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March 10, 2005

Mr. Norman Shopay  
Project Manager/Senior Engineering Geologist  
California Department of Toxic Substances Control  
Permitting and Corrective Action Branch  
700 Heinz Avenue, Suite 200  
Berkeley, California 94710-2721

Subject: Groundwater Background Study Step 1 Results  
PG&E Topock Compressor Station, Needles, California

Dear Mr. Shopay:

This letter transmits the results of Step 1 of the Groundwater Background Study, selection of potential background wells. This compilation and evaluation of location, accessibility and construction information for offsite wells in the vicinity of the Topock site was performed as described in the *Draft Work Plan for Assessing Background Metals Concentrations in Groundwater, PG&E Topock Compressor Station and Vicinity, Needles, California*, dated June 30, 2004, and approved by DTSC on October 29, 2004.

If you have any questions, please do not hesitate to call me.

Sincerely,



Enclosure

cc: Karen Baker/DTSC  
Aaron Yue/DTSC  
Kate Burger/DTSC

# PG&E Topock Background Study, Step 1 Results

DATE: March 10, 2005

This technical memorandum provides the results of Step 1 of the groundwater background study at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station site (Topock site), near Needles California. Step 1 of the background study is the selection of potential background wells, as described in the *Draft Work Plan for Assessing Background Metals Concentrations in Groundwater, PG&E Topock Compressor Station and Vicinity, Needles, California* (Background Study Work Plan), dated June 30, 2004 (CH2M HILL 2004), and approved by the California Department of Toxic Substances Control (DTSC) on October 29, 2004.

## Background Study Process

The purpose of the background study is to assess the range of naturally-occurring background concentrations of hexavalent chromium [Cr(VI)], total chromium [Cr(T)], and other metals in groundwater near the Topock site and surrounding region. The Background Study Work Plan identifies a process for identifying and evaluating potential background wells for sample collection and determining background metals concentrations in groundwater. The process includes four steps:

1. Selecting potential background wells.
2. Selecting final background wells.
3. Calculating background concentrations.
4. Reviewing background concentrations.

Step 1, selecting potential background wells, does not involve sample collection but involves collection and evaluation of location, accessibility, and construction information for potential wells to determine the suitability for inclusion in the background study. Wells that are found through implementation of Step 1 to meet specific criteria would then be sampled as part of Step 2.

## Well Information and Information Sources

Information on wells in the area surrounding the Topock site was collected to allow evaluation of location, accessibility, and construction information for potential wells to determine the suitability for inclusion in the background study. At the direction of the DTSC and in coordination with Arizona Department of Environmental Quality (ADEQ), well information sources included:

- Well records from the California Department of Water Resources.
- Well records from the Arizona Department of Water Resources.
- Well records from ADEQ.
- Well records from the United States Geological Survey.
- Local site knowledge from other Topock programs.
- Direct communication with well owners.

- Site reconnaissance.

Information obtained from the public agencies was compiled, reviewed, and assessed to identify discrepancies and information gaps. To supplement information from the public agency records, a preliminary field reconnaissance was performed in late August 2004 to obtain information on area wells. Contact information for well owners was collected from various sources such as well records, web searches, and the preliminary field reconnaissance. In December 2004, DTSC and ADEQ contacted owners of wells in California and Arizona, respectively, to introduce the study and solicit study participation interest. DTSC, ADEQ, and PG&E performed a site reconnaissance in late January 2005 to discuss access arrangements with well owners, inspect wells, and collect additional well information.

Information from over 150 wells in the area surrounding the Topock site was collected and compiled from the sources identified above. The attached Table 1 provides updated well information collected from the various sources. Well information compiled in Table 1 includes well location information, well use information, owner contact information, and construction details. In many cases, if a well was found not to meet one of the identified criteria, additional information on that well was not sought.

The locations of wells listed in Table 1 are provided on the attached Figure 3. Table 1 and Figure 3 presented in this memo will replace the previously-issued Table 1 and Figure 3 issued in the Background Study Work Plan.

## Selection Criteria

The Background Study Work Plan identifies the criteria for the Step 1 well selection. The selection criteria are as follows.

- **The wells must be located within the background zone.** The background zone is defined as the unconsolidated alluvial aquifer of the Mohave Groundwater Basin stretching from the Topock site in the south to Needles in the north (approximately 15 miles north of the Topock site) and from the edge of the alluvial aquifer in the west to several miles east of the site in Arizona. However, the background zone excludes the Topock site study area. Well location information from permit records (supplemented by site reconnaissance field work) was used to assess whether wells are located within the defined background zone.
- **The well owners must allow access to the wells for sampling.** Wells were determined to meet this criterion if communications with the well owner indicated that the owner is favorable to allowing access to the well for sampling. Wells that did not meet this criterion were wells not found, wells for which contact with the owner was not successful, and wells for which the owner declined to make available for sampling. The accessibility of all wells was not determined as some wells were excluded from well owner communication activities because of other criteria.
- **The wells must be located outside the Topock site study area.** Locations of wells were evaluated relative to the location of the Topock site, using well location information from permit records and site reconnaissance field work to define well locations.

- **The wells must be in a condition suitable for sampling and physically accessible.** Well permit records were used to assess the physical condition of the wells, and wells were also physically inspected during the site reconnaissance field activities. Wells that did not meet this criterion were abandoned wells, cathodic protection wells, wells found to be in poor condition, wells without sampling ports, and wells never completed. The physical condition of all wells was not determined, as some wells could not be physically inspected or were excluded from the site reconnaissance field work because of other criteria.
- **The wells must not be located in proximity to a potential anthropogenic source, including non-PG&E sources.** Well locations were evaluated relative to the location of potential anthropogenic sources, including non-PG&E sources. Wells that did not meet this criterion were wells located in proximity to a source identified through a site search (Environmental Data Resources, Inc. 2004) or through information collected from the site reconnaissance field work.
- **The wells must be completed over similar hydrogeologic conditions as the Topock site (unconsolidated alluvium).** Wells were determined to meet this criterion if a review of well construction logs showed that the well was screened in the unconsolidated alluvium. Wells that did not meet this criterion were those screened in bedrock. Wells for which complete construction information was not available are identified as “unknown” for this criterion; incomplete construction information did not exclude wells from selection.

## Step 1 Evaluation Results

The attached Table 3 replaces Table 3 from the Background Study Work Plan and provides the results of the Step 1 background study screening for each of the identified wells against the defined selection criteria. As indicated, 43 wells were found to meet the selection criteria.<sup>1</sup>

It is recommended that all of the 43 wells that met the selection criteria be carried forward into Step 2 of the background study (sampled during the first two background groundwater sampling events). These wells will be sampled for the parameters listed in the Background Study Work Plan. Of the 43 wells recommended for sampling, 21 are located in California and 22 are located in Arizona.

## Conclusions

PG&E has completed the first step in the Topock groundwater background study, selection of potential background wells. Forty-three wells are recommended to be sampled as part of the Step 2 sample collection activities. Upon review and approval by DTSC, PG&E will complete project instructions for the individual selected wells and finalize access agreements with off-site well owners.

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<sup>1</sup> Some wells were determined to preliminarily meet the criteria for potential background wells when not all criteria could be assessed from the identified information sources; the status of these wells will be re-assessed as additional information is collected. If a well failed one or more criterion, it was determined to be unsuitable for the background study.

## References

CH2M HILL 2004. Draft Work Plan for Assessing Background Metals Concentrations in Groundwater, PG&E Topock Compressor Station and Vicinity, Needles, California. June 30.

Environmental Data Resources, Inc. 2004. The EDR Radius Atlas, Topock Compressor Station, Needles, CA. June 25.

**TABLE 1 Well Information and Location**  
 Wells Evaluated as Potential Background Wells for Chromium and Metals Groundwater Background Study  
 PG&E Compressor Station and Vicinity, Needles, California

