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Table	Media	Chemicals Analyzed	Location Sampled
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Table D-1a. Analytical summary of soil sampling conducted June 5 and 6, 2006: PGG-2A through PGG-6A

Chemical/Sample Information	Analytical Method	Unit	MTCA Method A	PGG-2A	PGG-2B	PGG-5A	PGG-5B	PGG-5C	PGG-5D	PGG-5E	PGG-5F	PGG-5G	PGG-6A
Depth		feet bgs		9-10.5	11.5-13	1.5-3	5-6.5	7.5-9	10-11.5	12.5-14	15-16.5	17.5-19	1.5-3
Total Organic Carbon	EPA 9060 mod	mg/kg		140000	14000	11500	9170	13400	11400	1950	24700	2350	4700
Dry Weight	BSOPSPL003R08	%		64.9	77.7	85.4	80.7	71.4	86.5	82.1	66.9	83.8	95.8
Petroleum Hydrocarbons													
Gasoline Range HC	NWTPH-Gx/8021B	mg/kg	100*	17	5.69 U	5.87 U	5.04 U	12.8	4.88 U	6.53 U	8.4 U	6.4 U	5.12 U
Benzene	NWTPH-Gx/8021B	mg/kg	0.03	0.036 U	0.0342 U	0.0352 U	0.0302 U	0.0461 U	0.0293 U	0.0392 U	0.0504 U	0.0384 U	0.0307 U
Toluene	NWTPH-Gx/8021B	mg/kg	7	0.06 U	0.0569 U	0.0587 U	0.0504 U	0.0768 U	0.0488 U	0.0653 U	0.084 U	0.064 U	0.0512 U
Ethylbenzene	NWTPH-Gx/8021B	mg/kg	6	0.06 U	0.0569 U	0.0587 U	0.0504 U	0.0768 U	0.0488 U	0.0653 U	0.084 U	0.064 U	0.0512 U
Xylenes (total)	NWTPH-Gx/8021B	mg/kg	9	0.12 U	0.114 U	0.117 U	0.101 U	0.154 U	0.0976 U	0.131 U	0.168 U	0.128 U	0.102 U
Diesel Range HC	NWTPH-Dx	mg/kg	2,000	4120 T	53.4 T	105 T	72.5 T	136 T	64.7 T	12.7 T	203 T	11.9 U	10.5 U
Lube Oil Range HC	NWTPH-Dx	mg/kg	2,000	4910	57.5	179	153	173	106	30.5 U	510	29.7 U	26.4 U
Total Metals													
Arsenic	EPA 6020	mg/kg	20	15.1	3.69	5.36	3.76	9.92	2.85	2.21	11.4	2.05	2.73
Cadmium	EPA 6020	mg/kg	2	13.9	0.644	0.585	0.632	1.15	0.545	0.648	0.951	1.7	0.522
Chromium	EPA 6020	mg/kg	2,000	1260	27.1	32.4	30	84	16.9	13.9	200	12.8	20.7
Copper	EPA 6020	mg/kg		594	18.3	22.9	21.9	68.4	23.1	32	74.7	10.5	14.9
Lead	EPA 6020	mg/kg	1,000	625	14.9	31.6	30	24.3	74.7	8.49	202	3.01	2.83
Nickel	EPA 6020	mg/kg		84.5	9.82	7.51	6.53	29.3	11	10	21.7	7.43	25.9
Zinc	EPA 6020	mg/kg		1460	39.6	35.8	34.7	163	51.8	62.1	149	64.7	46.3
PCBs													
Aroclor 1016	EPA 8082	µg/kg	10,000	3840 U	32.6 U	297 U	158 U	35.6 U	28.7 U	30.9 U	186 U	29.9 U	26.3 U
Aroclor 1221	EPA 8082	µg/kg	10,000	7680 U	65.2 U	593 U	315 U	71.2 U	57.4 U	61.7 U	371 U	59.9 U	52.5 U
Aroclor 1232	EPA 8082	µg/kg	10,000	3840 U	32.6 U	297 U	158 U	35.6 U	28.7 U	30.9 U	186 U	29.9 U	26.3 U
Aroclor 1242	EPA 8082	µg/kg	10,000	3840 U	32.6 U	297 U	158 U	35.6 U	28.7 U	30.9 U	186 U	29.9 U	26.3 U
Aroclor 1248	EPA 8082	µg/kg	10,000	56200 P	325 Q	737	464	1090	89	30.9 U	186 U	29.9 U	26.3 U
Aroclor 1254	EPA 8082	µg/kg	10,000	44600 P	248 Q	655	406	864	73.6	30.9 U	876	29.9 U	26.3 U
Aroclor 1260	EPA 8082	µg/kg	10,000	3840 U	32.6 U	297 U	158 U	35.6 U	28.7 U	30.9 U	186 U	29.9 U	26.3 U
Aroclor 1262	EPA 8082	µg/kg	10,000	3840 U	32.6 U	297 U	158 U	35.6 U	28.7 U	30.9 U	186 U	29.9 U	26.3 U
Aroclor 1268	EPA 8082	µg/kg	10,000	3840 U	32.6 U	297 U	158 U	35.6 U	28.7 U	30.9 U	186 U	29.9 U	26.3 U
Total PCB (U as O)	EPA 8082	µg/kg	10,000	100,800	573	1,392	870	1,954	163	0	876	0	0
PAHs													
1-Methylnaphthalene	EPA 8270-SIM	mg/kg	2	0.118	0.013 U	0.0118 U	0.0125 U	0.0142 U	0.0117 U	0.012 U	0.0151 U	0.0119 U	0.0106 U

Chemical/Sample Information	Analytical Method	Unit	MTCA Method A	PGG-2A	PGG-2B	PGG-5A	PGG-5B	PGG-5C	PGG-5D	PGG-5E	PGG-5F	PGG-5G	PGG-6A
2-Methylnaphthalene	EPA 8270-SIM	mg/kg	2	0.169	0.013 U	0.0118 U	0.0125 U	0.0142 U	0.0117 U	0.012 U	0.0151 U	0.0119 U	0.0106 U
Acenaphthene	EPA 8270-SIM	mg/kg	2	0.0768 U	0.013 U	0.0118 U	0.0235	0.0142 U	0.0117 U	0.012 U	0.0151 U	0.0119 U	0.0106 U
Acenaphthylene	EPA 8270-SIM	mg/kg	2	0.0768 U	0.013 U	0.0118 U	0.0125 U	0.0142 U	0.0117 U	0.012 U	0.0151 U	0.0119 U	0.0106 U
Anthracene	EPA 8270-SIM	mg/kg	2	0.0768 U	0.0136	0.0118 U	0.0487	0.0185	0.0117 U	0.012 U	0.016	0.0119 U	0.0106 U
Benzo(ghi)perylene	EPA 8270-SIM	mg/kg	2	0.0768 U	0.013 U	0.0118 U	0.115	0.0142 U	0.0208	0.012 U	0.0196	0.0119 U	0.0106 U
Fluoranthene	EPA 8270-SIM	mg/kg	2	0.49	0.0225	0.0386	0.493	0.0818	0.037	0.012 U	0.0817	0.0119 U	0.0106 U
Fluorene	EPA 8270-SIM	mg/kg	2	0.134	0.013 U	0.0118 U	0.0186	0.0142 U	0.0117 U	0.012 U	0.0151 U	0.0119 U	0.0106 U
Naphthalene	EPA 8270-SIM	mg/kg	2	0.0788	0.013 U	0.0118 U	0.0125 U	0.0142 U	0.0117 U	0.012 U	0.0155	0.0119 U	0.0106 U
Phenanthrene	EPA 8270-SIM	mg/kg	2	0.195	0.013 U	0.0259	0.28	0.027	0.0138	0.012 U	0.0475	0.0119 U	0.0106 U
Pyrene	EPA 8270-SIM	mg/kg	2	1.06	0.025	0.0466	0.467	0.128	0.05	0.012 U	0.109	0.0119 U	0.0106 U
Benzo(a)anthracene	EPA 8270-SIM	mg/kg	2	0.202	0.013 U	0.0165	0.184	0.0255	0.0184	0.012 U	0.0354	0.0119 U	0.0106 U
Benzo(a)pyrene	EPA 8270-SIM	mg/kg	2	0.4	0.0339	0.0181	0.219	0.0256	0.0364	0.012 U	0.0524	0.0119 U	0.0106 U
Benzo(b)fluoranthene	EPA 8270-SIM	mg/kg	2	0.305	0.013 U	0.0281	0.226	0.0344	0.0339	0.012 U	0.0515	0.0119 U	0.0106 U
Benzo(k)fluoranthene	EPA 8270-SIM	mg/kg	2	0.25	0.013 U	0.0236	0.233	0.027	0.0396	0.012 U	0.0576	0.0119 U	0.0106 U
Chrysene	EPA 8270-SIM	mg/kg	2	0.478	0.013 U	0.0334	0.28	0.0409	0.0277	0.012 U	0.058	0.0119 U	0.0106 U
Dibenz(a,h)anthracene	EPA 8270-SIM	mg/kg	2	0.0768 U	0.013 U	0.0118 U	0.0517	0.0142 U	0.0117 U	0.012 U	0.0151 U	0.0119 U	0.0106 U
Indeno(1,2,3-cd)pyrene	EPA 8270-SIM	mg/kg	2	0.162	0.0222	0.0118 U	0.117	0.0142 U	0.0197	0.012 U	0.0153	0.0119 U	0.0106 U
Toxicity Equivalent Concentrations	**TEF**												
Benzo(a)anthracene	0.1	mg/kg	2	0.0202	0	0.00165	0.0184	0.00255	0.00184	0	0.00354	0	0
Benzo(a)pyrene	1	mg/kg	2	0.4	0.0339	0.0181	0.219	0.0256	0.0364	0	0.0524	0	0
Benzo(b)fluoranthene	0.1	mg/kg	2	0.0305	0	0.00281	0.0226	0.00344	0.00339	0	0.00515	0	0
Benzo(k)fluoranthene	0.1	mg/kg	2	0.025	0	0.00236	0.0233	0.0027	0.00396	0	0.00576	0	0
Chrysene	0.01	mg/kg	2	0.00478	0	0.000334	0.0028	0.000409	0.000277	0	0.00058	0	0
Dibenzo(a,h)anthracene	0.4	mg/kg	2	0	0	0	0.02068	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	2	0.0162	0.00222	0	0.0117	0	0.00197	0	0.00153	0	0
Sum of TEF			2	0.5	0.04	0.03	0.32	0.03	0.05	0	0.07	0	0

Source: (Pacific Groundwater Group 2007)

Green highlight – concentration exceeds MTCA Method A for soil (for Industrial Properties)

Yellow highlight – parameter detected

bgs – below ground surface

EPA – US Environmental Protection Agency

HC - hydrocarbons

J – parameter detected at the reported concentration; result qualifies as "estimated" due to unacceptable QA results

µg/kg – micrograms per kilogram
mg/kg – milligram per kilogram
MTCA – Model Toxics Control Act
P – Results for 500x dilution
PAH – polycyclic aromatic hydrocarbon
PCB – polychlorinated biphenyl
PGG – Pacific Groundwater Group
Q – results for 5x dilution
R – analytical result rejected based on unrepresentative sample quality and poor data quality, as the sample did not meet Standard Operating Procedures.
S – lab analyst note: results reported for the gas range are primarily due to overlap from diesel range hydrocarbons
SIM – Simultaneous Ion Monitoring
T – lab analyst note: results reported for the gas range are primarily due to overlap from heavy oil range product
TEF – Toxic Equivalency Factor
U – parameter not detected, associated # is the lab reporting limit
UJ – parameter not detected at the associated reporting limit; analysis performed 44 days outside holding time

Table D-1b. Analytical summary of soil sampling conducted June 5 and 6, 2006: PGG-6B through PGG-7E

Chemical/Sample Information	Analytical Method	Unit	MTCA Method A	PGG-6B	PGG-6C	PGG-6D	PGG-6E	PGG-7A	PGG-7B	PGG-7C	PGG-7D	PGG-7E
Depth		feet bgs		4-5.5	6.5-8	9-10.5	11.5-13	0.5-2	4-5.5	6.5-8	9-10.5	11.5-13
Total Organic Carbon	EPA 9060 mod	mg/kg		839	18000	785	14400	52300	2050	645	10200	46000
Dry Weight	BSOPSPL003R08	%		95.4	64.2	80	66.9	85	93.6	78.8	74.1	59.1
Petroleum Hydrocarbons												
Gasoline Range HC	NWTPH-Gx/8021B	mg/kg	100*	5.6 U	6.74 U	5.47 U	6.31 U	6.7 U	9.34 U	5.41 U	6 U	8.55 U
Benzene	NWTPH-Gx/8021B	mg/kg	0.03	0.0336 U	0.0405 U	0.0328 U	0.0378 U	0.0402 U	0.056 U	0.0325 U	0.036 U	0.0513 U
Toluene	NWTPH-Gx/8021B	mg/kg	7	0.056 U	0.0674 U	0.0547 U	0.0631 U	0.067 U	0.0934 U	0.0541 U	0.06 U	0.0855 U
Ethylbenzene	NWTPH-Gx/8021B	mg/kg	6	0.056 U	0.0674 U	0.0547 U	0.0631 U	0.067 U	0.0934 U	0.0541 U	0.06 U	0.0855 U
Xylenes (total)	NWTPH-Gx/8021B	mg/kg	9	0.112 U	0.135 U	0.109 U	0.126 U	0.134 U	0.187 U	0.108 U	0.12 U	0.171 U
Diesel Range HC	NWTPH-Dx	mg/kg	2,000	10.3 U	15.8 U	12.5 U	15 U	285 T	10.6 U	12.6 U	13.5 U	16.7 U
Lube Oil Range HC	NWTPH-Dx	mg/kg	2,000	25.8 U	39.6 U	31.2 U	37.6 U	670	26.4 U	31.4 U	33.7 U	41.7 U
Total Metals												
Arsenic	EPA 6020	mg/kg	20	1.11	7.67	1.68	4.93	12.2	1.13	0.641	3.41	7.72
Cadmium	EPA 6020	mg/kg	2	0.524	0.779	0.625	0.747	6.12	0.534	1.2	0.675	0.846
Chromium	EPA 6020	mg/kg	2,000	9.45	26	6.98	17.8	91.6	8	10.3	12.6	18.1
Copper	EPA 6020	mg/kg		10.1	47.3	6.59	26.5	71.8	7.48	14.3	16.4	26.9
Lead	EPA 6020	mg/kg	1,000	2.05	7.8	0.8	4.54	130	1.08	1.26	6.15	4.82
Nickel	EPA 6020	mg/kg		4.6	24.3	4.89	12.8	37.4	4.16	8.36	8.8	12.4
Zinc	EPA 6020	mg/kg		26.8	66.3	18.5	36.1	460	35.8	99	33	31.3
PCBs												
Aroclor 1016	EPA 8082	µg/kg	10,000	26.3 U	39.2 U	31.5 U	37.2 U	29.9 U	26.8 U	32.2 U	33.7 U	42.9 U
Aroclor 1221	EPA 8082	µg/kg	10,000	52.6 U	78.4 U	62.9 U	74.5 U	59.8 U	53.6 U	64.3 U	67.5 U	85.7 U
Aroclor 1232	EPA 8082	µg/kg	10,000	26.3 U	39.2 U	31.5 U	37.2 U	29.9 U	26.8 U	32.2 U	33.7 U	42.9 U
Aroclor 1242	EPA 8082	µg/kg	10,000	26.3 U	39.2 U	31.5 U	37.2 U	29.9 U	26.8 U	32.2 U	33.7 U	42.9 U
Aroclor 1248	EPA 8082	µg/kg	10,000	26.3 U	39.2 U	31.5 U	37.2 U	29.9 U	26.8 U	32.2 U	33.7 U	42.9 U
Aroclor 1254	EPA 8082	µg/kg	10,000	26.3 U	39.2 U	31.5 U	37.2 U	29.9 U	26.8 U	32.2 U	33.7 U	42.9 U
Aroclor 1260	EPA 8082	µg/kg	10,000	26.3 U	39.2 U	31.5 U	37.2 U	2190	26.8 U	32.2 U	42.2	42.9 U
Aroclor 1262	EPA 8082	µg/kg	10,000	26.3 U	39.2 U	31.5 U	37.2 U	29.9 U	26.8 U	32.2 U	33.7 U	42.9 U
Aroclor 1268	EPA 8082	µg/kg	10,000	26.3 U	39.2 U	31.5 U	37.2 U	29.9 U	26.8 U	32.2 U	33.7 U	42.9 U
Total PCB (U as O)	EPA 8082	µg/kg	10,000	0	0	0	0	2,190	0	0	42	0
PAHs												
1-Methylnaphthalene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U

