ND (7.3)
AOC20-OS12	12/21/16	0 - 0.5	N	ND (8.3)	ND (8.3)
	12/21/16	2 - 3	N	ND (6.9)	ND (6.9)
	12/21/16	5 - 6	N	ND (8.6)	ND (8.6)
AOC20-OS13	12/21/16	0 - 0.5	N	ND (6.9)	ND (6.9)
	12/21/16	2 - 3	N	ND (8.6)	ND (8.6)
	12/21/16	2 - 3	FD	ND (9.2)	ND (9.2)
	12/21/16	5 - 6	N	ND (8.1)	ND (8.1)
AOC20-OS14	12/19/16	0 - 0.5	N	12	17
	12/19/16	2 - 3	N	ND (6.6)	ND (6.6)
	12/20/16	6 - 7	N	ND (6.6)	ND (6.6)
	12/20/16	6 - 7	FD	ND (6.1)	ND (6.1)
AOC20-OS16	12/19/16	0 - 0.5	N	ND (7.8)	ND (7.8)
	12/19/16	2 - 3	N	ND (6.2)	ND (6.2)
	12/19/16	5 - 6	N	ND (6.7)	ND (6.7)
	12/19/16	9 - 9.5	N	ND (7.2)	ND (7.2)
	12/19/16	9 - 9.5	FD	ND (8.8)	ND (8.8)
AOC20-OS18	12/17/16	0 - 0.5	N	ND (6.3)	ND (6.3)
	12/17/16	3 - 3.5	N	ND (6.3)	ND (6.3)
AOC20-2	12/18/15	2 - 3	N	ND (6.2)	ND (6.2)
	12/18/15	5 - 6	N	ND (6.6)	ND (6.6)
	12/18/15	9 - 10	N	ND (6.1)	ND (6.1)
AOC20-OS21	12/20/16	0 - 0.5	N	ND (8.7)	ND (8.7)
	12/20/16	2 - 3	N	ND (6.1)	ND (6.1)
	12/20/16	5 - 6	N	ND (8.6)	ND (8.6)
	12/20/16	8.5 - 9	N	ND (5.8)	ND (5.8)
	12/20/16	8.5 - 9	FD	ND (8.2)	ND (8.2)
AOC20-3	12/18/15	2 - 3	N	ND (6.1)	ND (6.1)
	12/18/15	7 - 8	N	ND (6.8)	ND (6.8)
AOC20-4	12/15/15	2 - 3	N	ND (4.9)	ND (4.9)
AOC20-5	12/15/15	2 - 3	N	ND (5.4)	ND (5.4)
AOC20-6	12/15/15	2 - 3	N	ND (6.4)	ND (6.4)

TABLE 3-29c

Sample Results: Semivolatile and Volatile Organic Compounds
 AOC 20 – Industrial Floor Drains
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)
Commercial Screening Level ¹:				2,500,000	2,500,000
Background ²:				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Xylene, m,p-	Xylenes, total
AOC20-7	12/18/15	2 - 3	N	ND (6.1)	ND (6.1)
	12/18/15	5 - 5.5	N	ND (6.5)	ND (6.5)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level or RWQCB ESL are circled.

Only detected SVOCs and VOCs are presented.

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NE	not established
ND	not detected at the listed reporting limit
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency
SVOCs	semivolatile organic compounds
VOCs	volatile organic compounds

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for SVOCs and VOCs.

TABLE 3-29d

Sample Results: Total Petroleum Hydrocarbons

AOC 20 – Industrial Floor Drains

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC20-OS08	12/18/16	0 - 0.5	N	59 J	280 J
	12/18/16	4 - 5	N	12 J	27 J
AOC20-1	01/26/16	0 - 1	N	32	140
	01/26/16	2 - 3	N	40	140
	01/26/16	2 - 3	FD	52	170
AOC20-OS11	12/21/16	0 - 0.5	N	11 J	15 J
	12/21/16	2 - 3	N	21 J	59 J
	12/21/16	6 - 7	N	14 J	19 J
AOC20-OS12	12/21/16	0 - 0.5	N	14 J	26 J
	12/21/16	2 - 3	N	15 J	37 J
	12/21/16	5 - 6	N	ND (10) J	ND (10) J
AOC20-OS13	12/21/16	0 - 0.5	N	15 J	30 J
	12/21/16	2 - 3	N	19 J	65 J
	12/21/16	2 - 3	FD	18 J	41 J
	12/21/16	5 - 6	N	23 J	78 J
AOC20-OS14	12/19/16	0 - 0.5	N	20 J	190 J
	12/19/16	2 - 3	N	ND (10) J	13 J
	12/20/16	6 - 7	N	28 J	270 J
	12/20/16	6 - 7	FD	14 J	120 J
AOC20-OS16	12/19/16	0 - 0.5	N	ND (11) J	13 J
	12/19/16	2 - 3	N	19 J	65 J
	12/19/16	5 - 6	N	35 J	85 J
	12/19/16	9 - 9.5	N	130 J	560 J
	12/19/16	9 - 9.5	FD	220 J	730 J
AOC20-OS18	12/17/16	0 - 0.5	N	ND (10) J	16 J
	12/17/16	3 - 3.5	N	ND (10) J	ND (10) J
AOC20-2	12/18/15	0 - 1	N	ND (10)	34
	12/18/15	2 - 3	N	ND (11)	68
	12/18/15	5 - 6	N	ND (11)	31
	12/18/15	9 - 10	N	ND (10)	ND (10)
AOC20-OS21	12/20/16	0 - 0.5	N	14 J	51 J
	12/20/16	2 - 3	N	21 J	97 J
	12/20/16	5 - 6	N	100 J	350 J
	12/20/16	8.5 - 9	N	130 J	840 J
	12/20/16	8.5 - 9	FD	180 J	870 J
AOC20-3	12/18/15	0 - 1	N	ND (10)	25
	12/18/15	2 - 3	N	ND (10)	12
	12/18/15	7 - 8	N	ND (10)	ND (10)

TABLE 3-29d

Sample Results: Total Petroleum Hydrocarbons

AOC 20 – Industrial Floor Drains

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
AOC20-4	12/15/15	0 - 1	N	ND (10)	55
	12/15/15	0 - 1	FD	ND (10)	34
	12/15/15	1.9 - 2	N	68	560
	12/15/15	2 - 3	N	ND (10)	33
AOC20-5	12/15/15	0 - 1	N	ND (10)	37
	12/15/15	2 - 3	N	39	180
AOC20-6	12/15/15	0 - 1	N	63	180
	12/15/15	2 - 3	N	ND (10)	42
AOC20-7	12/18/15	0 - 1	N	ND (10)	ND (10)
	12/18/15	2 - 3	N	ND (10)	ND (10)
	12/18/15	5 - 5.5	N	ND (10)	ND (10)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-29e

Sample Results: Polychlorinated Biphenyls

AOC 20 – Industrial Floor Drains

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
AOC20-OS08	12/18/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	530	170	717
	12/18/16	4 - 5	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (38)
AOC20-1	01/26/16	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	28	ND (17)	53.5
	01/26/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	01/26/16	2 - 3	FD	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC20-OS11	12/21/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	33	ND (17)	58.5
	12/21/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	12/21/16	6 - 7	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC20-OS12	12/21/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	1,300	910	2,227
	12/21/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	2,800	1,700	4,517
	12/21/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	110	ND (17)	135.5
AOC20-OS13	12/21/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	150	67	234
	12/21/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	210 J	79	307
	12/21/16	2 - 3	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	380 J	120	518
	12/21/16	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	380	ND (18)	407
AOC20-OS14	12/19/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/19/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/20/16	6 - 7	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/20/16	6 - 7	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC20-OS16	12/19/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/19/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/19/16	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	12/19/16	9 - 9.5	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	54	81
	12/19/16	9 - 9.5	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	81	108
AOC20-OS18	12/17/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/17/16	3 - 3.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)

TABLE 3-29e

Sample Results: Polychlorinated Biphenyls

AOC 20 – Industrial Floor Drains

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
AOC20-2	12/18/15	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/18/15	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	12/18/15	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	12/18/15	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC20-OS21	12/20/16	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	82	39	138
	12/20/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	34	ND (17)	59.5
	12/20/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/20/16	8.5 - 9	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	34	ND (17)	59.5
	12/20/16	8.5 - 9	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	33	ND (17)	58.5
AOC20-3	12/18/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	490	ND (17)	515.5
	12/18/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	190	ND (17)	215.5
	12/18/15	7 - 8	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC20-4	12/15/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/15/15	0 - 1	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	52	36	105
	12/15/15	1.9 - 2	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	91	64	172
	12/15/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC20-5	12/15/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	37	27	81
	12/15/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC20-6	12/15/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	22	55	94
	12/15/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	43	31	91
AOC20-7	12/18/15	0 - 1	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/18/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/18/15	5 - 5.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

* Reporting limits greater than or equal to the commercial screening level.

TABLE 3-29e

Sample Results: Polychlorinated Biphenyls

AOC 20 – Industrial Floor Drains

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-29f
Sample Results: Dioxins and Furans
AOC 20 – Industrial Floor Drains
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC20-4	12/15/15	0 - 1	N	300 J	23 J	ND (1.9) J	ND (1.6) J	2.6 J	7.7 J	1.5 J	3.7 J	ND (0.66) J	ND (0.92) J	ND (0.91) J	ND (28) J	ND (0.71) J	ND (0.44) J	ND (0.9) J	3,400 J	77 J	8.2
	12/15/15	1.9 - 2	N	810 J	43 J	3.3 J	7.5 J	ND (2.6) J	20 J	4 J	12 J	ND (0.89) J	3.9 J	ND (0.77) J	ND (55) J	ND (1.4) J	ND (0.66) J	1.4 J	6,200 J	76 J	22

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

* Reporting limits greater than or equal to the interim screening level.
--- not analyzed
µg/kg micrograms per kilogram
ft bgs feet below ground surface
ng/kg nanograms per kilogram
DTSC California Department of Toxic Substances Control
DTSC-SL DTSC Screening Level
FD field duplicate
J concentration or reporting limit estimated by laboratory or data validation
JR estimated value, one or more input values is “R” qualified.
NA not applicable
NE not established
N primary sample
ND not detected at the listed reporting limit
R The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
2 Background values are not established or not applicable.

TABLE 3-29g

Constituent Concentrations in Soil Compared to Screening Values

AOC 20 – Industrial Floor Drains

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	1	2 / 2 (100%)	22	2	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	15	0 / 43 (0%)	ND (2.3) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	15	43 / 43 (100%)	6.8	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	15	43 / 43 (100%)	210	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	15	0 / 43 (0%)	ND (1.2) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	15	3 / 43 (7.0%)	1.6	3	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	15	18 / 43 (42%)	5.1	7	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	15	43 / 43 (100%)	220	8	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	15	42 / 43 (98%)	12	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	15	43 / 43 (100%)	140	12	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	15	43 / 43 (100%)	78	12	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	15	2 / 43 (4.7%)	0.17	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	15	8 / 43 (19%)	44	6	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	15	43 / 43 (100%)	35	2	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	15	0 / 43 (0%)	ND (1.2)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	15	0 / 43 (0%)	ND (1.2)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	15	0 / 43 (0%)	ND (2.3) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	15	43 / 43 (100%)	49	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	15	43 / 43 (100%)	280	8	(58)	NA	(NA)	0	(350,000)
Volatile Organic Compounds										
Xylene, m,p-	µg/kg	15	1 / 35 (2.9%)	12	NA	(NE)	NA	(NA)	0	(2,500,000)
Xylenes, total	µg/kg	15	1 / 35 (2.9%)	17	NA	(NE)	NA	(NA)	0	(2,500,000)
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	µg/kg	15	4 / 43 (9.3%)	110	NA	(NE)	NA	(NA)	0	(73,000)
2-Methyl naphthalene	µg/kg	15	5 / 43 (12%)	190	NA	(NE)	NA	(NA)	0	(3,000,000)
Acenaphthene	µg/kg	15	4 / 43 (9.3%)	430	NA	(NE)	NA	(NA)	0	(45,000,000)