Well Order	Well ID	Common Well ID or Mapped ID	Location Description	State	Township - Range - Section	Northing (UTM Zone 11 NAD83)	Easting (UTM Zone 11 NAD83)	Original Record Well Owner	Original Record Address	Original Record Phone Number	Current Well Owner	Current Contact Name	Current Contact Address	Current Contact Phone Number	Well Use / Remarks	Active	Date Installed	Well Depth	Well Screen Length	Well Screen Interval	Depth to Water (ft)	Diameter (in)	Depth to Bedrock (Driller's Logs)	Driller's Log or Geologic Log Available	Well Construction Log Available	Hydrogeologic Unit Monitored
1	9N23E29	ATSF-C1	1705 Eagle Pass Rd, Needles	CA	9N23E29	3858392.57	718912.41	Atchison, Topeka and Santa Fe Railway Co.	Not Provided	Not Provided	BNSF	Mick Hardin	740 E Carnegie Dr. San Bernardino, CA 92408	909 386 4081	Supply well	No	May-30	81	Unk.	Unk.	Unk.	NE	Yes	No	Unconsolidated Alluvium	
2	09N23E30	Weniger	California Ave and P St. Needles	CA	09N23E30	3858543.142	717959.062	Bob Weniger	546 Nuranable Santa Barbara, CA 93109	Not Provided	BNSF	Mick Hardin	740 E Carnegie Dr. San Bernardino, CA 92408	760 326-5700 x 339	Domestic	Yes	Jan-81	200	120	80-200	28	6	NE	Yes	Yes	Unconsolidated Alluvium
3	9N23E30	BNSF-MW-2	1705 Eagle Pass Rd, Needles	CA	9N23E30	3858420.431	717965.549	Burlington No. & Santa Fe	740 E Carnegie Dr. San Bernardino, CA 92408	Not Provided	Same	Mick Hardin	740 E Carnegie Dr. San Bernardino, CA 92408	909 386 4081	Monitoring	Yes	Dec-00	92	30	60-90	68	4	NE	Yes	Yes	Unconsolidated Alluvium
4	9N23E30	BNSF-MW-3	1705 Eagle Pass Rd, Needles	CA	9N23E30	3858399.354	717863.83	Burlington No. & Santa Fe	740 E Carnegie Dr. San Bernardino, CA 92408	Not Provided	Same	Mick Hardin	740 E Carnegie Dr. San Bernardino, CA 92408	909 386 4081	Monitoring	Yes	Dec-00	92	30	60-90	68	4	NE	Yes	Yes	Unconsolidated Alluvium
5	9N23E30	BNSF-MW-1	1705 Eagle Pass Rd, Needles	CA	9N23E30	3858543.142	717959.062	Burlington No. & Santa Fe	740 E Carnegie Dr. San Bernardino, CA 92408	Not Provided	Same	Mick Hardin	740 E Carnegie Dr. San Bernardino, CA 92408	909 386 4081	Monitoring	Yes	Dec-00	92	30	60-90	68	4	NE	Yes	Yes	Unconsolidated Alluvium
6	9N23E30	BNSF-MW-4	1705 Eagle Pass Rd, Needles	CA	9N23E30	3858526.297	718000.237	Burlington No. & Santa Fe	740 E Carnegie Dr. San Bernardino, CA 92408	Not Provided	Same	Mick Hardin	740 E Carnegie Dr. San Bernardino, CA 92408	909 386 4081	Monitoring	Yes	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
7	9N23E30	Calimesa (4MWs)	W. Broadway and Race St. Needles	CA	9N23E30	3859103.554	718416.986	Calimesa Oil Co.	1861 West Main Street Barstow, CA 92311	Not Provided	--	--	--	--	Monitoring	--	Oct-93	65 (MW-3; 70)	30	35-65 (MW-3; 40-70)	50	4	NE	Yes	Yes	Unconsolidated Alluvium
8	9N23E30	Calimesa (6MWs)	W. Broadway and Race St. Needles	CA	9N23E30	3859103.554	718416.986	Calimesa Oil Co.	1861 West Main Street Barstow, CA 92311	Not Provided	--	--	--	--	Monitoring	--	Unk.	97	37	60-97	Unk.	4	NE	Yes	Yes	Unconsolidated Alluvium
9	008N023E20J001S	Calizona-1	National Old Trails Rd and Hwy 95, South of Needles	CA	008N023E20	3850277.413	720021.161	Calizona RV Park, Georgia & Earl Breault	Intersection of National Old Trails Rd and Hwy 95	928 788 3905	Same	Same	Same	928 788 3905	Domestic	Yes	May-05	508	Unk.	Unk.	250	8	Unk.	No	No	Unknown
10	008N023E20J002S	Calizona-2	National Old Trails Rd and Hwy 95, South of Needles	CA	008N023E20	3850190.805	720041.945	Calizona RV Park, Georgia & Earl Breault	Intersection of National Old Trails Rd and Hwy 95	928 788 3905	Same	Same	Same	928 788 3905	Domestic	Yes	1951 (Valley Drilling '93)	420	40	Unk.	240	5	Unk.	No	No	Unknown
11	9N23E30	Chevron (12MWs)	River Rd and T St. Needles	CA	9N23E30	3858813.23	717418.24	Chevron Products	1300 Beach Blvd LaHabra, CA 92632	Not Provided	--	--	--	--	Monitoring	--	Jul-97	37-65	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
12	09N23E30C01	Chevron B-4	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1201 S. Beach Blvd. La Habra, CA 90631	Not Provided	--	--	--	--	Monitoring	--	Mar-87	41	10	31-41	38	4	NE	Yes	Yes	Unconsolidated Alluvium
13	09N23E30C02	Chevron B-5	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1201 S. Beach Blvd. La Habra, CA 90631	Not Provided	--	--	--	--	Monitoring	--	Mar-87	40	10	30-40	38	4	NE	Yes	Yes	Unconsolidated Alluvium
14	09N23E30C03	Chevron B-6	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	15621 Redhill, #100 La Habra, CA 90631	Not Provided	--	--	--	--	Monitoring	--	Mar-87	38	10	28-38	35.5	4	NE	Yes	Yes	Unconsolidated Alluvium
15	09N23E30C04	Chevron B-7	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1201 S. Beach Blvd. La Habra, CA 90631	Not Provided	--	--	--	--	Monitoring	--	Mar-87	38	10	28-38	36	4	NE	Yes	Yes	Unconsolidated Alluvium
16	09N23E30C05	Chevron B-8	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1201 S. Beach Blvd. La Habra, CA 90631	Not Provided	--	--	--	--	Monitoring	--	Mar-87	40	10	30-40	38.5	4	NE	Yes	Yes	Unconsolidated Alluvium
17	09N23E30C06	Chevron B-10	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1300 South Beach Blvd. La Habra, CA 90632	Not Provided	--	--	--	--	Monitoring	--	Sep-87	45	9.5	35-44.5	40.5	4	NE	Yes	Yes	Unconsolidated Alluvium
18	09N23E30C07	Chevron B-9	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1300 South Beach Blvd. La Habra, CA 90632	Not Provided	--	--	--	--	Monitoring	--	Sep-87	39.5	9.5	30-39.5	Unk.	4	NE	Yes	Yes	Unconsolidated Alluvium
19	09N23E30C08	Chevron B-12	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1300 South Beach Blvd. La Habra, CA 90632	Not Provided	--	--	--	--	Monitoring	--	Sep-87	44.5	10.5	34-44.5	41	4	NE	Yes	Yes	Unconsolidated Alluvium
20	09N23E30C09	Chevron B-11	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1300 South Beach Blvd. La Habra, CA 90632	Not Provided	--	--	--	--	Monitoring	--	Sep-87	47	10	35-45	46	4	NE	Yes	Yes	Unconsolidated Alluvium

**TABLE 1 Well Information and Location**  
 Wells Evaluated as Potential Background Wells for Chromium and Metals Groundwater Background Study  
 PG&E Compressor Station and Vicinity, Needles, California