Chemical/Sample Information	Analytical Method	Unit	MTCA Method A	PGG-6B	PGG-6C	PGG-6D	PGG-6E	PGG-7A	PGG-7B	PGG-7C	PGG-7D	PGG-7E
2-Methylnaphthalene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Acenaphthene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Acenaphthylene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Anthracene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Benzo(ghi)perylene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Fluoranthene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0438	0.0124 U	0.0148 U	0.205	0.0105 U	0.0125 U	0.0133 U	0.017 U
Fluorene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Naphthalene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Phenanthrene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0304	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Pyrene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.067	0.0124 U	0.0148 U	0.252	0.0105 U	0.0125 U	0.0133 U	0.017 U
Benzo(a)anthracene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.019	0.0124 U	0.0148 U	0.116	0.0105 U	0.0125 U	0.0133 U	0.017 U
Benzo(a)pyrene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0199	0.0124 U	0.0148 U	0.178	0.0105 U	0.0125 U	0.0133 U	0.017 U
Benzo(b)fluoranthene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.202	0.0105 U	0.0125 U	0.0133 U	0.017 U
Benzo(k)fluoranthene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.024	0.0124 U	0.0148 U	0.182	0.0105 U	0.0125 U	0.0133 U	0.017 U
Chrysene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0284	0.0124 U	0.0148 U	0.215	0.0105 U	0.0125 U	0.0133 U	0.017 U
Dibenz(a,h)anthracene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Indeno(1,2,3-cd)pyrene	EPA 8270-SIM	mg/kg	2	0.0106 U	0.0155 U	0.0124 U	0.0148 U	0.116 U	0.0105 U	0.0125 U	0.0133 U	0.017 U
Toxicity Equivalent Concentrations (TEF)												
Benzo(a)anthracene	0.1	mg/kg	2	0	0.0019	0	0	0.0116	0	0	0	0
Benzo(a)pyrene	1	mg/kg	2	0	0.0199	0	0	0.178	0	0	0	0
Benzo(b)fluoranthene	0.1	mg/kg	2	0	0	0	0	0.0202	0	0	0	0
Benzo(k)fluoranthene	0.1	mg/kg	2	0	0.0024	0	0	0.0182	0	0	0	0
Chrysene	0.01	mg/kg	2	0	0.000284	0	0	0.00215	0	0	0	0
Dibenzo(a,h)anthracene	0.4	mg/kg	2	0	0	0	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	2	0	0	0	0	0	0	0	0	0
Sum of TEF			2	0	0.02	0	0	0.23	0	0	0	0

Source: (Pacific Groundwater Group 2007)

Green highlight – concentration exceeds MTCA Method A for soil (for Industrial Properties)

Yellow highlight – parameter detected

bgs – below ground surface

EPA – US Environmental Protection Agency

HC - hydrocarbons

J – parameter detected at the reported concentration; result qualifies as "estimated" due to unacceptable QA results

µg/kg – micrograms per kilogram

mg/kg – milligram per kilogram
MTCA – Model Toxics Control Act
P – Results for 500x dilution
PAH – Polycyclic Aromatic Hydrocarbon
PCB – Polychlorinated Biphenyls
PGG – Pacific Groundwater Group
Q – Results for 5x dilution
R – analytical result rejected based on unrepresentative sample quality and poor data quality, as the sample did not meet Standard Operating Procedures.
S – lab analyst note: results reported for the gas range are primarily due to overlap from diesel range hydrocarbons
SIM – Simultaneous Ion Monitoring
T – lab analyst note: results reported for the gas range are primarily due to overlap from heavy oil range product
TEF – Toxic Equivalency Factor
U – parameter not detected, associated # is the lab reporting limit
UJ – parameter not detected at the associated reporting limit; analysis performed 44 days outside holding time

Table D-2. Historical soil sample results for PCBs conducted July 20, 1981, June 13, August 16 and September 28, 1990, and October 1991

Sample ID	Investigation	Date	Depth (feet bgs)	Within Sludge Footprint	Aroclor 8080 (mg/kg)	Aroclor 1016/1242 8080 (mg/kg)	Aroclor 1016 8080 (mg/kg)	Aroclor 1221 8080 (mg/kg)	Aroclor 1232 8080 (mg/kg)	Aroclor 1242 8080 (mg/kg)	Aroclor 1248 8080 (mg/kg)	Aroclor 1254 8080 (mg/kg)	Aroclor 1260 8080 (mg/kg)
B81-1	D&M	7/20/1981	6	Yes	2.06								
B81-1	D&M	7/20/1981	11	Yes	4.89								
B81-1	D&M	7/20/1981	21	Yes	0.013								
B81-10	D&M	7/20/1981	9	No	5.91								
B81-10	D&M	7/20/1981	16	No	0.443								
B81-10	D&M	7/20/1981	24	No	0.01 U								
B81-11	D&M	7/20/1981	19	No	0.661								
B81-11	D&M	7/20/1981	26.5	No	0.01 U								
B81-12	D&M	7/20/1981	15.5	No	0.01 U								
B81-13	D&M	7/20/1981	24	No	0.01 U								
B81-2	D&M	7/20/1981	2.5	Yes	2.73								
B81-2	D&M	7/20/1981	16	Yes	0.169								
B81-3	D&M	7/20/1981	6	Yes	2.29								
B81-3	D&M	7/20/1981	19	Yes	0.171								
B81-4	D&M	7/20/1981	9	Yes	0.512								
B81-4	D&M	7/20/1981	21	Yes	0.01 U								
B81-5	D&M	7/20/1981	6	Yes	2.6								
B81-5	D&M	7/20/1981	16	Yes	4.27								
B81-6	D&M	7/20/1981	19	Yes	1.71								
B81-7	D&M	7/20/1981	2.5	Yes	0.709								
B81-7	D&M	7/20/1981	14	Yes	1.21								
B81-8	D&M	7/20/1981	14.5	Yes	1.13								
B81-8	D&M	7/20/1981	24	Yes	0.01 U								
B81-9	D&M	7/20/1981	15.5	No	0.102								

Sample ID	Investigation	Date	Depth (feet bgs)	Within Sludge Footprint	Aroclor 8080 (mg/kg)	Aroclor 1016/1242 8080 (mg/kg)	Aroclor 1016 8080 (mg/kg)	Aroclor 1221 8080 (mg/kg)	Aroclor 1232 8080 (mg/kg)	Aroclor 1242 8080 (mg/kg)	Aroclor 1248 8080 (mg/kg)	Aroclor 1254 8080 (mg/kg)	Aroclor 1260 8080 (mg/kg)
EP-1	PEG	6/13/1990	3	No		0.05 U					0.05 U	0.021	0.05 U
EP-1	PEG	6/13/1990	8	No		0.05 U					0.05 U	0.05 U	0.05 U
EP-10	PEG	6/13/1990	6	No		0.05 U					0.05 U	0.05 U	0.05 U
EP-11	PEG	6/13/1990	6	No		0.05 U					0.05 U	0.14	0.035
EP-2	PEG	6/13/1990	4	No		0.05 U					0.05 U	0.05 U	4.5
EP-2	PEG	6/13/1990	8	No		0.05 U					0.05 U	0.05 U	0.05 U
EP-3	PEG	6/13/1990	4	No		0.4					0.05 U	2.1	2.3
EP-3	PEG	6/13/1990	8	No		0.031					0.05 U	0.19	0.19
EP-4	PEG	6/13/1990	4	Yes		0.05 U					0.05 U	0.093	0.06
EP-4	PEG	6/13/1990	10	Yes		0.54					0.05 U	0.22	0.05 U
EP-5	PEG	6/13/1990	6	No		0.26					0.05 U	0.97	0.6
EP-5	PEG	6/13/1990	11	No		0.17					0.05 U	0.42	0.26
EP-6	PEG	6/13/1990	4	No		0.05 U					0.05 U	0.05 U	0.05 U
EP-6	PEG	6/13/1990	8	No		0.05 U					0.05 U	0.05 U	0.05 U
EP-7	PEG	6/13/1990	4	No		0.05 U					0.05 U	0.05 U	0.42
EP-8	PEG	6/13/1990	6	Yes		0.42					0.05 U	0.29	0.11
EP-9	PEG	6/13/1990	4	No		0.05 U					0.05 U	0.05 U	0.05 U
A	PEG	8/16/1990	1	Yes		0.05 U					1.4	0.66	0.61
B	PEG	8/16/1990	1	Yes		<0.500					6.9	<0.500	<0.500
C	PEG	8/16/1990	1	Yes		0.05 U					0.05 U	0.05 U	0.05 U
D	PEG	8/16/1990	1	Yes		0.05 U					0.05 U	0.081	0.05 U
E	PEG	8/16/1990	1	Yes		0.05 U					0.36	0.1	0.063
F	PEG	8/16/1990	1	Yes		0.05 U					0.297	0.21	0.08
C-1	PEG	8/16/1990	7.5-9	No		0.05 U					0.05 U	0.14	0.12
C-2	PEG	8/16/1990	7.5-9	No		0.05 U					0.05 U	0.025	0.05 U
C-3	PEG	8/16/1990	7.5-9	No		0.12					0.05 U	0.18	0.13
C-4	PEG	8/16/1990	2.5-4	No		0.05 U					0.05 U	0.05 U	0.05 U

Sample ID	Investigation	Date	Depth (feet bgs)	Within Sludge Footprint	Aroclor 8080 (mg/kg)	Aroclor 1016/1242 8080 (mg/kg)	Aroclor 1016 8080 (mg/kg)	Aroclor 1221 8080 (mg/kg)	Aroclor 1232 8080 (mg/kg)	Aroclor 1242 8080 (mg/kg)	Aroclor 1248 8080 (mg/kg)	Aroclor 1254 8080 (mg/kg)	Aroclor 1260 8080 (mg/kg)
C-4	PEG	8/16/1990	7.5-9	No		0.05 U					0.05 U	0.05 U	0.05 U
C-5	PEG	8/16/1990	7.5-9	No		1.1					0.05 U	2.6	0.87
C-6	PEG	8/16/1990	2.5-4	No		0.05 U					0.05 U	0.05 U	0.05 U
C-6	PEG	8/16/1990	7.5-9	No		0.05 U					0.05 U	0.05 U	0.05 U
NAT-1	PEG	9/28/1990	1	Yes			0.05 U	0.05 U	0.05 U	0.05 U	9.3	0.05 U	0.05 U
NAT-2	PEG	9/28/1990	1	No			0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
NAT-3	PEG	9/28/1990	1	Yes			0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
NAT-4	PEG	9/28/1990	1	Yes			0.05 U	0.05 U	0.05 U	0.05 U	1.6	0.05 U	0.05 U
NAT-5	PEG	9/28/1990	1	Yes			0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
NAT-6	PEG	9/28/1990	1	Yes			0.05 U	0.05 U	0.05 U	0.05 U	2.9	0.05 U	0.05 U
MW-10	AGI	October 1991	6	Yes			0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
MW-10	AGI	October 1991	8.5	Yes			1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
MW-11	AGI	October 1991	3.5	No			0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
MW-11	AGI	October 1991	8.5	No			0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
MW-12	AGI	October 1991	6	Yes			0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
MW-12	AGI	October 1991	8.5	Yes			0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
MW-13	AGI	October 1991	3.5	No			0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-14	AGI	October 1991	3.5	No			0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
MW-14	AGI	October 1991	8.5	No			0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
MW-7	AGI	October 1991	8.5	Yes			0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
MW-7	AGI	October 1991	13	Yes			0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
MW-8	AGI	October 1991	6	Yes			0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
MW-8	AGI	October 1991	11	Yes			0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
MW-9	AGI	October 1991	8.5	No			0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U

Source: (Pacific Groundwater Group 2006)

Green highlight – concentration exceeds MTCA Method A for soil

Yellow highlight – parameter detected

AGI – Applied Geotechnology Inc.

bgs – below ground surface

D&M – Dames and Moore

mg/kg – milligram per kilogram

PCB – Polychlorinated Biphenyls

PEG –Pacific Environmental Group

U – parameter not detected; associated number is laboratory detection limit

Table D-3. Historical soil sample results for TPH samples conducted June 13, July 19, and August 16, 1990 and September 28, October 8, 9, and 10, 1991

Sample ID	Investigation	Date	Depth (feet bgs)	Within Sludge Footprint	TPH 418.1 (mg/kg)	Gasoline 8015 (mg/kg)	Mineral Spirits (mg/kg)	Kerosene (mg/kg)	Jet Fuel (mg/kg)	Diesel 8015 (mg/kg)	Benzene 8020 (mg/kg)	Ethyl-benzene GC-FID (mg/kg)	Toluene GC-FID (mg/kg)	Total Xylenes GC-FID (mg/kg)
EP-1	PEG	6/13/1990	3	No	10 U									
EP-1	PEG	6/13/1990	8	No	10 U									
EP-2	PEG	6/13/1990	4	No	130									
EP-2	PEG	6/13/1990	8	No	10 U									
EP-3	PEG	6/13/1990	4	No	210	88				80				
EP-3	PEG	6/13/1990	8	No	240	94				25 U				
EP-4	PEG	6/13/1990	4	Yes	20									
EP-4	PEG	6/13/1990	10	Yes	67									
EP-5	PEG	6/13/1990	6	No	140									
EP-5	PEG	6/13/1990	11	No	59									
EP-6	PEG	6/13/1990	4	No	10 U									
EP-6	PEG	6/13/1990	8	No	10 U									
EP-7	PEG	6/13/1990	4	No	10 U									
EP-8	PEG	6/13/1990	6	Yes	75									
EP-9	PEG	6/13/1990	4	No	26									
EP-10	PEG	6/13/1990	6	No	93									
EP-11	PEG	6/13/1990	6	No	10 U									
A	PEG	7/19/1990	1	Yes	25 U									
B	PEG	7/19/1990	1	Yes	25 U									
C	PEG	7/19/1990	1	Yes	25 U									
D	PEG	7/19/1990	1	Yes	25 U									
E	PEG	7/19/1990	1	Yes	25 U									

Sample ID	Investigation	Date	Depth (feet bgs)	Within Sludge Footprint	TPH 418.1 (mg/kg)	Gasoline 8015 (mg/kg)	Mineral Spirits (mg/kg)	Kerosene (mg/kg)	Jet Fuel (mg/kg)	Diesel 8015 (mg/kg)	Benzene 8020 (mg/kg)	Ethyl-benzene GC-FID (mg/kg)	Toluene GC-FID (mg/kg)	Total Xylenes GC-FID (mg/kg)
F	PEG	7/19/1990	1	Yes	25 U									
NAT-1	PEG	9/28/1991	1	Yes	68	1 U								
NAT-2	PEG	9/28/1991	1	No	44	1 U								
NAT-3	PEG	9/28/1991	1	Yes	15	1 U								
NAT-4	PEG	9/28/1991	1	Yes	33	1 U								
NAT-5	PEG	9/28/1991	1	Yes	31	1 U								
NAT-6	PEG	9/28/1991	1	Yes	100	1 U								
C-1	PEG	8/16/1990	7.5-9	No	88									
C-2	PEG	8/16/1990	7.5-9	No	16									
C-3	PEG	8/16/1990	7.5-9	No	530									
C-4	PEG	8/16/1990	2.5-4	No	10 U									
C-4	PEG	8/16/1990	7.5-9	No	10 U									
C-5	PEG	8/16/1990	7.5-9	No	260									
C-6	PEG	8/16/1990	2.5-4	No	10 U									
C-6	PEG	8/16/1990	7.5-9	No	10 U									
MW-7	AGI	10/8/1991	8.5	Yes		13 U	13 U	13 U	13 U	13 U	0.006 U	0.013	0.006 U	0.052
MW-7	AGI	10/8/1991	13	Yes		17 U	17 U	17 U	17 U	17 U	0.008 U	0.008 U	0.008 U	0.026 U
MW-8	AGI	10/9/1991	6	Yes		12 U	12 U	12 U	12 U	18	0.006 U	0.024	0.006 U	0.026 U
MW-8 Dup[a]	AGI	10/10/1991	6	Yes		12 U	12 U	12 U	12 U	68	0.006 U	0.048	0.006 U	0.11
MW-8	AGI	10/9/1991	11	Yes		12 U	12 U	12 U	12 U	12 U	0.006 U	0.006 U	0.006	0.018 U
MW-9	AGI	10/9/1991	8.5	No		12 U	12 U	12 U	12 U	12 U	0.006 U	0.006 U	0.006 U	0.018 U
MW-10	AGI	10/9/1991	6	Yes		13 U	13 U	13 U	13 U	14	0.006 U	0.006 U	0.006 U	0.02 U
MW-10 Dup[b]	AGI	10/10/1991	6	Yes		19 U	19 U	19 U	19 U	170	0.01 U	0.01 U	0.01 U	0.028 U
MW-10	AGI	10/9/1991	8.5	Yes		15 U	15 U	15 U	15 U	24	0.008 U	0.008 U	0.01	0.022 U
MW-11	AGI	10/9/1991	3.5	No		11 U	11 U	11 U	11 U	11 U	0.006 U	0.006 U	0.006 U	0.016 U