TABLE 3-29g

Constituent Concentrations in Soil Compared to Screening Values

AOC 20 – Industrial Floor Drains

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	µg/kg	15	1 / 43 (2.3%)	5.4	NA	(NE)	NA	(NA)	0	(45,000,000)
Anthracene	µg/kg	15	7 / 43 (16%)	660	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	15	19 / 43 (44%)	2,000	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	15	20 / 43 (47%)	1,200	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	15	27 / 43 (63%)	1,900	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	15	19 / 43 (44%)	230	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	15	19 / 43 (44%)	940	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	15	22 / 43 (51%)	1,800	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	15	29 / 43 (67%)	5,600	NA	(NE)	NA	(NA)	0	(30,000,000)
Fluorene	µg/kg	15	2 / 43 (4.7%)	320	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	15	14 / 43 (33%)	230	NA	(NE)	NA	(NA)	0	(21,000)
Naphthalene	µg/kg	15	3 / 43 (7.0%)	1,100	NA	(NE)	NA	(NA)	0	(17,000)
Phenanthrene	µg/kg	15	15 / 43 (35%)	4,900	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	15	31 / 43 (72%)	4,300	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	15	33 / 43 (77%)	1,600	18	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	15	19 / 43 (44%)	2,800	NA	(NE)	NA	(NA)	2	(970)
Aroclor 1260	µg/kg	15	12 / 43 (28%)	1,700	NA	(NE)	NA	(NA)	1	(990)
Total PCBs	µg/kg	15	20 / 43 (47%)	4,517	NA	(NE)	NA	(NA)	2	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	15	24 / 43 (56%)	220	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	15	36 / 43 (84%)	870	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	15	0 / 35 (0%)	ND (1.6)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-29g
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 20 – Industrial Floor Drains
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-30a
Sample Results: Metals
AOC 21 – Round Depression near Sludge Drying Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC21-1	01/12/16	0 - 0.5	N	ND (2.1)	3.5	140	ND (1.1)	ND (1.1)	0.35	23	6.9	12	8	ND (0.11)	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	26	45
	01/12/16	2 - 3	N	ND (2.5)	2.8	170	ND (1.2)	ND (1.2)	0.71	35	7.6	11	1.8	ND (0.12)	ND (1.2)	17	ND (1.2)	ND (1.2)	ND (2.5)	32	30
	01/12/16	5 - 6	N	ND (2.8)	2.2	170	ND (1.4)	ND (1.4)	2	40	6.7	14	ND (1.4)	ND (0.14)	ND (1.4)	16	ND (1.4)	ND (1.4)	ND (2.8)	32	26
	01/11/17	9 - 10	N	ND (2)	ND (1) *	73	ND (1)	ND (1)	ND (0.2)	22	9.1	7.7	ND (1)	ND (0.1)	ND (1)	12	ND (1)	ND (1)	ND (2)	24	32
	01/11/17	14 - 15	N	---	---	---	---	---	ND (0.21)	---	---	---	---	---	---	---	---	---	---	---	---
AOC21-OS1	09/23/14	0 - 0.5	N	ND (2) J	3.2	130	ND (1)	ND (1) J	0.28	19 J	4.5 J	8.7	12 J	ND (0.099)	ND (1)	11	ND (1) J	ND (1) J	ND (2) J	24	36 J
	09/23/14	2 - 3	N	ND (2.6)	3	150	ND (1.3)	ND (1.3)	0.84	27	ND (1.3)	ND (2.6)	ND (1.3)	ND (0.13)	ND (1.3)	4.5	ND (1.3)	3.1	ND (2.6)	8.9	4.1
	09/23/14	2 - 3	FD	ND (2.7)	3.2	150	ND (1.3)	ND (1.3)	0.89	28	ND (1.3)	ND (2.7)	ND (1.3)	ND (0.14)	ND (1.3)	4.4	ND (1.3)	3.4	ND (2.7)	9.1	4.1
	09/23/14	5 - 6	N	ND (2.8)	3.7	110	ND (1.4)	ND (1.4)	1.8	24	2.3	3.8	ND (1.4)	ND (0.14)	ND (1.4)	6	ND (1.4)	1.7	ND (2.8)	17	17
AOC21-OS2	09/23/14	0 - 0.5	N	ND (2)	3.7	130	ND (1)	ND (1)	1.2	32	4.9	98	41	0.14	2.2	15	ND (1)	ND (1)	ND (2)	24	90
	09/23/14	1 - 1.5	N	ND (2)	2.8	95	ND (1)	ND (1)	0.51	19	4.2	12	11	ND (0.1)	ND (1)	12	ND (1)	ND (1)	ND (2)	22	52
AOC21-OS3	09/23/14	0 - 0.5	N	ND (2)	3.5	140	ND (1)	ND (1)	ND (0.2)	20	5.3	18	5.4	ND (0.1)	ND (1)	16	ND (1)	ND (1)	ND (2)	29	31
	09/23/14	2 - 3	N	ND (2.1)	3.9	120	ND (1)	ND (1)	ND (0.21)	16	4.5	12	5.2	ND (0.11)	ND (1)	12	ND (1)	ND (1)	ND (2.1)	26	28
AOC21-OS4	09/23/14	0 - 0.5	N	ND (2)	3	90	ND (1)	ND (1)	ND (0.2)	23	4.4	11	5.8	ND (0.1)	ND (1)	12	ND (1)	ND (1)	ND (2)	22	30
	09/23/14	2 - 3	N	ND (2.5)	2.8	110	ND (1.2)	ND (1.2)	1.1	21	ND (1.2)	ND (2.5)	ND (1.2)	ND (0.12)	ND (1.2)	3.9	ND (1.2)	3.3	ND (2.5)	6.7	5.4
AOC21-OS5	10/27/14	7 - 8	N	ND (2.1)	1.2	76	ND (1.1)	ND (1.1)	ND (0.21)	14	6.3	7.5	2.9	ND (0.11)	ND (1.1)	9.2	ND (1.1)	ND (1.1)	ND (2.1)	35	28 J
AOC21-OS6	10/27/14	8 - 9	N	ND (2.1)	ND (1) *	83	ND (1)	ND (1)	ND (0.21)	22	8	10	6.6	ND (0.1)	ND (1)	12	ND (1)	ND (1)	ND (2.1)	49	30
AOC21-OS7	10/27/14	3.5 - 4.5	N	ND (2)	2.2	93	ND (1)	ND (1)	ND (0.2)	19	5.7	7.7	3.9	ND (0.1)	ND (1)	10	ND (1)	ND (1)	ND (2)	34	29
AOC21-OS8	10/27/14	5 - 6	N	ND (2.1)	1.3	110	ND (1)	ND (1)	ND (0.2)	17	6.2	8	3.2	ND (0.1)	ND (1)	10	ND (1)	ND (1)	ND (2.1)	35	30
	10/27/14	5 - 6	FD	ND (2)	1.1	99	ND (1)	ND (1)	ND (0.2)	18	6	8.6	3.5	ND (0.1)	ND (1)	10	ND (1)	ND (1)	ND (2)	35	31
AOC21-OS9	10/27/14	5 - 6	N	ND (2)	1.2	90	ND (1)	ND (1)	ND (0.2)	16	6.4	8	3	ND (0.1)	ND (1)	9.7	ND (1)	ND (1)	ND (2)	33	29

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-30b

Sample Results: Contract Laboratory Program Inorganics
AOC 21 – Round Depression near Sludge Drying Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC21-1	01/12/16	0 - 0.5	N	7,100	20,000	14,000	6,200	210	1,800	1,800	ND (0.214)
	01/12/16	2 - 3	N	9,800	100,000	16,000	15,000	240	2,100	1,200	ND (0.247)
	01/12/16	5 - 6	N	9,900	130,000	15,000	17,000	220	2,200	2,000	ND (0.288)
	01/11/17	9 - 10	N	7,400	11,000 J	17,000	5,900	250	2,000 J	450 J	ND (0.206) J
AOC21-OS1	09/23/14	0 - 0.5	N	---	31,000	---	---	---	---	570	---
	09/23/14	2 - 3	N	---	290,000	---	---	---	---	3,100	---
	09/23/14	2 - 3	FD	---	310,000	---	---	---	---	3,100	---
	09/23/14	5 - 6	N	---	220,000	---	---	---	---	2,000	---
AOC21-OS2	09/23/14	0 - 0.5	N	---	20,000	---	---	---	---	400	---
	09/23/14	1 - 1.5	N	---	16,000	---	---	---	---	270	---
AOC21-OS3	09/23/14	0 - 0.5	N	---	36,000	---	---	---	---	570	---
	09/23/14	2 - 3	N	---	37,000	---	---	---	---	410	---
AOC21-OS4	09/23/14	0 - 0.5	N	---	17,000	---	---	---	---	700	---
	09/23/14	2 - 3	N	---	260,000	---	---	---	---	3,400	---
AOC21-OS5	10/27/14	7 - 8	N	---	12,000	---	---	---	---	720	---
AOC21-OS6	10/27/14	8 - 9	N	---	14,000	---	---	---	---	400	---
AOC21-OS7	10/27/14	3.5 - 4.5	N	---	36,000	---	---	---	---	610	---
AOC21-OS8	10/27/14	5 - 6	N	---	12,000	---	---	---	---	360	---
	10/27/14	5 - 6	FD	---	14,000	---	---	---	---	420	---
AOC21-OS9	10/27/14	5 - 6	N	---	11,000	---	---	---	---	280	---

TABLE 3-30b

Sample Results: Contract Laboratory Program Inorganics
AOC 21 – Round Depression near Sludge Drying Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-30c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 21 – Round Depression near Sludge Drying Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC21-1	01/12/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	25	ND (53)	64	ND (53)	ND (53)	43	ND (53)	53	ND (5.3)	ND (53)	ND (5.3)	12	52	65	
	01/12/16	2 - 3	N	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (6.6)	
	01/12/16	5 - 6	N	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (8.2)	
	01/11/17	9 - 10	N	---	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (340)	ND (390)	
AOC21-OS1	09/23/14	0 - 0.5	N	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (59)	
	09/23/14	2 - 3	N	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (6.5)	ND (7.5)	
	09/23/14	2 - 3	FD	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	6.7	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	7.7	
	09/23/14	5 - 6	N	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (7)	ND (8.1)	
AOC21-OS2	09/23/14	0 - 0.5	N	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	87	ND (50)	ND (50)	ND (50)	ND (50)	67	ND (50)	ND (50)	ND (50)	ND (50)	61	64	
	09/23/14	1 - 1.5	N	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	54	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (7.3)	ND (51)	ND (51)	62	
AOC21-OS3	09/23/14	0 - 0.5	N	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	51	120	ND (51)	ND (51)	51	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	ND (51)	94	
	09/23/14	2 - 3	N	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	59	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (52)	ND (11)	ND (52)	ND (52)	63	
AOC21-OS4	09/23/14	0 - 0.5	N	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (58)	
	09/23/14	2 - 3	N	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (63)	ND (15)	ND (63)	ND (63)	ND (73)	
AOC21-OS5	10/27/14	7 - 8	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
AOC21-OS6	10/27/14	8 - 9	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
AOC21-OS7	10/27/14	3.5 - 4.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
AOC21-OS8	10/27/14	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
	10/27/14	5 - 6	FD	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
AOC21-OS9	10/27/14	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (4.9)	ND (5.1)	ND (5.1)	ND (5.9)	

TABLE 3-30c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 21 – Round Depression near Sludge Drying Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-30d

Sample Results: Total Petroleum Hydrocarbons
AOC 21 – Round Depression near Sludge Drying Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC21-1	01/12/16	0 - 0.5	N	19	150
	01/12/16	2 - 3	N	ND (12)	140
	01/12/16	5 - 6	N	ND (14)	19
AOC21-OS1	09/23/14	0 - 0.5	N	33	290
	09/23/14	2 - 3	N	ND (13)	62 J
	09/23/14	2 - 3	FD	24	250 J
	09/23/14	5 - 6	N	ND (14)	33
AOC21-OS2	09/23/14	0 - 0.5	N	ND (10) J	58
	09/23/14	1 - 1.5	N	ND (10)	48
AOC21-OS3	09/23/14	0 - 0.5	N	ND (10)	68
	09/23/14	2 - 3	N	ND (10)	28 J
AOC21-OS4	09/23/14	0 - 0.5	N	ND (10)	44
	09/23/14	2 - 3	N	ND (12)	26
AOC21-OS5	10/27/14	7 - 8	N	ND (11)	ND (11)
AOC21-OS6	10/27/14	8 - 9	N	ND (10)	ND (10)
AOC21-OS7	10/27/14	3.5 - 4.5	N	ND (10)	ND (10)
AOC21-OS8	10/27/14	5 - 6	N	ND (10)	ND (10)
	10/27/14	5 - 6	FD	ND (10)	ND (10)
AOC21-OS9	10/27/14	5 - 6	N	ND (10)	ND (10)

Notes:

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Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

TABLE 3-30d

Sample Results: Total Petroleum Hydrocarbons

AOC 21 – Round Depression near Sludge Drying Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.
- 3 Background values have not been established for TPHs.

TABLE 3-30e

Sample Results: General Chemistry Parameters

AOC 21 – Round Depression near Sludge Drying Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels¹:				NE
DTSC-SL²:				NE
Background³:				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC21-1	01/12/16	0 - 0.5	N	8.3
	01/12/16	2 - 3	N	9
	01/12/16	5 - 6	N	9.1
AOC21-OS1	09/23/14	0 - 0.5	N	8.2
	09/23/14	2 - 3	N	8.9
	09/23/14	2 - 3	FD	8.9
	09/23/14	5 - 6	N	8.8
AOC21-OS2	09/23/14	0 - 0.5	N	8
	09/23/14	1 - 1.5	N	8.4
AOC21-OS3	09/23/14	0 - 0.5	N	7.8
	09/23/14	2 - 3	N	7.8
AOC21-OS4	09/23/14	0 - 0.5	N	7.8
	09/23/14	2 - 3	N	8.8
AOC21-OS5	10/27/14	7 - 8	N	8.4
AOC21-OS6	10/27/14	8 - 9	N	9.7
AOC21-OS7	10/27/14	3.5 - 4.5	N	10
AOC21-OS8	10/27/14	5 - 6	N	9.7
	10/27/14	5 - 6	FD	9.7
AOC21-OS9	10/27/14	5 - 6	N	9.4

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Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for general chemistry parameters.

TABLE 3-30f
Sample Results: Pesticides
AOC 21 – Round Depression near Sludge Drying Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC21-1	01/11/17	9 - 10	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51) J

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for pesticides.

TABLE 3-30g

Sample Results: Polychlorinated Biphenyls

AOC 21 – Round Depression near Sludge Drying Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC21-1	01/12/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	71	49	ND (18)	ND (18)	138
	01/12/16	2 - 3	N	ND (20)	ND (40)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (40)
	01/12/16	5 - 6	N	ND (24)	ND (47)	ND (24)	ND (24)	ND (24)	ND (24)	ND (24)	ND (24)	ND (24)	ND (48)
AOC21-OS1	09/23/14	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	60	ND (17)	---	---	85.5
	09/23/14	2 - 3	N	ND (21)	ND (43)	ND (21)	ND (21)	ND (21)	ND (21)	ND (21)	---	---	ND (42)
	09/23/14	2 - 3	FD	ND (22) J	ND (44) J	ND (22) J	ND (22) J	ND (22) J	ND (22) J	ND (22) J	---	---	ND (44)
	09/23/14	5 - 6	N	ND (23) J	ND (46) J	ND (23) J	ND (23) J	ND (23) J	ND (23) J	ND (23) J	---	---	ND (46)
AOC21-OS2	09/23/14	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	70	ND (17)	---	---	95.5
	09/23/14	1 - 1.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	39	ND (17)	---	---	64.5
AOC21-OS3	09/23/14	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	25	ND (17)	---	---	50.5
	09/23/14	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	21	ND (17)	---	---	46.5
AOC21-OS4	09/23/14	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	09/23/14	2 - 3	N	ND (21)	ND (41)	ND (21)	ND (21)	ND (21)	ND (21)	ND (21)	---	---	ND (42)
AOC21-OS5	10/27/14	7 - 8	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC21-OS6	10/27/14	8 - 9	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC21-OS7	10/27/14	3.5 - 4.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC21-OS8	10/27/14	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	10/27/14	5 - 6	FD	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC21-OS9	10/27/14	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

* Reporting limits greater than or equal to the commercial screening level.

--- not analyzed

µg/kg micrograms per kilogram

ft bgs feet below ground surface

TABLE 3-30g

Sample Results: Polychlorinated Biphenyls

AOC 21 – Round Depression near Sludge Drying Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

CHHSL California human health screening levels

DTSC California Department of Toxic Substances Control

FD field duplicate

J concentration or reporting limit estimated by laboratory or data validation

JR estimated value, one or more input values is “R” qualified.