21	09N23E30 C10	Chevron B-3	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1201 S. Beach Blvd. La Habra, CA 90631	Not Provided	--	--	--	--	Monitoring	--	Nov-86	37	20	17-37	Dry	4	NE	Yes	Yes	Unconsolidated Alluvium
22	09N23E30 C11	Chevron B-2	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1201 S. Beach Blvd. La Habra, CA 90631	Not Provided	--	--	--	--	Monitoring	--	Nov-86	38	20	18-38	Dry	4	NE	Yes	Yes	Unconsolidated Alluvium
23	09N23E30 C12	Chevron B-1	River Rd and T St. Needles	CA	09N23E30	3858813.23	717418.24	Chevron U.S.A., Inc.	1201 S. Beach Blvd. La Habra, CA 90631	Not Provided	--	--	--	--	Monitoring	--	Nov-86	37	20	17-37	36.7	4	NE	Yes	Yes	Unconsolidated Alluvium
24	09N23E30 A0	Needles MW-?	Goodwill and Monterey, Needles	CA	09N23E30	3856583.38	719694.16	City of Needles	111 Bailey Ave. Needles, CA 92363	Jerry Porter 760 326-2113	--	--	--	--	Municipal	Abandoned	Dec-89	260	200	60-260	22	20	NE	Yes	Yes	Unconsolidated Alluvium
25	MW-10	Needles MW-10	Bush and "K" St. Needles	CA	9N23E30	3859103.554	718416.986	City of Needles	Box 887 Needles, CA	Jerry Porter 760 326-2113	Same	Same	817 Third Street Needles, CA 92363	760 326-5700 x 339	Municipal	Yes	Unk.	180	100	80-180	14	10	Unk.	No	No	Unconsolidated Alluvium
26	MW-11	Needles MW-11	Needles Golf Course	CA	9N23E29	3858630.677	718868.007	City of Needles	Needles Golf Course 144 Marina Dr. Needles, CA	Jerry Porter 760 326-2113	Same	Same	817 Third Street Needles, CA 92363	760 326-5700 x 339	Municipal	Yes	Unk.	280	Unk.	Unk.	Unk.	18	Unk.	No	No	Unconsolidated Alluvium
27	MW-12	Needles MW-12	Needles Golf Course	CA	9N23E29	3858583.302	718932.519	City of Needles	Course 144 Marina Dr. Needles, CA	Jerry Porter 760 326-2113	Same	Same	817 Third Street Needles, CA 92363	760 326-5700 x 339	Municipal	Yes	Unk.	220	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unconsolidated Alluvium
28	MW-6	Needles MW-6	Bush and "K" St. Needles	CA	9N23E30	3859094.38	718383.42	City of Needles	Box 887 Needles, CA	Jerry Porter 760 326-2113	--	--	--	--	Municipal	Abandoned	Apr-67	98	44	38-82	13	20	NE	Yes	Yes	Unconsolidated Alluvium
29	MW-7	Needles MW-7	Bush and "K" St. Needles	CA	9N23E30	3859077.78	718450.42	City of Needles	Box 887 Needles, CA	Jerry Porter 760 326-2113	--	--	--	--	Municipal	Abandoned	May-68	98	35	50-85	17	20	NE	Yes	Yes	Unconsolidated Alluvium
30	MW-8	Needles MW-8	Bush and "K" St. Needles	CA	9N23E30	3859059.35	718493.76	City of Needles	Box 887 Needles, CA	Jerry Porter 760 326-2113	--	--	--	--	Domestic	Abandoned	Jan-73	120	80	40-120	15	16	NE	Yes	Yes	Unconsolidated Alluvium
31	8N23E9	Clark	Zoe Ln	CA	8N23E9	3853566.519	720331.636	JD Patterson	77 Zoe Lane	Not Provided	Kevin and Velinda Clark	Kevin Clark	Same	760 326 4103	Domestic	Yes	Oct-97	395	220	175-395	185	5	NE	Yes	Yes	Unconsolidated Alluvium
32	9N23E32	Gorra (6MWs)	916 E. Broadway, Needles	CA	9N23E32	3856249.6	719883.42	Don & Bette Gorra	2950 E. Andy Devine Kingman, AZ 86401	Not Provided	--	--	--	--	Monitoring	--	Mar-00	95	25	70-95	80	4	NE	Yes	Yes	Unconsolidated Alluvium
33	008N023E 09E001S	Johnson	Zoe Ln	CA	008N023E09	3853899.917	720309.459	Gary M. Johnson	37 Zoe Lane	Not Provided	Same	Same	PO Box 1152 Needles, CA 92363	760-326-3769	Irrigation	Yes	Jul-89	230	Unk.	0-190	230	6	NE	Yes	Yes	Unconsolidated Alluvium
34	008N023E 20K001S	Taylor	National Old Trails Rd and Hwy 95, South of Needles	CA	008N023E20	3850281.038	719623.819	John Taylor	National Old Trails Rd and Hwy 95, South of Needles	Not Provided	Same	Same	PO Box 17 Needles, CA 92363	760 326 5022	Domestic	Yes	Apr-69	394	40	360-400	280	6	Unk.	No	No	Unconsolidated Alluvium
35	9N23E30	Chambers (4MWs)	1219 W Broadway, Needles	CA	9N23E30	3857983.68	718589.05	Lee Chambers Petroleum, Inc (Shell)	1219 W Broadway	Not Provided	--	--	--	--	Monitoring	--	Oct-99	60	30	30-60	40	4	NE	Yes	Yes	Unconsolidated Alluvium
36	No Well ID	Choquette	Zoe Ln	CA	8N23E9	3853749.156	720322.712	Lee Choquette	99 Zoe Lane	760 326 2847	Same	Same	PO Box 204 Needles, CA 92363	760 326 2222	Domestic	Yes	Jun-05	300	Unk.	Unk.	250	5	Unk.	No	No	Unconsolidated Alluvium
37	007N023E 10J001S	Nishkian	West of PG&E	CA	7N23R10	3843576.257	723790.118	M.A. Nishkian & Co	3640 Atlantic Ave. Long Beach, CA 90807	Not Provided	Southern Cal. Gas Co	Valerie Gessey	Box 1376 Victorville, CA. 92392	909 335 7714	Municipal	Unk.	Mar-57	720	606	114-720	115	16/14	Unk.	Yes	Yes	Unconsolidated Alluvium and Bedrock
38	9N23E31	Lily Hill	1501 Lily Hill Dr. #36 Needles	CA	9N23E31	3856555.858	718194.501	Mountain View Rentals (aka Terrace View), LLC	1501 Lily Hill Dr. #36 Needles, CA 92363	(760) 326 4813	Same	Henry Baghdaddy	611 W. 6th St. Suite 2150, Los Angeles CA 90017	213-489-3962	Irrigation	Yes	Nov-97	225	200	20-220	175	5	NE	Yes	Yes	Unconsolidated Alluvium
39	008N023E 30C001S	Needles Airport boreholes	Needles Airport	CA	008N023E30	3849398.95	717841.06	Needles Airport	825 E Third Street San Bernardino, CA 92415	Not Provided	San Bernardino County	Glenn Simms, Paradise Aviation	PO Box 784 Needles, CA 92363	760 326 5263	Domestic	Abandoned	Jun-05	NA	NA	NA	NA	NA	NE	Yes	No	Unconsolidated Alluvium
40	08N23E30 C01	Needles Airport	Needles Airport	CA	08N23E30	3849398.95	717841.06	Needles Airport	825 E Third Street San Bernardino, CA 92415	Not Provided	San Bernardino County	Glenn Simms, Paradise Aviation	PO Box 784 Needles, CA 92363	760 326 5263	Domestic	No	Jan-75	575	Unk.	Unk.	Unk.	7	549	Yes	No	Unknown
41	008N023E 07R001S	Needles Landfill-1	Needles Landfill	CA	008N023E07	3852634.91	718400.41	Needles Landfill	Not Provided	1 800 722 8004	San Bernardino County	Mark Rodabaugh	Unknown	Same	Monitoring	Yes	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
42	008N023E 07R002S	Needles Landfill-2	Needles Landfill	CA	008N023E07	3852732.82	718439.5	Needles Landfill	Not Provided	1 800 722 8004	San Bernardino County	Mark Rodabaugh	Unknown	Same	Monitoring	Yes	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
43	008N023E 18A001S	Needles Landfill-3	Needles Landfill	CA	008N023E18	3852825.8	718548.52	Needles Landfill	Not Provided	1 800 722 8004	San Bernardino County	Mark Rodabaugh	Unknown	Same	Monitoring	Yes	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
44	008N023E 18B001S	Needles Landfill-4	Needles Landfill	CA	008N023E18	3852867.21	718644.01	Needles Landfill	Not Provided	1 800 722 8004	San Bernardino County	Mark Rodabaugh	Unknown	Same	Monitoring	Yes	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
45	MW-17	MW-17	On-site	CA	7N24R6	3844975.873	728033.598	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Monitoring	Yes	May-98	150.5	20.5	130-150.5	132.6	4	NE	Yes	Yes	Unconsolidated Alluvium
46	MW-01 (Formerly P-1)	MW-01 (Formerly P-1)	New Ponds site	CA	7N24R7	3844117.985	728497.227	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Monitoring	Yes	Aug-86	210.5	10	200.5-210.5	204	4	NE	Yes	Yes	Unconsolidated Alluvium
47	MW-03 (Formerly P-3)	MW-03 (Formerly P-3)	New Ponds site	CA	7N24R7	3844161.378	728604.567	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Monitoring	Yes	Aug-86	203	10	193-203	189	4	NE	Yes	Yes	Unconsolidated Alluvium
48	MW-04 (Formerly P-4)	MW-04 (Formerly P-4)	New Ponds site	CA	7N24R7	3844388.45																				

**TABLE 1 Well Information and Location**  
 Wells Evaluated as Potential Background Wells for Chromium and Metals Groundwater Background Study  
 PG&E Compressor Station and Vicinity, Needles, California

