

**Table 2.4-1 Reference List of Potentially Applicable Analytes and Associated Screening Levels
Management Protocol for Handling and Disposition of Displaced Material (rev. October 2020)**

PG&E Topock Compressor Station, Needles, California

[Group] Analyte	Unit	Soil Management Screening Level ^a	Screening Level Source ^a
<i>Dioxins and Furans (ng/kg)</i>			
1,2,3,4,6,7,8-HpCDD	ng/kg	NE	Not Established
1,2,3,4,6,7,8-HpCDF	ng/kg	NE	Not Established
1,2,3,4,7,8,9-HpCDF	ng/kg	NE	Not Established
1,2,3,4,7,8-HxCDD	ng/kg	NE	Not Established
1,2,3,4,7,8-HxCDF	ng/kg	NE	Not Established
1,2,3,6,7,8-HxCDD	ng/kg	NE	Not Established
1,2,3,6,7,8-HxCDF	ng/kg	NE	Not Established
1,2,3,7,8,9-HxCDD	ng/kg	NE	Not Established
1,2,3,7,8,9-HxCDF	ng/kg	NE	Not Established
1,2,3,7,8-PeCDD	ng/kg	NE	Not Established
1,2,3,7,8-PeCDF	ng/kg	NE	Not Established
2,3,4,6,7,8-HxCDF	ng/kg	NE	Not Established
2,3,4,7,8-PeCDF	ng/kg	NE	Not Established
2,3,7,8-TCDD	ng/kg	8800	Topock-Specific Soil Ecological Risk-based Concentration (RBC)
2,3,7,8-TCDF	ng/kg	NE	Not Established
OCDD	ng/kg	NE	Not Established
OCDF	ng/kg	NE	Not Established
TEQ Avian	ng/kg	217	Topock-Specific Soil Ecological RBC
TEQ Human	ng/kg	83	Topock-Specific Soil Human Health RBC
TEQ Mammals	ng/kg	192	Topock-Specific Soil Ecological RBC
<i>Metals (mg/kg)</i>			
Aluminum	mg/kg	16,400	Topock-Specific Background Level
Antimony	mg/kg	2.8	Topock-Specific Soil Ecological RBC
Arsenic	mg/kg	18	Topock-Specific Soil Ecological RBC
Barium	mg/kg	410	Topock-Specific Background Level
Beryllium	mg/kg	10	Topock-Specific Soil Ecological RBC
Cadmium	mg/kg	5.9	Topock-Specific Soil Ecological RBC
Calcium	mg/kg	66,500	Topock-Specific Background Level
Chromium, Hexavalent	mg/kg	8.1	Topock-Specific Soil Ecological RBC
Chromium, total	mg/kg	57	Topock-Specific Soil Ecological RBC
Cobalt	mg/kg	13	Topock-Specific Soil Ecological RBC
Copper	mg/kg	70	Topock-Specific Soil Ecological RBC
Cyanide	mg/kg	0.9	Topock-Specific Soil Ecological RBC
Iron	mg/kg	29,303	Topock-Specific Soil Ecological RBC

**Table 2.4-1 Reference List of Potentially Applicable Analytes and Associated Screening Levels
Management Protocol for Handling and Disposition of Displaced Material (rev. October 2020)**