N primary sample

ND not detected at the listed reporting limit

NE not established

R The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-30h

Constituent Concentrations in Soil Compared to Screening Values

AOC 21 – Round Depression near Sludge Drying Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Metals										
Antimony	mg/kg	10	0 / 18 (0%)	ND (2.8) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	10	16 / 18 (89%)	3.9	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	10	18 / 18 (100%)	170	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	10	0 / 18 (0%)	ND (1.4) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	10	0 / 18 (0%)	ND (1.4) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	10	9 / 19 (47%)	2	5	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	10	18 / 18 (100%)	40	1	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	10	16 / 18 (89%)	9.1	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	10	16 / 18 (89%)	98	2	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	10	13 / 18 (72%)	41	3	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	10	1 / 18 (5.6%)	0.14	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	10	1 / 18 (5.6%)	2.2	1	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	10	18 / 18 (100%)	17	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	10	0 / 18 (0%)	ND (1.4)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	10	3 / 18 (17%)	3.4	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	10	0 / 18 (0%)	ND (2.8) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	10	18 / 18 (100%)	49	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	10	18 / 18 (100%)	90	1	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	4 / 4 (100%)	9,900	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	10	18 / 18 (100%)	310,000	5	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	4 / 4 (100%)	17,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	4 / 4 (100%)	17,000	2	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	4 / 4 (100%)	250	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	1	4 / 4 (100%)	2,200	0	(4,400)	NA	(NA)	NA	(NE)
Sodium	mg/kg	10	18 / 18 (100%)	3,400	2	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 4 (0%)	ND (0.288)	NA	(NE)	NA	(NA)	0	(150)

TABLE 3-30h

Constituent Concentrations in Soil Compared to Screening Values

AOC 21 – Round Depression near Sludge Drying Bed

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Polycyclic Aromatic Hydrocarbons										
Benzo (a) anthracene	µg/kg	10	1 / 18 (5.6%)	25	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	10	1 / 18 (5.6%)	51	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	10	5 / 18 (28%)	120	NA	(NE)	NA	(NA)	0	(21,000)
Chrysene	µg/kg	10	2 / 18 (11%)	51	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	10	3 / 18 (17%)	67	NA	(NE)	NA	(NA)	0	(30,000,000)
Phenanthrene	µg/kg	10	1 / 18 (5.6%)	12	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	10	2 / 18 (11%)	61	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	10	6 / 18 (33%)	94	5	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	10	6 / 17 (35%)	71	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	10	1 / 17 (5.9%)	49	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	10	6 / 17 (35%)	138	NA	(NE)	NA	(NA)	0	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	10	3 / 17 (18%)	33	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	10	12 / 17 (71%)	290	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	10	0 / 12 (0%)	ND (3.5)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-30h
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 21 – Round Depression near Sludge Drying Bed
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-31a
Sample Results: Metals
AOC 22 – Unidentified Three-sided Structure
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC22-1	01/06/16	0 - 0.5	N	ND (2.1)	2.8	87	ND (1)	ND (1)	ND (0.21) J	21 J	5.3	7.2	5	ND (0.1)	ND (1)	15 J	ND (1)	ND (1)	ND (2.1)	22	33
	01/06/16	0 - 0.5	FD	ND (2.1)	3.1	84	ND (1.1)	ND (1.1)	3.3 J	17 J	6.2	8.9	6.3	ND (0.1)	ND (1.1)	12 J	ND (1.1)	ND (1.1)	ND (2.1)	26	34
	01/06/16	2 - 3	N	ND (2.2)	3.3	75	ND (1.1)	ND (1.1)	ND (0.22)	46	6.5	11	100	ND (0.11)	ND (1.1)	15	ND (1.1)	2	ND (2.2)	30	67
AOC22-2	01/06/16	0 - 0.5	N	ND (2.1) J	3.7	87 J	ND (1)	ND (1)	0.5	20	5	12 J	12	ND (0.1)	ND (1)	8.8	ND (1) J	ND (1)	ND (2.1)	23	47 J
	01/06/16	2 - 3	N	ND (2.2)	3.2	69	ND (1.1)	ND (1.1)	10	42	6.2	18	75	0.24	ND (1.1)	11	ND (1.1)	1.2	ND (2.2)	31	58
	01/17/17	5 - 6	N	ND (2.1)	3.3	100	ND (1.1)	ND (1.1)	ND (0.21)	25 J	6.1	9.7	1.8	ND (0.11)	ND (1.1)	17 J	ND (1.1) J	ND (1.1)	ND (2.1)	26	22
	01/17/17	5 - 6	FD	ND (2.1)	3.2	120	ND (1.1)	ND (1.1)	ND (0.21)	19 J	5.9	8.5	2.3	ND (0.11)	ND (1.1)	13 J	ND (1.1) J	ND (1.1)	ND (2.1)	24	22
	01/17/17	9 - 10	N	ND (2.2)	3.3	81	ND (1.1)	ND (1.1)	ND (0.22)	28	8.3	15	2.8	ND (0.11)	ND (1.1)	23	ND (1.1) J	ND (1.1)	ND (2.2)	34	32
AOC22-3	01/17/17	0 - 0.5	N	ND (2)	2.9	49	ND (1)	ND (1)	1.3	17	2.9	17	4.7	ND (0.1)	ND (1)	5.7	ND (1) J	ND (1)	ND (2)	15	25
	01/17/17	2 - 3	N	ND (2.1)	2.7	69	ND (1)	ND (1)	0.64	26	5.6	8.6	8.7	ND (0.1)	ND (1)	14	ND (1) J	ND (1)	ND (2.1)	24	36
	01/17/17	5 - 6	N	ND (2.2)	3.2	68	ND (1.1)	ND (1.1)	ND (0.22)	23	6.8	10	2	ND (0.11)	ND (1.1)	17	ND (1.1) J	ND (1.1)	ND (2.2)	27	24
	01/17/17	9 - 10	N	ND (2)	2.9	70	ND (1)	ND (1)	ND (0.2)	4.5	2.6	6.7	1.8	ND (0.1)	ND (1)	3.3	ND (1) J	ND (1)	ND (2)	12	10

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- *

Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg

milligrams per kilogram
- ft bgs

feet below ground surface
- DTSC

California Department of Toxic Substances Control
- DTSC-SL

DTSC Screening Level
- FD

field duplicate
- N

primary sample
- ND

not detected at the listed reporting limit
- NE

not established
- J

concentration or reporting limit estimated by laboratory or data validation
- USEPA

United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-31b

Sample Results: Contract Laboratory Program Inorganics
AOC 22 – Unidentified Three-sided Structure
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC22-2	01/17/17	5 - 6	N	8,100	32,000	14,000	6,600	190	1,600 J	330 J	ND (0.216) J
AOC22-3	01/17/17	0 - 0.5	N	4,400	17,000	7,600	2,900	140	1,100 J	670 J	ND (0.205) J

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-31c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 22 – Unidentified Three-sided Structure
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC22-1	01/06/16	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	7	12	6	ND (5.3)	7.4	ND (5.3)	8.8	ND (5.3)	5.3	ND (5.3)	ND (5.3)	9.1	12	
	01/06/16	0 - 0.5	FD	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	9.5	14	24	11	9.5	14	ND (5.3)	17	ND (5.3)	9.8	ND (5.3)	ND (5.3)	17	21	
	01/06/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)	
AOC22-2	01/06/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	27	21	46	9	18	43	ND (5.2)	49	ND (5.2)	9.3	ND (5.2)	17	57	32	
	01/06/16	2 - 3	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	37	55	92	59	ND (55)	59	ND (55)	66	ND (5.5)	ND (55)	ND (5.5)	14	67	98	
	01/17/17	5 - 6	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
	01/17/17	5 - 6	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (6.2)	
	01/17/17	9 - 10	N	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	6.1 J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	ND (5.4) J	6.6	
AOC22-3	01/17/17	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	26 J	31	72	11	16	32	ND (5.1)	45	ND (5.1)	11	ND (5.1)	13	45	45	
	01/17/17	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)	
	01/17/17	5 - 6	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (6.4)	
	01/17/17	9 - 10	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	

TABLE 3-31c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 22 – Unidentified Three-sided Structure
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-31d

Sample Results: Total Petroleum Hydrocarbons

AOC 22 – Unidentified Three-sided Structure

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC22-1	01/06/16	0 - 0.5	N	ND (11)	28
	01/06/16	0 - 0.5	FD	ND (11)	30
	01/06/16	2 - 3	N	ND (11)	54
AOC22-2	01/06/16	0 - 0.5	N	ND (10)	46
	01/06/16	2 - 3	N	13	91

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-31e

Sample Results: General Chemistry Parameters

AOC 22 – Unidentified Three-sided Structure

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels¹:				NE
DTSC-SL²:				NE
Background³:				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC22-1	01/06/16	0 - 0.5	N	9.4
	01/06/16	0 - 0.5	FD	10
	01/06/16	2 - 3	N	9.7
AOC22-2	01/06/16	0 - 0.5	N	8.3
	01/06/16	2 - 3	N	9

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-31f
Sample Results: Pesticides
AOC 22 – Unidentified Three-sided Structure
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC22-2	01/17/17	5 - 6	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J
AOC22-3	01/17/17	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	1.3	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (1)	2.8 J	ND (1)	ND (1)	ND (5.1)	ND (51) J

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

- * Reporting limits greater than or equal to the interim screening level.
- not analyzed
- µg/kg micrograms per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- J concentration or reporting limit estimated by laboratory or data validation
- NE not established
- N primary sample
- ND not detected at the listed reporting limit
- USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for pesticides.

TABLE 3-31g

Sample Results: Polychlorinated Biphenyls

AOC 22 – Unidentified Three-sided Structure

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
AOC22-1	01/06/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	31	ND (17)	56.5
	01/06/16	0 - 0.5	FD	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/06/16	2 - 3	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC22-2	01/06/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	76	ND (17)	101.5
	01/06/16	2 - 3	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	140	78	236
	01/17/17	5 - 6	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	01/17/17	5 - 6	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	01/17/17	9 - 10	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC22-3	01/17/17	0 - 0.5	N	ND (17)	ND (33)	ND (17)	ND (17)	ND (17)	35	ND (17)	60.5
	01/17/17	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	20	31	68
	01/17/17	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	01/17/17	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established

TABLE 3-31g

Sample Results: Polychlorinated Biphenyls

AOC 22 – Unidentified Three-sided Structure

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

R The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).

USEPA United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-31h
Sample Results: Dioxins and Furans
AOC 22 – Unidentified Three-sided Structure
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC22-2	01/06/16	0 - 0.5	N	1,300 J	80 J	5.4 J	10 J	4.1 J	24 J	ND (3.1) J	12 J	ND (1.2) J	3.3 J	1.8 J	ND (93) J	1.8 J	ND (0.44) J	1.1 J	11,000 J	260 J	31
	01/06/16	2 - 3	N	1,100 J	82 J	ND (5.3) J	10 J	7.8 J	27 J	7 J	15 J	1.8 J	ND (4.1) J	4.7 J	ND (100) J	3.1 J	ND (0.12) J	3.4 J	12,000 J	160 J	31
AOC22-3	01/17/17	0 - 0.5	N	5,900	120	ND (4.3)	810	ND (22)	120	ND (20)	49	ND (25)	ND (1.4)	ND (0.79)	ND (460)	ND (6.8)	ND (1.1)	ND (3.8)	52,000	210	200
	01/17/17	2 - 3	N	380	27	1.8 J	3.1 J	2.7 J	8 J	ND (2.5)	ND (2.9)	ND (1.5)	ND (1.2)	2.2 J	ND (31)	ND (1.6)	ND (0.19)	ND (3.8)	3,000	38	9.5
	01/17/17	5 - 6	N	170	4.3 J	ND (0.69)	3.4 J	ND (0.48)	3.7 J	ND (0.24)	ND (1)	ND (0.31)	ND (0.22)	ND (0.22)	ND (13)	ND (0.23)	ND (0.18)	ND (0.13)	950	7.7 J	3.7
	01/17/17	9 - 10	N	41	ND (1.9)	ND (0.57)	ND (0.59)	ND (0.091)	ND (0.38)	ND (0.083)	ND (0.27)	ND (0.11)	ND (0.062)	ND (0.085)	ND (2.7)	ND (0.089)	ND (0.072)	ND (0.08)	420	4.3 J	0.85

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).

TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

¹ Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values are not established or not applicable.

TABLE 3-31i

Constituent Concentrations in Soil Compared to Screening Values

AOC 22 – Unidentified Three-sided Structure

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	2	6 / 6 (100%)	200	4	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	3	0 / 10 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	3	10 / 10 (100%)	3.7	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	3	10 / 10 (100%)	120	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	3	0 / 10 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	3	0 / 10 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	3	5 / 10 (50%)	10	3	(0.83)	NA	(NA)	1	(6.3)
Chromium, total	mg/kg	3	10 / 10 (100%)	46	2	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	3	10 / 10 (100%)	8.3	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	3	10 / 10 (100%)	18	2	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	3	10 / 10 (100%)	100	4	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	3	1 / 10 (10%)	0.24	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	3	0 / 10 (0%)	ND (1.1)	0	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	3	10 / 10 (100%)	23	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	3	0 / 10 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	3	2 / 10 (20%)	2	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	3	0 / 10 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	3	10 / 10 (100%)	34	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	3	10 / 10 (100%)	67	1	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	2	2 / 2 (100%)	8,100	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	2	2 / 2 (100%)	32,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	2	2 / 2 (100%)	14,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	2	2 / 2 (100%)	6,600	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	2	2 / 2 (100%)	190	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	2	2 / 2 (100%)	1,600	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-31i

Constituent Concentrations in Soil Compared to Screening Values

AOC 22 – Unidentified Three-sided Structure

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	2	2 / 2 (100%)	670	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	2	0 / 2 (0%)	ND (0.216)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
Benzo (a) anthracene	µg/kg	3	4 / 10 (40%)	37	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	3	4 / 10 (40%)	55	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	3	5 / 10 (50%)	92	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	3	4 / 10 (40%)	59	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	3	3 / 10 (30%)	18	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	3	4 / 10 (40%)	59	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	3	4 / 10 (40%)	66	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	3	3 / 10 (30%)	11	NA	(NE)	NA	(NA)	0	(21,000)
Phenanthrene	µg/kg	3	3 / 10 (30%)	17	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	3	4 / 10 (40%)	67	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	3	5 / 10 (50%)	98	1	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	3	5 / 10 (50%)	140	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	3	2 / 10 (20%)	78	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	3	5 / 10 (50%)	236	NA	(NE)	NA	(NA)	0	(940)
Pesticides										
alpha-Chlordane	µg/kg	2	1 / 2 (50%)	1.3	NA	(NE)	NA	(NA)	0	(1,500)
gamma-Chlordane	µg/kg	2	1 / 2 (50%)	2.8	NA	(NE)	NA	(NA)	0	(1,500)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	2	1 / 4 (25%)	13	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	2	4 / 4 (100%)	91	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	2	0 / 2 (0%)	ND (1.5)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-31i
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 22 – Unidentified Three-sided Structure
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-32a
Sample Results: Metals
AOC 23 – Former Water Conditioning Building
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC23-1	12/08/15	0 - 1	N	ND (2.3)	2.9	86 J	ND (1.2)	ND (1.2)	ND (0.23)	30 J	8.6	19 J	4.9	ND (0.12)	ND (1.2)	23	ND (1.2)	ND (1.2)	ND (2.3)	37	33
	12/08/15	0 - 1	FD	ND (2.2)	2.6	69 J	ND (1.1)	ND (1.1)	ND (0.22)	23 J	7.2	15 J	3.7	ND (0.11)	ND (1.1)	23	ND (1.1)	ND (1.1)	ND (2.2)	31	31
	12/08/15	2 - 3	N	ND (2.3)	2	85	ND (1.2)	ND (1.2)	ND (0.23)	38	9.3	15	2.3	ND (0.12)	ND (1.2)	27	ND (1.2)	ND (1.2)	ND (2.3)	39	39
AOC23-2	01/07/16	0 - 0.5	N	ND (2.2)	4.1	93	ND (1.1)	ND (1.1)	0.41	37	9.7	34	14	0.44	1.7	25	ND (1.1)	ND (1.1)	ND (2.2)	35	150
AOC23-3	01/07/16	0 - 0.5	N	ND (2.3)	6.6	150	ND (1.1)	2.5	9.9	460	11	55	330	0.64	ND (1.1)	32	ND (1.1)	ND (1.1)	ND (2.3)	41	360
AOC23-4	01/17/17	0 - 0.5	N	ND (2.1)	3.9	76	ND (1.1)	ND (1.1)	0.3	21	7.2	9.9	15	ND (0.11)	ND (1.1)	11	ND (1.1) J	ND (1.1)	ND (2.1)	23	53
	01/17/17	2 - 3	N	ND (2.1)	3.2	66	ND (1.1)	1.1	ND (0.21)	57	12	21	4.9	ND (0.11)	ND (1.1)	35	ND (1.1) J	ND (1.1)	ND (2.1)	50	47

