

ATTACHMENT 4: FIELD LOGS

This attachment contains the groundwater sample collection field logs for the relatively shallow standpipe monitoring wells (MW-1, MW-5 through MW-8, MW-9, MW-10, MW-13, MW-15, and MW-16), as well as the field data sheets for the Westbay™ multiport wells (MW-3, MW-4, MW-11, MW-12, MW-14, and MW-17 through MW-26). Groundwater sample collection was conducted by Insight Environmental, Incorporated (formerly Geofon Incorporated).

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # 5



Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 4-73803
 Navy Contract No.: Battelle
 Sampled By: Marco Mendoza, Chase Brogdon
 Date: 9/7/07
 Weather: clear and cool

22632 Golden Springs Dr., Suite 270
 Diamond Bar, CA 91765
 Telephone: (909) 396-7662
 Fax: (909) 396-1455

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{140}{\text{TD (feet)}} - \frac{67.12}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{142.73}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
719	67.12	0	5.05	65.4	51.5	8.64	16.6	396	Cloudy, brownish, no odor
733	67.12	29	5.37	61.8	13.0	9.69	16.6	351	Clear, no odor
748	67.12	58	5.61	60.2	4.30	7.45	18.2	329	Slightly cloudy, no odor
802	67.12	87	5.76	61.4	3.87	9.13	17.9	330	Clear, no odor
817	67.12	116	5.88	61.9	1.95	9.11	18.4	342	Clear, no odor
831	67.12	145	6.03	63.1	1.73	8.77	18.9	302	Clear, no odor

Total Purge Volume: 145 (Gallons)

Total Discharge: 3.05 (Casing Volumes)

Approx. Purge Rate: 2.00 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 715 Purge time start: 7319

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge water disposal: _____

WELL SAMPLING

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-5</u>	Sample ID: _____	Type: _____	Type: _____
Sample Time: <u>836</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>12 (MS/MSD)</u>	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # 6



Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 4-73803
 Navy Contract No.: Battelle
 Sampled By: Marco Mendoza, Chase Brogdon
 Date: 9/10/07
 Weather: clear and cool

22632 Golden Springs Dr., Suite 270
 Diamond Bar, CA 91765
 Telephone: (909) 396-7662
 Fax: (909) 396-1455

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{245}{\text{TD (feet)}} - \frac{171.46}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{144.02}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
756	171.46	0	4.97	0.1	64.1	8.64	20.3	535	Reddish brown color, no odor
825	171.46	29	5.40	0.1	14.8	9.86	20.7	346	Slightly brownish, no odor
854	171.46	58	5.83	0.1	3.86	10.48	20.9	460	Clear, no odor
923	171.46	87	5.97	0.1	1.96	10.14	21.5	483	Clear, no odor
952	171.46	116	6.09	0.1	2.13	10.61	21.8	389	Clear, no odor
1021	171.46	145	6.21	0.1	0.77	9.68	22.0	353	Clear, no odor

Total Purge Volume: 145 (Gallons)

Total Discharge: 3.02 (Casing Volumes)

Approx. Purge Rate: 1.00 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 750 Purge time start: 756

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge water disposal: _____

WELL SAMPLING

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-6</u>	Sample ID: <u>DUPE-4-3Q07</u>	Type: _____	Type: _____
Sample Time: <u>1028</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>6</u>	No. of Containers: <u>6</u>	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # 7



Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 4-73803
 Navy Contract No.: Battelle
 Sampled By: Marco Mendoza, Chase Brogdon
 Date: 9/11/07
 Weather: clear and cool

22632 Golden Springs Dr., Suite 270
 Diamond Bar, CA 91765
 Telephone: (909) 396-7662
 Fax: (909) 396-1455

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{275}{\text{TD (feet)}} - \frac{205.79}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{135.54}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
745	205.79	0	5.11	60.2	29.7	7.69	21.4	423	Faint brownish tinge, no odor
804	205.79	28	5.37	55.3	9.95	6.97	22.0	350	Clear, no odor
823	205.79	56	5.68	55.9	3.38	7.31	22.0	331	Clear, no odor
842	205.79	84	5.89	55.9	3.43	7.46	22.7	336	Clear, no odor
901	205.79	112	6.02	55.6	1.57	7.73	22.4	341	Clear, no odor
920	205.79	140	6.15	55.9	1.43	6.75	22.2	312	Clear, no odor