PG&E Topock Compressor Station, Needles, California

[Group] Analyte	Unit	Soil Management Screening Level ^a	Screening Level Source ^a
Lead	mg/kg	36	Topock-Specific Soil Ecological RBC
Magnesium	mg/kg	12,100	Topock-Specific Background Level
Manganese	mg/kg	402	Topock-Specific Background Level
Mercury	mg/kg	0.1	Topock-Specific Soil Ecological RBC
Molybdenum	mg/kg	2	Topock-Specific Soil Ecological RBC
Nickel	mg/kg	27.3	Topock-Specific Background Level
Potassium	mg/kg	4,400	Topock-Specific Background Level
Selenium	mg/kg	1.47	Topock-Specific Background Level
Silver	mg/kg	52	Topock-Specific Soil Ecological RBC
Sodium	mg/kg	2,070	Topock-Specific Background Level
Thallium	mg/kg	4.56	Topock-Specific Background Level
Vanadium	mg/kg	52.2	Topock-Specific Background Level
Zinc	mg/kg	120	Topock-Specific Soil Ecological RBC
Pesticides (µg/kg)			
4,4-DDD	ug/kg	21	Soil Ecological Comparison Value (ECV)
4,4-DDE	ug/kg	10	Topock-Specific Soil Ecological RBC
4,4-DDT	ug/kg	10	Topock-Specific Soil Ecological RBC
Aldrin	ug/kg	39	EPA Residential RSL
alpha-BHC	ug/kg	86	EPA Residential RSL
alpha-Chlordane	ug/kg	4.3	Topock-Specific Soil Ecological RBC
beta-BHC	ug/kg	300	EPA Residential RSL
delta-BHC	ug/kg	300	EPA Residential RSL
Dieldrin	ug/kg	50	Topock-Specific Soil Ecological RBC
Endo sulfan I	ug/kg	450,000	DTSC Residential RSL
Endo sulfan II	ug/kg	450,000	DTSC Residential RSL
Endrin	ug/kg	19,000	EPA Residential RSL
Endrin aldehyde	ug/kg	19,000	EPA Residential RSL
Endrin ketone	ug/kg	19,000	EPA Residential RSL
gamma-BHC (Lindane)	ug/kg	570	EPA Residential RSL
gamma-Chlordane	ug/kg	4.3	Topock-Specific Soil Ecological RBC
Heptachlor	ug/kg	130	EPA Residential RSL
Heptachlor Epoxide	ug/kg	70	EPA Residential RSL
Methoxychlor	ug/kg	320,000	DTSC Residential RSL
Toxaphene	ug/kg	450	DTSC HHRA Note 3
Endosulfan sulfate	ug/kg	380,000	EPA Residential RSL

**Table 2.4-1 Reference List of Potentially Applicable Analytes and Associated Screening Levels
Management Protocol for Handling and Disposition of Displaced Material (rev. October 2020)**

PG&E Topock Compressor Station, Needles, California

[Group] Analyte	Unit	Soil Management Screening Level ^a	Screening Level Source ^a
<i>Polyaromatic Hydrocarbons (µg/kg)</i>			
1-Methyl naphthalene	ug/kg	130,000	Topock-Specific Soil Human Health RBC
2-Methyl naphthalene	ug/kg	SC (1,900,000)	Topock-Specific Soil Human Health RBC
Acenaphthene	ug/kg	SC (67,000,000)	Topock-Specific Soil Human Health RBC
Acenaphthylene	ug/kg	SC (72,000,000)	Topock-Specific Soil Human Health RBC
Anthracene	ug/kg	SC (350,000,000)	Topock-Specific Soil Human Health RBC
B(a)P Equivalent	ug/kg	2,300	Topock-Specific Soil Human Health RBC
Benzo (a) anthracene	ug/kg	SC (36,000,000)	Topock-Specific Soil Human Health RBC
Benzo (a) pyrene	ug/kg	SC (43,000)	Topock-Specific Soil Human Health RBC
Benzo (b) fluoranthene	ug/kg	SC (21,000,000)	Topock-Specific Soil Human Health RBC
Benzo (ghi) perylene	ug/kg	SC (21,000,000)	Topock-Specific Soil Human Health RBC
Benzo (k) fluoranthene	ug/kg	SC (21,000,000)	Topock-Specific Soil Human Health RBC
Chrysene	ug/kg	SC (21,000,000)	Topock-Specific Soil Human Health RBC
Dibenzo (a,h) anthracene	ug/kg	SC (43,000)	Topock-Specific Soil Human Health RBC
Fluoranthene	ug/kg	SC (48,000,000)	Topock-Specific Soil Human Health RBC
Fluorene	ug/kg	SC (46,000,000)	Topock-Specific Soil Human Health RBC
Indeno (1,2,3-cd) pyrene	ug/kg	SC (21,000,000)	Topock-Specific Soil Human Health RBC
Napthalene	ug/kg	30,000	Topock-Specific Soil Human Health RBC
PAH High molecular weight	ug/kg	1,200	Topock-Specific Soil Ecological RBC
PAH Low molecular weight	ug/kg	10,000	Topock-Specific Soil Ecological RBC
Phenanthrene	ug/kg	SC (360,000,000)	Topock-Specific Soil Human Health RBC
Pyrene	ug/kg	SC (36,000,000)	Topock-Specific Soil Human Health RBC
<i>Polychlorinated Biphenyls (µg/kg)</i>			
Aroclor 1016	ug/kg	4,000	DTSC Residential RSL
Aroclor 1221	ug/kg	200	EPA Residential RSL
Aroclor 1232	ug/kg	170	EPA Residential RSL
Aroclor 1242	ug/kg	230	EPA Residential RSL
Aroclor 1248	ug/kg	230	EPA Residential RSL
Aroclor 1254	ug/kg	240	EPA Residential RSL
Aroclor 1260	ug/kg	240	EPA Residential RSL
Aroclor 1262	ug/kg	240	EPA Residential RSL
Aroclor 1268	ug/kg	240	EPA Residential RSL
Total PCBs	ug/kg	1,000	Topock-Specific Soil Ecological RBC
<i>Semivolatile Organic Compounds (µg/kg)</i>			
1,1'-Biphenyl	ug/kg	47,000	EPA Residential RSL