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- * Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg milligrams per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- N primary sample
- ND not detected at the listed reporting limit
- NE not established
- J concentration or reporting limit estimated by laboratory or data validation
- USEPA United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-32b

Sample Results: Contract Laboratory Program Inorganics
AOC 23 – Former Water Conditioning Building
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC23-4	01/17/17	0 - 0.5	N	6,100	23,000	14,000	4,300	190	1,400 J	200 J	ND (0.214) J

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-32c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 23 – Former Water Conditioning Building
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC23-1	12/08/15	0 - 1	N	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (6.7)	
	12/08/15	0 - 1	FD	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (6.4)	
	12/08/15	2 - 3	N	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5)	ND (5.9)	ND (5.9)	ND (6.8)	
AOC23-2	01/07/16	0 - 0.5	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	6	14	34	7.1	9.3	13	ND (5.6)	12	ND (5.6)	6.7	ND (5.6)	ND (5.6)	12	22	
AOC23-3	01/07/16	0 - 0.5	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	8.3 J	240	ND (560)	ND (560)	ND (560)	ND (560)	350	ND (560)	590	ND (5.6)	ND (560)	ND (5.6)	140 J	570	640	
AOC23-4	01/17/17	0 - 0.5	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	68 J	87	160	26	60	75	ND (5.3)	110	ND (5.3)	25	ND (5.3)	33	110	120	
	01/17/17	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	23 J	27	49	11	18	24	ND (5.4)	32	ND (5.4)	10	ND (5.4)	8.3	33	38	

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-32d

Sample Results: Total Petroleum Hydrocarbons
AOC 23 – Former Water Conditioning Building
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC23-1	12/08/15	0 - 1	N	ND (12)	ND (12)
	12/08/15	0 - 1	FD	ND (11)	14
	12/08/15	2 - 3	N	ND (12)	ND (12)
AOC23-2	01/07/16	0 - 0.5	N	18	110
AOC23-3	01/07/16	0 - 0.5	N	160	740

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-32e

Sample Results: General Chemistry Parameters

AOC 23 – Former Water Conditioning Building

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels¹:				NE
DTSC-SL²:				NE
Background³:				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC23-1	12/08/15	0 - 1	N	10
	12/08/15	0 - 1	FD	11
	12/08/15	2 - 3	N	10
AOC23-2	01/07/16	0 - 0.5	N	9.4
AOC23-3	01/07/16	0 - 0.5	N	8.9

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-32f
Sample Results: Pesticides
AOC 23 – Former Water Conditioning Building
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene	
Category 1																								
AOC23-4	01/17/17	0 - 0.5	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (2.1)	ND (1.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (5.3)	ND (53) J

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for pesticides.

TABLE 3-32g

Sample Results: Polychlorinated Biphenyls

AOC 23 – Former Water Conditioning Building

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
AOC23-1	12/08/15	0 - 1	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (38)
	12/08/15	0 - 1	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	12/08/15	2 - 3	N	ND (19)	ND (38)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (38)
AOC23-2	01/07/16	0 - 0.5	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	45	ND (18)	72
AOC23-3	01/07/16	0 - 0.5	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	720	ND (19)	748.5
AOC23-4	01/17/17	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	50	ND (18)	77
	01/17/17	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	110	ND (18)	137

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

TABLE 3-32g

Sample Results: Polychlorinated Biphenyls

AOC 23 – Former Water Conditioning Building

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

² Background values have not been established for polychlorinated biphenyls.

TABLE 3-32h
Sample Results: Dioxins and Furans
AOC 23 – Former Water Conditioning Building
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																				
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human			
Category 1																								
AOC23-2	01/07/16	0 - 0.5	N	180 J	16 J	1.4 J	ND (2.3) J	ND (0.96) J	5.3 J	ND (1.3) J	4.1 J	ND (0.49) J	ND (0.82) J	ND (0.2) J	ND (17) J	ND (0.51) J	ND (0.11) J	ND (0.35) J	1,600 J	41 J	5.1			
AOC23-3	01/07/16	0 - 0.5	N	15,000 J	1,300 J	93 J	99 J	100 J	440 J	71 J	170 J	24 J	ND (5.3) J	ND (6.5) J	ND (2,500) J	42 J	ND (3.1) J	ND (6.3) J	130,000 J	3,000 J	440			
AOC23-4	01/17/17	0 - 0.5	N	540	43	3 J	3.8 J	3.4 J	14	ND (2.1)	7.4 J	ND (0.98)	ND (1.8)	ND (0.82)	ND (80)	ND (1.2)	ND (0.18)	1.1 J	4,900	100	16			
	01/17/17	2 - 3	N	270	24	2.5 J	1.7 J	ND (0.32)	6.6 J	ND (1.4)	3.5 J	ND (1.2)	ND (0.79)	ND (0.57)	ND (41)	ND (0.25)	ND (0.17)	ND (0.34)	3,100	56	7.8			

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are not established or not applicable.

TABLE 3-32i

Constituent Concentrations in Soil Compared to Screening Values

AOC 23 – Former Water Conditioning Building

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Parameter	Units	Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	3	4 / 4 (100%)	440	3	(5.58)	NA	(NA)	1	(220)
Metals										
Antimony	mg/kg	4	0 / 6 (0%)	ND (2.3) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	4	6 / 6 (100%)	6.6	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	4	6 / 6 (100%)	150	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	4	0 / 6 (0%)	ND (1.2) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	4	2 / 6 (33%)	2.5	1	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	4	3 / 6 (50%)	9.9	1	(0.83)	NA	(NA)	1	(6.3)
Chromium, total	mg/kg	4	6 / 6 (100%)	460	2	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	4	6 / 6 (100%)	12	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	4	6 / 6 (100%)	55	4	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	4	6 / 6 (100%)	330	3	(8.39)	NA	(NA)	1	(320)
Mercury	mg/kg	4	2 / 6 (33%)	0.64	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	4	1 / 6 (17%)	1.7	1	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	4	6 / 6 (100%)	35	2	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	4	0 / 6 (0%)	ND (1.2)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	4	0 / 6 (0%)	ND (1.2)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	4	0 / 6 (0%)	ND (2.3) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	4	6 / 6 (100%)	50	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	4	6 / 6 (100%)	360	2	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	1 / 1 (100%)	6,100	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	1	1 / 1 (100%)	23,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	1 / 1 (100%)	14,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	1 / 1 (100%)	4,300	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	1 / 1 (100%)	190	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	1	1 / 1 (100%)	1,400	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-32i

Constituent Concentrations in Soil Compared to Screening Values

AOC 23 – Former Water Conditioning Building

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	1	1 / 1 (100%)	200	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 1 (0%)	ND (0.214)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
Anthracene	µg/kg	4	1 / 6 (17%)	8.3	NA	(NE)	NA	(NA)	0	(230,000,000)
Benzo (a) anthracene	µg/kg	4	4 / 6 (67%)	240	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	4	3 / 6 (50%)	87	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	4	3 / 6 (50%)	160	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	4	3 / 6 (50%)	26	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	4	3 / 6 (50%)	60	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	4	4 / 6 (67%)	350	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	4	4 / 6 (67%)	590	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	4	3 / 6 (50%)	25	NA	(NE)	NA	(NA)	0	(21,000)
Phenanthrene	µg/kg	4	3 / 6 (50%)	140	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	4	4 / 6 (67%)	570	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	4	4 / 6 (67%)	640	2	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	4	4 / 6 (67%)	720	NA	(NE)	NA	(NA)	0	(970)
Total PCBs	µg/kg	4	4 / 6 (67%)	748.5	NA	(NE)	NA	(NA)	0	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	3	2 / 4 (50%)	160	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	3	3 / 4 (75%)	740	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	1	0 / 1 (0%)	ND (1.1)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-32i
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 23 – Former Water Conditioning Building
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-33a
Sample Results: Metals
AOC 24 – Stained Area and Former API Oil/Water Separator
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
AOC24-1	01/10/16	0 - 0.5	N	ND (2)	2.3	93	ND (1)	ND (1)	1	18	6.3	7.1	3.1	ND (0.1)	ND (1)	8.6	ND (1)	ND (1)	ND (2)	23	33
	01/10/16	2 - 3	N	ND (2.1)	4.5	130	ND (1.1)	ND (1.1)	1.2	35	7.8	13	4.5	ND (0.11)	ND (1.1)	19	ND (1.1)	ND (1.1)	ND (2.1)	26	28
AOC24-2	01/11/16	0 - 0.5	N	ND (2.1)	5	140	ND (1.1)	ND (1.1)	0.82	28	6.7	10	7	ND (0.1)	ND (1.1)	13	ND (1.1)	ND (1.1)	ND (2.1)	27	32
	01/11/16	0 - 0.5	FD	ND (2.2)	4.7	150	ND (1.1)	ND (1.1)	0.8	28	5.6	9.4	7.2	ND (0.11)	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.2)	25	32
	01/11/16	2 - 3	N	ND (2.1)	4	140	ND (1.1)	ND (1.1)	0.65	31	5.6	9.4	7.9	ND (0.11)	ND (1.1)	12	ND (1.1)	ND (1.1)	ND (2.1)	24	30
	01/11/16	5 - 6	N	ND (2.1)	1.9	100 J	ND (1)	ND (1)	ND (0.21)	17	8.5	8.3	2.4	ND (0.1)	ND (1)	14	ND (1) J	ND (1)	ND (2.1)	31	33
AOC24-OS1	12/14/11	0 - 0.5	N	ND (2.1)	3.8	190	ND (1)	ND (1)	1.2	30	5.1	9.3	8.4	ND (0.1)	ND (1)	9.7	ND (1)	ND (1)	ND (2.1) J	29	33
	12/14/11	1 - 2	N	ND (2.1)	3.3	200	ND (1)	ND (1)	0.76	26	5.8	9.6	7.8	ND (0.11)	ND (1)	11	ND (1)	ND (1)	ND (2.1)	31	36
AOC24-OS2	12/14/11	0 - 0.5	N	ND (2.1)	2.3	91	ND (1)	ND (1)	ND (0.41)	20	7.1	8	17	ND (0.1)	ND (1)	13	ND (1)	ND (1)	ND (2.1)	30	32
	12/14/11	1 - 2	N	ND (2.1)	3.4	170	ND (1)	ND (1)	ND (0.42)	16	4	6.9	6.4	ND (0.1)	ND (1)	7.8	ND (1)	ND (1)	ND (2.1)	25	27

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-33b

Sample Results: Contract Laboratory Program Inorganics
AOC 24 – Stained Area and Former API Oil/Water Separator
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
AOC24-OS1	12/14/11	0 - 0.5	N	7,600	31,000	14,000	6,300	260 J	1,600	1,100	ND (0.25)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-33c
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 24 – Stained Area and Former API Oil/Water Separator
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC24-1	01/10/16	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (51)	ND (51)	ND (51)	ND (51)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (51)	ND (5.1)	ND (5.1)	ND (5.1)	ND (57)	
	01/10/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)	
AOC24-2	01/11/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	10 J	ND (53)	ND (53)	ND (53)	ND (53)	15 J	ND (53)	21 J	ND (5.2)	ND (53)	ND (5.2)	ND (5.2)	19 J	60	
	01/11/16	0 - 0.5	FD	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	7.2	ND (54)	ND (54)	ND (54)	ND (54)	11	ND (54)	20	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	18	60	
	01/11/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (60)	
	01/11/16	5 - 6	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
AOC24-OS1	12/14/11	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	12	10	26	5.2	10	17	ND (5.2)	26	ND (5.2)	ND (5.2)	ND (5.2)	8.3	24	17	
	12/14/11	1 - 2	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	45	44	100	17	28	50	5.2	85	ND (5.2)	18	ND (5.2)	33	76	66	
AOC24-OS2	12/14/11	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)	
	12/14/11	1 - 2	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	14	ND (5.2)	30	6.6	8.3	13	ND (5.2)	24	ND (5.2)	5.9	ND (5.2)	ND (5.2)	23	10	

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-33d

Sample Results: Total Petroleum Hydrocarbons
AOC 24 – Stained Area and Former API Oil/Water Separator
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)	
Commercial Screening Level ¹ :				1,100	140,000
RWQCB Environmental Screening Level ² :				230	11,000
Background ³ :				NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH as diesel	TPH as motor oil
Category 1					
AOC24-1	01/10/16	0 - 0.5	N	120 J	640
	01/10/16	2 - 3	N	24	230
AOC24-2	01/11/16	0 - 0.5	N	25	160
	01/11/16	0 - 0.5	FD	25	170
	01/11/16	2 - 3	N	31	260
	01/11/16	5 - 6	N	ND (10)	ND (10)
AOC24-OS1	12/14/11	0 - 0.5	N	77	430
	12/14/11	1 - 2	N	39	200
AOC24-OS2	12/14/11	0 - 0.5	N	ND (10)	ND (10)
	12/14/11	1 - 2	N	ND (10)	32

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

³ Background values have not been established for TPHs.

TABLE 3-33e

Sample Results: General Chemistry Parameters

AOC 24 – Stained Area and Former API Oil/Water Separator

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels¹:				NE
DTSC-SL²:				NE
Background³:				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC24-1	01/10/16	0 - 0.5	N	8.4
	01/10/16	2 - 3	N	8.8
AOC24-2	01/11/16	0 - 0.5	N	8.2
	01/11/16	0 - 0.5	FD	8.3
	01/11/16	2 - 3	N	9.2
	01/11/16	5 - 6	N	8.2

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-33f
Sample Results: Pesticides
AOC 24 – Stained Area and Former API Oil/Water Separator
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Pesticides (µg/kg)																				
Commercial Screening Level ¹ :				9,600	9,300	8,500	180	360	1,500	370	370	140	7,000,000	7,000,000	7,000,000	250,000	250,000	250,000	370	1,500	630	330	4,100,000	2,100
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	delta-BHC	Dieldrin	Endo sulfan I	Endo sulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxy chlor	Toxaphene
Category 1																								
AOC24-OS1	12/14/11	0 - 0.5	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	1.7	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	1.6 J	ND (1)	ND (1)	ND (5.2)	ND (52)
	12/14/11	1 - 2	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)
AOC24-OS2	12/14/11	0 - 0.5	N	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (2)	ND (2)	ND (2)	ND (2)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.1)	ND (51)
	12/14/11	1 - 2	N	ND (2.1)	ND (2.1)	ND (2.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2.1)	ND (1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	---	ND (1)	ND (1)	ND (1)	ND (1)	ND (5.2)	ND (52)

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for pesticides.