50	MW-06	MW-06	New Ponds site	CA	7N24R7	3844252.731	728520.826	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Monitoring	Yes	Jun-89	193.5	9	184.5-193.5	185.5	4	NE	Yes	Yes	Unconsolidated Alluvium
51	MW-07	MW-07	New Ponds site	CA	7N24R7	3844353.22	728562.697	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Monitoring	Yes	Jun-89	182.2	10	172.7-182.7	177	4	NE	Yes	Yes	Unconsolidated Alluvium
52	MW-08	MW-08	New Ponds site	CA	7N24R7	3844335.71	728655.573	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Monitoring	Yes	Jun-89	180	9	169-178	171	4	NE	Yes	Yes	Unconsolidated Alluvium
53	MW-16	MW-16	New Ponds site	CA	7N24R7	3844230.22	728250.901	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Monitoring	Yes	Apr-98	218	20	198-218	200	4	NE	Yes	Yes	Unconsolidated Alluvium
54	P-2	P-2	New Ponds site	CA	7N24R7	3844388.239	728662.424	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Piezometer	Yes	Aug-86	210.5	10	200.5-210.5	165	4	NE	Yes	Yes	Unconsolidated Alluvium
55	PT-01	PT-01	New Ponds site	CA	7N24R7	3844379.772	728671.341	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Exploratory boring, Pump test well	Yes	Nov-86	270	40	220-260	178	8	NE	Yes	Yes	Unconsolidated Alluvium
56	MWP-12 (Formerly P-2)	MWP-12 (Formerly P-2)	Old Ponds site	CA	7N24R8	3843759.473	729079.369	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Monitoring	Yes	Aug-86	142	47	95-142	104	3	130	Yes	Yes	Unconsolidated Alluvium
57	MW-18	MW-18	On-site	CA	7N24R5	3844895.254	728750.962	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Monitoring	Yes	Apr-98	110	20	85-105	88.9	4	NE	Yes	Yes	Unconsolidated Alluvium
58	Park Moabi Cistern 2	PMM-Campsite 9	Park Moabi	CA	007N024E06	3846078.7	728011.77	Park Moabi Marina	Not Provided	760 326 3831	Same	Michael Simendich, Park Superintendent	PO Box 798 Needles, CA 92363	760 326 3831	Domestic	No	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
59	007N023E01K001S?	PMM-Firing Range	Park Moabi	CA	007N023E01	3845245.736	726542.49	Park Moabi Marina	Not Provided	760 326 3831	Same	Michael Simendich, Park Superintendent	PO Box 798 Needles, CA 92363	760 326 3831	Supply well	No	Unknown	156	Unk.	Unk.	94	Unk.	Unk.	No	No	Unknown
60	007N024E06B001S	PMM-RO System	Park Moabi	CA	007N024E06	3846128.779	727918.982	Park Moabi Marina	Not Provided	760 326 3831	Same	Michael Simendich, Park Superintendent	PO Box 798 Needles, CA 92363	760 326 3831	Domestic	No	Unk.	22	Unk.	Unk.	10	Unk.	Unk.	No	No	Unconsolidated Alluvium
61	007N024E06F001S	PMM-Shop	Park Moabi	CA	007N024E06	3845456.36	727661.9	Park Moabi Marina	Not Provided	760 326 3831	Same	Michael Simendich, Park Superintendent	PO Box 798 Needles, CA 92363	760 326 3831	Supply well	No	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
62	7N24E8B	PMM-Supply	Park Moabi	CA	7N24E8	3845234.586	727135.442	Park Moabi Marina	Needles, CA	760 326 3831	Same	Michael Simendich, Park Superintendent	PO Box 798 Needles, CA 92363	760 326 3831	Supply well	Yes	Mar-61	190	129	28-42/65-180	22.5	10	Unk.	Yes	Yes	Unconsolidated Alluvium
63	9N23E29	4 Seasons Nursery	1150 W. Broadway, Needles	CA	9N23E29	3858033.155	718656.108	Robert McDaniel, 4 Seasons Nursery	P.O. Box 551 Needles, CA 92363	Not Provided	Same	Same	Same	760-326-2551	Irrigation	Yes	Sep-97	85	60	20-80	Unk.	5	NE	Yes	Yes	Unconsolidated Alluvium
64	08N23E0C (LOC 8N21E32?)	San Bern-1	Needles Airport	CA	08N23E30 or 8N21E32	3848906.77	718169.46	San Bernardino County	825 E Third Street San Bernardino, CA 92415	Not Provided	Same	Glenn Simms, Paradice Aviation	PO Box 784 Needles, CA 92363	760 326 5263	Domestic	Unk.	Feb-75	533	300	233-533	Unk.	2.5	NE?	Yes	Yes	Unconsolidated Alluvium and Bedrock
65	9N23E29	ATSF-C2	1705 Eagle Pass Rd, Needles	CA	9N23E29	3858543.142	717959.062	Sante Fe Railway Co.	5770 Los Angeles, CA 90040	Not Provided	BNSF	Mick Hardin	740 E Carnegie Dr. San Bernardino, CA 92408	909 386 4081	Monitoring	Yes	May-90	40	25	15-40	20	4	Unk.	No	Yes	Unknown
66	08N23E20 G0?	So Cal Gas-1	National Old Trails Rd and Hwy 95, South of Needles	CA	08N23E20	3850490.42	719826.15	Southern Cal. Gas Co	Box 1376 Victorville, CA. 92392	909 335 7714	Same	Valerie Gessey	Same	Same	Cathodic	No	Aug-82	300	NA	NA	Unk.	3/4	NE	Yes	No	Unconsolidated Alluvium and Bedrock
67	9N23E29	So Cal Gas-2	Fairway St. Needles	CA	9N23E29	3857990.95	719786.12	Southern Cal. Gas Co	1100 Arizona St. Needles, CA 92363	909 335 7714	Same	Valerie Gessey	Same	Same	Industrial	Unk.	Jul-98	100	50	50-100	14	12	NE	Yes	Yes	Unconsolidated Alluvium
68	9N23E29	So Cal Gas-3	Fairway St. Needles	CA	9N23E29	3857990.95	719797.91	Southern Cal. Gas Co	1100 Arizona St. Needles, CA 92363	909 335 7714	Same	Valerie Gessey	Same	Same	Industrial	Unk.	Jul-98	100	50	50-100	14	12	NE	Yes	Yes	Unconsolidated Alluvium
69	07N23E22 Q01	So Cal Gas-4	So Cal Gas	CA	07N23E22	3842366.66	723122.66	Southern Cal. Gas Co	P.O. Box 1076 Victorville, CA. 92392	909 335 7714	Same	Valerie Gessey	Same	Same	Cathodic	No	Oct-81	Unk.	NA	NA	75	Unk.	220	Yes	No	Bedrock
70	7N23E-16F01	So Cal Gas-5	So Cal Gas	CA	07N23E16	3841847.51	721580.05	Southern Cal. Gas Co	P.O. Box 1076 Victorville, CA. 92392	909 335 7714	Same	Valerie Gessey	Same	Same	Cathodic	No	Oct-80	Unk.	NA	NA	Unk.	Unk.	Unk.	Yes	No	NA
71	007N024E07B001S	So Cal Gas-6	I-40 & Park Moabi Rd	CA	007N024E07	3844744.02	728093.71	Southern Cal. Gas Co	P.O. Box 1076 Victorville, CA. 92392	909 335 7714	Same	Valerie Gessey	Same	Same	Cathodic	No	Apr-84	460	NA	NA	240	Unk.	Unk.	Yes	No	NA
72	009N023E29J001S	So Cal Gas-7	So Cal Gas	CA	009N023E29	3841936.61	719004.04	Southern Cal. Gas Co	P.O. Box 337 Needles, CA 92363	909 335 7714	Same	Valerie Gessey	Same	Same	Industrial	Unk.	Jun-90	100	50	50-100	13.7	14	NE	Yes	Yes	Unconsolidated Alluvium
73	008N023E20Q001S	State of California	National Old Trails Rd and Hwy 95, South of Needles	CA	008N023E20	3849681.58	719919.1	State of California	CA State Hwy 95S	Not Provided	--	--	--	--	Unknown	Abandoned	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
74	008N023E27Q001S	CA Agriculture Station	Agriculture Check Station	CA	008N023E27	3848336.714	722892.346	State of California	CA State Hwy 95N	Not Provided	California Department of Food and Agriculture Plant Inspection, Pest Exclusion Branch - Needles Inspection Station	Craig Kimball	Interstate 40 PO Box 814 Needles, CA 92363	760 326 4150	Domestic	No	Jul-65	202	Unk.	Unk.	150	6	Unk.	No	No	Unknown
75	8N23E20	Courtney	National Old Trails Rd and Hwy 95, South of Needles	CA	8N23E20	3850512.28	719570.75	Thomas Courtney	Box 282 Needles, CA 92363	Not Provided	Same	Same	Same	Unknown	Domestic	No	Apr-94	420	120	300-420	220	5	NE	Yes	Yes	Unconsolidated Alluvium
76	577479	ADOT New Well	Needle Mountain, AZ	AZ	16N-20.5W-14	3845680.551	735091.64	Arizona Department of Transportation																		

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 PG&E Compressor Station and Vicinity, Needles, California

77	628108	ADOT Old Well	Needle Mountain, AZ	AZ	16N-20W-14	3845650.864	734953.242	Arizona Department of Transportation	206 S. 17th Ave 176A Phoenix, AZ 85007	Not Provided	Same	John H. Nichols, Facilities Manager Frank Young, Plant Director George Webb, Maint. Supervisor	206 S. 17th Avenue Mail Drop 178A Phoenix, AZ 85007	602-772-7795 (John) 928-779-7541 (Frank), 928-768-4355 (George) pgr (888) 971-8939	Domestic	no	Jun-72	396	Unk.	Unk.	217	8	Unk.	No	No	Unknown
78	627261	ATSF-A1	Near Topock 2, 3	AZ	16N21W35	3845127.539	731121.766	Atchison, Topeka and Santa Fe Railway Co.	Mr. Mel Burda Environmental Operations 2650 Lou Menk Drive, 2nd floor PO Box 961057 Fort Worth, Tx 76161-0057	(817) 740-7345	City of Needles BNSF	--	--	--	Industrial/Municipal Supply	Abandoned	1917	31	Unk.	Unk.	Unk.	24	Unk.	No	No	Unknown
79	627262	ATSF-A2	Near Topock 2, 3	AZ	16N21W35	3845127.539	731121.766	Atchison, Topeka and Santa Fe Railway Co.	Mr. Mel Burda Environmental Operations 2650 Lou Menk Drive, 2nd floor PO Box 961057 Fort Worth, Tx 76161-0057	(817) 740-7345	City of Needles BNSF	--	--	--	Industrial/Municipal Supply	Abandoned	Jan-58	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
80	650927	Catfish Paradise-1	Catfish Paradise	AZ	16N-21W-27	3847759.521	730400.023	Catfish Paradise, Inc.	P.O. Box 8 Topock, AZ 86436	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Domestic	No	Unknown	Unk.	Unk.	Unk.	25	Unk.	Unk.	No	No	Unknown
81	525582	EPNG-4	EPNG	AZ	15N21W02	3844926.877	731619.699	El Paso Natural Gas	P.O. Box 1492 El Paso, TX 79978	Not Provided	Same	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste E1147A Houston, TX 77002 PO Box 2511 Houston, TX 77252-2511	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Cathodic	No	Jan-90	615	NA	NA	Unk.	8	Unk.	Driller's Log	No	NA
82	562640	EPNG-5	EPNG	AZ	15N21W02	3844755.757	731411.197	El Paso Natural Gas	P.O. Box 1492 El Paso, TX 79978	Not Provided	Same	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste E1147A Houston, TX 77002 PO Box 2511 Houston, TX 77252-2511	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Cathodic	No	Jun-97	500	NA	NA	Unk.	8	155	Yes	No	NA
83	529685/611578	EPNG-7	EPNG	AZ	16N-20.5W-14	3846126.992	734755.585	El Paso Natural Gas	8645 Railroad Drive El Paso, TX 79904	Anu Pundari 520 663 4222	Same	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste E1147A Houston, TX 77002 PO Box 2511 Houston, TX 77252-2511	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Domestic	Yes	Oct-90	500	160	322-482	Unk.	8	Unk.	No	Yes	Unknown
84	611578/529685 Re-lined	EPNG-2	EPNG	AZ	16N-20.5W-14	3846145.601	734741.91	El Paso Natural Gas	P.O. Box 1492 El Paso, TX 79978	Anu Pundari 520 663 4222	Same	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste E1147A Houston, TX 77002 PO Box 2511 Houston, TX 77252-2511	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Domestic	yes	06/19/1953 / 10/7/90	503/ 500	162	331-493/ 322-482	240	10.75/ 8	Unk.	No	Yes	Unconsolidated Alluvium
85	531103	EPNG-6	EPNG	AZ	16N21W35	3845109.251	731089.963	El Paso Natural Gas	P.O. Box 1492 El Paso, TX 79978	Not Provided	Same	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste E1147A Houston, TX 77002 PO Box 2511 Houston, TX 77252-2511	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Cathodic	No	Apr-91	600	NA	NA	180	8	60?	Yes	No	NA
86	563138	EPNG-3	EPNG	AZ	16N21W36	3845738.397	732211.021	El Paso Natural Gas	P.O. Box 1492 El Paso, TX 79978	Not Provided	Same	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste E1147A Houston, TX 77002 PO Box 2511 Houston, TX 77252-2511	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Cathodic	No	Jul-97	500	NA	NA	Unk.	8	155	Yes	No	NA
87	611577	EPNG-1	EPNG	AZ	16N-20.5W-11	3846672.049	734751.003	El Paso Natural Gas	100 N. Stanton El Paso, TX 79901	Anu Pundari 520 663 4222	Same	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste E1147A Houston, TX 77002 PO Box 2511 Houston, TX 77252-2511	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Industrial	Yes	Sep-50	880	202	616-818	218	8.625	Unk.	No	Yes	Unknown
88	525801	EPNG-8	EPNG	AZ	16N-21W-36	3845458.32	732339.78	El Paso Natural Gas	P.O. Box 1492 El Paso, TX 79978	Not Provided	Same	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste E1147A Houston, TX 77002 PO Box 2511 Houston, TX 77252-2511	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Cathodic	No	Unknown	Unk.	NA	NA	Unk.	Unk.	No	No	NA	
89	530349	GSM-MW-6	Golden Shores Marina	AZ	15N21W3	3844669.17	730274.23	Golden Shores Marina, Norma Phillips	Not Provided	Not Provided	--	--	--	--	Monitoring	Abandoned	Jan-91	31	21	12-32	19	4	NE	Yes	Yes	(Toa) Fluvial Younger Qr
90	530350	GSM-MW-8	Golden Shores Marina	AZ	15N21W3	3844697.69	730312.25	Golden Shores Marina, Norma Phillips	Not Provided	Not Provided	--	--	--	--	Monitoring	Abandoned	Jan-91	31	20	5-25	19	4	NE	Yes	No	Unconsolidated Alluvium
91	530351	GSM-MW-9	Golden Shores Marina	AZ	15N21W3	3844716.71	730378.8	Golden Shores Marina, Norma Phillips	Not Provided	Not Provided	--	--	--	--	Monitoring	Abandoned	Jan-91	31	25	6-31	11	4	NE	Yes	Yes	Unconsolidated Alluvium