Sample ID	Investigation	Date	Depth (feet bgs)	Within Sludge Footprint	TPH 418.1 (mg/kg)	Gasoline 8015 (mg/kg)	Mineral Spirits (mg/kg)	Kerosene (mg/kg)	Jet Fuel (mg/kg)	Diesel 8015 (mg/kg)	Benzene 8020 (mg/kg)	Ethyl-benzene GC-FID (mg/kg)	Toluene GC-FID (mg/kg)	Total Xylenes GC-FID (mg/kg)
MW-11	AGI	10/9/1991	8.5	No		14 U	14 U	14 U	14 U	14 U	0.007 U	0.007 U	0.007 U	0.021 U
MW-12	AGI	10/9/1991	6	Yes		12 U	12 U	12 U	12 U	12 U	0.006 U	0.006 U	0.007	0.018 U
MW-12	AGI	10/9/1991	8.5	Yes		13 U	13 U	13 U	13 U	13 U	0.006 U	0.006	0.006 U	0.021
MW-13	AGI	10/8/1991	3.5	No		11 U	11 U	11 U	11 U	11 U	0.005 U	0.005 U	0.005 U	0.02
MW-14	AGI	10/8/1991	3.5	No		11 U	11 U	11 U	11 U	11 U	0.006 U	0.006 U	0.006 U	0.016 U
MW-14	AGI	10/8/1991	8.5	No		15 U	15 U	15 U	15 U	15 U	0.008 U	0.008 U	0.008 U	0.022 U
MTCA Method A - Industrial						100				2000	0.03	6	7	9

Source: (Pacific Groundwater Group 2006)

[a]MW-8 Dup is sample MW-15

[b]MW-10 Dup is Sample MW-1

yellow highlight – parameter detected

Green highlight – concentration exceeds MTCA Method A for soil

AGI – Applied Geotechnology Inc.

bgs – below ground surface

D&M – Dames and Moore

Dupl. – Duplicate

GC-FID – Gas Chromatograph – Flame Ionization Detector

mg/kg – milligram per kilogram

MTCA – Model Toxics Control Act

PEG – Pacific Environmental Group

TPH – Total Petroleum Hydrocarbons

U – parameter not detected; associated # is laboratory detection limit

Table D-4. Historical soil sample results for PAH conducted October 1992

CHEMICAL/SAMPLE INFORMATION	ANALYTICAL METHOD	MW-7 (mg/kg)	MW-7 (mg/kg)	MW-8 (mg/kg)	MW-8 (mg/kg)	MW-9 (mg/kg)	MW-10 (mg/kg)	MW-10 (mg/kg)	MW-11 (mg/kg)	MW-11 (mg/kg)	MW-12 (mg/kg)	MW-12 (mg/kg)	MW-13 (mg/kg)	MW-14 (mg/kg)	MW-14 (mg/kg)
Depth (feet bgs):		8.5	13	6	11	8.5	6	8.5	3.5	8.5	6	8.5	3.5	3.5	8.5
Within Sludge Footprint:		Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No	No	No
Naphthalene[a]	8310	0.18 U	0.24 U	0.17 U	0.17 U	0.17 U	0.18 U	0.21 U	0.15 U	0.2 U	0.17 U	0.17 U	0.14 U	0.15 U	0.21 U
Acenaphthylene	8310	0.09 U	0.12 U	0.083 U	0.083 U	0.083 U	0.09 U	0.1 U	0.076 U	0.097 U	0.83 U	0.083 U	0.069 U	0.76 U	0.1 U
Acenaphthene	8310	0.026 U	0.064	0.054	0.024 U	0.024 U	0.026 U	0.03 U	0.022 U	0.28 U	0.24 U	0.024 U	0.02 U	0.022 U	0.03 U
Fluorene	8310	0.021	0.039	0.038	0.016 U	0.016 U	0.022	0.02 U	0.014 U	0.08 U	0.016 U	0.013 U	0.013 U	0.014 U	0.02 U
Phenanthrene	8310	0.19	0.15	0.13	0.055	0.023 U	0.025 U	0.028 U	0.021 U	0.027 U	0.026	0.059	0.019 U	0.11	0.028 U
Anthracene	8310	0.045	0.034	0.026	0.017 U	0.017 U	0.018 U	0.021 U	0.015 U	0.02 U	0.017 U	0.029	0.014 U	0.015 U	0.021 U
Fluoranthene	8310	0.17	0.14	0.094	0.03 U	0.03 U	0.032 U	0.038 U	0.028 U	0.035 U	0.03 U	0.051	0.025 U	0.071	0.038 U
Pyrene	8310	0.21	0.11	0.077	0.042	0.018	0.11	0.17	0.015 U	0.02 U	0.049	0.1	0.014 U	0.094	0.021 U
Benzo(a)anthracene	8310	0.095	0.022	0.023	0.015	0.013 U	0.039	0.081	0.012 U	0.015 U	0.026	0.058	0.011 U	0.042	0.016 U
Chrysene	8310	0.01	0.046	0.055	0.081	0.018	0.049	0.11	0.014 U	0.018 U	0.028	0.069	0.013 U	0.067	0.012 U
Benzo(b)fluoranthene	8310	0.087	0.052	0.05	0.026	0.037	0.072	0.17	0.014 U	0.018 U	0.038	0.073	0.013 U	0.064	0.032
Benzo(k)fluoranthene	8310	0.014	0.019 U	0.018	0.013 U	0.013 U	0.022	0.033	0.012 U	0.015 U	0.013 U	0.03	0.011 U	0.018	0.021
Benzo(a)pyrene	8310	0.091	0.024	0.014 U	0.014 U	0.014 U	0.029	0.079	0.013 U	0.017 U	0.022	0.051	0.012 U	0.026	0.018 U
Dibenzo(a,h)anthracene	8310	0.014 U	0.019 U	0.013 U	0.013 U	0.013 U	0.014 U	0.016 U	0.012 U	0.015 U	0.013 U	0.013 U	0.011 U	0.011 U	0.016 U
Benzo(g,h,i)perylene	8310	0.049	0.051 U	0.036 U	0.036 U	0.036 U	0.039 U	0.045 U	0.033 U	0.042 U	0.036 U	0.036 U	0.03 U	0.03 U	0.045 U
Indeno(1,2,3-cd)pyrene	8310	0.029	0.02 U	0.014 U	0.014 U	0.014 U	0.016 U	0.025	0.013 U	0.017 U	0.014 U	0.014 U	0.012 U	0.012 U	0.018 U
Toxicity Equivalent Concentrations	**TEF**														
Benzo(a)anthracene	0.1	0.0095	0.0022	0.0023	0.0015	0.0013	0.0039	0.0081	0.0006	0.00075	0.0026	0.0058	0.00055	0.0042	0.0016
Benzo(a)pyrene	1	0.091	0.024	0.007	0.007	0.007	0.029	0.079	0.0065	0.0085	0.022	0.051	0.006	0.026	0.009
Benzo(b)fluoranthene	0.1	0.0087	0.0052	0.005	0.0026	0.0037	0.0072	0.017	0.0007	0.0009	0.0038	0.0073	0.00065	0.0064	0.0032
Benzo(k)fluoranthene	0.1	0.0014	0.00095	0.0018	0.00065	0.00065	0.0022	0.0033	0.0006	0.00075	0.00065	0.003	0.00055	0.0018	0.00105
Chrysene	0.01	0.0001	0.00046	0.00055	0.00081	0.00018	0.00049	0.0011	0.00007	0.00009	0.00028	0.00069	0.000065	0.00067	0.00006
Dibenzo(a,h)anthracene	0.4	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0024	0.003	0.0028	0.0028	0.0022	0.0028	0.0028
Indeno(1,2,3-cd)pyrene	0.1	0.0029	0.001	0.0007	0.0007	0.0007	0.0008	0.0025	0.00065	0.00085	0.0007	0.0007	0.0006	0.0006	0.0009
Total cPAH Toxicity Equivalent Concentrations		0.116	0.037	0.02	0.016	0.016	0.046	0.114	0.012	0.015	0.033	0.071	0.011	0.042	0.019

Source: (Pacific Groundwater Group 2006)

[a] MTCA Method A - Industrial cleanup level for naphthalene – 5 mg/kg. Individual cleanup levels for remaining PAHs not established under MTCA Method A - Industrial

Green highlight – concentration exceeds MTCA Method A for soil

Yellow highlight – parameter detected

Investigation: AGI (Applied Geotechnology, Inc.)

bgs – below ground surface

cPAH – carcinogenic Polycyclic Aromatic Hydrocarbon

EPA – US Environmental Protection Agency

mg/kg – milligram per kilogram

MTCA – Model Toxics Control Act

MW – Monitoring Well

Non-detect cPAH results considered 50% of the reporting limit in the TEF calculations

TEF – toxic equivalency factor

U – parameter not detected; associated # is laboratory detection limit

Table D-5. Historical soil sample results for metals conducted July 20, 1981 and October 1991

Sample ID	Date	Depth (ft bgs)	Antimony 6010/7000 (mg/kg)	Arsenic 6010/ 7000 (mg/kg)	Beryllium 6010/7000 (mg/kg)	Cadmium 6010/7000 (mg/kg)	Chromium 6010/7000 (mg/kg)	Copper 6010/7000 (mg/kg)	Lead 7240 (mg/kg)	Mercury 6010/ 7000 (mg/kg)	Nickel 6010/ 7000 (mg/kg)	Selenium 6010/ 7000 (mg/kg)	Silver 6010/ 7000 (mg/kg)	Thallium 6010/ 7000 (mg/kg)	Zinc 6010/ 7000 (mg/kg)
B81-1-2	7/20/1981	6	na	8	na	1.4	39	na	41	0.24	na	na	na	na	86
B81-1-4	7/20/1981	11	na	19	na	15	64	na	240	0.17	na	na	na	na	2500
B81-1-8	7/20/1981	21	na	7	na	0.31	10	na	4	0.02 U	na	na	na	na	22
B81-2-1	7/20/1981	2.5	na	6	na	1.4	39	na	72	0.13	na	na	na	na	91
B81-2-6	7/20/1981	16	na	1.5	na	0.22	3.9	na	4	0.06	na	na	na	na	19
B81-3-2	7/20/1981	6	na	5.2	na	1.4	42	na	88	0.15	na	na	na	na	110
B81-3-7	7/20/1981	19	na	4.7	na	0.32	11	na	6	0.15	na	na	na	na	24
B81-4-3	7/20/1981	9	na	9	na	0.85	24	na	39	0.07	na	na	na	na	88
B81-4-8	7/20/1981	21	na	4.1	na	0.37	11	na	4	0.04	na	na	na	na	24
B81-5-2	7/20/1981	6	na	7	na	2	85	na	45	0.23	na	na	na	na	140
B81-5-6	7/20/1981	16	na	10	na	3.1	150	na	130	0.32	na	na	na	na	320
B81-6-7	7/20/1981	19	na	4.9	na	2	62	na	140	0.13	na	na	na	na	140
B81-7-1	7/20/1981	2.5	na	4.8	na	1.4	13	na	14	0.02 U	na	na	na	na	43
B81-7-5	7/20/1981	14	na	9	na	1.7	25	na	350	0.11	na	na	na	na	130
B81-8-5	7/20/1981	14.5	na	5.5	na	0.85	19	na	57	0.1	na	na	na	na	54
B81-8-9	7/20/1981	24	na	6.1	na	0.32	11	na	6	0.02 U	na	na	na	na	25
B81-9-6	7/20/1981	15.5	na	8.2	na	0.47	11	na	6	0.05	na	na	na	na	28
B81-10-3	7/20/1981	9	na	17	na	3.3	380	na	240	0.4	na	na	na	na	280
B81-10-6	7/20/1981	16	na	7.2	na	0.46	11	na	6	0.02 U	na	na	na	na	25
B81-10-9	7/20/1981	24	na	6	na	0.35	10	na	6	0.02 U	na	na	na	na	23
B81-11-7	7/20/1981	19	na	8	na	0.53	12	na	11	0.03	na	na	na	na	35
B81-11-20	7/20/1981	26.5	na	3.4	na	0.27	7.5	na	3	0.05	na	na	na	na	21
B81-12-9	7/20/1981	15.5	na	1.7	na	0.19	5.9	na	2	0.04	na	na	na	na	14

Sample ID	Date	Depth (ft bgs)	Antimony 6010/7000 (mg/kg)	Arsenic 6010/ 7000 (mg/kg)	Beryllium 6010/7000 (mg/kg)	Cadmium 6010/7000 (mg/kg)	Chromium 6010/7000 (mg/kg)	Copper 6010/7000 (mg/kg)	Lead 7240 (mg/kg)	Mercury 6010/ 7000 (mg/kg)	Nickel 6010/ 7000 (mg/kg)	Selenium 6010/ 7000 (mg/kg)	Silver 6010/ 7000 (mg/kg)	Thallium 6010/ 7000 (mg/kg)	Zinc 6010/ 7000 (mg/kg)
B81-13-8	7/20/1981	24	na	7.2	na	0.39	12	na	7	0.05	na	na	na	na	28
MW-7	Oct-91	8.5	6.5 U	6.5 U	1.3 U	1.3 U	56	21	18	0.06 U	70	6.5 U	3.4 U	10	75
MW-7	Oct-91	13	8.5 U	8.5 U	1.7 U	1.7 U	46	48	34	0.24	48	8.5 U	4.2 U	20	88
MW-8	Oct-91	6	6 U	6 U	1.2 U	1.9	65	40	44	0.97	12	6 U	7.1	13	120
MW-8	Oct-91	11	6 U	6 U	1.2 U	1.2 U	17	19	8.5	0.06 U	16	6 U	3 U	18	62
MW-9	Oct-91	8.5	6 U	6 U	1.2 U	1.2 U	13	13	<6	0.06 U	7.1	6 U	3 U	24	25
MW-10	Oct-91	6	6.5 U	6.5 U	1.3 U	1.3 U	23	26	20	0.1	10	6.5 U	4.7	10	51
MW-10	Oct-91	8.5	7.5 U	7.5 U	1.5 U	3	180	100	150	1.1	16	7.5 U	11	22	340
MW-11	Oct-91	3.5	5.5 U	5.5 U	1.1 U	1.1 U	9.2	11	5.5 U	0.06 U	5.5 U	5.5 U	2.8 U	19	20
MW-11	Oct-91	8.5	6 U	6 U	1.2 U	1.2 U	8.3	10	6 U	0.06 U	7.4	6 U	3 U	14	16
MW-12	Oct-91	6	6 U	6 U	1.2 U	1.2 U	14	22	7.6	0.06 U	7.8	6 U	3 U	11	31
MW-12	Oct-91	8.5	6.5 U	6.5 U	1.3 U	1.3 U	34	22	21	0.13	9.8	6.5 U	3.4 U	18	66
MW-13	Oct-91	3.5	5 U	5 U	1 U	1 U	5.8	3.3	5 U	0.05 U	5 U	5 U	2.5 U	10	21
MW-14	Oct-91	3.5	5.5 U	5.5 U	1.1 U	1.1 U	32	20	31	0.37	8.2	5.5 U	2.8 U	15	42
MW-14	Oct-91	8.5	7.5 U	7.5 U	1.5 U	1.5 U	12	22	10	0.08 U	9.4	7.5 U	3.8 U	26	54
MTCA Method A - Industrial				20		2	2000		1000	2					

Source: (Pacific Groundwater Group 2006)

Green highlight – concentration exceeds MTCA Method A for soil

Yellow highlight – parameter detected

Investigation – D&M

bgs – below ground surface

D&M – Dames and Moore

mg/kg – milligram per kilogram

MTCA – Model Toxics Control Act

na – not applicable

U – parameter not detected; associated # is laboratory detection limit

Table D-6. Historical soil sample results for PCBs and metals conducted June 12, 1984