TABLE 3-33g

Sample Results: Polychlorinated Biphenyls

AOC 24 – Stained Area and Former API Oil/Water Separator

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
AOC24-1	01/10/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
	01/10/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC24-2	01/11/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	28	ND (17)	---	---	53.5
	01/11/16	0 - 0.5	FD	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	18	ND (18)	---	---	45
	01/11/16	2 - 3	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	---	---	ND (36)
	01/11/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	---	---	ND (34)
AOC24-OS1	12/14/11	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/14/11	1 - 2	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	30	ND (17)	ND (17)	ND (17)	55.5
AOC24-OS2	12/14/11	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/14/11	1 - 2	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

TABLE 3-33g

Sample Results: Polychlorinated Biphenyls

AOC 24 – Stained Area and Former API Oil/Water Separator

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-33h
Sample Results: Dioxins and Furans
AOC 24 – Stained Area and Former API Oil/Water Separator
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC24-2	01/11/16	0 - 0.5	N	240 J	24 J	ND (1.1) J	ND (0.81) J	ND (0.91) J	ND (0.79) J	ND (0.61) J	ND (0.77) J	ND (0.78) J	ND (1.3) J	ND (0.69) J	ND (31) J	ND (0.68) J	ND (0.17) J	ND (0.49) J	2,800 J	62 J	6.2
	01/11/16	2 - 3	N	78	ND (7.3)	ND (1)	ND (0.44)	ND (0.4)	1.7 J	ND (0.36)	ND (0.44)	ND (0.46)	ND (0.68)	ND (0.24)	ND (8.8)	ND (0.64)	ND (0.2)	ND (0.17)	910	18 J	2.4

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
2 Background values are not established or not applicable.

TABLE 3-33i

Constituent Concentrations in Soil Compared to Screening Values

AOC 24 – Stained Area and Former API Oil/Water Separator

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	1	2 / 2 (100%)	6.2	1	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	4	0 / 9 (0%)	ND (2.1) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	4	9 / 9 (100%)	5	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	4	9 / 9 (100%)	200	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	4	0 / 9 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	4	0 / 9 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	4	6 / 9 (67%)	1.2	3	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	4	9 / 9 (100%)	35	0	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	4	9 / 9 (100%)	8.5	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	4	9 / 9 (100%)	13	0	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	4	9 / 9 (100%)	17	2	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	4	0 / 9 (0%)	ND (0.11) ‡	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	4	0 / 9 (0%)	ND (1.1)	0	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	4	9 / 9 (100%)	19	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	4	0 / 9 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	4	0 / 9 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	4	0 / 9 (0%)	ND (2.1) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	4	9 / 9 (100%)	31	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	4	9 / 9 (100%)	36	0	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	1	1 / 1 (100%)	7,600	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	1	1 / 1 (100%)	31,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	1	1 / 1 (100%)	14,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	1	1 / 1 (100%)	6,300	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	1	1 / 1 (100%)	260	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	1	1 / 1 (100%)	1,600	0	(4,400)	NA	(NA)	NA	(NE)

TABLE 3-33i

Constituent Concentrations in Soil Compared to Screening Values

AOC 24 – Stained Area and Former API Oil/Water Separator

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Contract Laboratory Program Inorganics										
Sodium	mg/kg	1	1 / 1 (100%)	1,100	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	1	0 / 1 (0%)	ND (0.25)	NA	(NE)	NA	(NA)	0	(150)
Polycyclic Aromatic Hydrocarbons										
Benzo (a) anthracene	µg/kg	4	4 / 9 (44%)	45	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (a) pyrene	µg/kg	4	2 / 9 (22%)	44	NA	(NE)	NA	(NA)	0	(2,100)
Benzo (b) fluoranthene	µg/kg	4	3 / 9 (33%)	100	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (ghi) perylene	µg/kg	4	3 / 9 (33%)	17	NA	(NE)	NA	(NA)	0	(23,000,000)
Benzo (k) fluoranthene	µg/kg	4	3 / 9 (33%)	28	NA	(NE)	NA	(NA)	0	(210,000)
Chrysene	µg/kg	4	4 / 9 (44%)	50	NA	(NE)	NA	(NA)	0	(2,100,000)
Dibenzo (a,h) anthracene	µg/kg	4	1 / 9 (11%)	5.2	NA	(NE)	NA	(NA)	0	(2,100)
Fluoranthene	µg/kg	4	4 / 9 (44%)	85	NA	(NE)	NA	(NA)	0	(30,000,000)
Indeno (1,2,3-cd) pyrene	µg/kg	4	2 / 9 (22%)	18	NA	(NE)	NA	(NA)	0	(21,000)
Phenanthrene	µg/kg	4	2 / 9 (22%)	33	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	4	4 / 9 (44%)	76	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	4	4 / 9 (44%)	66	2	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	4	2 / 9 (22%)	30	NA	(NE)	NA	(NA)	0	(970)
Total PCBs	µg/kg	4	2 / 9 (22%)	55.5	NA	(NE)	NA	(NA)	0	(940)
Pesticides										
alpha-Chlordane	µg/kg	2	1 / 4 (25%)	1.7	NA	(NE)	NA	(NA)	0	(1,500)
gamma-Chlordane	µg/kg	2	1 / 4 (25%)	1.6	NA	(NE)	NA	(NA)	0	(1,500)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	4	6 / 9 (67%)	120	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	4	7 / 9 (78%)	640	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	2	0 / 3 (0%)	ND (1.4)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-33i
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 24 – Stained Area and Former API Oil/Water Separator
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-34a
Sample Results: Metals
AOC 26 – Former Scrubber Oil Sump
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																		
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	NE	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	NE	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																						
AOC26-1	12/15/15	0 - 0.5	N	ND (2)	ND (1) *	ND (1)	ND (1)	ND (1)	ND (0.2)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (0.1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (2)	ND (1)	ND (1)
	12/15/15	2 - 3	N	ND (2)	3.2	68	ND (1)	ND (1)	ND (0.2)	6.1	6.1	2.4	3.9	2.5	ND (0.1)	ND (1)	4.7	ND (1)	ND (1)	ND (2)	9.7	14
	12/15/15	5 - 6	N	ND (2.1)	3.2	62	ND (1)	ND (1)	ND (0.21)	6.9	6.9	2.1	4	2.2	ND (0.1)	ND (1)	4.3	ND (1)	ND (1)	ND (2.1)	10	15
	12/15/15	9 - 10	N	ND (2.1)	3.5	93	ND (1)	ND (1)	ND (0.21)	6.9	6.9	3.3	4.9	2.4	ND (0.1)	ND (1)	5.9	ND (1)	ND (1)	ND (2.1)	11	15
	01/10/16	24 - 25	N	ND (2.2)	2.7	33	ND (1.1)	ND (1.1)	ND (0.22)	26	26	9.2	13	2.6	0.27	ND (1.1)	20	ND (1.1)	ND (1.1)	ND (2.2)	34	34
	01/10/16	49 - 50	N	ND (2.1)	1.4	59	ND (1.1)	ND (1.1)	ND (0.21)	29	29	9	13	1.4	0.24	ND (1.1)	19	ND (1.1)	ND (1.1)	ND (2.1)	32	32
	01/11/16	74 - 75	N	ND (2.1)	1.9	94	ND (1)	ND (1)	ND (0.21)	42	42	13	18	2.4	0.3	ND (1)	36	ND (1)	ND (1)	ND (2.1)	48	40
AOC26-2	01/14/16	0 - 0.5	N	ND (2.1)	3.7	540	ND (1.1)	ND (1.1)	0.27	21	21	6.6	13	10	0.13	ND (1.1)	14	ND (1.1)	ND (1.1)	ND (2.1)	22	38
	01/14/16	2 - 3	N	ND (2.1)	4	150	ND (1.1)	ND (1.1)	ND (0.21)	12	12	4.1	7	11	ND (0.1)	ND (1.1)	10	ND (1.1)	ND (1.1)	ND (2.1)	17	27
	01/14/16	5 - 6	N	ND (2.2)	5.8	130	ND (1.1)	ND (1.1)	0.26	19	19	5.5	11	8.9	0.13	2.3	13	ND (1.1)	ND (1.1)	ND (2.2)	24	36
AOC26-3	01/13/16	0 - 0.5	N	ND (2.1)	4.9	85	ND (1)	ND (1)	ND (0.21)	9.2	9.2	3	5.9	3.1	ND (0.1)	ND (1)	6.9	ND (1)	ND (1)	ND (2.1)	12	23
	01/13/16	2 - 3	N	ND (2.1)	3.5	130	ND (1)	ND (1)	ND (0.21)	10	10	3.2	6.2	11	ND (0.1)	ND (1)	5.5	ND (1)	ND (1)	ND (2.1)	14	32
	01/13/16	5 - 6	N	ND (2.2)	4.2	170	ND (1.1)	ND (1.1)	ND (0.22)	13	13	5.3	7.5	4.3	0.13	1.3	11	ND (1.1)	ND (1.1)	ND (2.2)	21	30
AOC26-4	01/13/16	0 - 0.5	N	ND (2.1)	8.8	160	ND (1)	ND (1)	0.75	22	22	5.2	10	19	0.11	1.2	10	ND (1)	ND (1)	ND (2.1)	22	35
	01/13/16	2 - 3	N	ND (2.1)	3.8	150	ND (1)	ND (1)	ND (0.21)	8.8	8.8	3.9	6.3	2.6	ND (0.1)	1.8	6.6	ND (1)	ND (1)	ND (2.1)	17	19
	01/13/16	5 - 6	N	ND (2.1)	2.7	94	ND (1)	ND (1)	ND (0.21)	40	40	8.5	11	3.1	ND (0.1)	ND (1)	27	ND (1)	ND (1)	ND (2.1)	31	38
	01/13/16	9 - 10	N	ND (2.1)	3.8	170	ND (1.1)	ND (1.1)	ND (0.21)	13	13	5.3	7.6	3.9	0.11	1.7	10	ND (1.1)	ND (1.1)	ND (2.1)	21	26
AOC26-5	01/13/16	0 - 0.5	N	ND (2.2)	3.5	200	ND (1.1)	ND (1.1)	ND (0.22)	4.9	4.9	2.8	3.7	2.8	ND (0.11)	ND (1.1)	4.5	ND (1.1)	ND (1.1)	ND (2.2)	12	14
	01/13/16	2 - 3	N	ND (2.1)	3.8	130	ND (1)	ND (1)	ND (0.21)	7.6	7.6	3	5.4	4.8	ND (0.1)	ND (1)	5.8	ND (1)	ND (1)	ND (2.1)	13	20
	01/13/16	5 - 6	N	ND (2.2)	3.4	150	ND (1.1)	ND (1.1)	ND (0.22)	13	13	5.8	8.8	4.2	0.13	ND (1.1)	9.9	ND (1.1)	ND (1.1)	ND (2.2)	23	31
	01/13/16	8 - 9	N	ND (2.2)	4	160	ND (1.1)	ND (1.1)	ND (0.22)	11	11	5	8.1	5.2	0.11	ND (1.1)	8.6	ND (1.1)	ND (1.1)	ND (2.2)	21	28
Category 3																						
SS-NE	09/05/96	10	N	---	---	---	---	---	ND (1)	22	22	---	---	ND (5)	---	---	---	---	---	---	---	---
	09/05/96	10.5	N	---	---	---	---	---	ND (1)	14	14	---	---	12	---	---	---	---	---	---	---	---
SSWW	09/05/96	8	N	---	---	---	---	---	ND (1)	15	15	---	---	ND (5)	---	---	---	---	---	---	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
J	concentration or reporting limit estimated by laboratory or data validation
USEPA	United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-34b
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 26 – Former Scrubber Oil Sump
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																			
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA	
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent	
Category 1																							
AOC26-1	12/15/15	0 - 0.5	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.4	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	5.1	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	6.2
	12/15/15	2 - 3	N	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.1)	ND (5.9)
	12/15/15	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	12/15/15	9 - 10	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	01/10/16	24 - 25	N	ND (54)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	4.9	ND (54)	ND (54)	62	
	01/10/16	49 - 50	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (4.7)	ND (5.3)	ND (5.3)	ND (5.3)	ND (6.1)
	01/11/16	74 - 75	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (4.5)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
AOC26-2	01/14/16	0 - 0.5	N	ND (5.3)	7.8	ND (5.3)	ND (5.3)	ND (5.3)	12	ND (53)	99	ND (53)	ND (53)	12	ND (53)	22	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	21	67
	01/14/16	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (61)
	01/14/16	5 - 6	N	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (55)	ND (55)	ND (55)	ND (55)	ND (55)	ND (55)	ND (55)	ND (5.5)	ND (5.5)	ND (55)	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	ND (64)
AOC26-3	01/13/16	0 - 0.5	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	01/13/16	2 - 3	N	ND (5.2)	6.3	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (52)	ND (52)	ND (52)	ND (5.2)	ND (52)	6.3	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	ND (5.2)	6.6	58
	01/13/16	5 - 6	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (6.5)
AOC26-4	01/13/16	0 - 0.5	N	ND (5.2)	6.3	ND (5.2)	ND (5.2)	ND (5.2)	44	ND (52)	120	ND (52)	ND (52)	41	ND (52)	98	ND (5.2)	ND (52)	ND (5.2)	ND (5.2)	37	85	71
	01/13/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	01/13/16	5 - 6	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	01/13/16	9 - 10	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (59)
AOC26-5	01/13/16	0 - 0.5	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (6.5)
	01/13/16	2 - 3	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (6)
	01/13/16	5 - 6	N	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (56)	ND (56)	ND (56)	ND (56)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	ND (56)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (62)
	01/13/16	8 - 9	N	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (62)