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 PG&E Compressor Station and Vicinity, Needles, California

92	530352	GSM-MW-10	Golden Shores Marina	AZ	15N21W3	3844673.93	730393.06	Golden Shores Marina, Norma Phillips	Not Provided	Not Provided	--	--	--	--	Monitoring	Abandoned	Jan-91	35	20	10-30	Unk.	4	NE	Yes	Yes	Unconsolidated Alluvium
93	530353	GSM-MW-11	Golden Shores Marina	AZ	15N21W3	3844640.66	730350.28	Golden Shores Marina, Norma Phillips	Not Provided	Not Provided	--	--	--	--	Monitoring	Abandoned	Jan-91	35	20	10-30	19	4	NE	Yes	Yes	Unconsolidated Alluvium
94	528908	GSM-MW-12	Golden Shores Marina	AZ	15N21W3	3844683.43	730340.77	Golden Shores Marina, Norma Phillips	Not Provided	Not Provided	--	--	--	--	Monitoring	Abandoned	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
95	547600/627156	HNWR-1	Havasu Nat Wild Ref	AZ	16N-22W-12	3852824.857	723545.699	Havasu National Wildlife & Refuge	P.O. Box 3009 Needles, CA 92363	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Irrigation	No	Apr-95	116	60	56-116	9	16	NE	Yes	Yes	Unknown
96	553210	TMLP-1	East of EPNG	AZ	16N-20W-06	3848381.055	739176.936	Michael Suggs	1273 E. Avenida Hermosa Phoenix, AZ 85014	Not Provided	Topock Mesa Limited Partnership	Robert Hibbs or Jack Jacob	Topock Mesa Limited Partners 4104 E. Camelback Rd., Ste 515 Phoenix, AZ 85016 3301 Monte Villa Parkway #101 Bothell, Washington 98021 Michael Suggs 2925 North Manor Drive East Phoenix, Arizona 85014	Suggs (602) 373-7071 Hibbs: (206) 232-0555 email: rhibbs@montevillafarms.com	Municipal/Industrial	Unk.	Jan-96	890	400	453-853	30	12.75	Unk.	Yes	Yes	Unconsolidated Alluvium
97	553713	TMLP-2	East of EPNG	AZ	16N-20W-06ddd	3848367.502	739149.821	Michael Suggs	1273 E. Avenida Hermosa Phoenix, AZ 85014	Not Provided	Topock Mesa Limited Partnership	Robert Hibbs or Jack Jacob	Topock Mesa Limited Partners 4104 E. Camelback Rd., Ste 515 Phoenix, AZ 85016 3301 Monte Villa Parkway #101 Bothell, Washington 98021 Michael Suggs 2925 North Manor Drive East Phoenix, Arizona 85014	Suggs (602) 373-7071 Hibbs: (206) 232-0555 email: rhibbs@montevillafarms.com	Monitoring/Piezometer	No	Mar-96	880	80	750-880	Flowing	2	Unk.	Yes	Yes	Unconsolidated Alluvium
98	531889	MTS-1	EPNG	AZ	16N-21W-36	3845593.413	732197.671	Mojave Pipeline Operating Co.	P.O. Box 10269 Bakersfield, CA 93389	Not Provided	Mohave Pipeline Operating Co. (aka Mohave Pipeline LLC subs of El Paso Corp.)	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste 1147E Houston, TX 77002	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Industrial	yes	Jul-91	705	100	605-705	174	8	410	Yes	Yes	Unconsolidated Alluvium and Bedrock
99	531890	MTS-2	EPNG	AZ	16N-21W-36	3845595.032	732255.057	Mojave Pipeline Operating Co.	P.O. Box 10269 Bakersfield, CA 93389	Not Provided	Mohave Pipeline Operating Co. (aka Mohave Pipeline LLC subs of El Paso Corp.)	Ian Yanagisawa, P.E. El Paso Corp	1001 Louisiana St, Ste 1147E Houston, TX 77002 company P.O. Box 1492 El Paso, TX 79978	Work: 713 420-7361 Fax: 713 445-9283 Cell: 832 868-9147	Industrial	yes	Oct-91	720	100	603-703	174	8.625	Unk.	Yes	Yes	Unconsolidated Alluvium and Bedrock
100	561779	PGE-9N	I-40 at the CA/AZ border	AZ	15N-21W-03	3844412.648	730357.176	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Supply well	No	Apr-97	95	69	26-95	28	4	94	Yes	Yes	Fluvial AA (Qr1, Qr2)
101	561780	PGE-9S	I-40 at the CA/AZ border	AZ	15N-21W-03	3844405.405	730356.417	Pacific Gas and Electric	P.O. Box 337 Needles, CA 92363	760 326 2615	Same	Glen Riddle	Topock Compressor Station I-40 and Park Moabi Rd Needles, CA 92363	760 326 2615	Supply well	No	Apr-97	100	70	30-100	29	12	104	Yes	Yes	Fluvial AA (Qr1, Qr2)
102	503072	Harcourt	Golden Shores	AZ	16N21W15	3850106.332	729976.528	Rosie Harcourt	4870 Tonapah Dr Golden Shores, AZ	Not Provided	Same	Rosie Harcourt	PO Box 3 Topock, AZ 86436	(928) 768-2747	Irrigation	Unk.	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
103	Parcel 210-51-028A	Farley	Golden Shores	AZ	16N21W15	3850145.69	730053.84	Yvonne Farley	4900 Tonapah Dr Golden Shores, AZ	Not Provided	Same	Yvonne Farley	4951 E. Tonapah (Golden Shores) Mailing: Marvin & Yvonne Farley Monroe Washington 9827	(360) 794-6936	Domestic	No	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
104	No Well ID	Veneris	Golden Shores	AZ	16N21W15	3850145.69	730053.84	Elias Veneris	4900 Tonapah Dr Golden Shores, AZ	Not Provided	Morris Kuykendall	Morris Kuykendall	Same	Unknown	Domestic	No	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
105	627665	Langmaack	Golden Shores	AZ	16N-21W-15	3850159.528	730252.602	Richard and Maria Langmaack	4957 E Tonapah Dr. Golden Shores, AZ	Not Provided	Same	Same	2705 Southwind Place Lake Havasu, AZ 86406	928 453-9676	Domestic	Yes	Jun-05	240	Unk.	Unk.	170	6	Unk.	No	No	Unknown
106	Parcel 210-22-022	Logan	Golden Shores	AZ	16N21W11	3852970.8	731872.9	James and Carrie Logan	12564 E Apache Pkwy Golden Shores, AZ	Not Provided	Same	Same	PO Box 1162 Topock, AZ 86436	Unknown	Domestic	No	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
107	509569	Sanders	I-40 at the CA/AZ border	AZ	15N-21W-02	3844570.64	730702.975	Charles Sanders	H.C. 12 Box 518 Topock 86436 514 El Paso Road Topock, AZ	928-768-6477	Brown Investments	Brown Investments	PO Box 1255 Flagstaff, AZ 86002	Unknown	Domestic	Yes	Jun-05	230	Unk.	Unk.	12	3	NE	No	No	Unknown
108	578929	Serrano	AZ State Hwy 95, South of Golden Shores	AZ	16N-21W-23	3848498.502	730700.034	Serrano's Nursery & Landscaping	5704 South Hwy 95 Mojave Valley, AZ 68440	928 788 2073	Same	Ben Serrano	5704 South Hwy 95 Mojave Valley, AZ 68440 Mailing Address: 1831 Industrial Blvd. Lake Havasu City, AZ 86403-3690	928 505 2370 928 505-2370 or 680-4008	Irrigation	Yes	Jun-05	260	Unk.	Unk.	Unk.	7	Unk.	No	No	Unknown
109	085599	Topock-2A	Near Topock 2, 3	AZ	16N21W35	3845109.251	731089.963	City of Needles	Not Provided	Not Provided	--	--	--	--	Industrial/Municipal Supply	Abandoned	Sep-80	140	40	100-140	47	12	107	Yes	Yes	Unknown
110	600188	Topock-1	Near Topock 2, 3	AZ	16N21W35	3845109.251	731089.963	City of Needles	Not Provided	Not Provided	--	--	--	--	Industrial/Municipal Supply	Abandoned	Jan-62	33	Unk.	Unk.	Unk.	12	Unk.	No	No	Assume Fluvial Younger Qr
111	600187	Topock-3		AZ	16N-21W-35	3845142.176	731106.614	City of Needles	orig. Southwest Gas AZ Box 646 Bullhead City, AZ 86430	619 326 5700	Same	Same	817 Third Street Needles, CA 92363	760 326-5700 x 339	Industrial/Municipal Supply	Yes	May-74	250	65	85-150	50	12	Unk.	No	No	Unknown
112	600189	Topock-2		AZ	16N-21W-35	3845127.539	731121.766	City of Needles	orig. Southwest Gas AZ Box 646 Bullhead City, AZ 86430	619 326 5700	Same	Same	817 Third Street Needles, CA 92363	760 326-5700 x 339	Industrial/Municipal Supply	Yes	Sep-80	150	40	100-140	53	12	Unk.	No	Yes	Unknown
113	565878	Smith	I-40 at the CA/AZ border	AZ	15N-21W-03	3844558.791	730402.801	Stanley & Warren Smith	HC12 Box 518 Topock, AZ 86436	Not Provided	Stanley Smith	Stanley Smith	HC12 Box 518 Topock, AZ 86436	(928) 226-7277* or Warren Smith (Stan's son) at (928) 768-8716	Irrigation	No	Feb-98	80	20	48-68	50	5	68	Yes	Yes	Unconsolidated Alluvium