Sample ID	Depth (ft bgs)	Aroclor (1242 & 1254) (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Zinc (mg/kg)	Total Solids (mg/kg)
B1-2	6	2.06	8	1.4	39	41	0.24	86	71.4
B1-4	11	4.89	19	15	64	240	0.17	2500	59.1
B1-8	21	0.013	7	0.31	10	4	< 0.02	22	72.6
B2-1	2.5	2.73	6	1.4	39	72	0.13	91	80.1
B2-6	16	0.169	1.5	0.22	3.9	4	0.06	19	7
B3-2	6	2.29	5.2	1.4	42	88	0.15	110	73.9
B3-7	19	0.171	4.7	0.32	11	6	0.15	24	58.9
B4-3	9	0.512	9	0.85	24	0.9	0.07	88	73.7
B4-8	21	< 0.01	4.1	0.37	11	4	0.04	24	73.4
B5-2	6	2.6	7	2	85	45	0.23	140	69.7
B5-6	16	4.27	10	3.1	150	130	0.32	320	50.5
B6-7	19	1.71	4.9	2	62	140	0.13	140	55.3
B7-1	2.5	0.709	4.8	1.4	13	14	< 0.02	43	88.8
B7-5	14	1.21	9	1.7	25	350	0.11	130	79.3
B8-5	14.5	1.13	5.5	0.85	19	57	0.1	54	77.9
B8-9	24	< 0.01	6.1	0.32	11	6	< 0.02	25	73.5
B9-6	15.5	0.102	8.2	0.47	11	6	0.05	28	69.5
B10-3	9	5.91	17	3.3	360	240	0.4	280	69.7
B10-6	16	0.443	7.2	0.46	11	6	< 0.02	25	67.4
B10-9	24	< 0.01	6	0.35	10	6	< 0.02	23	73.6
B11-7	19	0.661	8	0.53	12	11	0.03	35	73.5
B11-10	26.5	< 0.01	3.4	0.27	7.5	3	0.05	21	81.9
B12-9	15.5	< 0.01	1.7	0.19	5.9	2	0.04	14	81.7
B13-8	24	< 0.01	7.2	0.39	12	7	0.05	28	71.9

Source: (Dames & Moore 1984)
bgs – below ground surface
mg/kg – milligram per kilogram
PCB – polychlorinated biphenyl

Table D-7. Historical soil sample results for metals conducted June 12, 1984

Sample ID	Depth (ft bgs)	Aroclor 1242 (µg/g)	Aroclor 1254 (µg/g)	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Zinc (mg/kg)	% Solids
84-1	1.5-3	--	--	8.5	0.25	19	7.8	0.12	53	86
84-1	4-6	--	--	15	4.6	50	170	0.25	280	76
84-2	1.5-3	7.2	--	7.5	0.6	100	11	0.55	83	73
84-2	1.5-3	9.9	4.1 [a]	7.8	0.55	120	140	0.81	58	72
84-3	4.5-7	--	--	6	0.55	43	29	0.2	75	85
84-3	9-10.5	--	--	6.8	0.32	19	17	0.2	71	83
84-3	12-14	6.7	--	8.4	0.52	34	22	0.14	100	69
84-4	1-3		3.2	6	0.081	21	18	0.14	27	80
84-5	1-2.5	--	--	5.2	0.35	17	9.3	<0.1	52	86
84-6	4-5.5	--	--	6.5	0.38	9.8	2.9	<0.1	25	78
84-7	1.5-3	--	--	4.1	0.1	11	9.7	<0.1	19	91
84-8	1-2.5	--	--	4.8	0.31	13	5.5	<0.1	31	85
84-9	1.5-3	--	--	5	0.4	17	5	0.12	39	88
84-10	1.5-3	--	--	4.5	0.074	6.1	1.3	<0.1	17	7
84-10	4-6	--	--	4.2	3.1	28	41	0.28	110	87
84-11	1-2	--	--	3.8	0.11	6.2	3.8	<0.1	16	82
84-11	3.5-5	--	--	3.9	0.07	7.3	1.9	<0.1	24	78

Source: (Dames & Moore 1984)

[a] Duplicate samples were tested for quality control check.

-- PCB concentration is less than the detection limit of 1 ppm (mg/kg)

bgs – below ground surface

Dupl. – Duplicate

µg/g – micrograms per gram

mg/kg – milligram per kilogram

PCB – polychlorinated biphenyl

Table D-8. Summary of bank soil analytical chemistry (dry weight)—AET screening[a] conducted on August 17, 2005

CHEMICAL / SAMPLE INFORMATION	SQS-AET	CSL-AET	DUD_30C	DUD_31C
Sample ID			L36565-1	L36565-2
Depth Interval			0-3 cm	0-3 cm
Conventionals (%)				
Total solids	--	--	83.2	*95.3*
Total Organic Carbon	--	--	1.05	*0.377*
Metals (mg/kg)				
Arsenic	57	93	6 JL	*2.6 U*
Cadmium	5.1	6.7	0.18 U	*0.28*
Chromium	260	270	55.9	*31*
Copper	390	530	61.8	*158*
Lead	450	530	94.4	*7.8*
Mercury	0.41	0.59	0.468*	*0.031*
Zinc	410	960	61.9 J	*85.8*
PCBs (µg/kg)				
Aroclor 1016	--	--	170U	*1.4U*
Aroclor 1221	--	--	30U	*2.6U*
Aroclor 1232	--	--	470U	*2.6U*
Aroclor 1242	--	--	400U	*1.4U*
Aroclor 1248	--	--	315	*2*
Aroclor 1254	--	--	303	*5.22*
Aroclor 1260	--	--	197	*9.32*
Total PCBs (SMS)	130	1000	815*	*16.5*
LPAH (µg/kg)				
Naphthalene	2100	2400	16U	*2.8U*
Acenaphthylene	1300	1300	16U	*2.8U*
Acenaphthene	500	730	16U	*2.8U*
Fluorene	540	1000	16U	*2.8U*
Phenanthrene	1500	5400	43.8	*8.84*
Anthracene	960	4400	16U	*2.8U*
2-Methylnaphthalene	670	1400	16U	*2.8U*
Total LPAH (SMS)	5200	13000	43.8	*8.84*
HPAH (µg/kg)				
Fluoranthene	1700	2500	112	*22.6*
Pyrene	2600	3300	98.8	*19.5*

Chemical / Sample Information	SQS-AET	CSL-AET	DUD_30C	DUD_31C
Benzo(a)anthracene	1300	1600	41	*8.36*
Chrysene	1400	2800	55	*14.8*
Benzo(b)fluoranthene	--	--	53	*13.6*
Benzo(k)fluoranthene	--	--	54.9	*15.5*
Benzo(a)pyrene	1600	3000	47.4	*13.7*
Indeno(1,2,3-cd)pyrene	600	690	38.9	*10.9*
Dibenzo(a,h)anthracene	230	540	16U	*3.3*
Benzo(g,h,i)perylene	670	720	45.8	*13.2*
Total benzofluoranthenes (SMS)	3200	3600	107.9	*29.1*
Total HPAH (SMS)	12000	17000	546.8	*135.46*
Chlorinated Hydrocarbons (µg/kg)				
1,3-Dichlorobenzene	--	--	1.6U	*0.28U*
1,4-Dichlorobenzene	110	120	1.6U	*0.28U*
1,2-Dichlorobenzene	35	50	7.21	*0.28U*
1,2,4-Trichlorobenzene	31	51	1.6U	*0.28U*
Hexachlorobenzene	22	70	3.2U	*0.56U*
Phthalates (µg/kg)				
Dimethylphthalate	71	160	32U	*5.6U*
Diethylphthalate	200	1200	32U	*5.6U*
Di-n-butylphthalate	1400	5100	38J	*9.1*
Butylbenzylphthalate	63	900	32U	*61.1*
bis(2-Ethylhexyl)phthalate	1300	1900	138	*39.3*
Di-n-octylphthalate	6200	--	32U	*5.6U*
Phenols (µg/kg)				
Phenol	420	1200	1300J*#	*14.7*
2-Methylphenol	63	72	32U	*5.6U*
4-Methylphenol	670	1800	32U	*5.6U*
2,4-Dimethylphenol	29	72	16U	*2.8U*
Pentachlorophenol	360	690	81U	*14U*
Misc Extractables (µg/kg)				
Benzyl alcohol	57	73	32U	*5.6U*
Benzoic acid	650	650	846J*	*116*
Dibenzofuran	540	700	16U	*2.8U*
Hexachlorobutadiene	11	120	8.1U	*1.4U*
n-Nitrosodiphenylamine	28	40	32U	*5.6U*

Source: (Anchor 2007)

a. Note chemicals are compared to dry weight AETs when TOC is <0.5% or >3% (except for metals, phenols and some miscellaneous extractable organics which are always compared to dry weight AETs).

Yellow Highlight – parameter detected

Italics – TOC <0.5% or >3%.

* – Exceeds SQS-AET dry weight criteria.

– Exceeds CSL-AET dry weigh criteria

AET – apparent effects threshold

CSL – cleanup screening level

HPAH – high-molecular-weight Polycyclic Aromatic Hydrocarbon

µg/kg – micrograms per kilogram

mg/kg – milligram per kilogram

PAH – Polycyclic Aromatic Hydrocarbon

PCB – Polychlorinated Biphenyls

SQS – sediment quality standard

SMS – Washington State Sediment Management Standards

Table D-9. Summary of bank soil analytical chemistry (organic carbon normalized) – SMS screening conducted on August 17, 2005

CHEMICAL / SAMPLE INFORMATION			DUD_30C	DUD_31C
Sample ID			L36565-1	L36565-2
Depth Interval			0-3 cm	0-3 cm
	SMS SQS	**SMS CSL**		
Conventionals (%)				
Total solids	--	--	83.2	95.3
Total Organic Carbon	--	--	1.05	0.377
Metals (mg/kg)				
Arsenic	57	93	6 JL	*2.6 U*
Cadmium	5.1	6.7	0.18 U	0.28
Chromium	260	270	55.9	31
Copper	390	390	61.8	158
Lead	450	530	94.4	7.8
Mercury	0.41	0.59	0.468*	0.031
Silver	6.1	6.1	2.62JG	0.79
Zinc	410	960	61.9J	85.8
PCBs (mg/kg-OC)				
Total PCBs (SMS)	12	65	77.6*#	4.39
LPAH (mg/kg-OC)				
Naphthalene	99	170	1.52U	*0.743U*
Acenaphthylene	66	66	1.52U	*0.743U*
Acenaphthene	16	57	1.52U	*0.743U*
Fluorene	23	79	1.52U	*0.743U*
Phenanthrene	100	480	4.17	*2.34*
Anthracene	220	1200	1.52U	*0.743U*
2-Methylnaphthalene	38	64	1.52U	*0.743U*
Total LPAH (SMS)	370	780	4.17	*2.34*
HPAH (mg/kg-OC)				
Fluoranthene	160	1200	10.7	*5.99*
Pyrene	1000	1400	9.41	*5.17*
Benzo(a)anthracene	110	270	3.9	*2.22*
Chrysene	110	460	5.24	*3.93*
Benzo(a)pyrene	99	210	4.51	*3.63*
Indeno(1,2,3-cd)pyrene	34	88	3.7	*2.89*
Dibenzo(a,h)anthracene	12	33	1.52U	*0.875*
Benzo(g,h,i)perylene	31	78	4.36	*3.5*

CHEMICAL / SAMPLE INFORMATION			DUD_30C	DUD_31C
Total benzofluoranthenes (SMS)	230	450	10.3	*7.72*
Total HPAH (SMS)	960	5300	52.1	*35.9*
Chlorinated Hydrocarbons (mg/kg-OC)				
1,4-Dichlorobenzene	3.1	9	0.152U	*0.0743U*
1,2-Dichlorobenzene	2.3	2.3	0.687	*0.0743U*
1,2,4-Trichlorobenzene	0.81	1.8	0.152U	*0.0743U*
Hexachlorobenzene	0.38	2.3	0.305U	*0.149U*
Phthalates (mg/kg-OC)				
Dimethylphthalate	53	53	3.05U	*1.49U*
Diethylphthalate	61	110	3.05U	*1.49U*
Di-n-butylphthalate	220	1700	3.62J	*2.41*
Butylbenzylphthalate	4.9	64	3.05U	*16.2**
bis(2-Ethylhexyl)phthalate	47	78	13.1	*10.4*
Di-n-octylphthalate	58	4500	3.05U	*1.49U*
Phenols (µg/kg)				
Phenol	420	1200	1300J*#	*14.7*
2-Methylphenol	63	63	32U	*5.6U*
4-Methylphenol	670	670	32U	*5.6U*
2,4-Dimethylphenol	29	29	16U	*2.8U*
Pentachlorophenol	360	690	81U	*14U*
Misc Extractables (mg/kg-OC)				
Dibenzofuran	15	58	1.52U	*0.743U*
Hexachloroethane	3.9	6.2	0.771U	*0.371U*
n-Nitrosodiphenylamine	11	11	3.05U	*1.49U*
Misc Extractables (µg/kg)				
Benzyl alcohol	57	73	32U	*5.6U*
Benzoic acid	650	650	846J*#	*116*

Source: (Anchor 2007)
Note: metals, phenols and some miscellaneous extractable organics are not compared to organic carbon normalized values but only to dry weight AETs regardless of the organic carbon value.
Green Highlight – Exceeds TOC applicable criteria.
Yellow Highlight – parameter detected

* – Exceeds SQS-AET dry weight criteria.
\# – Exceeds CSL-AET dry weigh criteria.
Italics – TOC <0.5% or >3%.
-- TOC undetected; not normalized
AET – apparent effects threshold
cm – centimeters
CSL – cleanup screening level
µg/kg – micrograms per kilogram
mg/kg – milligrams per kilogram OC – organic carbon
PCB – Polychlorinated Biphenyls
PAH – Polycyclic Aromatic Hydrocarbon
SQS – sediment quality standard
SMS – Washington State Sediment Management Standards

Table D-10. Historical test pit soil sample results conducted on July 20, 1981

Chemical	Analytical Method	TP81-1 (mg/kg)	TP81-2 (mg/kg)	TP81-3 (mg/kg)	TP81-4 (mg/kg)	TP81-5 (mg/kg)	TP81-6 (mg/kg)
Depth (feet bgs)		9.5	10	10	9	8	5.5
Aroclors (1242 & 1254)		0.432	1.19	0.803	1.72	0.225	2.11
Arsenic	6010/7000	6.3	12	9	5.2	4.4	4.2
Cadmium	6010/7000	0.63	0.54	0.54	0.64	0.58	0.69
Chromium	6010/7000	17	13	16	27	14	16
Lead	7240	16	14	17	33	16	18
Mercury	6010/7000	0.02 U	0.02 U	0.04	0.19	0.02 U	0.02 U
Zinc	6010/7000	49	50	46	63	34	36
Total Solids		82.6	86.5	84.1	81.2	83	83.9

Source: (Pacific Groundwater Group 2006)

Green Highlight – Exceeds TOC applicable criteria.