Total Purge Volume: 140 (Gallons)

Total Discharge: 3.10 (Casing Volumes)

Approx. Purge Rate: 1.50 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 738 Purge time start: 745

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge water disposal: _____

WELL SAMPLING

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-7</u>	Sample ID: _____	Type: _____	Type: _____
Sample Time: <u>923</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>6</u>	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 8



Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 4-73803
 Navy Contract No.: Battelle
 Sampled By: Marco Mendoza, Chase Brogdon
 Date: 9/12/07
 Weather: clear and warm

22632 Golden Springs Dr., Suite 270
 Diamond Bar, CA 91765
 Telephone: (909) 396-7662
 Fax: (909) 396-1455

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{205}{\text{TD (feet)}} - \frac{133.02}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{140.97}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
930	133.02	0	6.40	53.4	22.4	11.44	20.7	301	Slightly cloudy, no odor
942	133.02	28	6.43	52.3	4.67	10396	20.5	299	Clear, no odor
955	133.02	56	6.46	52.4	1.88	11.72	20.1	302	Clear, no odor
1009	133.02	85	6.46	51.2	1.08	11.59	20.5	301	Clear, no odor
1021	133.02	113	6.53	52.1	0.75	11.41	20.4	309	Clear, no odor
1034	133.02	141	6.48	52.4	0.21	10.57	21.2	276	Clear, no odor

Total Purge Volume: 141 (Gallons)

Total Discharge: 3.00 (Casing Volumes)

Approx. Purge Rate: 2.25 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 925 Purge time start: 930

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge water disposal: _____

WELL SAMPLING

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-8</u>	Sample ID: <u>DUPE-7-3Q07</u>	Type: _____	Type: _____
Sample Time: <u>1038</u>	Sample Time: <u>-----</u>	Sample ID: _____	Sample ID: _____
No. of Containers: <u>12 (MS/MSD)</u>	No. of Containers: <u>6</u>	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # 10



Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 4-73803
 Navy Contract No.: Battelle
 Sampled By: Marco Mendoza, Chase Brogdon
 Date: 9/13/07
 Weather: clear and cool

22632 Golden Springs Dr., Suite 270
 Diamond Bar, CA 91765
 Telephone: (909) 396-7662
 Fax: (909) 396-1455

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{155}{\text{TD (feet)}} - \frac{81.66}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{143.63}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
736	81.66	0	4.97	0.1	43.0	8.53	19.0	486	Cloudy, no odor
750	81.66	29	5.41	0.1	9.82	9.21	19.1	413	Slightly cloudy, no odor
805	81.66	58	5.73	0.1	5.57	9.20	19.6	392	Clear, no odor
819	81.66	87	5.91	0.1	5.13	9.44	19.6	385	Clear, no odor
834	81.66	116	6.06	0.1	4.67	9.63	20.0	279	Clear, no odor
848	81.66	145	6.15	0.1	0.48	8.65	21.3	384	Clear, no odor

Total Purge Volume: 145 (Gallons)

Total Discharge: 3.03 (Casing Volumes)

Approx. Purge Rate: 2.0 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 728 Purge time start: 736

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge water disposal: _____

WELL SAMPLING

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-10</u>	Sample ID: _____	Type: _____	Type: _____
Sample Time: <u>855</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>6</u>	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # 13



Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 4-73803
 Navy Contract No.: Battelle
 Sampled By: Marco Mendoza, Chase Brogdon
 Date: 9/12/07
 Weather: clear and cool

22632 Golden Springs Dr., Suite 270
 Diamond Bar, CA 91765
 Telephone: (909) 396-7662
 Fax: (909) 396-1455

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{235}{\text{TD (feet)}} - \frac{175.25}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{117.00}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
724	175.25	0	5.02	74.3	27.4	9.60	20.2	390	Yellowish tinge, no odor
739	175.25	23	5.31	68.9	8.65	9.84	20.5	321	Clear, no odor
755	175.25	47	5.61	69.0	4.48	10.04	20.7	303	Clear, no odor
810	175.25	70	5.81	68.7	2.28	9.73	21.5	307	Clear, no odor
826	175.25	94	5.98	68.8	2.01	9.92	22.1	311	Clear, no odor
841	175.25	117	6.11	69.7	1.26	10.14	22.3	282	Clear, no odor