**Table 2.4-1 Reference List of Potentially Applicable Analytes and Associated Screening Levels
Management Protocol for Handling and Disposition of Displaced Material (rev. October 2020)**

PG&E Topock Compressor Station, Needles, California

[Group] Analyte	Unit	Soil Management Screening Level ^a	Screening Level Source ^a
1,2,4,5-Tetrachlorobenzene	ug/kg	17,000	DTSC Residential RSL
1,4-Dioxane	ug/kg	5,300	EPA Residential RSL
2,3,4,6-Tetrachlorophenol	ug/kg	1,900,000	EPA Residential RSL
2,4,5-Trichlorophenol	ug/kg	6,300,000	EPA Residential RSL
2,4,6-Trichlorophenol	ug/kg	7,800	DTSC Residential SL
2,4-Dichlorophenol	ug/kg	190,000	EPA Residential RSL
2,4-Dimethylphenol	ug/kg	40	Topock-Specific Soil Ecological RBC
2,4-Dinitrophenol	ug/kg	130,000	EPA Residential RSL
2,4-Dinitrotoluene	ug/kg	1,700	EPA Residential RSL
2,6-Dinitrotoluene	ug/kg	360	EPA Residential RSL
2-Chloronaphthalene	ug/kg	4,100,000	DTSC Residential SL
2-Chlorophenol	ug/kg	340,000	DTSC Residential SL
2-Methylphenol (o-Cresol)	ug/kg	3,200,000	EPA Residential RSL
2-Nitroaniline	ug/kg	630,000	EPA Residential RSL
3,3-Dichlorobenzidene	ug/kg	450	DTSC Residential SL
3-Nitroaniline	ug/kg	630,000	EPA Residential RSL
4,6-Dinitro-2-methylphenol	ug/kg	5,100	EPA Residential RSL
4-Chloro-3-methylphenol	ug/kg	6,300,000	EPA Residential RSL
4-Chloroaniline	ug/kg	2,700	EPA Residential RSL
4-Methylphenol (p-Cresol)	ug/kg	80	Topock-Specific Soil Ecological RBC
4-Nitroaniline	ug/kg	27,000	EPA Residential RSL
Acetophenone	ug/kg	6,000,000	DTSC-Residential SL
Atrazine	ug/kg	2,400	EPA Residential RSL
Benzaldehyde	ug/kg	46,000	DTSC Residential SL
Benzoic acid	ug/kg	250,000,000	EPA Residential RSL
Benzyl alcohol	ug/kg	6,300,000	EPA Residential RSL
Bis (2-chloroethoxy) methane	ug/kg	190,000	EPA Residential RSL
Bis (2-ethylhexyl) phthalate	ug/kg	29,000	Topock-Specific Soil Ecological RBC
Butyl benzyl phthalate	ug/kg	590	Topock-Specific Soil Ecological RBC
Caprolactam	ug/kg	31,000,000	EPA Residential RSL
Carbazole	ug/kg	2,800,000	Topock-Specific Soil Ecological RBC
Dibenzofuran	ug/kg	150	Topock-Specific Soil Ecological RBC
Diethyl phthalate	ug/kg	51,000,000	EPA Residential RSL
Dimethyl phthalate	ug/kg	51,000,000	EPA Residential RSL
Di-N-butyl phthalate	ug/kg	470	Topock-Specific Soil Ecological RBC