Yellow Highlight – parameter detected

Investigation – Dames and Moore

bgs – below ground surface

mg/kg – milligram per kilogram

PCB – Polychlorinated Biphenyls

TP – test pit

Table D-11. Historical soil sample results prior to land-farming, conducted July 19, 1990

Chemical	Analytical Method	A (mg/kg)	B (mg/kg)	C (mg/kg)	D (mg/kg)	E (mg/kg)	F (mg/kg)	Detection Limit
TPH-Gasoline	EPA 8015	nd	nd	nd	nd	nd	nd	25
Benzene	EPA 8020	nd	nd	nd	nd	nd	nd	0.05 – 0.062
Toluene	EPA 8020	nd	nd	nd	nd	nd	nd	0.05 – 0.062
Ethyl-Benzene	EPA 8020	nd	nd	nd	nd	nd	nd	0.05 – 0.062
Total Xylenes	EPA 8020	nd	nd	nd	nd	nd	nd	0.05 – 0.062

Source: (Pacific Environmental Group 1991)

Yellow Highlight – parameter detected

EPA – US Environmental Protection Agency

mg/kg – milligram per kilogram

nd – not detected

TPH – total petroleum hydrocarbons

Table D-12. Historical stockpile soil sample results after land-farming, conducted September 28, 1990

Chemical	Analytical Method	SP-1 (composite) (mg/kg)	SP-2 (composite) (mg/kg)	SP-3 (composite) (mg/kg)	Detection Limit
TPH-EPA 418.1	EPA 418.1	110	110	130	5
TPH-Gasoline	EPA 8015	28	nd	10	1
Benzene	EPA 8020	nd	nd	nd	0.05
Toluene	EPA 8020	nd	nd	nd	0.1
Ethyl-Benzene	EPA 8020	nd	nd	nd	0.1
Total Xylenes	EPA 8020	nd	nd	nd	0.1

Source: (Pacific Environmental Group 1991)

Note: This soil has reportedly been removed

Yellow Highlight – parameter detected

EPA – US Environmental Protection Agency

mg/kg – milligram per kilogram

nd – not detected

TPH – Total Petroleum Hydrocarbons

Table D-13. Historical stockpile soil sample results after land-farming, conducted November 6, 1990

Sample ID	TPH-EPA 418.1 (mg/kg)	TPH-Gasoline (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)
Analytical Method	EPA 418.1	EPA 8015	EPA 8020	EPA 8020	EPA 8020	EPA 8020
SP-1	110	nd	nd	nd	nd	nd
SP-2	130	nd	nd	nd	nd	nd
SP-3	150	nd	nd	nd	nd	nd
SP-3A	150	nd	nd	nd	nd	nd
SP-4	96	nd	nd	nd	nd	nd
SP-5	73	nd	nd	nd	nd	nd
SP-6	160	nd	nd	nd	nd	nd
SP-7	120	nd	nd	nd	nd	nd
SP-8	170	nd	nd	nd	nd	nd
SP-9	79	nd	nd	nd	nd	nd
SP-10	83	nd	nd	nd	nd	nd
SP-11	42	nd	nd	nd	nd	nd
SP-12	190	nd	nd	nd	nd	nd
Detection Limit	5	1	0.05	0.1	0.1	0.1

Source: (Pacific Environmental Group 1991)

Note: This soil has reportedly been removed

Yellow Highlight – parameter detected

EPA – US Environmental Protection Agency

mg/kg – milligram per kilogram

nd – not detected

TPH – Total Petroleum Hydrocarbons

Table D-14. Historical stockpile soil sample results at the former Chiyoda site conducted June 21, 1989 and March 19, 1990

Sample ID	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	TPH (mg/kg)	Barium (mg/L)	Cadmium (mg/L)	Fuel Hydrocarbons (mg/kg)	Fuel Type[a]
WS-1[b]	6/21/1989	nd	nd	nd	0.011[c]	212	nd	nd	63 / 110	Diesel #2/turpentine
ES-1[b]	6/21/1989	nd	nd	0.017	0.107[c]	344	nd	nd	53 / 670	Diesel #2/turpentine
SP-N1	3/19/1990	nd	nd	nd	0.27	200	0.032	0.002	60	Gasoline
SP-N2	3/19/1990	nd	nd	nd	0.14	180	0.077	0.003	nd	
SP-N3	3/19/1990	nd	nd	nd	1.2	230	0.046	nd	48	Gasoline
SP-N4	3/19/1990	nd	nd	nd	nd	260	0.061	nd	nd	
SP-S1	3/19/1990	nd	nd	nd	0.056	410	0.061	nd	200	Gasoline
SP-S1[d]	3/19/1990	nd	nd	nd	0.57	na	na	na	na	
SP-S2	3/19/1990	nd	nd	nd	0.49	360	0.071	nd	150	Gasoline
SP-S2[d]	3/19/1990	nd	nd	nd	0.51	na	na	na	na	
SP-S3	3/19/1990	nd	nd	nd	0.18	810	0.044	nd	84	Gasoline
SP-S4	3/19/1990	nd	nd	nd	0.14	200	0.049	nd	nd	
SP-4A[e]	3/19/1990	nd	nd	nd	0.15	230	0.062	nd	nd	

Source: (Thorne Environmental 1990)

[a] Identified only if analyte detected

[b] Samples taken from stockpile at service station site prior to being exported to the Chiyoda site

[c] Individual isomers have been combined into a total xylene result

[d] Sample analyzed twice by laboratory

[e] Duplicate of sample S4

Yellow Highlight – parameter detected

Analytical Method – EPA 8015

EPA – US Environmental Protection Agency

mg/kg – milligram per kilogram

na – not analyzed

nd – not detected at the analytical detection limit of 25 mg/kg

Table D-15a. Analytical summary of groundwater sampling, round 1, conducted June 13 and 14, 2006, PGG-1 through PGG-5

Chemical/Sample Information	Analytical Method	Unit	PGG-1[a] (6/13/06)	PGG-1[a] (6/14/06)	PGG-2	PGG-3	PGG-4	PGG-5	MTCA Method A
Coordinates			N: 209009.53 E: 1267978.45	N: 209009.53 E: 1267978.45	N: 208857.20 E: 1267450.88	N: 208484.34 E: 1267594.69	N: 208550.85 E: 1268179.67	N: 208967.95 E: 1267349.68	
pH				6.88	5.92	6.03	6.36	7.10	
Temp		°C		16.83	15.2	13.44	15.36	13.48	
Dissolved Oxygen		mg/L		0.5	1.74	1.36	2.32	0.47	
Electrical Conductivity		mS/cm		4.96	1.357	0.591	1.172	1.868	
Oxidation Reduction Potential		mV		-290.2	84.5	-338.3	-210.4	-295.2	
Petroleum Hydrocarbons									
Gasoline Range HC	NWTPH-Gx/8021B	µg/L	50.0 U		50.0 U	50.0 U	50.0 U	50.0 U	1000
Benzene	NWTPH-Gx/8021B	µg/L	0.500 U		0.500 U	0.500 U	0.500 U	0.500 U	5
Toluene	NWTPH-Gx/8021B	µg/L	0.500 U		0.500 U	0.500 U	0.500 U	0.500 U	1000
Ethylbenzene	NWTPH-Gx/8021B	µg/L	0.500 U		0.500 U	0.500 U	0.500 U	0.500 U	700
Xylenes (total)	NWTPH-Gx/8021B	µg/L	1.000 U		1.000 U	1.000 U	1.000 U	1.000 U	1000
Diesel Range HC	NWTPH-Dx	mg/L	0.255 U	0.272 U	0.250 U	0.250 U	0.253 U	0.250 U	500
Lube Oil Range HC	NWTPH-Dx	mg/L	0.51 U	0.543 U	0.500 U	0.500 U	0.505 U	0.500 U	500
Total Metals									
Arsenic	EPA 6020	mg/L	na	0.00628	0.00381	0.001 U	0.005	0.0107	0.005
Cadmium	EPA 6020	mg/L	na	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005
Chromium	EPA 6020	mg/L	na	0.0078	0.00622	0.001 U	0.00538	0.00985	0.05
Copper	EPA 6020	mg/L	na	0.011	0.00316	0.00198	0.00791	0.00205	na

Chemical/Sample Information	Analytical Method	Unit	PGG-1[a] (6/13/06)	PGG-1[a] (6/14/06)	PGG-2	PGG-3	PGG-4	PGG-5	MTCA Method A
Lead	EPA 6020	mg/L	na	0.0168	0.00249	0.001 U	0.00324	0.001 U	0.015
Nickel	EPA 6020	mg/L	na	0.00598	0.0381	0.0134	0.00816	0.00247	na
Zinc	EPA 6020	mg/L	na	0.0747	0.36	0.0446	0.049	0.001 U	na
Dissolved Metals									
Arsenic	EPA 6020-Diss	mg/L	na	0.00577	0.00378	0.00103	0.0104	0.0104	0.005
Cadmium	EPA 6020-Diss	mg/L	na	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005
Chromium	EPA 6020-Diss	mg/L	na	0.00246	0.00455	0.00108	0.00892	0.00892	0.05
Copper	EPA 6020-Diss	mg/L	na	0.001 U	0.00173	0.00155	0.00138	0.00138	
Lead	EPA 6020-Diss	mg/L	na	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.015
Nickel	EPA 6020-Diss	mg/L	na	0.0031	0.0347	0.0111	0.0029	0.0029	na
Zinc	EPA 6020-Diss	mg/L	na	0.0249	0.435	0.0436	0.069	0.001 U	na
Polychlorinated Biphenyls									
Aroclor 1016	EPA 8082 Mod	µg/L	na	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	na
Aroclor 1221	EPA 8082 Mod	µg/L	na	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	na
Aroclor 1232	EPA 8082 Mod	µg/L	na	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	na
Aroclor 1242	EPA 8082 Mod	µg/L	na	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	na
Aroclor 1248	EPA 8082 Mod	µg/L	na	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	na
Aroclor 1254	EPA 8082 Mod	µg/L	na	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	na
Aroclor 1260	EPA 8082 Mod	µg/L	na	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	na
Aroclor 1262	EPA 8082 Mod	µg/L	na	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	na
Aroclor 1268	EPA 8082 Mod	µg/L	na	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	na
Polycyclic Aromatic Hydrocarbons									
1-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.286	0.0943 U	0.0952 U	0.0943 U	na
2-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.0943 U	0.0943 U	0.0952 U	0.0943 U	na
Acenaphthene	EPA 8270C-HVI	µg/L	0.115	0.138	0.0943 U	0.0943 U	0.0952 U	0.0943 U	na

Chemical/Sample Information	Analytical Method	Unit	PGG-1[a] (6/13/06)	PGG-1[a] (6/14/06)	PGG-2	PGG-3	PGG-4	PGG-5	MTCA Method A
Acenaphthylene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.0943 U	0.0943 U	0.0952 U	0.0943 U	na
Anthracene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.0943 U	0.0943 U	0.0952 U	0.0943 U	na
Benzo(ghi)perylene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.0943 U	0.0943 U	0.0952 U	0.0943 U	na
Fluoranthene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.0943 U	0.0943 U	0.0952 U	0.0943 U	na
Fluorene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.111	0.0943 U	0.0952 U	0.0943 U	na
Naphthalene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.136	0.0943 U	0.0952 U	0.0943 U	na
Phenanthrene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.0943 U	0.0943 U	0.0952 U	0.0943 U	na
Pyrene	EPA 8270C-HVI	µg/L	0.105 U	0.0952 U	0.0943 U	0.0943 U	0.0952 U	0.0943 U	na
Benzo(a)anthracene	EPA 8270C-HVI	µg/L	0.0105 U	0.00952 U	0.00943 U	0.00943 U	0.00952 U	0.00943 U	na
Benzo(a)pyrene	EPA 8270C-HVI	µg/L	0.0105 U	0.00952 U	0.00943 U	0.00943 U	0.00952 U	0.00943 U	na
Benzo(b)fluoranthene	EPA 8270C-HVI	µg/L	0.0105 U	0.00952 U	0.00943 U	0.00943 U	0.00952 U	0.00943 U	na
Benzo(k)fluoranthene	EPA 8270C-HVI	µg/L	0.0105 U	0.00952 U	0.00943 U	0.00943 U	0.00952 U	0.00943 U	na
Chrysene	EPA 8270C-HVI	µg/L	0.0105 U	0.00952 U	0.00943 U	0.00943 U	0.00952 U	0.00943 U	na
Dibenz(a,h)anthracene	EPA 8270C-HVI	µg/L	0.0105 U	0.00952 U	0.00943 U	0.00943 U	0.00952 U	0.00943 U	na
Indeno(1,2,3-cd)pyrene	EPA 8270C-HVI	µg/L	0.0105 U	0.00952 U	0.00943 U	0.00943 U	0.00952 U	0.00943 U	na

Source: (Pacific Groundwater Group 2007)

[a] PGG-1 sampled on 6/13 and 6/14 to collect volume requested by laboratory.

Green highlight – concentration exceeds MTCA Method A for groundwater

Yellow highlight – parameter detected

CSL – cleanup screening level

EPA – US Environmental Protection Agency

HC – hydrocarbons

HVI – high volume injection

J – parameter detected at the reported concentration; result qualifies as "estimated" due to unacceptable QA results

µg/L – micrograms per liter

mg/L – milligram per liter

na – not applicable

NWTPH-Dx – Northwest total petroleum hydrocarbons - diesel extractable

NWTPH-Gx – Northwest total petroleum hydrocarbons - gasoline extractable

SQS – sediment quality standard

SAIC – Science Applications International Corporation

U – parameter not detected, associated number is the lab reporting limit

Table D-15b. Analytical summary of groundwater sampling, round 1, conducted June 13 and 14, 2006, PGG-6 through PGG-7

Chemical/Sample Information	Analytical Method	Unit	PGG-6	PGG-7	SAIC Ground-water Based on CSL	Screening Levels Based on SQS	MTCA Method A
Coordinates			N: 208572.89 E: 1267423.01	N: 208171.87 E: 1267534.03			
pH			6.87	6.44			
Temp		°C	13.21	14.34			
Dissolved Oxygen		mg/L	0.36	1.56			
Electrical Conductivity		mS/cm	0.496	0.457			
Oxidation Reduction Potential		mV	-117.6	-432.1			
Petroleum Hydrocarbons							
Gasoline Range HC	NWTPH-Gx/8021B	µg/L	50.0 U	50.0 U	na	na	1000
Benzene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	na	na	5
Toluene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	na	na	1000
Ethylbenzene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	na	na	700
Xylenes (total)	NWTPH-Gx/8021B	µg/L	1.000 U	1.000 U	na	na	1000
Diesel Range HC	NWTPH-Dx	mg/L	0.253 U	0.250 U	na	na	500
Lube Oil Range HC	NWTPH-Dx	mg/L	0.505 U	0.500 U	na	na	500
Total Metals							
Arsenic	EPA 6020	mg/L	0.00166	0.00206	0.37	0.227	0.005
Cadmium	EPA 6020	mg/L	0.001 U	0.001 U	0.0034	0.0026	0.005
Chromium	EPA 6020	mg/L	0.001 U	0.00127	0.318	0.306	0.05

Chemical/Sample Information	Analytical Method	Unit	PGG-6	PGG-7	SAIC Ground-water Based on CSL	Screening Levels Based on SQS	MTCA Method A
Copper	EPA 6020	mg/L	0.00112	0.00104	0.123	0.123	
Lead	EPA 6020	mg/L	0.001 U	0.001 U	0.013	0.011	0.015
Nickel	EPA 6020	mg/L	0.00255	0.00242	na	na	na
Zinc	EPA 6020	mg/L	0.001 U	0.001 U	0.076	0.033	na
Dissolved Metals							
Arsenic	EPA 6020-Diss	mg/L	0.00207	0.00234	0.37	0.227	0.005
Cadmium	EPA 6020-Diss	mg/L	0.001 U	0.001 U	0.0034	0.0026	0.005
Chromium	EPA 6020-Diss	mg/L	0.00149	0.00156	0.318	0.306	0.05
Copper	EPA 6020-Diss	mg/L	0.001	0.001 U	0.123	0.123	na
Lead	EPA 6020-Diss	mg/L	0.001 U	0.001 U	0.013	0.011	0.015
Nickel	EPA 6020-Diss	mg/L	0.00268	0.00213	na	na	na
Zinc	EPA 6020-Diss	mg/L	0.001 U	0.001 U	0.076	0.033	na
Polychlorinated Biphenyls							
Aroclor 1016	EPA 8082 Mod	µg/L	0.100 U	0.100 U	2.4	0.44	na
Aroclor 1221	EPA 8082 Mod	µg/L	0.100 U	0.100 U	na	na	na
Aroclor 1232	EPA 8082 Mod	µg/L	0.100 U	0.100 U	na	na	na
Aroclor 1242	EPA 8082 Mod	µg/L	0.100 U	0.100 U	na	na	na
Aroclor 1248	EPA 8082 Mod	µg/L	0.100 U	0.100 U	1.5	0.27	na
Aroclor 1254	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.86	0.16	na
Aroclor 1260	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.31	0.058	na
Aroclor 1262	EPA 8082 Mod	µg/L	0.100 U	0.100 U	na	na	na

Chemical/Sample Information	Analytical Method	Unit	PGG-6	PGG-7	SAIC Ground-water Based on CSL	Screening Levels Based on SQS	MTCA Method A
Aroclor 1268	EPA 8082 Mod	µg/L	0.100 U	0.100 U	na	na	na
PAHs							
1-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	na	na	na
2-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	7.1	7.1	na
Acenaphthene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	9.3	2.6	na
Acenaphthylene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	11	11	na
Anthracene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	59	11	na
Benzo(ghi)perylene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	0.029	0.012	na
Fluoranthene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	17	2.3	na
Fluorene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	7	2	na
Naphthalene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	92	54	na
Phenanthrene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	23	4.8	na
Pyrene	EPA 8270C-HVI	µg/L	0.0943 U	0.0943 U	20	14	na
Benzo(a)anthracene	EPA 8270C-HVI	µg/L	0.00943 U	0.00943 U	0.63	0.26	na
Benzo(a)pyrene	EPA 8270C-HVI	µg/L	0.00943 U	0.00943 U	0.27	0.13	na
Benzo(b)fluoranthene	EPA 8270C-HVI	µg/L	0.00943 U	0.00943 U	0.56	0.29	na
Benzo(k)fluoranthene	EPA 8270C-HVI	µg/L	0.00943 U	0.00943 U	0.57	0.29	na
Chrysene	EPA 8270C-HVI	µg/L	0.00943 U	0.00943 U	1.9	0.47	na
Dibenz(a,h)anthracene	EPA 8270C-HVI	µg/L	0.00943 U	0.00943 U	0.013	0.0046	na
Indeno(1,2,3-cd)pyrene	EPA 8270C-HVI	µg/L	0.00943 U	0.00943 U	0.033	0.013	na