Total Purge Volume: 117 (Gallons)

Total Discharge: 3.00 (Casing Volumes)

Approx. Purge Rate: 1.50 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 719 Purge time start: 724

' - ' DO meter not operational for first three measurements

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge water disposal: _____

WELL SAMPLING

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-13</u>	Sample ID: <u>DUPE-6-3Q07</u>	Type: _____	Type: _____
Sample Time: <u>846</u>	Sample Time: <u>-----</u>	Sample ID: _____	Sample ID: _____
No. of Containers: <u>6</u>	No. of Containers: <u>6</u>	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # 15



Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 4-73803
 Navy Contract No.: Battelle
 Sampled By: Marco Mendoza, Chase Brogdon
 Date: 9/7/07
 Weather: clear and warm

22632 Golden Springs Dr., Suite 270
 Diamond Bar, CA 91765
 Telephone: (909) 396-7662
 Fax: (909) 396-1455

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{74}{\text{TD (feet)}} - \frac{39.85}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{66.88}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
915	39.85	0	6.12	60.4	2.71	7.65	19.3	354	Clear, no odor
925	39.85	14	6.29	59.9	2.15	6.96	19.5	323	Clear, no odor
934	39.85	28	6.39	59.1	0.32	6.85	20.5	314	Clear, no odor
944	39.85	42	6.51	59.9	0.34	6.14	20.3	309	Clear, no odor
953	39.85	56	6.57	60.1	0.15	6.96	20.8	316	Clear, no odor
1003	39.85	70	6.67	62.0	0.20	6.72	20.3	318	Clear, no odor

Total Purge Volume: 70 (Gallons)

Total Discharge: 3.14 (Casing Volumes)

Approx. Purge Rate: 1.50 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 910 Purge time start: 915

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge water disposal: _____

WELL SAMPLING

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-15</u>	Sample ID: <u>DUPE-3-3Q07</u>	Type: _____	Type: _____
Sample Time: <u>1005</u>	Sample Time: <u>-----</u>	Sample ID: _____	Sample ID: _____
No. of Containers: <u>2</u>	No. of Containers: <u>2</u>	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 16



Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 4-73803
 Navy Contract No.: Battelle
 Sampled By: Marco Mendoza, Chase Brogdon
 Date: 9/11/07
 Weather: clear and warm

22632 Golden Springs Dr., Suite 270
 Diamond Bar, CA 91765
 Telephone: (909) 396-7662
 Fax: (909) 396-1455

PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{285}{\text{TD (feet)}} - \frac{228.43}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{110.79}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
1014	228.43	0	6.32	53.9	42.5	14.39	27.2	377	Slightly brownish, no odor
1032	228.43	22	6.69	52.3	11.7	12.45	26.7	325	Clear, no odor
1050	228.43	44	6.74	53.8	2.27	13.63	27.2	330	Clear, no odor
1108	228.43	67	6.80	54.7	0.69	13.57	26.4	357	Clear, no odor
1126	228.43	89	6.82	53.1	0.08	12.57	27.6	360	Clear, no odor
1144	228.43	111	6.84	55.9	-0.55	12.53	27.7	329	Clear, no odor

Total Purge Volume: 111 (Gallons)

Total Discharge: 3.01 (Casing Volumes)

Approx. Purge Rate: 1.25 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 1009 Purge time start: 1014

RECHARGE BEHAVIOR: Fast recharging
 Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: polytank

Purge water disposal: _____

WELL SAMPLING

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-16</u>	Sample ID: <u>DUPE-5-3Q07</u>	Type: _____	Type: _____
Sample Time: <u>1147</u>	Sample Time: <u>-----</u>	Sample ID: _____	Sample ID: _____
No. of Containers: <u>6</u>	No. of Containers: <u>6</u>	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-3
Sampling Zone No.: 4 to 2
Depth (ft): 653, 558, 346, 252, 122
Beginning of Session: 14.01 psia
End of Session: 14.07 psia

Start Time: 948
Finish Time: 1135

Date: 8/28/07
Page: 1 of 1

Water Pressure Inside Casing:

Port #	Run #	Surface Function Checks							Position Sampler	Arm out	Sample Collection Checks								Water Quality Parameters						
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In			Deactivate Set Arm Locate Port	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	pH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (°C)
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	210.23	✓	209.22	✓	209.23	✓	✓	210.25	1011	6.74	1.43	36.2	11.27	24.7	276
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	117.75	✓	120.26	✓	120.30	✓	✓	117.72	1041	6.85	0.56	38.7	11.30	24.1	267
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	76.77	✓	79.22	✓	79.27	✓	✓	76.84	1112	6.84	4.71	50.6	11.52	25.9	297
2	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	76.82	✓	79.26	✓	79.30	✓	✓	76.83	-	-	-	-	-	-	-

Notes:
 port 5: NOT SAMPLED port 4: CLEAR, SLIGHT ODOR port 3: CLEAR, SLIGHT ODOR
 port 2: CLEAR, NO ODOR port 1: NOT SAMPLED

Total Volume:



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #. Battelle

Well ID: MW-4
 Sampling Zone No.: 3 to 1
 Depth (ft): 515, 302, 322, 240, 150
 Beginning of Session: 14.03 psia
 End of Session: 14.05 psia

Start Time: 7:25
 Finish Time: 9:9

Date: 8/28/07
 Page: 1 of 1

Water Pressure Inside Casing: _____

Port #	Run #	Surface Function Checks							Position Sampler		Sample Collection Checks								Water Quality Parameters						
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe In	Arm In	Deactivate Set Arm Locate Port	Arm out	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
3	1	✓	✓	✓	✓	✓	✓	✓	✓	64.03	✓	118.98	✓	118.98	✓	✓	64.06	750	5.44	10.70	54.2	10.17	22.5	349	
2	1	✓	✓	✓	✓	✓	✓	✓	✓	28.23	✓	83.34	✓	83.35	✓	✓	28.22	815	5.58	4.52	98.2	12.68	23.3	309	
1	1	✓	✓	✓	✓	✓	✓	✓	✓	14.08	✓	45.34	✓	45.32	✓	✓	14.12	849	6.85	12.3	54.7	14.38	23.2	294	
1	2	✓	✓	✓	✓	✓	✓	✓	✓	14.07	✓	45.34	✓	45.30	✓	✓	14.12	907	6.81	11.8	55.7	11.98	23.3	310	

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Notes:

port 5: NOT SAMPLED port 4: NOT SAMPLED port 3: YELLOWISH, SLIGHT PETROL ODOUR
 port 2: CLEAR, NO ODOUR port 1: CLEAR, NO ODOUR

Total Volume: _____



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-11
Sampling Zone No.: 4 to 1
Depth (ft): 529, 524, 429, 259, 149
Beginning of Session: 14.00 psia
End of Session: 14.04 psia

Start Time: 948
Finish Time: 1140

Date: 8/30/07
Page: 1 of 1

Water Pressure Inside Casing:

Port #	Run #	Surface Function Checks							Position Sampler	Sample Collection Checks								Water Quality Parameters									
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In		Deactivate Set Arm Locate Port	Arm out	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP	
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	191.33	✓	185.24	✓	185.23	✓	✓	191.31	1012	6.53	-1.32	26.3	12.01	24.7	267		
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	151.34	✓	142.39	✓	142.33	✓	✓	151.33	1038	6.58	7.99	48.4	10.81	24.7	277		
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	77.49	✓	69.77	✓	69.80	✓	✓	77.46	1103	6.73	0.41	48.1	10.08	25.0	312		
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	31.12	✓	29.52	✓	29.53	✓	✓	31.17	1136	6.78	0.32	60.6	11.01	26.9	364		

Notes:
 port 5: NOT SAMPLED port 4: CLEAR, STRONG ODOR port 3: CLEAR, SLIGHT ODOR
 port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR

Total Volume:



Groundwater Sampling Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-12
 Sampling Zone No.: 5 to 1
 Depth (ft): 548, 436, 323, 243, 140
 Beginning of Session: 14.04 psia
 End of Session: 14.05 psia