**Table 2.4-1 Reference List of Potentially Applicable Analytes and Associated Screening Levels
Management Protocol for Handling and Disposition of Displaced Material (rev. October 2020)**

PG&E Topock Compressor Station, Needles, California

[Group] Analyte	Unit	Soil Management Screening Level ^a	Screening Level Source ^a
Di-N-octyl phthalate	ug/kg	630,000	EPA Residential RSL
Hexachlorobenzene	ug/kg	190	DTSC Residential SL
Hexachloroethane	ug/kg	1,800	EPA Residential RSL
N-Nitroso-di-n-propylamine	ug/kg	78	EPA Residential RSL
N-nitrosodiphenylamine	ug/kg	110,000	EPA Residential RSL
Pentachlorophenol	ug/kg	5.000	Topock-Specific Soil Ecological RBC
Phenol	ug/kg	19,000,000	EPA Residential RSL
Total Petroleum Hydrocarbons (mg/kg)			
TPH as diesel	mg/kg	SC (1,600)	Topock-Specific Soil Human Health RBC
TPH as gasoline	mg/kg	430	SF RWQCB ESL for direct exposure (Jan 2019)
TPH as motor oil	mg/kg	SC (150,000)	Topock-Specific Soil Human Health RBC
Volatile Organic Compounds (µg/kg)			
1,1,1,2-Tetrachloroethane	ug/kg	2,000	EPA Residential SL
1,1,1-Trichloroethane	ug/kg	1,700,000	DTSC Residential SL
1,1,2,2-Tetrachloroethane	ug/kg	600	EPA Residential SL
1,1,2-Trichloroethane	ug/kg	1,100	EPA Residential RSL
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6,700,000	EPA Residential RSL
1,1-Dichloroethane	ug/kg	3,600	EPA Residential SL
1,1-Dichloroethene	ug/kg	230,000	EPA Residential RSL
1,1-Dichloropropene	ug/kg	1,800	EPA Residential RSL
1,2,3-Trichlorobenzene	ug/kg	40,000	DTSC Residential SL
1,2,3-Trichloropropane	ug/kg	1.5	DTSC Residential SL
1,2,4-Trichlorobenzene	ug/kg	7,800	DTSC Residential SL
1,2,4-Trimethylbenzene	ug/kg	90	Topock-Specific Soil Ecological RBC
1,2-Dibromo-3-chloropropane	ug/kg	4.3	DTSC Residential SL
1,2-Dibromoethane	ug/kg	36	DTSC Residential SL
1,2-Dichlorobenzene	ug/kg	1,800,000	EPA Residential RSL
1,2-Dichloroethane	ug/kg	460	EPA Residential RSL
1,2-Dichloropropane	ug/kg	2,500	EPA Residential RSL
1,3,5-Trimethylbenzene	ug/kg	160	Topock-Specific Soil Ecological RBC
1,3-Dichlorobenzene	ug/kg	1,800,000	EPA Residential RSL
1,3-Dichloropropane	ug/kg	410,000	DTSC Residential SL
1,4-Dichlorobenzene	ug/kg	2,600	EPA Residential RSL
2,2-Dichloropropane	ug/kg	2,500	EPA Residential RSL
2-Chlorotoluene	ug/kg	470,000	DTSC Residential SL

**Table 2.4-1 Reference List of Potentially Applicable Analytes and Associated Screening Levels
Management Protocol for Handling and Disposition of Displaced Material (rev. October 2020)**