Source: (Pacific Groundwater Group 2007)

Green highlight – concentration exceeds MTCA Method A for groundwater

Yellow highlight – parameter detected

CSL – cleanup screening level
EPA – US Environmental Protection Agency
HC – hydrocarbons
HVI – high volume injection
J – parameter detected at the reported concentration; result qualifies as "estimated" due to unacceptable QA results
µg/L – micrograms per liter
mg/L – milligram per liter
MTCA – Model Toxics Control Act
na – not applicable
NWTPH-Dx – Northwest total petroleum hydrocarbons - diesel extractable
NWTPH-Gx – Northwest total petroleum hydrocarbons - gasoline extractable
PAH – Polycyclic Aromatic Hydrocarbon
SQS – sediment quality standard
SAIC – Science Applications International Corporation
U – parameter not detected, associated number is the lab reporting limit

Table D-16. Analytical summary of groundwater sampling, round 2, conducted September 19 and 20, 2006

Chemical/Sample Information	Analytical Method	Unit	PGG-2	PGG-3	PGG-5	PGG-6	PGG-7	SAIC Ground-water Based on CSL	Screening Levels Based on SQS	MTCA Method A
Coordinates			N: 208857.20 E: 1267450.88	N: 208484.34 E: 1267594.69	N: 208967.95 E: 1267349.68	N: 208572.89 E: 1267423.01	N: 08171.87 E:1267534.03			
pH			6.33	6.34	6.70	6.48	6.56			
Temp		°C	16.63	16.57	12.83	15.79	16.17			
Dissolved Oxygen		mg/L	0.9	0.53	0.56	0.92	0.47			
Electrical Conductivity		mS/cm	1.682	1.697	1.841	1.714	1.717			
Oxidation Reduction Potential		mV	-72.8	47.2	-154.5	19.3	-47.9			
Petroleum Hydrocarbons										
Gasoline Range HC	NWTPH-Gx/8021B	µg/L	80.0 U	80.0 U	80.0 U	80.0 U	80.0 U	na	na	1000
Benzene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	na	na	5
Toluene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	na	na	1000
Ethylbenzene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	na	na	700
Xylenes (total)	NWTPH-Gx/8021B	µg/L	1.000 U	1.000 U	1.000 U	1.000 U	1.000 U	na	na	1000
Diesel Range HC	NWTPH-Dx	mg/L	0.284 U	0.269 U	0.240 U	0.243 U	0.269 U	na	na	500
Lube Oil Range HC	NWTPH-Dx	mg/L	0.568 U	0.472 U	0.481 U	0.485 U	0.472 U	na	na	500
Total Metals										
Arsenic	EPA 6020	mg/L	0.00538	0.00156	0.00205	0.00228	0.00168	0.37	0.227	0.005
Cadmium	EPA 6020	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0034	0.0026	0.005

Chemical/Sample Information	Analytical Method	Unit	PGG-2	PGG-3	PGG-5	PGG-6	PGG-7	SAIC Ground-water Based on CSL	Screening Levels Based on SQS	MTCA Method A
Chromium	EPA 6020	mg/L	0.0135	0.001 U	0.0135	0.001 U	0.001 U	0.318	0.306	0.05
Copper	EPA 6020	mg/L	0.00533	0.001 U	0.00204	0.001 U	0.001 U	0.123	0.123	
Lead	EPA 6020	mg/L	0.0073	0.001 U	0.001 U	0.001 U	0.001 U	0.013	0.011	0.015
Nickel	EPA 6020	mg/L	0.00948	0.00698	0.00637	0.00237	0.00144	na	na	
Zinc	EPA 6020	mg/L	0.0692	0.0101	0.0155	0.001 U	0.001 U	0.076	0.033	
Dissolved Metals										
Arsenic	EPA 6020-Diss	mg/L	0.00611	0.00188	0.00194	0.00208	0.00149	0.37	0.227	0.005
Cadmium	EPA 6020-Diss	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0034	0.0026	0.005
Chromium	EPA 6020-Diss	mg/L	0.0111	0.00166	0.0143	0.001 U	0.001 U	0.318	0.306	0.05
Copper	EPA 6020-Diss	mg/L	0.00136	0.001 U	0.00149	0.001 U	0.001 U	0.123	0.123	
Lead	EPA 6020-Diss	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.013	0.011	0.015
Nickel	EPA 6020-Diss	mg/L	0.0062	0.0059	0.0043	0.00221	0.001 U	na	na	
Zinc	EPA 6020-Diss	mg/L	0.0129	0.001 U	0.001 U	0.001 U	0.001 U	0.076	0.033	
Polychlorinated Biphenyls										
Aroclor 1016	EPA 8082 Mod	µg/L	0.638 R	0.100 U	0.100 U	0.100 U	0.100 U	2.4	0.44	0.1
Aroclor 1221	EPA 8082 Mod	µg/L	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	na	na	0.1
Aroclor 1232	EPA 8082 Mod	µg/L	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	na	na	0.1

Chemical/Sample Information	Analytical Method	Unit	PGG-2	PGG-3	PGG-5	PGG-6	PGG-7	SAIC Ground-water Based on CSL	Screening Levels Based on SQS	MTCA Method A
Aroclor 1242	EPA 8082 Mod	µg/L	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	na	na	0.1
Aroclor 1248	EPA 8082 Mod	µg/L	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	1.5	0.27	0.1
Aroclor 1254	EPA 8082 Mod	µg/L	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	0.86	0.16	0.1
Aroclor 1260	EPA 8082 Mod	µg/L	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	0.31	0.058	0.1
Aroclor 1262	EPA 8082 Mod	µg/L	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	na	na	0.1
Aroclor 1268	EPA 8082 Mod	µg/L	0.100 UJ	0.100 U	0.100 U	0.100 U	0.100 U	na	na	0.1
PAHs										
1-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	na	na	
2-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	7.1	7.1	
Acenaphthene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	9.3	2.6	
Acenaphthylene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	11	11	
Anthracene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	59	11	
Benzo(ghi)perylene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	0.029	0.012	
Fluoranthene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	17	2.3	
Fluorene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	7	2	

Chemical/Sample Information	Analytical Method	Unit	PGG-2	PGG-3	PGG-5	PGG-6	PGG-7	SAIC Ground-water Based on CSL	Screening Levels Based on SQS	MTCA Method A
Naphthalene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	92	54	
Phenanthrene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	23	4.8	
Pyrene	EPA 8270C-HVI	µg/L	0.204 U	0.0943 U	0.0943 U	0.0943 U	0.0943 U	20	14	
Benzo(a)anthracene	EPA 8270C-HVI	µg/L	0.0204 U	0.00943 U	0.00943 U	0.00943 U	0.00943 U	0.63	0.26	
Benzo(a)pyrene	EPA 8270C-HVI	µg/L	0.0204 U	0.00943 U	0.00943 U	0.00943 U	0.00943 U	0.27	0.13	
Benzo(b)fluoranthene	EPA 8270C-HVI	µg/L	0.171 R	0.00943 U	0.00943 U	0.00943 U	0.00943 U	0.56	0.29	
Benzo(k)fluoranthene	EPA 8270C-HVI	µg/L	0.129 R	0.00943 U	0.00943 U	0.00943 U	0.00943 U	0.57	0.29	
Chrysene	EPA 8270C-HVI	µg/L	0.0204 U	0.00943 U	0.00943 U	0.00943 U	0.00943 U	1.9	0.47	
Dibenz(a,h)anthracene	EPA 8270C-HVI	µg/L	0.177 R	0.00943 U	0.00943 U	0.00943 U	0.00943 U	0.013	0.0046	
Indeno(1,2,3-cd)pyrene	EPA 8270C-HVI	µg/L	0.16 R	0.00943 U	0.00943 U	0.00943 U	0.00943 U	0.033	0.013	
Toxicity Equivalency Calculations	**Factor**									
Benzo(a)anthracene	0.1	µg/L	0.00	0.00	0.00	0.00	0.00	na	na	
Benzo(a)pyrene	1	µg/L	0.00	0.00	0.00	0.00	0.00	na	na	
Benzo(b)fluoranthene	0.1	µg/L	0.017 R	0.00	0.00	0.00	0.00	na	na	
Benzo(k)fluoranthene	0.1	µg/L	0.0129 R	0.00	0.00	0.00	0.00	na	na	
Chrysene	0.01	µg/L	0.00	0.00	0.00	0.00	0.00	na	na	
Dibenz(a,h)anthracene	0.4	µg/L	0.0708 R	0.00	0.0620	0.00	0.00	na	na	

Chemical/Sample Information	Analytical Method	Unit	PGG-2	PGG-3	PGG-5	PGG-6	PGG-7	SAIC Ground-water Based on CSL	Screening Levels Based on SQS	MTCA Method A
Indeno(1,2,3-cd)pyrene	0.1	µg/L	0.016 R	0.00	0.0132	0.00	0.00	na	na	
Total Toxicity Equivalency Concentrations (µg/L)			0.1167 R	0.00	0.0756	0.00	0.00	na	na	

Source: (Pacific Groundwater Group 2007)

PGG-1: coordinates N: 209009.53 E: 1267978.45, sample was dry, sampled on 6/13 and 6/14 to collect volume requested by lab.

PGG-4: coordinates N: 208550.85 E: 1268179.67, sample was dry

Green highlight – concentration exceeds MTCA Method A for groundwater

Yellow highlight – parameter detected

CSL – cleanup screening level

EPA – US Environmental Protection Agency

HC – hydrocarbons

HVI – high volume injection

J – parameter detected at the reported concentration; result qualifies as "estimated" due to unacceptable QA results

µg/L – micrograms per liter

mg/L – milligram per liter

mS/cm – milliSiemens per centimeter

MTCA – Model Toxics Control Act

mV – millivolts

PGG – Pacific Groundwater Group

R – analytical result rejected based on unrepresentative sample quality and poor data quality, as the sample did not meet Standard Operating Procedures.

SAIC – Science Applications International Corporation

SQS – sediment quality standard

NWTPH-Dx – Northwest total petroleum hydrocarbons - diesel extractable

NWTPH-Gx – Northwest total petroleum hydrocarbons - gasoline extractable

U – parameter not detected, associated # is the lab reporting limit

UJ – parameter not detected at the associated reporting limit; analysis performed 44 days outside holding time

Table D-17. Analytical summary of groundwater sampling, round 3, conducted February 19 and 20, 2007

Chemical/Sample Information	Analytical Method	Unit	PGG-5	PGG-6	PGG-7	SAIC Groundwater Based on CSL	Screening Levels Based on SQS
Coordinates			N: 208967.95 E:1267349.68	N: 208572.89 E:1267423.01	N: 208171.87 E: 1267534.03		
pH			6.44	6.43	6.24		
Temp		°C	12.33	11.76	10.78		
Dissolved Oxygen		mg/L	0.55	0.66	0.56		
Electrical Conductivity		mS/cm	3.486	1.505	0.646		
Oxidation Reduction Potential		mV	-130.6	-177	-90.6		
Petroleum Hydrocarbons							
Gasoline Range	NWTPH-Gx/8021B	µg/L	50.0 U	50.0 U	50.0 U	na	na
Benzene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	0.500 U	na	na
Toluene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	0.500 U	na	na
Ethylbenzene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	0.500 U	na	na
Xylenes (total)	NWTPH-Gx/8021B	µg/L	1.000 U	1.000 U	1.000 U	na	na
Diesel Range	NWTPH-Dx	mg/L	0.236 U	0.248 U	0.243 U	na	na
Lube Oil Range	NWTPH-Dx	mg/L	0.472 U	0.495 U	0.485 U	na	na
Total Metals							
Arsenic	EPA 6020	mg/L	0.00172	0.00100 U	0.00115	0.37	0.227
Barium	EPA 6020	mg/L	0.04900	0.01000 U	0.01000 U	na	na
Cadmium	EPA 6020	mg/L	0.00100 U	0.00100 U	0.00100 U	0.0034	0.0026
Chromium	EPA 6020	mg/L	0.00884	0.00100 U	0.00149	0.318	0.306
Copper	EPA 6020	mg/L	0.00158	0.00322	0.00100 U	0.123	0.123
Iron	EPA 6010B	mg/L	105.0 J	9.37000 J	10.6 J	na	na
Lead	EPA 6020	mg/L	0.00100 U	0.00100 U	0.00100 U	0.013	0.011

Chemical/Sample Information	Analytical Method	Unit	PGG-5	PGG-6	PGG-7	SAIC Groundwater Based on CSL	Screening Levels Based on SQS
Manganese	EPA 6020	mg/L	4.21 J	0.40800 J	0.291 J	na	na
Nickel	EPA 6020	mg/L	0.00100 U	0.00324	0.00133	na	na
Zinc	EPA 6020	mg/L	0.01000 U	0.01110	0.01000 U	0.076	0.033
Mercury	EPA 7470A	mg/L	0.00020 U	0.00020 U	0.00020 U	0.0000074	0.0000052
Dissolved Metals							
Arsenic	EPA 6020-Diss	mg/L	0.00157	0.00100	0.00118	0.37	0.227
Barium	EPA 6020-Diss	mg/L	0.0400	0.01000 U	0.01000 U	na	na
Cadmium	EPA 6020-Diss	mg/L	0.00100 U	0.00100 U	0.00100 U	0.0034	0.0026
Chromium	EPA 6020-Diss	mg/L	0.0105	0.00215	0.00177	0.318	0.306
Copper	EPA 6020-Diss	mg/L	0.00100 U	0.00209	0.00100 U	0.123	0.123
Iron	EPA 6010B-Diss	mg/L	37.8 J	9.07 J	11.8 J	na	na
Lead	EPA 6020-Diss	mg/L	0.00100 U	0.00100 U	0.00100 U	0.013	0.011
Manganese	EPA 6020-Diss	mg/L	4.01 J	0.43000	0.272	na	na
Nickel	EPA 6020-Diss	mg/L	0.00100 U	0.00304	0.00119	na	na
Zinc	EPA 6020-Diss	mg/L	0.01000 U	0.01000 U	0.01000 U	0.076	0.033
Mercury	EPA 7470A-Diss	mg/L	0.00020 U	0.00020 U	0.00020 U	0.0000074	0.0000052
Polychlorinated Biphenyls							
Aroclor 1016	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	2.4	0.44
Aroclor 1221	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na
Aroclor 1232	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na
Aroclor 1242	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na
Aroclor 1248	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	1.5	0.27
Aroclor 1254	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	0.86	0.16
Aroclor 1260	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	0.31	0.058
Aroclor 1262	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na

Chemical/Sample Information	Analytical Method	Unit	PGG-5	PGG-6	PGG-7	SAIC Groundwater Based on CSL	Screening Levels Based on SQS
Aroclor 1268	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na
Polycyclic Aromatic Compounds							
Acenaphthene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	9.3	2.6
Acenaphthylene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	11	11
Anthracene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	59	11
Benzo(a)anthracene	EPA 8270C-HVI	µg/L	0.0099 U	0.0098 U	0.0099 U	0.63	0.26
Benzo(a)pyrene	EPA 8270C-HVI	µg/L	0.0099 U	0.0098 U	0.0099 U	0.27	0.13
Benzo(b)fluoranthene	EPA 8270C-HVI	µg/L	0.0099 U	0.0098 U	0.0099 U	0.56	0.29
Benzo(k)fluoranthene	EPA 8270C-HVI	µg/L	0.0099 U	0.0098 U	0.0099 U	0.57	0.29
Benzo(ghi)perylene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	0.029	0.012
Chrysene	EPA 8270C-HVI	µg/L	0.0099 U	0.0098 U	0.0099 U	1.9	0.47
Dibenz(a,h)anthracene	EPA 8270C-HVI	µg/L	0.0099 U	0.0098 U	0.0099 U	0.013	0.0046
Fluoranthene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	17	2.3
Fluorene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	7	2
Indeno(1,2,3-cd)pyrene	EPA 8270C-HVI	µg/L	0.0099 U	0.0980 U	0.0099 U	0.033	0.013
1-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	na	na
2-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	31	18
Naphthalene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	92	54
Phenanthrene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	23	4.8
Pyrene	EPA 8270C-HVI	µg/L	0.0990 U	0.0980 U	0.0990 U	20	14

Source: (Pacific Groundwater Group 2007)

Green highlight – concentration exceeds MTCA Method A for groundwater

Yellow highlight – parameter detected

CSL – cleanup screening level

EPA – US Environmental Protection Agency

J – parameter detected at the reported concentration; result qualifies as "estimated" due to unacceptable QA results