Start Time: 700
 Finish Time: 915

Date: 8/31/07
 Page: 1 of 1

Water Pressure Inside Casing: _____

Port #	Run #	Surface Function Checks							Position Sampler	Sample Collection Checks								Water Quality Parameters								
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In		Deactivate Set Arm Locate Port	Arm out	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	207.45	✓	204.92	✓	204.84	✓	✓	207.5	729	5.45	1.29	43.5	11.40	21.0	351	
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	158.75	✓	159.58	✓	159.53	✓	✓	158.74	754	6.23	-0.50	51.2	9.40	21.4	208	
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	109.43	✓	110.90	✓	110.91	✓	✓	109.44	817	6.75	1.51	43.6	10.07	22.6	189	
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	75.54	✓	76.44	✓	76.44	✓	✓	75.52	842	6.99	0.87	52.2	9.50	22.9	167	
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	31.07	✓	33.25	✓	33.26	✓	✓	31.06	912	7.17	5.19	56.1	9.54	23.4	206	

Notes:
 port 5: CLEAR NO odor port 4: CLEAR NO odor port 3: CLEAR STRONG odor
 port 2: CLEAR STRONG odor port 1: CLEAR STRONG odor

Total Volume: _____



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract # Battelle

Well ID: MW-14
 Sampling Zone No.: 5 to 1
 Depth (ft): 540, 456, 382, 277, 207
 Beginning of Session: 13.97 psia
 End of Session: 14.00 psia

Start Time: 734
 Finish Time: 1003

Date: 8/22/07
 Page: 1 of 1

Water Pressure Inside Casing: _____

Port #	Run #	Surface Function Checks							Position Sampler		Sample Collection Checks								Water Quality Parameters						
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Deactivate Set Arm Locate Port	Arm out	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (OC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	191.86	✓	180.80	✓	180.81	✓	✓	191.85	753	5.49	2.35	39.9	10.53	21.1	337	
4	1	✓	✓	✓	✓	✓	✓	✓	✓	155.18	✓	144.53	✓	144.53	✓	✓	155.18	816	5.54	0.61	60.0	9.89	21.3	331	
3	1	✓	✓	✓	✓	✓	✓	✓	✓	123.95	✓	112.50	✓	112.51	✓	✓	123.99	841	5.83	3.30	0.1	11.48	21.8	426	
2	1	✓	✓	✓	✓	✓	✓	✓	✓	78.10	✓	67.14	✓	67.18	✓	✓	78.10	908	6.04	9.71	0.091	11.77	22.8	432	
1	1	✓	✓	✓	✓	✓	✓	✓	✓	48.04	✓	37.72	✓	37.72	✓	✓	48.07	940	6.29	6.02	0.1	9.67	24.6	436	
1	2	✓	✓	✓	✓	✓	✓	✓	✓	48.03	✓	37.74	✓	37.54	✓	✓	48.06	-	-	-	-	-	-	-	

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Notes:

port 5: CLEAR, STRONG ODOR port 4: CLEAR, SLIGHT ODOR port 3: CLEAR, NO ODOR
 port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR

Total Volume: _____



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-17
Sampling Zone No.: 4 to 2
Depth (ft): 26, 582, 468, 370, 200
Beginning of Session: 13.95 psia
End of Session: 13.97 psia

Start Time: 728
Finish Time: 907

Date: 8/23/07
Page: 1 of 1

Water Pressure Inside Casing: —

Port #	Run #	Surface Function Checks							Position Sampler	Sample Collection Checks								Water Quality Parameters								
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In		Deactivate Set Arm Locate Port	Arm out	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	183.65	✓	177.29	✓	177.25	✓	✓	183.68	756	5.62	1.04	41.2	10.92	18.7	352	
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	134.15	✓	125.68	✓	125.69	✓	✓	134.18	829	5.42	20.0	74.2	10.40	18.6	341	
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	91.59	✓	87.09	✓	87.13	✓	✓	91.56	902	5.60	3.15	91.9	10.17	20.3	321	

Notes:
 port 5: NOT SAMPLED port 4: CLEAR, NO ODOR port 3: CLEAR, NO ODOR
 port 2: CLEAR, NO ODOR port 1: NOT SAMPLED

Total Volume: —



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-18
Sampling Zone No.: 5 to 2
Depth (ft): 684, 564, 424, 330, 280
Beginning of Session: 13.93 psia
End of Session: 13.96 psia