PG&E Topock Compressor Station, Needles, California

[Group] Analyte	Unit	Soil Management Screening Level ^a	Screening Level Source ^a
2-Hexanone	ug/kg	200,000	EPA Residential RSL
4-Isopropyltoluene	ug/kg	1,900,000	EPA Residential RSL
Acetone	ug/kg	40	Topock-Specific Soil Ecological RBC
Acrolein	ug/kg	140	EPA Residential RSL
Acrylonitrile	ug/kg	250	EPA Residential RSL
Benzene	ug/kg	330	DTSC Residential SL
Bis (2-chloroethyl) ether	ug/kg	100	DTSC Residential SL
Bis (2-chloroisopropyl) ether	ug/kg	2,000,000	DTSC Residential SL
Bromobenzene	ug/kg	290,000	EPA Residential RSL
Bromochloromethane	ug/kg	150,000	EPA Residential RSL
Bromodichloromethane	ug/kg	290	DTSC Residential SL
Bromoform	ug/kg	19,000	DTSC Residential SL
Bromomethane	ug/kg	2	Topock-Specific Soil Ecological RBC
Carbon disulfide	ug/kg	770,000	EPA Residential RSL
Carbon tetrachloride	ug/kg	650	EPA Residential RSL
Chlorobenzene	ug/kg	280,000	EPA Residential RSL
Chloroethane	ug/kg	14,000,000	EPA Residential RSL
Chloroform	ug/kg	50	Topock-Specific Soil Ecological RBC
Chloromethane	ug/kg	SC (2,700,000)	Topock-Specific Soil Human Health RBC
cis-1,2-Dichloroethene	ug/kg	18,000	DTSC Residential SL
cis-1,3-Dichloropropene	ug/kg	1,800	EPA Residential RSL
Cyclohexane	ug/kg	6,500,000	EPA Residential RSL
Dibromochloromethane	ug/kg	940	DTSC Residential SL
Dibromomethane	ug/kg	24,000	EPA Residential RSL
Dichlorodifluoromethane	ug/kg	87,000	EPA Residential RSL
Ethylbenzene	ug/kg	270	Topock-Specific Soil Ecological RBC
Hexachlorobutadiene	ug/kg	1,200	DTSC Residential SL
Hexachlorocyclopentadiene	ug/kg	1,800	EPA Residential RSL
Isophorone	ug/kg	5,500,000	Topock-Specific Soil Human Health RBC
Isopropylbenzene	ug/kg	40	Topock-Specific Soil Ecological RBC
m,p-Xylenes	ug/kg	100	Topock-Specific Soil Ecological RBC
Methyl acetate	ug/kg	5,500,000	Topock-Specific Soil Human Health RBC
Methyl ethyl ketone	ug/kg	1,000	Topock-Specific Soil Ecological RBC
Methyl isobutyl ketone	ug/kg	33,000,000	EPA Residential RSL
Methyl tert-butyl ether (MTBE)	ug/kg	47,000	EPA Residential RSL

**Table 2.4-1 Reference List of Potentially Applicable Analytes and Associated Screening Levels
Management Protocol for Handling and Disposition of Displaced Material (rev. October 2020)**

PG&E Topock Compressor Station, Needles, California

[Group] Analyte	Unit	Soil Management Screening Level ^a	Screening Level Source ^a
Methylcyclohexane	ug/kg	5,500,000	DTSC Residential SL
Methylene chloride	ug/kg	210	Topock-Specific Soil Ecological RBC
N-Butylbenzene	ug/kg	2,400,000	DTSC Residential SL
Nitrobenzene	ug/kg	5,100	EPA Residential RSL
N-Propylbenzene	ug/kg	3,800,000	EPA Residential RSL
o-Xylene	ug/kg	100	Topock-Specific Soil Ecological RBC
p-Chlorotoluene	ug/kg	440,000	DTSC Residential SL
sec-Butylbenzene	ug/kg	2,200,000	DTSC Residential SL
Styrene	ug/kg	5,600,000	DTSC Residential SL
tert-Butylbenzene	ug/kg	2,200,000	DTSC Residential SL
Tetrachloroethene	ug/kg	590	DTSC Residential SL
Toluene	ug/kg	150	Topock-Specific Soil Ecological RBC
trans-1,2-Dichloroethene	ug/kg	130.000	DTSC Residential SL
trans-1,3-Dichloropropene	ug/kg	1,800	EPA Residential RSL
Trichloroethene	ug/kg	940	EPA Residential RSL
Trichlorofluoromethane (Freon 11)	ug/kg	1,200,000	DTSC Residential SL
Vinyl chloride	ug/kg	8.2	DTSC Residential SL
Xylenes, total	ug/kg	100	Topock-Specific Soil Ecological RBC