**TABLE 1 Well Information and Location**  
 Wells Evaluated as Potential Background Wells for Chromium and Metals Groundwater Background Study  
 PG&E Compressor Station and Vicinity, Needles, California

114	534101	Ohmtech	Near Topock 2, 3	AZ	16N21W35	3845109.251	731089.963	Ohmtech	Not Provided	Not Provided	--	--	--	--	Unknown	Abandoned	Jan-92	77	Unk.	Unk.	Unk.	8	NE	Yes	No	NA	
115	526374	BOR South Levee Rd	Havasu Nat Wild Ref	AZ	16N21W19	3850657.38	723762.09	U.S. Bureau of Reclamation	P.O. Box D Yuma, AZ 85366	Not Provided	Same	Jack Allen at HNWR (Jim Cherry at BOR)	Jack Bureau of Land Management 2610 Sweetwater Avenue Lake Havasu City, AZ 86406  Jim US Bureau of Reclamation Yuma Area Office 7301 Calle Aqua Salada Yuma, AZ 85364	928-505-1309 (Jack) 800 433 8464 (Jim)	Monitoring	Unk.	Dec-89	18	Unk.	Unk.	10	4	Unk.	Yes	Yes	Yes	Fluvial Younger Qr
116	526376	BOR-2	Havasu Nat Wild Ref	AZ	16N22W12	3850951.312	723445.805	U.S. Bureau of Reclamation	P.O. Box D Yuma, AZ 85366	Not Provided	Same	Jack Allen at HNWR (Jim Cherry at BOR)	Jack Bureau of Land Management 2610 Sweetwater Avenue Lake Havasu City, AZ 86406  Jim US Bureau of Reclamation Yuma Area Office 7301 Calle Aqua Salada Yuma, AZ 85364	928-505-1309 (Jack) 800 433 8464 (Jim)	Monitoring/ Piezometer	No	Dec-89	35	5	30-35	26	2	NE	Yes	Yes	Yes	Fluvial Younger Qr
117	526375	BOR-3	Havasu Nat Wild Ref	AZ	16N22W13	3850914.954	723385.004	U.S. Bureau of Reclamation	P.O. Box D Yuma, AZ 85366	Not Provided	Same	Jack Allen at HNWR (Jim Cherry at BOR)	Jack Bureau of Land Management 2610 Sweetwater Avenue Lake Havasu City, AZ 86406  Jim US Bureau of Reclamation Yuma Area Office 7301 Calle Aqua Salada Yuma, AZ 85364	928-505-1309 (Jack) 800 433 8464 (Jim)	Monitoring/ Piezometer	No	Dec-89	35	5	30-35	26	2	NE	Yes	Yes	Yes	Fluvial Younger Qr
118	566676	BOR Firewater-2	Havasu Nat Wild Ref	AZ	16N-21W-08	3851168.26	726075.77	U.S. Fish and Wildlife	317 Mesquite Ave Needles, CA 92363	Not Provided	Same	John Earle or Jack Allen	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22 (john Earle) Ext 24 (Jack Allen) jack_allen@fws.gov	Monitoring/ Piezometer	Yes	Jan-98	28	10	18-28	5.2	2	Unk.	Yes	Yes	Yes	Fluvial Younger Qr
119	566677	BOR Firewater-1	Havasu Nat Wild Ref	AZ	16N-21W-08	3851171.4	726055.28	U.S. Fish and Wildlife	317 Mesquite Ave Needles, CA 92363	Not Provided	Same	John Earle or Jack Allen	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22 (john Earle) Ext 24 (Jack Allen) jack_allen@fws.gov	Monitoring/ Piezometer	Yes	Jan-98	28	10	18-28	5.2	2	Unk.	Yes	Yes	Yes	Fluvial Younger Qr
120	202476	USFW-3	Havasu Nat Wild Ref	AZ	16N22W01	3852829.713	723493.998	U.S. Fish and Wildlife	P.O. Box 3009 Needles, CA 92363	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Monitoring/ Piezometer	No	Mar-14	25	21	2-23	9	2	Unk.	No	Yes	Yes	Fluvial Younger Qr
121	202477	USFW-4	Havasu Nat Wild Ref	AZ	16N22W01	3852829.713	723493.998	U.S. Fish and Wildlife	P.O. Box 3009 Needles, CA 92363	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Monitoring/ Piezometer	No	Mar-04	30	26	2-28	14	2	Unk.	No	Yes	Yes	Fluvial Younger Qr
122	594835	USFW-5	Havasu Nat Wild Ref	AZ	16N-22W-12	3852052.477	723044.688	U.S. Fish and Wildlife	P.O. Box 3009 Needles, CA 92363	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Domestic	Yes	Nov-02	75	5	70-75	21	5	NE	Yes	Yes	Yes	Fluvial Younger Qr
123	531194	USFW-6	Catfish Paradise	AZ	16N21W27	3847592.399	730108.57	U.S. Fish and Wildlife	1406 Bailey Ave. Needles, CA 92363	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363  Casey Padgett, Attorney Advisor. US Dept. of the Interior, 755 Parfet St. #151 Lakewood, CO 80215	John Earle 760-326-3853 x22 Casey Padgett 303-231-5353 Ext 223	Monitoring	No	Mar-91	11	Unk.	Unk.	5	4	NE	Yes	Yes	Yes	Fluvial Younger Qr
124	531195	USFW-7	Catfish Paradise	AZ	16N21W27	3847290.409	730010.889	U.S. Fish and Wildlife	1406 Bailey Ave. Needles, CA 92363	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Monitoring	No	Mar-91	11	Unk.	Unk.	5	4	NE	Yes	Yes	Unknown	
125	531196	USFW-8	Catfish Paradise	AZ	16N21W27	3847300.765	730416.851	U.S. Fish and Wildlife	1406 Bailey Ave. Needles, CA 92363	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Monitoring	No	Mar-91	11	Unk.	Unk.	6	4	NE	Yes	Yes	Yes	Fluvial Younger Qr
126	531197	Catfish Paradise_2	Catfish Paradise	AZ	16N-21W-27	3847566	729715.36	U.S. Fish and Wildlife	1406 Bailey Ave. Needles, CA 92363	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 office address: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Monitoring	No	Unknown	11	Unk.	Unk.	6	Unk.	Unk.	No	No	Unknown	
127	533426	USFW-MW (7 MWs)	Havasu Nat Wild Ref	AZ	16N21W04	3853808.15	728240.35	Havasu Nat Wild Ref	Not Provided	Not Provided	--	--	--	--	Monitoring	Abandoned	Mar-91	24	10	14-24	Unk.	Unk.	Unk.	No	No	Fluvial Younger Qr	
128	USGS-AZ-1	USGS-AZ-1	East of EPNG	AZ	B-15-19 07AAB	3838810.622	748774.04	Unknown	Not Provided	Not Provided	Unknown	Unknown	Unknown	Unknown	Unknown	Unk.	Unknown	900	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
129	571831	GSRV-2	Catfish Paradise	AZ	16N-21W-27	3847759.521	730400.023	Yancy Sexton	P.O. Box 14326 Phoenix, AZ 85063 Former owner: Yancy Sexton PO Box 411 Topock, AZ 86436-0411	1-928-768-1400 ys@goldenshore.s.net	RPGS LLC	Unknown	RPGS LLC 17035 W. Wisconsin Ave. Suite 135 Brookfield, WI 53005	Unknown	Domestic	No	Feb-00	245	40	205-245	60	8	NE	Yes	Yes	Yes	Unknown

**TABLE 1 Well Information and Location**  
 Wells Evaluated as Potential Background Wells for Chromium and Metals Groundwater Background Study  
 PG&E Compressor Station and Vicinity, Needles, California