Start Time: 942
Finish Time: 1145

Date: 8/23/07
Page: 1 of 1

Water Pressure Inside Casing:

Port #	Run #	Surface Function Checks							Position Sampler	Arm out	Sample Collection Checks							Water Quality Parameters						
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In			Deactivate Set Arm Locate Port	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen
5	1	✓	✓	✓	✓	✓	✓	✓	✓	159.32	✓	205.02	✓	204.99	✓	✓	159.39	1006	6.54	0.83	35.6	12.57	23.1	285
4	1	✓	✓	✓	✓	✓	✓	✓	✓	108.06	✓	153.95	✓	153.96	✓	✓	108.08	1036	6.54	3.94	47.0	11.24	23.7	332
3	1	✓	✓	✓	✓	✓	✓	✓	✓	47.02	✓	96.27	✓	96.32	✓	✓	47.01	1106	6.60	0.66	57.9	11.55	23.6	345
2	1	✓	✓	✓	✓	✓	✓	✓	✓	14.04	✓	55.02	✓	55.00	✓	✓	14.08	1140	6.76	0.49	55.7	10.04	26.6	376

Notes:
 port 5: CLEAR, FAINT ODOR port 4: CLEAR, FAINT ODOR port 3: CLEAR, NO ODOR
 port 2: CLEAR, NO ODOR port 1: NOT SAMPLED

Total Volume:



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract # Battelle

Well ID: MW-19
 Sampling Zone No.: 150 S
 Depth (ft): 498, 444, 392, 314, 242
 Beginning of Session: 73.98 psia
 End of Session: 14.00 psia

Start Time: 727
 Finish Time: 930

Date: 8/24/07
 Page: 1 of 1

Water Pressure Inside Casing: _____

Port #	Run #	Surface Function Checks							Position Sampler		Sample Collection Checks								Water Quality Parameters					
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In			Deactivate Set Arm Locate Port	Arm out	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Cond (mmhos)
5	1	✓	✓	✓	✓	✓	✓	✓	✓	174.43	✓	163.90	✓	113.92	✓	✓	174.91	746	5.91	0.41	83.0	11.69	17.5	346
4	1	✓	✓	✓	✓	✓	✓	✓	✓	150.97	✓	140.52	✓	140.51	✓	✓	150.91	807	5.77	0.26	65.8	11.89	19.2	323
3	1	✓	✓	✓	✓	✓	✓	✓	✓	129.17	✓	119.13	✓	119.11	✓	✓	129.21	839	5.97	0.58	69.2	11.20	19.2	315
2	1	✓	✓	✓	✓	✓	✓	✓	✓	94.52	✓	84.87	✓	84.91	✓	✓	94.56	904	6.54	1.60	0.999	10.57	20.0	286
1	1	✓	✓	✓	✓	✓	✓	✓	✓	63.15	✓	53.87	✓	53.88	✓	✓	63.21	922	7.08	9.31	39.8	9.77	20.1	295

Notes: port 5: CLEAR - NO ODR port 4: CLEAR - NO ODR port 3: CLEAR - NO ODR
 port 2: BROWNISH - NO ODR port 1: CLEAR - NO ODR

Total Volume: _____



Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena
 Contract #: Battelle

Well ID: MW-22
 Sampling Zone No.: 3+01
 Depth (ft): 588, 467, 389, 329, 245
 Beginning of Session: 14.02 psia
 End of Session: 14.01 psia

Start Time: 755
 Finish Time: 914

Date: 8/30/07
 Page: 1 of 1

Water Pressure Inside Casing:

Port #	Run #	Surface Function Checks							Position Sampler	Arm out	Sample Collection Checks								Water Quality Parameters						
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In			Deactivate Set Arm Locate Port	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	116.90	✓	111.52	✓	111.53	✓	✓	116.92	817	5.09	-0.06	72.0	9.96	22.8	374
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	90.85	✓	85.42	✓	85.41	✓	✓	90.87	843	5.62	-0.05	53.9	9.84	23.2	283
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	53.95	✓	48.74	✓	48.75	✓	✓	53.96	910	5.77	10.13	0.1	9.41	23.0	378

Notes:

port 5: NOT SAMPLED port 4: NOT SAMPLED port 3: CLEAR, NO ODOR
 port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR

Total Volume:



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-24
Sampling Zone No.: 4 to 1
Depth (ft): 678, 554, 435, 373, 279
Beginning of Session: 13.96 psia
End of Session: 13.97 psia

Start Time: 738
Finish Time: 955

Date: 9/4/07
Page: 1 of 1

Water Pressure Inside Casing: _____

Table with columns: Port #, Run #, Surface Function Checks, Position Sampler, Sample Collection Checks, Water Quality Parameters. Includes handwritten data for runs 1-4 across ports 1-5.