Notes:

This table presents a reference list of analytes and associated soil management screening levels that are applicable for making decisions related to disposition of displaced site materials at the Topock site. The specific analytes and soil management levels applicable for characterization of displaced material will be determined based on the origin of the material and potential disposition locations.

^a Soil Management Screening Levels – The screening levels are the higher of the lowest Topock-specific ecological risk-based concentration (as presented in the Soil HHERA Errata Table RBC-3.1) or the Topock-specific soil background level, when available. However, if a Topock-specific background level and/or ecological risk-based concentration is not available, then the lowest Topock-specific human health risk-based concentration (excluding residential scenarios) as presented in the Soil HHERA Table RBC-2.1 is used. If a Topock-specific soil background level, human health risk-based concentration, and ecological risk-based concentration are not available, then the lesser of the US EPA residential regional screening level (RSL) or the DTSC HHRA Note 3 Screening Level for residential soil is used. DTSC HHRA Note 3 Screening Levels include toxicity factors from Appendix I of California OEHHA Toxicity Criteria, September 2018 (22 CCR, Section 69021 and 69022).

Background = Final Soil Background Investigation at Pacific Gas and Electric Company Topock Compressor Station, Needles, California (CH2M HILL 2009c) and Determination of Thallium Ambient/Background Concentration at the Pacific Gas and Electric Company Topock Compressor Station, Needles, California (Jacobs August 13, 2019).

ECV = Ecological Comparison Values; ECV were calculated as needed for constituents detected during the Part A Phase I sampling (Arcadis 2008)

NE = not established

SC () = The risk-based concentrations presented in the parentheses represent an RBC that is greater than the theoretical soil saturation limit for that compound or the theoretical ceiling limit of 100,000 mg/kg (US EPA 2018). The theoretical soil saturation limit is the contaminant concentration in soil at which the absorptive limits of the soil particles, the solubility limits of the soil pore water, and saturation of soil pore air have been reached. Calculated soil saturation limits are shown in Table 5-4 of the Soil Human Health and Ecological Risk Assessment report (Arcadis 2020). The theoretical ceiling limit of 100,000 mg/kg is equivalent to a chemical representing 10% by weight of the soil sample. At this contaminant concentration (or higher), the assumptions for soil contact may be violated (e.g., soil adherence and wind-borne dispersion assumptions) due to the presence of the foreign substance itself.

mg/kg = milligrams per kilogram ng/kg = nanograms per kilogram

µg/kg = micrograms per kilogram

**Table 2.4-1 Reference List of Potentially Applicable Analytes and Associated Screening Levels
Management Protocol for Handling and Disposition of Displaced Material (rev. October 2020)**

PG&E Topock Compressor Station, Needles, California

References:

DTSC Appendix I. California OEHHA Toxicity Criteria - September 2018. <<https://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/Final-Toxicity-Criteria-Rule-Rule-Text-Appdx-2018-09-04-clean.pdf>>

DTSC Note 3 Update - April 2019. <<https://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-Tables-April-2019.xlsx>>

HHRA Note 2. DTSC Human Health Risk Assessment (HHRA) Note 2: Soil Remedial Goals for Dioxins and Dioxin-like Compounds for Consideration at California Hazardous Waste Sites – (April 2017).

United States Environmental Protection Agency (USEPA). 2020. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. May. <<https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>>