130	572526	GSRV-1	No well	AZ	--	3736220.65	674355.52	Yancey Sexton	P.O. Box 14326 Phoenix, AZ 85063 Former owner: Yancy Sexton PO Box 411 Topock, AZ 86436-0411	1-928-768-1400 ys@goldenshores.net	--	--	--	--	Not Drilled	No	NA	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
131	606487	Petri-2	East of EPNG	AZ	16N-20W-15	--	--	Ed Petri	Not Provided	Not Provided	Same	Rob Petri in Prescott, AZ?	PO Box 594 Chino Valley, AZ 86323		Domestic	Unk.	May-05	300	Unk.	Unk.	200	6	Unk.	Unk.	No	No	Unknown
132	606486	Petri-1	East of EPNG	AZ	16N-20W-15	--	--	Ed Petri	Not Provided	Not Provided	Same	Rob Petri in Prescott, AZ?	PO Box 594 Chino Valley, AZ 86323		Domestic	Unk.	May-05	280	Unk.	Unk.	159	Unk.	Unk.	Unk.	No	No	Unknown
133	629200-L	GSWC-3	Golden Shores	AZ	16N-21W-11	3851844.11	731530.553	Golden Shores Water Company	Not Provided	Not Provided	Same	Vik Hewlett for arranging access	Office: 12812 Oatman Rd. Mailing Address: PO Box 37 Topock, AZ 86436	Linda Boyer (928) 768-3110 gsh20@ctaz.com	Domestic	yes	Feb-65	500	Unk.	Unk.	280	8	Unk.	Unk.	No	No	Unknown
134	629199-L	GSWC-1	Golden Shores	AZ	16N-21W-15	3851002.702	729956.693	Golden Shores Water Company	Not Provided	Not Provided	Same	Vik Hewlett for arranging access	PO Box 37 Topock, AZ 86436	928-768-3110 of 928-715-811 cell	Domestic	yes	Jan-62	250	Unk.	Unk.	140	4	Unk.	Unk.	No	No	Unknown
135	501020	Cardwell	Golden Shores	AZ	16N-21W-15	3851304.9	729524.2	Alfred Bradshaw	3000 Cheyenne Mohave Valley, AZ 86440 10575 S. Dunes Rd. Mohave Valley, AZ 86440	Not Provided	James and Linda Jo Cardwell	--	--	--	Domestic	Abandoned	Jun-05	160	100	150-160	135	6	120	No	No	Unknown	
136	502864	H&S-1	East of EPNG	AZ	16N-20W-07	3847797.119	738147.505	Hageard & Strache	Not Provided	Not Provided	Same	Unknown	Unknown	Unknown	Domestic	Unk.	Unknown	200	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown
137	501512	H&S-2	East of EPNG	AZ	16N-20W-07	3847809.053	738189.886	Hageard & Strache	Not Provided	Not Provided	Same	Unknown	Unknown	Unknown	Domestic	Unk.	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
138	No Well ID	Railroad capped well	Near Topock 2, 3	AZ	16N-21W-35	3845159.942	731107.89	Unknown	Not Provided	Not Provided	--	--	--	--	Unknown	Abandoned	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
139	No Well ID	Abandoned Marsh well	Near Topock 2, 3	AZ	16N-21W-35	3844980.251	730848.202	Unknown	Not Provided	Not Provided	--	--	--	--	Unknown	Abandoned	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
140	576721	GSWC-4	Golden Shores	AZ	16N-21W-11	3851855.949	731528.928	Golden Shores Water Company	Not Provided	Not Provided	Same	Vik Hewlett for arranging access	PO Box 37 Topock, AZ 86436	928-768-3110 of 928-715-811 cell	Domestic	yes	Oct-99	610	170	352-522	258	12	NE	Yes	Yes	Unknown	
141	629198-L	GSWC-2	Golden Shores	AZ	16N-21W-11	3852660.621	731504.293	Golden Shores Water Company	Not Provided	Not Provided	Same	Vik Hewlett for arranging access	PO Box 37 Topock, AZ 86436	928-768-3110 of 928-715-811 cell	Domestic	yes	Feb-65	500	unk.	unk.	180	6	unk.	unk.	No	No	Unknown
142	No Well ID	BOR Levee Rd	Havasu Nat Wild Ref	AZ	16N22W23	3850846.272	723633.222	Havasu Nat Wild Ref	Not Provided	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 Office: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Monitoring/Piezometer	No	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
143	627157	Refuge Shop - Old Water Supply	Havasu Nat Wild Ref	AZ	16N22W12	3852067.018	723040.635	Havasu Nat Wild Ref	Not Provided	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 Office: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Domestic	No	Apr-65	53	Unk.	Unk.	10	8	NE	No	No	Unknown	
144	627156R	Old Refuge Farm Well	Havasu Nat Wild Ref	AZ	16N-22W-12	3852824.857	723545.699	Havasu Nat Wild Ref	Not Provided	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 Office: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Irrigation	No	Unknown	Unk.	Unk.	Unk.	Unk.	13	Unk.	No	No	Unknown	
145	No Well ID	New Farm Well	Havasu Nat Wild Ref	AZ	16N22W01	3852829.54	723493.394	Havasu Nat Wild Ref	Not Provided	Not Provided	Same	John Earle	P.O. Box 3009 Needles, CA 92363 Office: 317 Mesquite Ave Needles, CA 92363	760-326-3853 x22	Irrigation	Yes	Unknown	118	Unk.	Unk.	Unk.	8	Unk.	No	No	Unknown	
146	507275	Mellette	Golden Shores	AZ	16N-21W-15	3850227.21	730326.55	Nicky (Nancy) Mellette	4982 E. Monarch Golden Shores	Not Provided	Same	Same	PO Box 1222 Topock, AZ 86436	928 768 1979	Domestic	Yes	Jun-05	276	Unk.	Unk.	170	5	Unk.	Unk.	No	No	Unknown
147	502687	Rasmussen	Golden Shores	AZ	16N-21W-15	3850227.09	730267.95	Ken Rasmussen	4993 E. Monarch Golden Shores, AZ	Not Provided	Same	Same	PO Box 1222 Topock, AZ 86436	928 768 1979	Domestic	Yes	Jun-05	240	Unk.	Unk.	170	6	Unk.	Unk.	No	No	Unknown
148	504506	Scott	Golden Shores	AZ	16N-21W-15	3850332.43	730355.1	Mark Scott	4970 E. York Golden Shores, AZ	Not Provided	Same	Same	PO Box 541 Topock, AZ 86436	Unknown	Domestic	Yes	Jun-05	220	Unk.	Unk.	95	5	Unk.	Unk.	No	No	Unknown
149	No Well ID	Cassas	Golden Shores	AZ	16N-21W-11	3852823.61	731832.75	Cassas	12558 E Apache Golden Shores, AZ	Not Provided	Dorothy Helffrich	Dorothy Helffrich	PO Box 129 San Marcos, CA 92079	Unknown	Domestic	Unk.	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	
150	585983	Topock School	Golden Shores	AZ	16N-21W-15	Unk.	Unk.	Topock Elementary School	Tule Rd.	Not Provided	Same	Unknown	Same	Unknown	Non-potable uses	Yes	Unknown	Unk.	Unk.	Unk.	Unk.	Unk.	Unk.	No	No	Unknown	

-- Well was determined to not meet one or more criteria for potential background well, so additional information not sought


TABLE 3 Background Well Selection Matrix										
Rationale for Selection of Potential Background Wells										
PG&E Compressor Station and Vicinity, Needles, California										
Well Order	Well ID	Common Well ID or Mapped ID	Is the well within the defined background zone?	Has the owner granted access?	Is the well located outside of the Topock site study area?	Is the well in a condition suitable for sampling and physically accessible?	Is the well located a sufficient distance from all potential anthropogenic sources, including non-PG&E sources?	Is the well completed in the alluvial aquifer?	Selected as potential background well?	Reason for exclusion
1	9N23E29	ATSF-C1	Yes	Yes	Yes	Unknown	No	Yes	No	Proximity to remediation monitoring of a former fuel transfer station
2	09N23E30	Weniger	Yes	Yes	Yes	Yes	No	Yes	No	Remediation monitoring of a former fuel transfer station
3	9N23E30	BNSF-MW-2	Yes	Yes	Yes	Yes	No	Yes	No	Remediation monitoring of a former fuel transfer station
4	9N23E30	BNSF-MW-3	Yes	Yes	Yes	Yes	No	Yes	No	Remediation monitoring of a former fuel transfer station
5	9N23E30	BNSF-MW-1	Yes	Yes	Yes	Yes	No	Yes	No	Remediation monitoring of a former fuel transfer station
6	9N23E30	BNSF-MW-4	Yes	Yes	Yes	Yes	No	Unknown	No	Remediation monitoring of a former fuel transfer station
7	9N23E30	Calimesa (4MWs)	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
8	9N23E30	Calimesa (6MWs)	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
9	008N023E20J001S	Calizona-1	Yes	No	Yes	Yes	Yes	Unknown	No	Owner not willing to grant access
10	008N023E20J002S	Calizona-2	Yes	No	Yes	Yes	Yes	Unknown	No	Owner not willing to grant access
11	9N23E30	Chevron (12MWs)	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
12	09N23E30C01	Chevron B-4	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
13	09N23E30C02	Chevron B-5	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
14	09N23E30C03	Chevron B-6	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
15	09N23E30C04	Chevron B-7	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
16	09N23E30C05	Chevron B-8	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
17	09N23E30C06	Chevron B-10	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
18	09N23E30C07	Chevron B-9	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
19	09N23E30C08	Chevron B-12	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
20	09N23E30C09	Chevron B-11	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
21	09N23E30C10	Chevron B-3	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
22	09N23E30C11	Chevron B-2	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station

TABLE 3 Background Well Selection Matrix										
Rationale for Selection of Potential Background Wells										
PG&E Compressor Station and Vicinity, Needles, California										
23	09N23E30C12	Chevron B-1	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
24	09N23E30A0	Needles MW-?	--	--	--	--	--	--	--	Abandoned
25	MW-10	Needles MW-10	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
26	MW-11	Needles MW-11	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
27	MW-12	Needles MW-12	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
28	MW-6	Needles MW-6	--	--	--	--	--	--	--	Abandoned
29	MW-7	Needles MW-7	--	--	--	--	--	--	--	Abandoned
30	MW-8	Needles MW-8	--	--	--	--	--	--	--	Abandoned
31	8N23E9	Clark	Yes	Yes	Yes	Yes	No	Yes	No	Proximity to Landfill
32	9N23E32	Gorra (6MWs)	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
33	008N023E09E001S	Johnson	Yes	Yes	Yes	Yes	No	Yes	No	Proximity to Landfill
34	008N023E20K001S	Tayloe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
35	9N23E30	Chambers (4MWs)	Yes	--	Yes	Unknown	No	Yes	No	Remediation monitoring of a former fuel filling station
36	No Well ID	Choquette	Yes	Yes	Yes	Yes	No	Yes	No	Proximity to Landfill
37	007N023E10J001S	Nishkian	Yes	No	Yes	Unknown	Yes	Yes	No	Owner not willing to grant access
38	9N23E31	Lily Hill	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
39	008N023E30C001S	Needles Airport boreholes	--	--	--	--	--	--	--	Abandoned
40	08N23E30C01	Needles Airport	Yes	Yes	Yes	No	Yes	Unknown	No	Well in poor condition
41	008N023E07R001S	Needles Landfill-1	Yes	--	Yes	Yes	No	Unknown	No	Proximity to Landfill
42	008N023E07R002S	Needles Landfill-2	Yes	--	Yes	Yes	No	Unknown	No	Proximity to Landfill
43	008N023E18A001S	Needles Landfill-3	Yes	--	Yes	Yes	No	Unknown	No	Proximity to Landfill
44	008N023E18B001S	Needles Landfill-4	Yes	--	Yes	Yes	No	Unknown	No	Proximity to Landfill
45	MW-17	MW-17	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
46	MW-01 (Formerly P-1)	MW-01 (Formerly P-1)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
47	MW-03 (Formerly P-3)	MW-03 (Formerly P-3)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
48	MW-04 (Formerly P-4)	MW-04 (Formerly P-4)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
49	MW-05	MW-05	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
50	MW-06	MW-06	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
51	MW-07	MW-07	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
52	MW-08	MW-08	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
53	MW-16	MW-16	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
54	P-2	P-2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
55	PT-01	PT-01	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
56	MWP-12 (Formerly P-2)	MWP-12 (Formerly P-2)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
57	MW-18	MW-18	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
58	Park Moabi Cistern 2	PMM-Campsite 9	Yes	Yes	Yes	No	Yes	Yes	No	Well not completed