µg/L – micrograms per liter
mg/L – milligram per liter
mS/cm – milliSiemens per centimeter
MTCA – Model Toxics Control Act
mV – millivolts
NWTPH-Dx – Northwest total petroleum hydrocarbons - diesel extractable
NWTPH-Gx – Northwest total petroleum hydrocarbons - gasoline extractable
PGG – Pacific Groundwater Group
SQS – sediment quality standard
SAIC – Science Applications International Corporation
U – parameter not detected, associated # is the lab reporting limit

Table D-18. Analytical summary of groundwater sampling, round 4, conducted May 29 and 30, 2007

Chemical/Sample Information	Analytical Method	Unit	PGG-5	PGG-6	PGG-7	SAIC Groundwater Based on CSL	Screening Levels Based on SQS
Coordinates			N: 208967.95 E: 1267349.68	N: 208572.89 E: 1267423.01	N: 208171.87 E: 1267534.03	na	na
pH			6.14	6.13	6.00	na	na
Temp		°C	12.94	13.33	14.15	na	na
Dissolved Oxygen		mg/L	1.73	1.22	1.13	na	na
Electrical Conductivity		mS/cm	2.352	0.7	0.318	na	na
Oxidation Reduction Potential		mV	-151.9	-52.2	-77.6	na	na
Petroleum Hydrocarbons						na	na
Gasoline Range	NWTPH-Gx/8021B	µg/L	50.0 U	50.0 U	50.0 U	na	na
Benzene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	0.500 U	na	na
Toluene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	0.500 U	na	na
Ethylbenzene	NWTPH-Gx/8021B	µg/L	0.500 U	0.500 U	0.500 U	na	na
Xylenes (total)	NWTPH-Gx/8021B	µg/L	1.000 U	1.000 U	1.000 U	na	na
Diesel Range	NWTPH-Dx	mg/L	0.236 U	0.236 U	0.236 U	na	na
Lube Oil Range	NWTPH-Dx	mg/L	0.472 U	0.472 U	0.472 U	na	na
Total Metals						na	na
Arsenic	EPA 6020	mg/L	0.00164	0.0012	0.0015	0.37	0.227
Cadmium	EPA 6020	mg/L	0.001 U	0.001 U	0.001 U	0.0034	0.0026
Chromium	EPA 6020	mg/L	0.012	0.001 U	0.001 U	0.318	0.306
Copper	EPA 6020	mg/L	0.00136	0.00122	0.001 U	0.123	0.123
Lead	EPA 6020	mg/L	0.001 U	0.001 U	0.001 U	0.013	0.011
Nickel	EPA 6020	mg/L	0.00119	0.00159	0.001 U	na	na
Zinc	EPA 6020	mg/L	0.01 U	0.01 U	0.01 U	0.076	0.033

Chemical/Sample Information	Analytical Method	Unit	PGG-5	PGG-6	PGG-7	SAIC Groundwater Based on CSL	Screening Levels Based on SQS
Mercury	EPA 7470A	mg/L	0.005 U	0.005 U	0.005 U	0.0074	0.0052
Dissolved Metals							
Arsenic	EPA 6020-Diss	mg/L	0.00161	0.00132	0.00107	0.37	0.227
Cadmium	EPA 6020-Diss	mg/L	0.001 U	0.001 U	0.001 U	0.0034	0.0026
Chromium	EPA 6020-Diss	mg/L	0.0118	0.00161	0.00138	0.318	0.306
Copper	EPA 6020-Diss	mg/L	0.001 U	0.001 U	0.001 U	0.123	0.123
Lead	EPA 6020-Diss	mg/L	0.001 U	0.001 U	0.001 U	0.013	0.011
Nickel	EPA 6020-Diss	mg/L	0.001 U	0.00136	0.001 U	na	na
Zinc	EPA 6020-Diss	mg/L	0.01 U	0.01 U	0.01 U	0.076	0.033
Mercury	EPA 7470A-Diss	mg/L	0.005 U	0.005 U	0.005 U	0.0074	0.0052
Polychlorinated Biphenyls							
Aroclor 1016	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	2.4	0.44
Aroclor 1221	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na
Aroclor 1232	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na
Aroclor 1242	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na
Aroclor 1248	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	1.5	0.27
Aroclor 1254	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	0.86	0.16
Aroclor 1260	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	0.31	0.058
Aroclor 1262	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na
Aroclor 1268	EPA 8082 Mod	µg/L	0.100 U	0.100 U	0.100 U	na	na
Polynuclear Aromatic Compounds							
Acenaphthene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	9.3	2.6
Acenaphthylene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	11	11
Anthracene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	59	11

Chemical/Sample Information	Analytical Method	Unit	PGG-5	PGG-6	PGG-7	SAIC Groundwater Based on CSL	Screening Levels Based on SQS
Benzo(a)anthracene	EPA 8270C-HVI	µg/L	0.0472 U	0.00943 U	0.00943 U	0.63	0.26
Benzo(a)pyrene	EPA 8270C-HVI	µg/L	0.0472 U	0.00943 U	0.00943 U	0.27	0.13
Benzo(b)fluoranthene	EPA 8270C-HVI	µg/L	0.0472 U	0.00943 U	0.00943 U	0.56	0.29
Benzo(k)fluoranthene	EPA 8270C-HVI	µg/L	0.0472 U	0.00943 U	0.00943 U	0.57	0.29
Benzo(ghi)perylene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	0.029	0.012
Chrysene	EPA 8270C-HVI	µg/L	0.472 U	0.00943 U	0.00943 U	1.9	0.47
Dibenz(a,h)anthracene	EPA 8270C-HVI	µg/L	0.0472 U	0.00943 U	0.00943 U	0.013	0.0046
Fluoranthene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	17	2.3
Fluorene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	7	2
Indeno(1,2,3-cd)pyrene	EPA 8270C-HVI	µg/L	0.0472 U	0.00943 U	0.00943 U	0.033	0.013
1-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.472 U	0.0943	0.0943	na	na
2-Methylnaphthalene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	31	18
Naphthalene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	92	54
Phenanthrene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	23	4.8
Pyrene	EPA 8270C-HVI	µg/L	0.472 U	0.0943 U	0.0943 U	20	14

Source: (Pacific Groundwater Group 2007)

Green highlight – concentration exceeds MTCA Method A for groundwater

Yellow highlight – parameter detected

CSL – cleanup screening level

EPA – US Environmental Protection Agency

J – parameter detected at the reported concentration; result qualifies as "estimated" due to unacceptable QA results

HVI – high volume injected

µg/L – micrograms per liter

mg/L – milligrams per liter

mS/cm – milliSiemens per centimeter

MTCA – Model Toxics Control Act

mV – millivolts
na – not applicable
NWTPH-Dx – Northwest total petroleum hydrocarbons - diesel extractable
NWTPH-Gx – Northwest total petroleum hydrocarbons - gasoline extractable
PGG – Pacific Groundwater Group
SAIC – Science Applications International Corporation
SIM – Simultaneous Ion Monitoring
SQS – sediment quality standard
U – parameter not detected, associated # is the lab reporting limit

Table D-19. Historical groundwater sample results for PCBs conducted October 11, 1991 and January 18, 1992

Sample ID	Date	Aroclor 1016 8080 (µg/L)	Aroclor 1221 8080 (µg/L)	Aroclor 1232 8080 (µg/L)	Aroclor 1242 8080 (µg/L)	Aroclor 1248 8080 (µg/L)	Aroclor 1254 8080 (µg/L)	Aroclor 1260 8080 (µg/L)
C-1	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-1	1/18/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-2	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-2	1/18/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-3	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-3	1/18/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-4	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-4	1/18/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-5	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-5	1/17/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-6	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
C-6	1/18/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-7	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-7	1/18/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-8	10/12/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-8	1/17/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-9	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-9	1/17/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-10	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-10	1/17/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-11	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-11	1/17/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-12	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Sample ID	Date	Aroclor 1016 8080 (µg/L)	Aroclor 1221 8080 (µg/L)	Aroclor 1232 8080 (µg/L)	Aroclor 1242 8080 (µg/L)	Aroclor 1248 8080 (µg/L)	Aroclor 1254 8080 (µg/L)	Aroclor 1260 8080 (µg/L)
MW-12	1/18/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-13	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-13	1/17/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-14	10/11/1991	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-14	1/18/1992	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Source: (Pacific Groundwater Group 2006)

Green highlight – concentration exceeds MTCA Method A Unrestricted and/or Industrial Cleanup Level (WAC-173-340)

Yellow highlight – parameter detected

Investigation: AGI (Applied Geotechnology, Inc.)

µg/L – micrograms per liter

MTCA Method A: 0.1

MW – monitoring well

U – parameter not detected; associated # is laboratory detection limit

PCB –Polychlorinated Biphenyls

Table D-20a. Historical groundwater sample results for PAHs conducted October 11 and 12, 1991: C-1 through C-6

Chemical/Sample Information	Analytical Method	C-1 (µG/L)	C-2 (µG/L)	C-3 (µG/L)	C-4 (µG/L)	C-5 (µG/L)	C-6 (µG/L)
Naphthalene	8310	1.6 U	1.6 U	1.6 U	1.6 U	3	1.6 U
Acenaphthylene	8310	1.3	0.25 U	0.25 U	7.6	0.25 U	0.25 U
Acenaphthene	8310	0.17 U	0.21	0.17 U	0.17	0.17 U	0.17 U
Fluorene	8310	0.09 U	0.09 U	0.09 U	0.09 U	0.5	0.09 U
Phenanthrene	8310	0.66	0.13	0.2	0.12 U	0.16	0.12 U
Anthracene	8310	0.19	0.11	0.38	0.1 U	0.28	0.1 U
Fluoranthene	8310	0.6	0.22	0.38	0.16 U	0.16 U	0.16 U
Pyrene	8310	0.65	0.14	0.37	0.14 U	0.14 U	0.14 U
Benzo(a)anthracene	8310	0.28	0.12	0.25	0.057 U	0.057 U	0.057 U
Chrysene	8310	0.42	0.16	0.3	0.051 U	0.051 U	0.051 U
Benzo(b)fluoranthene	8310	0.099	0.16	0.3	0.072 U	0.072 U	0.072 U
Benzo(k)fluoranthene	8310	0.2	0.12	0.3	0.068 U	0.068 U	0.068 U
Benzo(a)pyrene	8310	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Dibenzo(a,h)anthracene	8310	0.27	0.21	0.12	0.084 U	0.084 U	0.084 U
Benzo(g,h,i)perylene	8310	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U
Indeno(1,2,3-cd)pyrene	8310	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U
Toxicity Equivalent Concentrations	**TEF**						
Benzo(a)anthracene	0.1	0.042	0.016	0.03	0.00255	0.00255	0.00255
Benzo(a)pyrene	1	0.099	0.16	0.3	0.036	0.036	0.036
Benzo(b)fluoranthene	0.1	0.02	0.012	0.03	0.0034	0.0034	0.0034
Benzo(k)fluoranthene	0.1	0.00075	0.00075	0.00075	0.00075	0.00075	0.00075

Chemical/Sample Information	Analytical Method	C-1 (µG/L)	C-2 (µG/L)	C-3 (µG/L)	C-4 (µG/L)	C-5 (µG/L)	C-6 (µG/L)
Chrysene	0.01	0.0027	0.0021	0.0012	0.00042	0.00042	0.00042
Dibenzo(a,h)anthracene	0.4	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168
Indeno(1,2,3-cd)pyrene	0.1	0.0048	0.0048	0.0048	0.0048	0.0048	0.0048
Total cPAH Toxicity Equivalent Concentrations (TEQ)		0.19	0.21	0.38	0.06	0.06	0.06
MTCA Method C Total cPAH Cleanup Level (µg/L):		0.12	0.12	0.12	0.12	0.12	0.12

Source: (Pacific Groundwater Group 2006)

Green highlight **–** concentration exceeds MTCA Method C for groundwater

Yellow highlight – parameter detected

Investigation: AGI (Applied Geotechnology, Inc.)

cPAH – carcinogenic Polycyclic Aromatic Hydrocarbon

µg/L – micrograms per liter

TEF – Toxicity Equivalency Factor

TEQ – toxic equivalent

U – parameter not detected; associated # is laboratory detection limit

Table D-20b. Historical groundwater sample results for PAHs conducted October 11 and 12, 1991: Sample locations MW-7 through MW-14

Chemical/Sample Information	Analytical Method	MW-7 (µg/L)	MW-8 (µg/L)	MW-9 (µg/L)	MW-10 (µg/L)	MW-11 (µg/L)	MW-12 (µg/L)	MW-13 (µg/L)	MW-14 (µg/L)	MTCA Method C Individual non-carcinogenic cleanup level
Naphthalene100	8310	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	350
Acenaphthylene	8310	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	na
Acenaphthene	8310	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	2100
Fluorene	8310	0.09 U	0.09 U	0.29	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	1400
Phenanthrene	8310	0.12 U	0.12 U	0.72	0.5	0.12 U	0.12 U	0.12 U	0.12 U	na
Anthracene	8310	0.1 U	0.1 U	0.26	0.45	0.1 U	0.1 U	0.1 U	0.1 U	5250
Fluoranthene	8310	0.16 U	0.16 U	0.21	0.95	0.16 U	0.16 U	0.16 U	0.16 U	1400
Pyrene	8310	0.14 U	0.14 U	0.15	0.81	0.14 U	0.14 U	0.14 U	0.14 U	1050
Benzo(a)anthracene	8310	0.057 U	0.057 U	0.057 U	0.21	0.057 U	0.057 U	0.057 U	0.057 U	na
Chrysene	8310	0.051 U	0.051 U	0.051 U	0.44	0.051 U	0.051 U	0.051 U	0.054	na
Benzo(b)fluoranthene	8310	0.072 U	0.072 U	0.072 U	0.32	0.072 U	0.072 U	0.072 U	0.072 U	na
Benzo(k)fluoranthene	8310	0.068 U	0.068 U	0.068 U	0.3	0.068 U	0.068 U	0.068 U	0.068 U	na
Benzo(a)pyrene	8310	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	na
Dibenzo(a,h)anthracene	8310	0.084 U	0.084 U	0.6	0.21	0.084 U	0.084 U	0.084 U	0.084 U	na
Benzo(g,h,i)perylene	8310	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	na
Indeno(1,2,3-cd)pyrene	8310	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	na
Toxicity Equivalent Concentrations	**TEF**									
Benzo(a)anthracene	0.1	0.00255	0.00255	0.00255	0.044	0.00255	0.00255	0.00255	0.0054	na
Benzo(a)pyrene	1	0.036	0.036	0.036	0.32	0.036	0.036	0.036	0.036	na

Chemical/Sample Information	Analytical Method	MW-7 (µg/L)	MW-8 (µg/L)	MW-9 (µg/L)	MW-10 (µg/L)	MW-11 (µg/L)	MW-12 (µg/L)	MW-13 (µg/L)	MW-14 (µg/L)	MTCA Method C Individual Non-Carcinogenic Cleanup Level
Benzo(b)fluoranthene	0.1	0.0034	0.0034	0.0034	0.03	0.0034	0.0034	0.0034	0.0034	na
Benzo(k)fluoranthene	0.1	0.00075	0.00075	0.00075	0.00075	0.00075	0.00075	0.00075	0.00075	na
Chrysene	0.01	0.00042	0.00042	0.006	0.0021	0.00042	0.00042	0.00042	0.00042	na
Dibenzo(a,h)anthracene	0.4	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	0.0168	na
Indeno(1,2,3-cd)pyrene	0.1	0.0048	0.0048	0.0048	0.0048	0.0048	0.0048	0.0048	0.0048	na
Total cPAH Toxicity Equivalent Concentrations (TEQ)		0.06	0.06	0.07	0.42	0.06	0.06	0.06	0.07	na
MTCA Method C Total cPAH Cleanup Level (µg/L):		0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	na

Source: (Pacific Groundwater Group 2006)

Green highlight **–** concentration exceeds MTCA Method C for groundwater

Yellow highlight – parameter detected

Investigation: AGI (Applied Geotechnology, Inc.)

cPAH – carcinogenic Polycyclic Aromatic Hydrocarbon

µg/L – micrograms per liter

MTCA – Model Toxics Control Act

na – not applicable

PAH – Polycyclic Aromatic Hydrocarbon

TEF – Toxicity Equivalency Factor

TEQ – toxic equivalent

U – parameter not detected; associated # is laboratory detection limit

Table D-21a. Historical groundwater sample results for PAHs conducted January 17 and 18, 1992: Sample locations C-1 through C-6