TABLE 3-34b
Sample Results: Polycyclic Aromatic Hydrocarbons
AOC 26 – Former Scrubber Oil Sump
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- 1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- 2 Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA's Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-34c
Sample Results: Semivolatile and Volatile Organic Compounds
AOC 26 – Former Scrubber Oil Sump
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	
Commercial Screening Level ¹ : Background ² :				1,800,000 NE	1,500,000 NE	670,000,000 NE	25,000 NE	9,900,000 NE	190,000,000 NE	6,400,000 NE	24,000,000 NE	12,000,000 NE	5,400,000 NE	2,500,000 NE	2,800,000 NE	2,500,000 NE
Location	Date	Depth (ft bgs)	Sample Type	1,2,4- Trimethylbenzene	1,3,5- Trimethylbenzene	Acetone	Ethyl- benzene	Isopropylbenzene	Methyl ethyl ketone	N- Butylbenzene	N-Propylbenzene	sec- Butylbenzene	Toluene	Xylene, m,p-	Xylene, o-	Xylenes, total
Category 1																
AOC26-1	12/15/15	2 - 3	N	ND (5.8)	ND (5.8)	ND (58)	ND (5.8)	ND (5.8)	ND (58)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)
	12/15/15	5 - 6	N	ND (5.9)	ND (5.9)	ND (59)	ND (5.9)	ND (5.9)	ND (59)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)	ND (5.9)
	12/15/15	9 - 10	N	ND (5.7)	ND (5.7)	ND (57)	ND (5.7)	ND (5.7)	ND (57)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)	ND (5.7)
	01/10/16	24 - 25	N	29	20	210	72	21	140	7.3	25	7.8	96	180	45	220
	01/10/16	49 - 50	N	ND (4.7)	ND (4.7)	ND (47) J	ND (4.7)	ND (4.7)	ND (47)	ND (4.7)	ND (4.7)	ND (4.7)	ND (4.7)	ND (4.7)	ND (4.7)	ND (4.7)
	01/11/16	74 - 75	N	ND (4.5)	ND (4.5)	ND (45) J	ND (4.5)	ND (4.5)	ND (45)	ND (4.5)	ND (4.5)	ND (4.5)	ND (4.5)	ND (4.5)	ND (4.5)	ND (4.5)
AOC26-2	01/14/16	2 - 3	N	ND (6.8)	ND (6.8)	ND (68)	ND (6.8)	ND (6.8)	ND (68)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)
	01/14/16	5 - 6	N	ND (8.6)	ND (8.6)	ND (86)	ND (8.6)	ND (8.6)	ND (86)	ND (8.6)	ND (8.6)	ND (8.6)	ND (8.6)	ND (8.6)	ND (8.6)	ND (8.6)
AOC26-3	01/13/16	2 - 3	N	ND (6.8)	ND (6.8)	ND (68)	ND (6.8)	ND (6.8)	ND (68)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)
	01/13/16	5 - 6	N	ND (8.1)	ND (8.1)	ND (81)	ND (8.1)	ND (8.1)	ND (81)	ND (8.1)	ND (8.1)	ND (8.1)	ND (8.1)	ND (8.1)	ND (8.1)	ND (8.1)
AOC26-4	01/13/16	2 - 3	N	ND (6.8)	ND (6.8)	ND (68)	ND (6.8)	ND (6.8)	ND (68)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)	ND (6.8)
	01/13/16	5 - 6	N	ND (6.7)	ND (6.7)	ND (67)	ND (6.7)	ND (6.7)	ND (67)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)	ND (6.7)
	01/13/16	9 - 10	N	ND (7.2)	ND (7.2)	ND (72)	ND (7.2)	ND (7.2)	ND (72)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)
AOC26-5	01/13/16	2 - 3	N	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (54)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)
	01/13/16	5 - 6	N	ND (7.2)	ND (7.2)	ND (72)	ND (7.2)	ND (7.2)	ND (72)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)	ND (7.2)
	01/13/16	8 - 9	N	ND (7.5)	ND (7.5)	ND (75)	ND (7.5)	ND (7.5)	ND (75)	ND (7.5)	ND (7.5)	ND (7.5)	ND (400)	ND (7.5)	ND (7.5)	ND (7.5)

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level or RWQCB ESL are circled.
Only detected SVOCs and VOCs are presented.

- not analyzed
- µg/kgmicrograms per kilogram
- ft bgsfeet below ground surface
- DTSCCalifornia Department of Toxic Substances Control
- DTSC-SLDTSC Screening Levels
- FDfield duplicate
- Nprimary sample
- NEnot established
- NDnot detected at the listed reporting limit
- Jconcentration or reporting limit estimated by laboratory or data validation
- USEPAUnited States Environmental Protection Agency
- SVOCssemivolatile organic compounds
- VOCsvolatile organic compounds

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
2 Background values have not been established for SVOCs and VOCs.

TABLE 3-34d

Sample Results: Total Petroleum Hydrocarbons

AOC 26 – Former Scrubber Oil Sump

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)				
Commercial Screening Level ¹ :				NE	NE	3,900	1,100	140,000
RWQCB Environmental Screening Level ² :				NE	NE	740	230	11,000
Background ³ :				NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Total Petroleum Hydrocarbons	Total Recoverable Hydrocarbons	TPH as gasoline	TPH as diesel	TPH as motor oil
Category 1								
AOC26-1	12/15/15	0 - 0.5	N	---	---	---	ND (10)	15
	12/15/15	2 - 3	N	---	---	ND (1.2)	ND (10)	ND (10)
	12/15/15	5 - 6	N	---	---	ND (1.2)	ND (10)	ND (10)
	12/15/15	9 - 10	N	---	---	ND (1.2)	ND (10)	ND (10)
	01/10/16	24 - 25	N	---	---	68	3,100	1,700
	01/10/16	49 - 50	N	---	---	ND (1)	ND (11)	ND (11)
	01/11/16	74 - 75	N	---	---	ND (0.93)	ND (10)	ND (10)
AOC26-2	01/14/16	0 - 0.5	N	---	---	---	49	120
	01/14/16	2 - 3	N	---	---	ND (1.3)	170	580
	01/14/16	5 - 6	N	---	---	ND (1.5)	600	600
AOC26-3	01/13/16	0 - 0.5	N	---	---	---	14	67
	01/13/16	2 - 3	N	---	---	ND (1.3)	13	62
	01/13/16	5 - 6	N	---	---	ND (1.6)	27	50
AOC26-4	01/13/16	0 - 0.5	N	---	---	---	ND (10)	49
	01/13/16	2 - 3	N	---	---	ND (1.4)	ND (10)	ND (10)
	01/13/16	5 - 6	N	---	---	ND (1.3)	ND (10)	ND (10)
	01/13/16	9 - 10	N	---	---	ND (1.4)	580	530
AOC26-5	01/13/16	0 - 0.5	N	---	---	---	ND (11)	ND (11)
	01/13/16	2 - 3	N	---	---	ND (1.3)	110	170
	01/13/16	5 - 6	N	---	---	ND (1.4)	890	710
	01/13/16	8 - 9	N	---	---	ND (1.5)	2,600	2,400
Category 3								
SS1	01/16/97	5	N	---	78	---	---	---
	01/16/97	13	N	---	45	---	---	---
	01/16/97	15	N	---	29	---	---	---
	01/16/97	20	N	---	38	---	---	---
SS2	01/16/97	15	N	---	8,600	---	---	---
	01/16/97	20	N	---	8,800	---	---	---
SS3	01/16/97	15	N	---	390	---	---	---
	01/16/97	20	N	---	2,800	---	---	---
	01/16/97	27	N	---	9,700	---	---	---
	01/16/97	30	N	---	8,200	---	---	---
	01/16/97	35	N	---	8,100	---	---	---
	01/16/97	40	N	---	ND (22)	---	---	---
SS4	01/16/97	5	N	---	ND (21)	---	---	---
	01/16/97	10	N	---	ND (23)	---	---	---
	01/16/97	15	N	---	ND (21)	---	---	---
	01/16/97	20	N	---	ND (22)	---	---	---

TABLE 3-34d

Sample Results: Total Petroleum Hydrocarbons

AOC 26 – Former Scrubber Oil Sump

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Total Petroleum Hydrocarbons (mg/kg)				
Commercial Screening Level ¹ :				NE	NE	3,900	1,100	140,000
RWQCB Environmental Screening Level ² :				NE	NE	740	230	11,000
Background ³ :				NE	NE	NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	Total Petroleum Hydrocarbons	Total Recoverable Hydrocarbons	TPH as gasoline	TPH as diesel	TPH as motor oil
SS5	01/16/97	5	N	---	ND (21)	---	---	---
	01/16/97	10	N	---	ND (21)	---	---	---
	01/16/97	15	N	---	ND (20)	---	---	---
	01/16/97	20	N	---	ND (22)	---	---	---
SS-N-10.4	09/05/96	10.4	N	3,700	---	---	---	---
SS-NE	09/05/96	10	N	6,700	---	---	---	---
	09/05/96	10.5	N	15,000	---	---	---	---
SS-NW-10.0	09/05/96	10	N	5,700	---	---	---	---
SS-S-11.0	09/05/96	11	N	400	---	---	---	---
SS-SE-10.5	09/05/96	10.5	N	780	---	---	---	---
SS-SE-10.8	09/05/96	10.8	N	570	---	---	---	---
SS-SW-Comp	09/05/96	10.5	N	1,300	---	---	---	---
SSWE	09/05/96	9	N	1,800	---	---	---	---
SSWN	09/05/96	9	N	3,700	---	---	---	---
SSWS	09/05/96	8.5	N	3,100	---	---	---	---
SSWW	09/05/96	8	N	9,100	---	---	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-34e

Sample Results: General Chemistry Parameters

AOC 26 – Former Scrubber Oil Sump

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels¹:				NE
DTSC-SL²:				NE
Background³:				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
AOC26-1	12/15/15	0 - 0.5	N	9.5
	12/15/15	2 - 3	N	9.3
	12/15/15	5 - 6	N	9.4
	12/15/15	9 - 10	N	9.5
	01/10/16	24 - 25	N	8.9
	01/10/16	49 - 50	N	9
	01/11/16	74 - 75	N	8.6
AOC26-2	01/14/16	0 - 0.5	N	8.8
	01/14/16	2 - 3	N	8.3
	01/14/16	5 - 6	N	8.4
AOC26-3	01/13/16	0 - 0.5	N	8.9
	01/13/16	2 - 3	N	9
	01/13/16	5 - 6	N	8.6
AOC26-4	01/13/16	0 - 0.5	N	8.2
	01/13/16	2 - 3	N	8.6
	01/13/16	5 - 6	N	7.8
	01/13/16	9 - 10	N	8.5
AOC26-5	01/13/16	0 - 0.5	N	9.8
	01/13/16	2 - 3	N	9.5
	01/13/16	5 - 6	N	8
	01/13/16	8 - 9	N	7.8

TABLE 3-34e

Sample Results: General Chemistry Parameters

AOC 26 – Former Scrubber Oil Sump

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3.

January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for general chemistry parameters.

TABLE 3-34f

Sample Results: Volatile Organic Compounds in Soil Gas

AOC 26 – Former Scrubber Oil Sump

RFI/RI Report, Volume 3 – Soil Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Location	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1
Date	1/14/2016	1/14/2016	1/14/2016	1/14/2016	2/12/2017	2/21/2017	2/13/2017	2/21/2017	2/21/2017
Sample Type	N	N	N	FD	N	N	N	N	FD
Depth (ft bgs)	5 - 6	24 - 25	49 - 50	50 - 60	5 - 6	24 - 25	49 - 50	50 - 60	50 - 60
Analyte ^a (µg/m ³)									
1,1,1-Trichloroethane	4.1 U	4.04 U	4.1 U	4.37 U	3.74 U	36.9 U	3.66 U	36.9 U	
1,1,2,2-Tetrachloroethane	5.14 U	5.08 U	5.14 U	5.49 U	4.7 U	46.3 U	4.6 U	46.3 U	
1,1,2-Trichloroethane	4.1 U	4.04 U	4.1 U	4.37 U	3.74 U	36.9 U	3.66 U	36.9 U	
1,1,2-Trichlorotrifluoroethane (Freon 113)	5.74 U	5.67 U	5.74 U	6.13 U	5.25 U	51.7 U	5.13 U	51.7 U	
1,1-Dichloroethane	3.03 U	2.99 U	3.03 U	3.23 U	2.77 U	27.3 U	2.71 U	27.3 U	
1,1-Dichloroethene	2.97 U	2.93 U	2.97 U	3.17 U	2.71 U	26.7 U	4.57	26.7 U	
1,2,4-Trichlorobenzene	27.8 U	27.4 U	27.8 U	29.7 U	25.4 UJ	250 UJ	24.9 UJ	250 UJ	
1,2,4-Trimethylbenzene	3.69 U	3.64 U	3.69 U	3.94 U	3.37 U	33.2 U	3.3 U	33.2 U	
1,2-Dibromoethane	5.76 U	5.68 U	5.76 U	6.14 U	5.26 U	51.8 U	5.15 U	51.8 U	
1,2-Dichlorobenzene	4.52 U	4.45 U	4.52 U	4.82 U	4.12 U	40.6 U	4.03 U	40.6 U	
1,2-Dichloroethane	3.03 U	2.99 U	3.03 U	3.23 U	2.77 U	27.3 U	2.71 U	27.3 U	
1,2-Dichloropropane	3.46 U	3.42 U	3.46 U	3.7 U	3.16 U	31.2 U	3.1 U	31.2 U	
1,3,5-Trimethylbenzene	3.69 U	3.64 U	3.69 U	3.94 U	3.37 U	33.2 U	3.3 U	33.2 U	
1,3-Dichlorobenzene	6.4 J	8.72 J	5.95 J	6.93 J	4.12 U	40.6 U	4.03 U	40.6 U	
1,4-Dichlorobenzene	4.52 U	4.45 U	4.52 U	4.82 U	4.12 U	40.6 U	4.03 U	40.6 U	
2-Hexanone	6.15 U	6.07 U	6.15 U	6.56 U	5.62 U	55.4 U	5.49 U	55.4 U	
Acetone	52 J	52.3 J	181 J	59.2 J	87.9	162 J	103	210 J	
Benzene	3.35 J	59.5 J	53.3 J	52.3 J	2.19 U	178 J	5.99	174 J	
Bromodichloromethane	5.03 U	4.96 U	5.03 U	5.36 U	4.59 U	45.2 U	4.49 U	45.2 U	
Bromoform	7.76 U	7.65 U	7.76 U	8.27 U	7.08 U	69.8 U	6.93 U	69.8 U	
Bromomethane	2.91 U	2.87 U	2.91 U	3.1 U	2.66 U	26.2 U	2.6 U	26.2 U	
Carbon disulfide	4.06 J	71.4 J	144 J	73.5 J	4.74	63.5 J	5.09	61.8 J	
Carbon tetrachloride	4.73 U	4.66 U	11.1 J	5.04 U	4.32 U	42.5 U	61.4	42.5 U	
Chloro methane	2.76 J	4.16 J	2.97 J	4.23 J	1.41 U	13.9 U	1.38 U	13.9 U	
Chlorobenzene	3.45 U	3.4 U	3.45 U	3.68 U	3.15 U	31 U	3.08 U	31 U	
Chloroethane	1.98 U	1.95 U	1.98 U	2.11 U	1.81 U	17.8 U	1.77 U	17.8 U	
Chloroform	3.66 U	3.61 U	3.66 U	3.9 U	3.34 U	32.9 U	47.2	32.9 U	
cis-1,2-Dichloroethene	2.97 U	2.93 U	2.97 U	3.17 U	2.71 U	26.7 U	2.65 U	26.7 U	
cis-1,3-Dichloropropene	3.4 U	3.36 U	3.4 U	3.63 U	3.11 U	30.6 U	3.04 U	30.6 U	
Dibromochloromethane	6.39 U	6.3 U	6.39 U	6.82 U	5.84 U	57.5 U	5.71 U	57.5 U	
Dichlorodifluoromethane	3.7 U	3.66 U	3.7 U	3.95 U	3.38 U	33.3 U	3.31 U	33.3 U	
Ethyl- benzene	3.26 U	3.28 J	3.26 U	3.47 U	2.97 U	115 J	2.91 U	107 J	
Hexachlorobutadiene	16 U	15.8 U	16 U	17.1 U	14.6 U	144 U	14.3 U	144 U	

TABLE 3-34f

Sample Results: Volatile Organic Compounds in Soil Gas

AOC 26 – Former Scrubber Oil Sump

RFI/RI Report, Volume 3 – Soil Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Location	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1
Date	1/14/2016	1/14/2016	1/14/2016	1/14/2016	2/12/2017	2/21/2017	2/13/2017	2/21/2017	2/21/2017
Sample Type	N	N	N	FD	N	N	N	N	FD
Depth (ft bgs)	5 - 6	24 - 25	49 - 50	50 - 60	5 - 6	24 - 25	49 - 50	50 - 60	
Methyl ethyl ketone	4.43 U	4.37 U	6.15 J	5.9 J	25.9	39.8 U	38.3	39.8 U	
Methyl isobutyl ketone	6.15 U	6.07 U	6.15 U	6.56 U	5.62 U	55.4 U	5.49 U	55.4 U	
Methyl tert-butyl ether (MTBE)	10.8 U	10.7 U	10.8 U	11.5 U	9.88 U	97.3 U	9.66 U	97.3 U	
Methylene chloride	5.21 U	5.14 U	5.21 U	5.56 U	4.75 U	46.8 U	4.65 U	46.8 U	
Styrene	3.2 U	3.15 U	3.2 U	3.41 U	2.92 U	28.8 U	2.85 U	28.8 U	
Tetrachloroethene	5.08 U	10.7 J	5.08 U	6.62 J	10.1	115 J	344	111 J	
Toluene	11.4 J	83.8 J	38.9 J	63.3 J	2.58 U	624 J	10	564 J	
trans-1,2-Dichloroethene	2.97 U	2.93 U	2.97 U	3.17 U	2.71 U	26.7 U	2.65 U	26.7 U	
trans-1,3-Dichloropropene	3.4 U	3.36 U	3.4 U	3.63 U	3.11 U	30.6 U	3.04 U	30.6 U	
Trichloroethene	4.04 U	3.98 U	4.04 U	4.3 U	3.69 U	36.3 U	7.56	36.3 U	
Trichlorofluoromethane (Freon 11)	4.22 U	4.16 U	4.22 U	4.5 U	3.85 U	37.9 U	3.77 U	37.9 U	
Vinyl chloride	1.92 U	1.89 U	1.92 U	2.05 U	1.75 U	17.3 U	1.72 U	17.3 U	
Xylene, m,p-	6.51 U	6.42 U	6.51 U	6.94 U	5.95 U	199 J	5.82 U	191 J	
Xylene, o-	3.26 U	3.21 U	3.26 U	3.47 U	2.97 U	68 J	2.91 U	62.7 J	

* All data presented are Category 1 data.