TABLE 3 Background Well Selection Matrix										
Rationale for Selection of Potential Background Wells										
PG&E Compressor Station and Vicinity, Needles, California										
59	007N023E01K001 S?	PMM-Firing Range	Yes	Yes	Yes	No	No	Unknown	No	Well is in a drainage wash, during flowing conditions, water may flow into well
60	007N024E06B001 S	PMM-RO System	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
61	007N024E06F001 S	PMM-Shop	Yes	Yes	Yes	Yes	No	Unknown	No	Well is located in maintenance yard and housed in building used to store fuel and used oil
62	7N/24E8B	PMM-Supply	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
63	9N23E29	4 Seasons Nursery	Yes	No	Yes	Yes	Yes	Yes	No	Owner not willing to grant access
64	08N/23E30C (LOC 8N21E32?)	San Bern-1	Yes	Yes	Yes	Unknown	Yes	Yes	No	Unable to find, Airport manager stated he had no knowledge of this well
65	9N23E29	ATSF-C2	Yes	Yes	Yes	Unknown	Yes	Unknown	No	Remediation monitoring of a former fuel transfer station
66	08N23E20G0?	So Cal Gas-1	Yes	No	Yes	No	Yes	No	No	Cathodic Protection and not willing to participate
67	9N23E29	So Cal Gas-2	Yes	No	Yes	Unknown	Yes	Yes	No	Owner not willing to grant access
68	9N23E29	So Cal Gas-3	Yes	No	Yes	Unknown	Yes	Yes	No	Owner not willing to grant access
69	07N23E22Q01	So Cal Gas-4	Yes	No	Yes	No	Yes	No	No	Cathodic Protection and owner not willing to grant access
70	7N/23E-16F01	So Cal Gas-5	Yes	No	Yes	No	Yes	No	No	Cathodic Protection and owner not willing to grant access
71	007N024E07B001 S	So Cal Gas-6	Yes	No	Yes	No	Yes	No	No	Cathodic Protection and owner not willing to grant access
72	009N023E29J001 S	So Cal Gas-7	Yes	No	Yes	Unknown	Unknown	Yes	No	Owner not willing to grant access
73	008N023E20Q001 S	State of California	--	--	--	--	--	--	--	Abandoned
74	008N023E27Q001 S	CA Agriculture Station	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	
75	8N23E20	Courtney	Yes	No	Yes	No	Yes	Yes	No	Well not completed
76	577479	ADOT New Well	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
77	628108	ADOT Old Well	Yes	Yes	Yes	Yes	Yes	Unknown	No	No sample port
78	627261	ATSF-A1	--	--	--	--	--	--	--	Abandoned
79	627262	ATSF-A2	--	--	--	--	--	--	--	Abandoned
80	650927	Catfish Paradise-1	Yes	Yes	Yes	No	Yes	No	No	Not found, likely abandoned
81	525582	EPNG-4	Yes	Yes	Yes	No	Yes	No	No	Cathodic Protection
82	562640	EPNG-5	Yes	Yes	Yes	No	Yes	No	No	Cathodic Protection
83	529685/ 611578	EPNG-7	Yes	Yes	Yes	Unknown	Yes	Unknown	No	Unable to match records with existing wells, may have been abandoned
84	611578/ 529685 Re-lined	EPNG-2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
85	531103	EPNG-6	Yes	Yes	Yes	No	Yes	No	No	Cathodic Protection
86	563138	EPNG-3	Yes	Yes	Yes	No	Yes	No	No	Cathodic Protection
87	611577	EPNG-1	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	
88	525801	EPNG-8	Yes	Yes	Yes	No	Yes	No	No	Cathodic Protection
89	530349	GSM-MW-6	--	--	--	--	--	--	--	Abandoned
90	530350	GSM-MW-8	--	--	--	--	--	--	--	Abandoned
91	530351	GSM-MW-9	--	--	--	--	--	--	--	Abandoned
92	530352	GSM-MW-10	--	--	--	--	--	--	--	Abandoned

TABLE 3 Background Well Selection Matrix										
Rationale for Selection of Potential Background Wells										
PG&E Compressor Station and Vicinity, Needles, California										
93	530353	GSM-MW-11	--	--	--	--	--	--	--	Abandoned
94	528908	GSM-MW-12	--	--	--	--	--	--	--	Abandoned
95	547600/ 627156	HNWR-1	Yes	Yes	Yes	No	Yes	Unknown	No	Poor well condition, visible debris in well
96	553210	TMLP-1	Yes	Yes	Yes	No	Yes	Yes	No	No sample port
97	553713	TMLP-2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
98	531889	MTS-1	Yes	Yes	Yes	No	Yes	Yes	No	No sample port
99	531890	MTS-2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
100	561779	PGE-9N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
101	561780	PGE-9S	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
102	503072	Harcourt	Yes	No	Yes	Unknown	Yes	Unknown	No	Owner not willing to grant access
103	Parcel 210-51-028A	Farley	Yes	No	Yes	No	Yes	Unknown	No	No well found
104	No Well ID	Veneris	Yes	No	Yes	No	Yes	Unknown	No	No well found
105	627665	Langmaack	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	
106	Parcel 210-22-022	Logan	Yes	No	Yes	No	Yes	Unknown	No	No well found
107	509569	Sanders	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	
108	578929	Serrano	Yes	No	Yes	Yes	Yes	Unknown	No	Owner not willing to grant access
109	085599	Topock-2A	--	--	--	--	--	--	--	Abandoned
110	600188	Topock-1	--	--	--	--	--	--	--	Abandoned
111	600187	Topock-3	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	
112	600189	Topock-2	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	
113	565878	Smith	Yes	No	Yes	Yes	Yes	Yes	No	Owner not willing to grant access
114	534101	Ohmtech	--	--	--	--	--	--	--	Abandoned
115	526374	BOR South Levee Rd	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
116	526376	BOR-2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
117	526375	BOR-3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
118	566676	BOR Firewater-2	Yes	Yes	Yes	No	Yes	Yes	No	No sample port
119	566677	BOR Firewater-1	Yes	Yes	Yes	No	Yes	Yes	No	No sample port
120	202476	USFW-3	Yes	Yes	Yes	No	Yes	No	No	Not found, likely abandoned
121	202477	USFW-4	Yes	Yes	Yes	No	Yes	No	No	Not found, likely abandoned
122	594835	USFW-5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
123	531194	USFW-6	--	--	--	--	--	--	--	Abandoned
124	531195	USFW-7	--	--	--	--	--	--	--	Abandoned
125	531196	USFW-8	--	--	--	--	--	--	--	Abandoned
126	531197	Catfish Paradise-2	--	--	--	--	--	--	--	Abandoned
127	533426	USFW-MW (7 MWs)	--	--	--	--	--	--	--	Abandoned
128	USGS-AZ-1	USGS-AZ-1	No	Unknown	Yes	Unknown	Unknown	Unknown	No	Outside background zone
129	571831	GSRV-2	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	
130	572526	GSRV-1	Yes	Yes	Yes	No	Yes	No	No	Not Drilled
131	606487	Petri-2	No	Unknown	Yes	Unknown	Yes	Unknown	No	Outside background zone, well logs show incorrect T-R-S
132	606486	Petri-1	No	Unknown	Yes	Unknown	Yes	Unknown	No	Outside background zone, well logs show incorrect T-R-S
133	629200-L	GSWC-3	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	
134	629199-L	GSWC-1	Yes	Yes	Yes	Yes	Yes	Unknown	Yes	
135	501020	Cardwell	--	--	--	--	--	--	--	Abandoned
136	502864	H&S-1	Yes	Yes	Yes	Yes	Yes	Unknown	No	Owner not willing to grant access
137	501512	H&S-2	Yes	Yes	Yes	Yes	Yes	Unknown	No	Owner not willing to grant access

<b>TABLE 3 Background Well Selection Matrix</b>											
Rationale for Selection of Potential Background Wells											
PG&E Compressor Station and Vicinity, Needles, California											
138	No Well ID	Railroad capped well	--	--	--	--	--	--	--	--	Abandoned
139	No Well ID	Abandoned Marsh well	--	--	--	--	--	--	--	--	Abandoned
140	576721	GSWC-4	Yes	Yes	Yes	Yes	Yes	Unknown	Yes		
141	629198-L	GSWC-2	Yes	Yes	Yes	Yes	Yes	Unknown	Yes		
142	No Well ID	BOR Levee Rd	Yes	Yes	Yes	Yes	Yes	Unknown	Yes		
143	627157	Refuge Shop - Old Water Supply	Yes	Yes	Yes	No	Yes	Unknown	No		No sample port
144	627156R	Old Refuge Farm Well	Yes	Yes	Yes	No	Yes	Unknown	No		No sample port
145	No Well ID	New Farm Well	Yes	Yes	Yes	Yes	Yes	Unknown	Yes		
146	507275	Mellette	Yes	No	Yes	Yes	Yes	Unknown	No		Owner not willing to grant access
147	502687	Rasmussen	Yes	No	Yes	Yes	Yes	Unknown	No		Owner not willing to grant access
148	504506	Scott	Yes	No	Yes	Yes	Yes	Unknown	No		Owner not willing to grant access
149	No Well ID	Cassas	Yes	No	Yes	Yes	Yes	Unknown	No		Owner not willing to grant access



**Figure 3**

## Candidate Wells for PG&E Topock Groundwater Background Study

- Selected Well Location
- Non-Selected Well Location



0      0.25      0.5      1

Miles