Chemical/Sample Information	Analytical Method	C-1 (µg/L)	C-2 (µg/L)	C-3 (µg/L)	C-4 (µg/L)	C-5 (µg/L)	C-6 (µg/L)
Naphthalene	8310	0.14 U	0.14 U	0.14 U	0.14 U	1.3	0.14 U
Acenaphthylene	8310	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
Acenaphthene	8310	0.02 U	0.02 U	0.16	0.02 U	0.02 U	0.02 U
Fluorene	8310	0.013 U	0.013 U	0.026	0.013 U	0.22	0.013 U
Phenanthrene	8310	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Anthracene	8310	0.014 U	0.014 U	0.027	0.014 U	0.03	0.014 U
Fluoranthene	8310	0.025 U	0.046	0.06	0.025 U	0.055	0.025 U
Pyrene	8310	0.014 U	0.084	0.11	0.014 U	0.041	0.014 U
Benzo(a)anthracene	8310	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Chrysene	8310	0.011 U	0.016	0.035	0.011 U	0.011 U	0.011 U
Benzo(b)fluoranthene	8310	0.012 U	0.02	0.02	0.012 U	0.012 U	0.012 U
Benzo(k)fluoranthene	8310	0.013 U	0.038	0.013 U	0.013 U	0.013 U	0.013 U
Benzo(a)pyrene	8310	0.011 U	0.015	0.011 U	0.011 U	0.011 U	0.011 U
Dibenzo(a,h)anthracene	8310	0.013 U	0.013 U	0.023	0.013 U	0.013 U	0.013 U
Benzo(g,h,i)perylene	8310	0.011 U	0.028	0.011 U	0.011 U	0.011 U	0.011 U
Indeno(1,2,3-cd)pyrene	8310	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Toxicity Equivalent Concentrations	**TEF**						
Benzo(a)anthracene	0.1	0.00055	0.0016	0.0035	0.00055	0.00055	0.00055
Benzo(a)pyrene	1	0.006	0.02	0.02	0.006	0.006	0.006
Benzo(b)fluoranthene	0.1	0.00065	0.0038	0.00065	0.00065	0.00065	0.00065
Benzo(k)fluoranthene	0.1	0.00055	0.0015	0.00055	0.00055	0.00055	0.00055

CHEMICAL/SAMPLE INFORMATION	ANALYTICAL METHOD	C-1 (µg/L)	C-2 (µg/L)	C-3 (µg/L)	C-4 (µg/L)	C-5 (µg/L)	C-6 (µg/L)
Chrysene	0.01	0.000065	0.000065	0.00023	0.000065	0.000065	0.000065
Dibenzo(a,h)anthracene	0.4	0.0022	0.0112	0.0022	0.0022	0.0022	0.0022
Indeno(1,2,3-cd)pyrene	0.1	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Total cPAH Toxicity Equivalent Concentrations		0.01	0.04	0.03	0.01	0.01	0.01
MTCA Method C Total cPAH Cleanup Level (µg/L):		0.12	0.12	0.12	0.12	0.12	0.12

Source: (Pacific Groundwater Group 2006)

Green highlight – concentration exceeds MTCA Method C for groundwater

Yellow highlight – parameter detected

Investigation: AGI (Applied Geotechnology, Inc.)

cPAH – carcinogenic Polycyclic Aromatic Hydrocarbon

µg/L – micrograms per liter

MTCA – Model Toxics Control Act

na – not applicable

PAH – Polycyclic Aromatic Hydrocarbon

TEF – Toxicity Equivalency Factor

U – parameter not detected; associated # is laboratory detection limit

Table D-21b. Historical groundwater sample results for PAHs conducted January 17 and 18, 1992: Sample locations MW-7 through MW-14

Chemical/Sample Information	Analytical Method	MW-7 (µG/L)	MW-8 (µG/L)	MW-9 (µG/L)	MW-10 (µG/L)	MW-11 (µG/L)	MW-12 (µG/L)	MW-13 (µG/L)	MW-14 (µG/L)	MTCA Method C Individual Non-Carcinogenic Cleanup Level
Naphthalene	8310	0.14 U	0.14 U	0.56	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	350
Acenaphthylene	8310	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.9	na
Acenaphthene	8310	0.041	0.09	0.02 U	0.02 U	0.02 U	0.17	0.02 U	0.02 U	2100
Fluorene	8310	0.028	0.049	0.13	0.013 U	0.013 U	0.057	0.013 U	0.029	1400
Phenanthrene	8310	0.022	0.065	0.13	0.019 U	0.019 U	0.041	0.019 U	0.022	na
Anthracene	8310	0.014 U	0.015	0.014 U	0.014 U	0.014 U	0.019	0.014 U	0.017	5250
Fluoranthene	8310	0.025 U	0.035	0.025 U	0.027	0.025 U	0.029	0.025 U	0.046	1400
Pyrene	8310	0.014 U	0.036	0.014 U	0.022	0.014 U	0.04	0.014 U	0.033	1050
Benzo(a)anthracene	8310	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.068	na
Chrysene	8310	0.011 U	0.016	0.011 U	0.011 U	0.011 U	0.012	0.011 U	0.035	na
Benzo(b)fluoranthene	8310	0.012 U	0.012	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.029	na
Benzo(k)fluoranthene	8310	0.017	0.015	0.013 U	0.013 U	0.013 U	0.014	0.029	0.058	na
Benzo(a)pyrene	8310	0.011 U	0.013	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.072	na
Dibenzo(a,h)anthracene	8310	0.013 U	0.016	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.054	na
Benzo(g,h,i)perylene	8310	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.084	na
Indeno(1,2,3-cd)pyrene	8310	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.063	na
Toxicity Equivalent Concentrations	**TEF**									
Benzo(a)anthracene	0.1	0.00055	0.0016	0.00055	0.00055	0.00055	0.0012	0.00055	0.0035	na
Benzo(a)pyrene	1	0.006	0.012	0.006	0.006	0.006	0.006	0.006	0.029	na
Benzo(b)fluoranthene	0.1	0.0017	0.0015	0.00065	0.0015	0.00065	0.0014	0.0029	0.0058	na
Benzo(k)fluoranthene	0.1	0.00055	0.0013	0.00055	0.00055	0.00055	0.00055	0.00055	0.0072	na

Chemical/Sample Information	Analytical Method	MW-7 (µG/L)	MW-8 (µG/L)	MW-9 (µG/L)	MW-10 (µG/L)	MW-11 (µG/L)	MW-12 (µG/L)	MW-13 (µG/L)	MW-14 (µG/L)	MTCA Method C Individual Non-Carcinogenic Cleanup Level
Chrysene	0.01	0.000065	0.00016	0.000065	0.000065	0.000065	0.000065	0.000065	0.00054	na
Dibenzo(a,h)anthracene	0.4	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0336	na
Indeno(1,2,3-cd)pyrene	0.1	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0063	na
Total cPAH Toxicity Equivalent Concentrations		0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	na
MTCA Method C Total cPAH Cleanup Level (µg/L):		0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	na

Source: (Pacific Groundwater Group 2006)

Green highlight – concentration exceeds MTCA Method C for groundwater

Yellow highlight – parameter detected

Investigation: AGI (Applied Geotechnology, Inc.)

cPAH – carcinogenic Polycyclic Aromatic Hydrocarbon

µg/L – micrograms per liter

MTCA – Model Toxics Control Act

na – not applicable

PAH – Polycyclic Aromatic Hydrocarbon

TEF – Toxicity Equivalency Factor

U – parameter not detected; associated # is laboratory detection limit

Table D-22. Historical groundwater sample results for TPHs conducted October 11, 1991 and January 18, 1992

Sample ID	Date	Gasoline (µg/L)	Mineral Spirits (µg/L)	Kerosene (µg/L)	Jet Fuel (µg/L)	Diesel (µg/L)	Fuel Oil #6 (µg/L)	Lubricating Oil (µg/L)	Benzene (µg/L)	Ethyl benzene (µg/L)	Toluene (µg/L)	Total Xylenes (µg/L)
C-1	10/11/1991	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
C-2	10/11/1991	10 U	10 U	10 U	10 U	160	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
C-3	10/11/1991	10 U	10 U	10 U	10 U	40	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
C-4	10/11/1991	10 U	10 U	10 U	10 U	53	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
C-5	10/11/1991	57	10 U	10 U	10 U	130	10 U	100 U	0.9	3	0.6	3
C-6	10/11/1991	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-7	10/11/1991	27	10 U	10 U	10 U	53	10 U	100 U	0.3 U	0.3 U	0.6	0.7
MW-8	10/11/1991	39	10 U	10 U	10 U	140	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-9	10/11/1991	10 U	10 U	10 U	10 U	490	10 U	100 U	0.5	3	0.6	3
MW-10	10/11/1991	10 U	10 U	10 U	10 U	67	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-10 Dup [a]	10/11/1991	10 U	10 U	10 U	10 U	39	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-11	10/11/1991	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-12	10/11/1991	10 U	10 U	10 U	10 U	150	10 U	100 U	0.3 U	0.3 U	0.9	0.5 U
MW-13	10/11/1991	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-14	10/11/1991	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-14 Dup [b]	10/11/1991	10 U	10 U	10 U	10 U	38	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
C-1	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
C-2	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
C-3	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
C-4	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
C-5	1/18/1992	120	10 U	10 U	10 U	530	10 U	100 U	0.6	0.4	0.9	1
C-5 Dup [c]	1/18/1992	10 U	10 U	10 U	10 U	590	10 U	100 U	0.6	2	2	4
C-6	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-7	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-8	1/18/1992	10 U	10 U	10 U	10 U	150	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U

Sample ID	Date	Gasoline (µG/L)	Mineral Spirits (µg/L)	Kerosene (µg/L)	Jet Fuel (µg/L)	Diesel (µg/L)	Fuel Oil #6 (µg/L)	Lubricating Oil (µg/L)	Benzene (µg/L)	Ethyl benzene (µg/L)	Toluene (µg/L)	Total Xylenes (µg/L)
MW-9	1/18/1992	40	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	1	0.7	2
MW-10	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-11	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-12	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-13	1/18/1992	10 U	10 U	10 U	10 U	10 U	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MW-14	1/18/1992	10 U	10 U	10 U	10 U	230	10 U	100 U	0.3 U	0.3 U	0.3 U	0.5 U
MTCA Method A Cleanup Level		na	na	na	na	500	500	na	5	700	1000	1000
MTCA Method C Cleanup Level		800	na	na	na	na	na	na	7.95	1750	3500	35000

Source: (Pacific Groundwater Group 2006)

[a] MW-10 Dup is sample MW-15;

[b] MW-14 Dup is Sample MW-16 for October 1991 sampling round.

[c] C-5 Dup is Sample MW-15 for January 1992 sampling round.

Green highlight – concentration exceeds MTCA Method C Industrial Cleanup Level (WAC-173-340)

Yellow highlight – parameter detected

Investigation: AGI (Applied Geotechnology, Inc.)

Dup – duplicate

MTCA – Model Toxics Control Act

TPH = Total Petroleum Hydrocarbons

U – parameter not detected; associated # is laboratory detection limit

Table D-23. Historical groundwater sample results for metals conducted October 11, 1991 and January 17, 1992

Chemical/ Sample Information	Date	Analytical Method	MTCA Method C	C-1 (µg/L)	C-2 (µg/L)	C-3 (µg/L)	C-4 (µg/L)	C-5 (µg/L)	C-6 (µg/L)	MW-7 (µg/L)	MW-8 (µg/L)	MW-9 (µg/L)	MW-10 (µg/L)	MW-11 (µg/L)	MW-12 (µg/L)	MW-13 (µg/L)	MW-14 (µg/L)	MW-14 (Dup) (µg/L)
Antimony	10/11/1991	6010/7000		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Arsenic	10/11/1991	6010/7000	5.25	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Beryllium	10/11/1991	6010/7000		20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Cadmium	10/11/1991	6010/7000	17.5	20 U	20 U	20 U	28	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Chromium	10/11/1991	6010/7000	105 (CrVI)	26	65	20 U	20 U	53	38	20 U	20 U	20 U	84	20 U	20 U	20 U	35	39
Copper	10/11/1991	6010/7000	1300	42	100	41	20 U	45	84	20 U	20 U	54	130	20 U	22	30	77	75
Lead	10/11/1991	7240		50 U	130	94	50 U	50 U	50 U	50 U	50 U	50 U	91	50 U	50 U	50 U	50 U	260
Mercury	10/11/1991	6010/7000		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	10/11/1991	6010/7000	700	50 U	50 U	50 U	59	50 U	50 U	50 U	50 U	50 U	55	50 U	50 U	50 U	52	50 U
Selenium	10/11/1991	6010/7000		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Silver	10/11/1991	6010/7000		50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Thallium	10/11/1991	6010/7000		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Zinc	10/11/1991	6010/7000	10500	140	230	120	1600	160	210	91	50 U	86	480	90	150	130	210	270
Antimony	1/17/1992	6010/7000		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Arsenic	1/17/1992	6010/7000	5.25	5 U	7	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Beryllium	1/17/1992	6010/7000		20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Cadmium	1/17/1992	6010/7000	17.5	0.25 U	0.47	0.25 U	7.5	0.43	0.25 U	38	0.25 U	5.7	3.4	0.27	1.6	0.93	1.5	0.25 U
Chromium	1/17/1992	6010/7000	105 (CrVI)	20 U	50	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Copper	1/17/1992	6010/7000	1300	20 U	66	20 U	20 U	20 U	20 U	200	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Lead	1/17/1992	7240		17	67	6	18	5 U	5	7	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Mercury	1/17/1992	6010/7000		0.2 U	0.3	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Chemical/ Sample Information	Date	Analytical Method	MTCA Method C	C-1 (µg/L)	C-2 (µg/L)	C-3 (µg/L)	C-4 (µg/L)	C-5 (µg/L)	C-6 (µg/L)	MW-7 (µg/L)	MW-8 (µg/L)	MW-9 (µg/L)	MW-10 (µg/L)	MW-11 (µg/L)	MW-12 (µg/L)	MW-13 (µg/L)	MW-14 (µg/L)	MW-14 (Dup) (µg/L)
Nickel	1/17/1992	6010/7000	700	50 U	50 U	50 U	120	50 U	50 U	380	50 U	170	98	50 U	110	50 U	50 U	50 U
Selenium	1/17/1992	6010/7000		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Silver	1/17/1992	6010/7000		50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Thallium	1/17/1992	6010/7000		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Zinc	1/17/1992	6010/7000	10500	50 U	130	50 U	1200	50 U	50 U	6200	50 U	1300	430	50 U	490	89	140	50 U

Source: (Pacific Groundwater Group 2006)

Green highlight – concentration exceeds MTCA Method C Industrial Cleanup Level (WAC-173-340)

Yellow highlight – parameter detected

Investigation: AGI (Applied Geotechnology, Inc.)

– Data appears to be total metals analyses, although AGI (1992) report does not explicitly state that samples were not filtered.

U – parameter not detected; # is laboratory detection limit

CrVI – chromium six

Dup – duplicate

MTCA – Model Toxics Control Act

WAC – Washington Administrative Code

Table D-24. Historical groundwater sample results for metals and PCBs conducted June 5, 1984

Chemical/Sample Information	Units	Well 84-1	Well 84-1 (dupl) [A]	Well 84-2	Well 84-2 (dupl) [A]	Well A [B]	Detection limit
PCB	µg/L	–		–	–	–	1.0
Arsenic	mg/L	0.073	0.073	0.05		0.018	0.01
Cadmium	mg/L	0.0015	0.0018	0.0012		–	0.001
Chromium	mg/L	0.053	0.066	0.057		0.022	0.01
Lead	mg/L	0.048	0.045	0.15		0.016	0.005
Mercury	mg/L	–	–	0.002		–	0.002
Zinc	mg/L	0.22	0.27	0.28		0.14	
Total Dissolved Solids	mg/L	750	780	1400		11000	

Source: (Dames & Moore 1984; Pacific Groundwater Group 2006)

[a]Duplicate samples were tested for quality control check. 84-1 duplicate tested for metals only, 84-2 duplicated tested for PCB only.

[b] Detection limit for water sample from Well A is 10 ppb

– concentration is less than detection limit

Blank – no test was performed

Dupl – duplicate

Table D-25. Historical seep sample results for metals and PCBs conducted June 5, 1984

Chemical/Sample Information	Units	Seep N	Seep S	Detection limit
PCB	µg/L	–	–	1.0
Arsenic	mg/L	–	–	0.01
Cadmium	mg/L	0.0012	<0.001	0.001
Chromium	mg/L	–	–	0.01
Lead	mg/L	0.006	–	0.005
Mercury	mg/L	–	–	0.002
Zinc	mg/L	0.1	0.035	
Total Dissolved Solids	mg/L	6400	7300	

Source: (Dames & Moore 1984; Pacific Groundwater Group 2006)

– concentration is less than detection limit

Blank – no test was performed

Dupl – duplicate

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