µg/m³ = milligrams per cubic meter

FD = field duplicate

ft bgs = feet below ground surface

J = concentration or reporting limit estimated by laboratory or data validation

N = primary sample

U = not detected at the listed reporting limit

TABLE 3-34g

Sample Results: Polychlorinated Biphenyls

AOC 26 – Former Scrubber Oil Sump

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)							
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Category 1											
AOC26-1	12/15/15	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	30	55.5
	12/15/15	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/15/15	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/15/15	9 - 10	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/10/16	24 - 25	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
	01/10/16	49 - 50	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/11/16	74 - 75	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC26-2	01/14/16	0 - 0.5	N	ND (18)	ND (35)	ND (18)	ND (18)	ND (18)	48	80	146
	01/14/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	120	145.5
	01/14/16	5 - 6	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	420	447
AOC26-3	01/13/16	0 - 0.5	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/13/16	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	28	33	78
	01/13/16	5 - 6	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (36)
AOC26-4	01/13/16	0 - 0.5	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	150	88	255
	01/13/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	01/13/16	5 - 6	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	30	ND (17)	55.5
	01/13/16	9 - 10	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
AOC26-5	01/13/16	0 - 0.5	N	ND (19)	ND (37)	ND (19)	ND (19)	ND (19)	ND (19)	ND (19)	ND (38)
	01/13/16	2 - 3	N	ND (17)	ND (34)	ND (17)	ND (17)	ND (17)	ND (17)	120	145.5
	01/13/16	5 - 6	N	ND (18)	ND (37)	ND (18)	ND (18)	ND (18)	ND (18)	490	517
	01/13/16	8 - 9	N	ND (18)	ND (36)	ND (18)	ND (18)	ND (18)	ND (18)	510	537

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

* Reporting limits greater than or equal to the commercial screening level.

--- not analyzed

µg/kg micrograms per kilogram

TABLE 3-34g

Sample Results: Polychlorinated Biphenyls

AOC 26 – Former Scrubber Oil Sump

*RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation**PG&E Topock Compressor Station, Needles, California*

ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-34h
Sample Results: Dioxins and Furans
AOC 26 – Former Scrubber Oil Sump
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Dioxin/Furans (ng/kg)																	
Commercial Screening Level ¹ :				NE	NE	NE	NE	NE	NE	NE	NE	NE	22	NE	NE	NE	22	NE	NE	NE	220
Background ² :				NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NA
Location	Date	Depth (ft bgs)	Sample Type	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF	TEQ Human
Category 1																					
AOC26-4	01/13/16	0 - 0.5	N	600 J	52 J	3.7 J	5.5 J	4.2 J	19 J	4.6 J	11 J	0.92 J	ND (3.6) J	ND (1.6)	ND (60) J	ND (1.5) J	ND (0.71) J	2.1 J	4,300 J	73 J	18
AOC26-5	01/13/16	5 - 6	N	53 J	ND (0.8) J	ND (0.91) J	ND (2.5) J	ND (1.9) J	ND (2.4) J	ND (0.77) J	ND (2.4) J	ND (0.99) J	ND (2.6) J	ND (1.4) J	ND (0.85) J	ND (3.3) J	ND (1.7) J	ND (1.6) J	310 J	ND (7.6) J	4
	01/13/16	8 - 9	N	770 J	46 J	ND (2.6) J	4.6 J	2 J	16 J	ND (2.5) J	9.8 J	ND (0.21) J	3.4 J	ND (0.91)	ND (58) J	ND (1.3)	ND (1) J	ND (0.14) J	8,300 J	81 J	21

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
ng/kg	nanograms per kilogram
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
NA	not applicable
NE	not established
N	primary sample
ND	not detected at the listed reporting limit
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
TEQ Human	Sum of Result x TEF, 1/2 reporting limit used for nondetects. If all Dioxins and Furans are nondetect, the final qualifier code is U.
USEPA	United States Environmental Protection Agency

1 Commercial screening level - for individual dioxins and furans, the lower of the commercial DTSC-SL and USEPA regional screening level is used. For TEQ human, the DTSC-SL is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values are not established or not applicable.

TABLE 3-34i

Constituent Concentrations in Soil Compared to Screening Values

AOC 26 – Former Scrubber Oil Sump

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Dioxins and Furans										
TEQ Human	ng/kg	2	3 / 3 (100%)	21	2	(5.58)	NA	(NA)	0	(220)
Metals										
Antimony	mg/kg	5	0 / 21 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	5	20 / 21 (95%)	8.8	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	5	20 / 21 (95%)	540	1	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	5	0 / 21 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	5	0 / 21 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	5	3 / 21 (14%)	0.75	0	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	5	20 / 21 (95%)	42	2	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	5	20 / 21 (95%)	13	1	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	5	20 / 21 (95%)	18	1	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	5	20 / 21 (95%)	19	5	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	5	10 / 21 (48%)	0.3	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	5	5 / 21 (24%)	2.3	3	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	5	20 / 21 (95%)	36	1	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	5	0 / 21 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	5	0 / 21 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	5	0 / 21 (0%)	ND (2.2) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	5	20 / 21 (95%)	48	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	5	20 / 21 (95%)	40	0	(58)	NA	(NA)	0	(350,000)
Volatile Organic Compounds										
1,2,4-Trimethylbenzene	µg/kg	5	1 / 16 (6.3%)	29	NA	(NE)	NA	(NA)	0	(1,800,000)
1,3,5-Trimethylbenzene	µg/kg	5	1 / 16 (6.3%)	20	NA	(NE)	NA	(NA)	0	(1,500,000)
Acetone	µg/kg	5	1 / 16 (6.3%)	210	NA	(NE)	NA	(NA)	0	(670,000,000)
Ethyl- benzene	µg/kg	5	1 / 16 (6.3%)	72	NA	(NE)	NA	(NA)	0	(25,000)
Isopropylbenzene	µg/kg	5	1 / 16 (6.3%)	21	NA	(NE)	NA	(NA)	0	(9,900,000)
Methyl ethyl ketone	µg/kg	5	1 / 16 (6.3%)	140	NA	(NE)	NA	(NA)	0	(190,000,000)

TABLE 3-34i

Constituent Concentrations in Soil Compared to Screening Values

AOC 26 – Former Scrubber Oil Sump

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Volatile Organic Compounds										
N-Butylbenzene	µg/kg	5	1 / 16 (6.3%)	7.3	NA	(NE)	NA	(NA)	0	(6,400,000)
N-Propylbenzene	µg/kg	5	1 / 16 (6.3%)	25	NA	(NE)	NA	(NA)	0	(24,000,000)
sec-Butylbenzene	µg/kg	5	1 / 16 (6.3%)	7.8	NA	(NE)	NA	(NA)	0	(12,000,000)
Toluene	µg/kg	5	1 / 16 (6.3%)	96	NA	(NE)	NA	(NA)	0	(5,400,000)
Xylene, m,p-	µg/kg	5	1 / 16 (6.3%)	180	NA	(NE)	NA	(NA)	0	(2,500,000)
Xylene, o-	µg/kg	5	1 / 16 (6.3%)	45	NA	(NE)	NA	(NA)	0	(2,800,000)
Xylenes, total	µg/kg	5	1 / 16 (6.3%)	220	NA	(NE)	NA	(NA)	0	(2,500,000)
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	µg/kg	5	3 / 21 (14%)	7.8	NA	(NE)	NA	(NA)	0	(3,000,000)
Benzo (a) anthracene	µg/kg	5	2 / 21 (9.5%)	44	NA	(NE)	NA	(NA)	0	(21,000)
Benzo (b) fluoranthene	µg/kg	5	3 / 21 (14%)	120	NA	(NE)	NA	(NA)	0	(21,000)
Chrysene	µg/kg	5	2 / 21 (9.5%)	41	NA	(NE)	NA	(NA)	0	(2,100,000)
Fluoranthene	µg/kg	5	4 / 21 (19%)	98	NA	(NE)	NA	(NA)	0	(30,000,000)
Naphthalene	µg/kg	5	1 / 21 (4.8%)	4.9	NA	(NE)	NA	(NA)	0	(17,000)
Phenanthrene	µg/kg	5	1 / 21 (4.8%)	37	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	5	3 / 21 (14%)	85	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	5	5 / 21 (24%)	71	4	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	5	4 / 21 (19%)	150	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	5	9 / 21 (43%)	510	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	5	10 / 21 (48%)	537	NA	(NE)	NA	(NA)	0	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	5	11 / 21 (52%)	3,100	NA	(NE)	5	(230)	2	(1,100)
TPH as motor oil	mg/kg	5	13 / 21 (62%)	2,400	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	5	1 / 16 (6.3%)	68	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-34i
 Constituent Concentrations in Soil Compared to Screening Values
 AOC 26 – Former Scrubber Oil Sump
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
 All statistics presented in this table consider Category 1 and Category 2 data only.
 * Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maxiumum Reporting Limit greater than or equal to the ISL

mg/kg	miligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.

TABLE 3-35a
Sample Results: Metals
Units 4.3 - 4.5 – Oily Water Holding Tank (Unit 4.3), Oil/Water Separator (Unit 4.4), and Portable Waste Oil Storage Tank (Unit 4.5)
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Metals (mg/kg)																	
Commercial Screening Level ¹ : Background ² :				470	0.36	220,000	210	7.3	6.3	170,000	350	47,000	320	4.5	5,800	3,100	5,800	1,500	12	1,000	350,000
				NE	11	410	0.672	1.1	0.83	39.8	12.7	16.8	8.39	NE	1.37	27.3	1.47	NE	NE	52.2	58
Location	Date	Depth (ft bgs)	Sample Type	Antimony	Arsenic ³	Barium	Beryllium	Cadmium	Chromium, Hexavalent	Chromium, total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Category 1																					
Units4.3-1	12/07/15	0 - 1	N	ND (2.1)	3.4	120	ND (1.1)	ND (1.1)	0.26	19	5.4	14	5.9	ND (0.1)	ND (1.1)	15	ND (1.1)	ND (1.1)	ND (2.1)	24	31
	12/07/15	2 - 3	N	ND (2.1)	2.3	150	ND (1.1)	ND (1.1)	0.45	22	5.1	9.1	6.5	ND (0.11)	ND (1.1)	11	ND (1.1)	ND (1.1)	ND (2.1)	24	28
Units4.3-2	12/07/15	0 - 1	N	ND (2.1)	2.4	130	ND (1)	ND (1)	0.36	26	5.6	12	5.6	ND (0.1)	ND (1)	17	ND (1)	ND (1)	ND (2.1)	26	31
	12/07/15	2 - 3	N	ND (2.1) J	2.2	140	ND (1.1)	ND (1.1)	0.6	21	5	8.9	4.5	ND (0.11)	ND (1.1)	11	ND (1.1) J	ND (1.1) J	ND (2.1)	22	28

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQCB ESL are circled.

- * Reporting limits greater than or equal to the Commercial Screening Level.
- not analyzed
- mg/kg milligrams per kilogram
- ft bgs feet below ground surface
- DTSC California Department of Toxic Substances Control
- DTSC-SL DTSC Screening Level
- FD field duplicate
- N primary sample
- ND not detected at the listed reporting limit
- NE not established
- J concentration or reporting limit estimated by laboratory or data validation
- USEPA United States Environmental Protection Agency

¹ Commercial creening evel - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.

³ Commercial screening level is below background value; therefore, arsenic results are only screened against the background value.

TABLE 3-35b

Sample Results: Contract Laboratory Program Inorganics

Units 4.3 - 4.5 – Oily Water Holding Tank (Unit 4.3), Oil/Water Separator (Unit 4.4), and Portable Waste Oil Storage Tank (Unit 4.5)

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

PG&E Topock Compressor Station, Needles, California

				Contract Laboratory Program (CLP) Inorganics (mg/kg)							
Commercial Screening Level ¹ :				1,100,000	NE	820,000	NE	6,900	NE	NE	150
Background ² :				16,400	66,500	29,303	12,100	402	4,400	2,070	NE
Location	Date	Depth (ft bgs)	Sample Type	Aluminum	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Cyanide
Category 1											
Units4.3-1	12/07/15	0 - 1	N	8,000	20,000	16,000	6,100	190	1,700	340	ND (0.212)
	12/07/15	2 - 3	N	7,700	33,000	14,000	5,800	180	1,900	180	ND (0.214)
Units4.3-2	12/07/15	0 - 1	N	7,900	18,000	15,000	6,000	200	2,100	300	ND (0.21)
	12/07/15	2 - 3	N	6,700	23,000	13,000	5,300	160	1,800	280	ND (0.213)

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Interim Screening Level are circled.

J	concentration or reporting limit estimated by laboratory or data validation
*	Reporting limits greater than or equal to the interim screening level.
---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
FD	field duplicate
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 CH2M. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May."