Notes:

port 5: NOT SAMPLED port 4: CLEAR, STRONG H2S ODOR port 3: CLEAR, SLIGHT ODOR
port 2: CLEAR, NO ODOR port 1: FAINT YELLOWISH BROWN COLOR, NO ODOR

Total Volume: _____



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-25
Sampling Zone No.: 5 to 1
Depth (ft): 713, 633, 503, 423, 358
Beginning of Session: 14.13 psia
End of Session: 14.15 psia

Start Time: 7:25
Finish Time: 10:20

Date: 9/6/07
Page: 1 of 1

Water Pressure Inside Casing: _____

Port #	Run #	Surface Function Checks							Position Sampler	Arm out	Sample Collection Checks							Water Quality Parameters						
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In			Deactivate Set Arm Locate Port	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Cond (umhos)	Dissolved Oxygen
5	1	✓	✓	✓	✓	✓	✓	✓	✓	208.89	✓	206.30	✓	206.30	✓	✓	208.85	751	5.55	0.93	50.4	1.00	20.0	291
4	1	✓	✓	✓	✓	✓	✓	✓	✓	174.30	✓	170.22	✓	170.23	✓	✓	174.31	825	5.64	1.08	69.1	12.21	20.2	287
3	1	✓	✓	✓	✓	✓	✓	✓	✓	117.90	✓	117.54	✓	117.56	✓	✓	117.90	857	5.86	1.50	73.9	10.97	20.3	282
2	1	✓	✓	✓	✓	✓	✓	✓	✓	83.09	✓	86.20	✓	86.21	✓	✓	83.10	926	6.09	0.38	70.9	10.80	21.3	296
1	1	✓	✓	✓	✓	✓	✓	✓	✓	54.73	✓	59.20	✓	59.22	✓	✓	54.72	959	6.26	11.6	91.8	12.44	21.2	288
1	2	✓	✓	✓	✓	✓	✓	✓	✓	54.71	✓	59.20	✓	59.20	✓	✓	54.72	-	-	-	-	-	-	-

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Notes:

port 5: CLEAR, STRONG ODOR port 4: CLEAR, NO ODOR port 3: CLEAR, NO ODOR
port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR

Total Volume: _____



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #: Battelle

Well ID: MW-26
 Sampling Zone No.: 2+01
 Depth (ft): 215.135
 Beginning of Session: 13.99 psia
 End of Session: 14.00 psia

Start Time: 745
 Finish Time: 850

Date: 9/5/07
 Page: 1 of 1

Water Pressure Inside Casing: _____

Port #	Run #	Function Checks							Position Sampler	Sample Collection Checks							Water Quality Parameters								
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In		Deactivate Set Arm Locate Port	Arm out	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe in	Pressure in MP	Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (OC)
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	73.16	✓	73.15	✓	73.15	✓	✓	73.15	813	5.39	9.30	57.7	9.44	21.1	425
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	38.54	✓	37.32	✓	37.33	✓	✓	38.53	846	5.45	0.09	82.4	9.65	20.7	364

Notes:

Total Volume: _____

port 2: CLEAR, NO ODOOR port 1: CLEAR, NO ODOOR

ATTACHMENT 5: WATER LEVEL MEASUREMENTS

This attachment contains water level measurements for the Westbay™ multiport JPL monitoring wells obtained during the 3rd quarter of 2007. Water level measurements were recorded before the sampling event on August 20, 2007, and after the sampling event on September 14, 2007. Water levels in the shallow wells were measured using a Solinst™ water level meter and the results are provided with the field logs (Attachment 4). In the deep multiport wells, the hydraulic head at each sampling port was measured with a Westbay™ pressure-transducer probe. Water level measurements were taken by Geofon Incorporated.