TABLE 3-35c
Sample Results: Polycyclic Aromatic Hydrocarbons
Units 4.3 - 4.5 – Oily Water Holding Tank (Unit 4.3), Oil/Water Separator (Unit 4.4), and Portable Waste Oil Storage Tank (Unit 4.5)
RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation
PG&E Topock Compressor Station, Needles, California

				Polycyclic Aromatic Hydrocarbons (µg/kg)																		
Commercial Screening Level ¹ : Background ² :				73,000 NE	3,000,000 NE	45,000,000 NE	45,000,000 NE	230,000,000 NE	21,000 NE	2,100 NE	21,000 NE	23,000,000 NE	210,000 NE	2,100,000 NE	2,100 NE	30,000,000 NE	30,000,000 NE	21,000 NE	17,000 NE	230,000,000 NE	23,000,000 NE	2,100 NA
Location	Date	Depth (ft bgs)	Sample Type	1-Methyl naphthalene	2-Methyl naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3- cd) pyrene	Naphthalene	Phenanthrene	Pyrene	B(a)P Equivalent
Category 1																						
Units4.3-1	12/07/15	0 - 1	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	ND (53)	8.8 J	ND (5.3)	ND (53)	ND (5.3)	ND (5.3)	12 J	61
	12/07/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (530)	ND (530)	ND (530)	ND (530)	ND (53)	ND (530)	49	ND (5.3)	ND (530)	ND (4.6)	12	48	590
Units4.3-2	12/07/15	0 - 1	N	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (5.2)	ND (52)	ND (520)	ND (520)	ND (520)	ND (520)	ND (52)	ND (520)	20 J	ND (5.2)	ND (520)	ND (5.2)	6.3 J	18 J	580
	12/07/15	2 - 3	N	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (5.3)	ND (53)	ND (350)	ND (350)	ND (350)	ND (350)	ND (53)	ND (350)	17 J	ND (5.3)	ND (350)	ND (4.8)	ND (5.3)	18 J	390

Notes:
Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.
Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.
Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.
B(a)P EQ Equivalent is calculated using half the reporting limit for non detects.

*	Reporting limits greater than or equal to the Commercial Screening Level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
B(a)P	Benzo (a) pyrene
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
N	primary sample
NA	not applicable
ND	not detected at the listed reporting limit
NE	not established
PAH	Polycyclic aromatic hydrocarbons
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is “R” qualified.
R	The result has been rejected; identification and/quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample analyzed beyond the recommended hold time).
USEPA	United States Environmental Protection Agency

- ¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.
- ² Background values are either not established or not applicable.

Calculations:
B(a)P equivalent was calculated using relative potency factors for carcinogenic PAHs from U.S. Environmental Protection Agency. 1993. EPA’s Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA 600/R-93-089. July.

Calculations of LMW-PAHs and HMW-PAHs were consistent with U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Polycyclic Aromatic Hydrocarbons (PAHs) – Interim Final. OSWER Directive 9285.7-78. June.

TABLE 3-35d

Sample Results: Total Petroleum Hydrocarbons

Units 4.3 - 4.5 – Oily Water Holding Tank (Unit 4.3), Oil/Water Separator (Unit 4.4), and Portable Waste Oil Storage Tank (Unit 4.5)

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				Total Petroleum Hydrocarbons (mg/kg)		
Commercial Screening Level ¹ :				NE	1,100	140,000
RWQCB Environmental Screening Level ² :				NE	230	11,000
Background ³ :				NE	NE	NE
Location	Date	Depth (ft bgs)	Sample Type	TPH- extractables	TPH as diesel	TPH as motor oil
Category 1						
Units4.3-1	12/07/15	0 - 1	N	---	18	170
	12/07/15	2 - 3	N	---	24	370
Units4.3-2	12/07/15	0 - 1	N	---	53	710
	12/07/15	2 - 3	N	---	22	290
Category 3						
OWS PI-1	11/17/89		N	---	ND (5)	1,200
OWS Valve PI-1	11/17/89		N	---	ND (5)	850
OWS-10	11/18/89		N	ND (2)	---	---
OWS-11	11/18/89		N	ND (1)	---	---
OWS-12 Deeper	03/20/90		N	18	---	---

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

---	not analyzed
mg/kg	milligrams per kilogram
ft bgs	feet below ground surface
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Levels
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
Water Board	Regional Water Quality Control Board

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.
Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." February.

3 Background values have not been established for TPHs.

TABLE 3-35e

Sample Results: General Chemistry Parameters

Units 4.3 - 4.5 – Oily Water Holding Tank (Unit 4.3), Oil/Water Separator (Unit 4.4), and Portable Waste Oil Storage Tank (Unit 4.5)

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PG&E Topock Compressor Station, Needles, California

				General Chemistry
				(pH units)
Commercial Regional Screening Levels ¹ :				NE
DTSC-SL ² :				NE
Background ³ :				NE
Location	Date	Depth (ft bgs)	Sample Type	pH
Category 1				
Units4.3-1	12/07/15	0 - 1	N	9.4
	12/07/15	2 - 3	N	9
Units4.3-2	12/07/15	0 - 1	N	9.2
	12/07/15	2 - 3	N	8.6

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Background value are bolded. Results greater than or equal to the Commercial Screening level or RWQC

* Reporting limits greater than or equal to the Commercial Screening Level.

--- not analyzed

mg/kg milligrams per kilogram

ft bgs feet below ground surface

DTSC California Department of Toxic Substances Control

DTSC-SL DTSC Screening Level

FD field duplicate

N primary sample

ND not detected at the listed reporting limit

NE not established

J concentration or reporting limit estimated by laboratory or data validation

USEPA United States Environmental Protection Agency

¹ Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used where available.

Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

² Background values have not been established for general chemistry parameters.

TABLE 3-35f

Sample Results: Polychlorinated Biphenyls

Units 4.3 - 4.5 – Oily Water Holding Tank (Unit 4.3), Oil/Water Separator (Unit 4.4), and Portable Waste Oil Storage Tank (Unit 4.5)

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PG&E Topock Compressor Station, Needles, California

				Polychlorinated biphenyls (µg/kg)									
Commercial Screening Level ¹ : Background ² :				27,000 NE	830 NE	720 NE	950 NE	950 NE	970 NE	990 NE	970 NE	970 NE	940 NE
Location	Date	Depth (ft bgs)	Sample Type	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Category 1													
Units 4.3-1	12/07/15	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/07/15	2 - 3	N	ND (17) J	ND (35)	ND (17)	ND (17)	ND (17)	130	69 J	ND (17)	ND (17)	216
Units 4.3-2	12/07/15	0 - 1	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (17)	ND (34)
	12/07/15	2 - 3	N	ND (17)	ND (35)	ND (17)	ND (17)	ND (17)	43	45	ND (17)	ND (17)	105

Notes:

Category 1: Validated data suitable for all uses, including risk assessment and remedial action decisions.

Category 2: Validated data suitable for use in characterization of the chemicals of potential concern at the facility and to help define the nature and extent of contamination.

Category 3: Validated data suitable only for use in qualitative characterization of the nature and extent of contamination.

Results greater than or equal to the Commercial Screening Level are circled.

*	Reporting limits greater than or equal to the commercial screening level.
---	not analyzed
µg/kg	micrograms per kilogram
ft bgs	feet below ground surface
CHHSL	California human health screening levels
DTSC	California Department of Toxic Substances Control
FD	field duplicate
J	concentration or reporting limit estimated by laboratory or data validation
JR	estimated value, one or more input values is "R" qualified.
N	primary sample
ND	not detected at the listed reporting limit
NE	not established
R	The result has been rejected; identification and/or quantitation could not be verified because critical QC specifications were not met (e.g., a non-detect result obtained for an archive sample following a hold time of greater than one year).
USEPA	United States Environmental Protection Agency

1 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used. Sources: California Department of Toxic Substances Control (DTSC). 2018. Human Health Risk Assessment (HHRA) Note Number 3. January. United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. November.

2 Background values have not been established for polychlorinated biphenyls.

TABLE 3-35g

Constituent Concentrations in Soil Compared to Screening Values

Units 4.3 - 4.5 – Oily Water Holding Tank (Unit 4.3), Oil/Water Separator (Unit 4.4), and Portable Waste Oil Storage Tank (Unit 4.5)

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Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
Parameter	Units				# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Metals										
Antimony	mg/kg	2	0 / 4 (0%)	ND (2.1) ‡	NA	(NE)	NA	(NA)	0	(470)
Arsenic	mg/kg	2	4 / 4 (100%)	3.4	0	(11)	NA	(NA)	0	(0.36) *
Barium	mg/kg	2	4 / 4 (100%)	150	0	(410)	NA	(NA)	0	(220,000)
Beryllium	mg/kg	2	0 / 4 (0%)	ND (1.1) ‡	0	(0.672)	NA	(NA)	0	(210)
Cadmium	mg/kg	2	0 / 4 (0%)	ND (1.1) ‡	0	(1.1)	NA	(NA)	0	(7.3)
Chromium, Hexavalent	mg/kg	2	4 / 4 (100%)	0.6	0	(0.83)	NA	(NA)	0	(6.3)
Chromium, total	mg/kg	2	4 / 4 (100%)	26	0	(39.8)	NA	(NA)	0	(170,000)
Cobalt	mg/kg	2	4 / 4 (100%)	5.6	0	(12.7)	NA	(NA)	0	(350)
Copper	mg/kg	2	4 / 4 (100%)	14	0	(16.8)	NA	(NA)	0	(47,000)
Lead	mg/kg	2	4 / 4 (100%)	6.5	0	(8.39)	NA	(NA)	0	(320)
Mercury	mg/kg	2	0 / 4 (0%)	ND (0.11) ‡	NA	(NE)	NA	(NA)	0	(4.5)
Molybdenum	mg/kg	2	0 / 4 (0%)	ND (1.1)	0	(1.37)	NA	(NA)	0	(5,800)
Nickel	mg/kg	2	4 / 4 (100%)	17	0	(27.3)	NA	(NA)	0	(3,100)
Selenium	mg/kg	2	0 / 4 (0%)	ND (1.1)	0	(1.47)	NA	(NA)	0	(5,800)
Silver	mg/kg	2	0 / 4 (0%)	ND (1.1)	NA	(NE)	NA	(NA)	0	(1,500)
Thallium	mg/kg	2	0 / 4 (0%)	ND (2.1) ‡	NA	(NE)	NA	(NA)	0	(12)
Vanadium	mg/kg	2	4 / 4 (100%)	26	0	(52.2)	NA	(NA)	0	(1,000)
Zinc	mg/kg	2	4 / 4 (100%)	31	0	(58)	NA	(NA)	0	(350,000)
Contract Laboratory Program Inorganics										
Aluminum	mg/kg	2	4 / 4 (100%)	8,000	0	(16,400)	NA	(NA)	0	(1,100,000)
Calcium	mg/kg	2	4 / 4 (100%)	33,000	0	(66,500)	NA	(NA)	NA	(NE)
Iron	mg/kg	2	4 / 4 (100%)	16,000	0	(29,303)	NA	(NA)	0	(820,000)
Magnesium	mg/kg	2	4 / 4 (100%)	6,100	0	(12,100)	NA	(NA)	NA	(NE)
Manganese	mg/kg	2	4 / 4 (100%)	200	0	(402)	NA	(NA)	0	(6,900)
Potassium	mg/kg	2	4 / 4 (100%)	2,100	0	(4,400)	NA	(NA)	NA	(NE)
Sodium	mg/kg	2	4 / 4 (100%)	340	0	(2,070)	NA	(NA)	NA	(NE)
Cyanide	mg/kg	2	0 / 4 (0%)	ND (0.214)	NA	(NE)	NA	(NA)	0	(150)

TABLE 3-35g

Constituent Concentrations in Soil Compared to Screening Values

Units 4.3 - 4.5 – Oily Water Holding Tank (Unit 4.3), Oil/Water Separator (Unit 4.4), and Portable Waste Oil Storage Tank (Unit 4.5)

RFI/RI Report, Volume 3 – Results of Soil and Sediment Investigation

Pacific Gas and Electric Company Topock Compressor Station, Needles, California

		Number of Locations	Frequency of Detection	Maximum Detected Value	Background Value (BK) ¹		RWQCB Environmental Screening Levels (ESL) ²		Commercial Screening Level (CSL) ³	
					# of Exceedences ⁴	(BK)	# of Exceedences ⁵	(ESL)	# of Exceedences ⁵	(CSL)
Parameter	Units									
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	µg/kg	2	4 / 4 (100%)	49	NA	(NE)	NA	(NA)	0	(30,000,000)
Phenanthrene	µg/kg	2	2 / 4 (50%)	12	NA	(NE)	NA	(NA)	0	(230,000,000)
Pyrene	µg/kg	2	4 / 4 (100%)	48	NA	(NE)	NA	(NA)	0	(23,000,000)
B(a)P Equivalent	µg/kg	2	4 / 4 (100%)	590	4	(55)	NA	(NA)	0	(2,100)
Polychlorinated biphenyls										
Aroclor 1254	µg/kg	2	2 / 4 (50%)	130	NA	(NE)	NA	(NA)	0	(970)
Aroclor 1260	µg/kg	2	2 / 4 (50%)	69	NA	(NE)	NA	(NA)	0	(990)
Total PCBs	µg/kg	2	2 / 4 (50%)	216	NA	(NE)	NA	(NA)	0	(940)
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	2	4 / 4 (100%)	53	NA	(NE)	0	(230)	0	(1,100)
TPH as motor oil	mg/kg	2	4 / 4 (100%)	710	NA	(NE)	0	(11,000)	0	(140,000)
TPH as gasoline	mg/kg	2	0 / 2 (0%)	ND (0.92)	NA	(NE)	0	(740)	0	(3,900)

TABLE 3-35g

Constituent Concentrations in Soil Compared to Screening Values
Units 4.3 - 4.5 – Oily Water Holding Tank (Unit 4.3), Oil/Water Separator (Unit 4.4), and Portable Waste Oil Storage Tank (Unit 4.5)
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Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Notes

Soil sample counts presented do not include duplicate (quality control) samples. At locations where duplicate samples were collected, the higher of the two values is considered
All statistics presented in this table consider Category 1 and Category 2 data only.
* Number of exceedances are calculated using background value because it is greater than the respective screening level.

‡ Maximum Reporting Limit greater than or equal to the ISL

mg/kg	milligrams per kilogram
µg/kg	micrograms per kilogram
ng/kg	nanograms per kilogram
BK	Background Value
CSL	Commercial Screening Level
DTSC	California Department of Toxic Substances Control
DTSC-SL	DTSC Screening Level
ISL	Interim Screening Level
NA	not applicable
ND	not detected in any of the samples
NE	not established
RWQCB	Regional Water Quality Control Board
SL	screening level
USEPA	United States Environmental Protection Agency

1 CH2M HILL. 2009. "Final Soil Background Technical Memorandum at Pacific Gas and Electric Company Topock Compressor Station, Needles, California." May.) or ambient threshold value (CH2M. 2017. Revised Ambient Study of Dioxins and Furans at the Pacific Gas and Electric Company, Topock Compressor Station, Needles, California. October.

2 Water Board. 2016. "San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, Table S-1: Soil Direct Exposure Human Health Screening Levels, Interim Final." Febr

3 Commercial screening level - the lower of the commercial DTSC-SL and USEPA regional screening level is used, except for TEQ human, where the DTSC-SL is used. "

4 Number of exceedences are the number of detections exceeding the background threshold value (BTV).

5 Number of exceedences are the number of detections that are equal to or exceeds the screening level (ecological comparison value, residential reporting limit, commercial reporting limit or interim screening level) or otherwise noted.