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-3
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. + MSL): 1,100.34
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	920	931
Pressure (psia)	14.08	14.07
Temperature (°C)	19.19	17.56

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	653	249.55	250.86	249.56	21.17	924	106.75	993.59
4	558	208.33	209.77	208.34	21.92	925	106.54	993.80
3	346	116.09	120.76	116.05	21.69	927	99.89	1000.45
2	252	75.23	79.77	75.23	20.85	928	100.45	999.89
1	172	40.46	45.19	40.47	18.59	930	100.23	1000.11

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-4
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. +MSL): 1,082.84
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	1301	1311
Pressure (psia)	14.10	14.12
Temperature (°C)	20.25	19.47

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	513	143.98	201.67	143.96	21.50	1303	80.28	1002.56
4	392	91.33	149.32	91.39	21.61	1305	80.05	1002.79
3	322	60.90	119.37	60.92	21.31	1306	79.14	1003.70
2	240	25.21	83.79	25.19	20.72	1308	79.23	1003.61
1	150	14.20	45.79	14.18	19.96	1310	76.89	1005.95

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-11
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,139.30
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	902	911
Pressure (psia)	14.09	14.06
Temperature (°C)	21.22	18.06

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	639	238.78	227.42	238.68	20.56	905	146.85	992.45
4	524	189.10	185.74	189.11	20.99	907	128.00	1011.30
3	429	148.22	142.86	148.24	20.66	908	131.93	1007.37
2	259	74.68	70.28	74.63	19.66	909	129.37	1009.93
1	149	27.37	30.10	27.35	18.61	910	112.06	1027.24

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-12
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,102.14
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	1239	1255
Pressure (psia)	14.15	14.09
Temperature (°C)	22.49	19.13

Screen No.	Depth (Ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	548	205.22	205.50	205.25	21.45	1242	106.56	995.58
4	436	156.57	160.12	156.58	21.48	1244	99.25	1002.89
3	323	107.45	111.47	107.40	20.47	1245	98.48	1003.66
2	243	72.56	77.05	72.55	19.12	1247	97.89	1004.25
1	140	27.71	33.91	27.71	20.62	1253	94.41	1007.73

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-14
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,173.47
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	739	748
Pressure (psia)	14.04	14.04
Temperature (°C)	19.31	19.31

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	540	189.70	180.90	189.70	20.10	742	155.05	1018.42
4	456	153.23	144.63	153.17	20.62	743	154.73	1018.74
3	382	120.98	112.58	120.99	20.34	745	154.67	1018.80
2	277	75.23	67.27	75.27	19.92	746	154.20	1019.27
1	207	44.81	37.85	44.80	19.57	747	152.07	1021.40

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-17
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,191.21
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	1028	1044
Pressure (psia)	14.06	14.05
Temperature (°C)	20.87	16.03

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	726	244.77	242.06	244.76	21.04	1037	200.00	991.21
4	582	182.34	177.36	182.34	20.34	1038	205.27	985.94
3	468	132.88	125.76	132.91	19.36	1040	210.31	980.90
2	370	90.40	87.25	90.39	18.25	1041	201.15	990.06
1	250	38.26	36.41	38.27	17.16	1042	198.44	992.77

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-18
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: _____
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,225.41

Note: clear and hot

Ambient Readings	Start	Finish
Time	1054	1109
Pressure (psia)	14.05	14.08
Temperature (°C)	19.81	17.27

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)	
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	684	157.26	205.17	157.25	21.48	1103			
								243.09	982.32
4	564	105.10	154.07	105.15	21.34	1105			
								240.97	984.44
3	424	44.31	96.48	44.25	20.37	1106			
								233.83	991.58
2	330	14.22	55.21	14.20	19.02	1107			
								235.04	990.37
1	270	14.18	29.09	14.19	18.09	1108			
								235.30	990.11

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-19
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. +MSL): 1,142.94
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	1007	1016
Pressure (psia)	14.07	14.06
Temperature (°C)	22.25	16.89

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	498	173.53	164.12	173.56	20.48	1009	151.83	991.11
4	444	150.14	140.72	150.14	20.13	1010	151.82	991.12
3	392	127.58	119.31	122.56	19.76	1011	149.21	993.73
2	314	93.72	85.12	93.72	19.36	1013	150.09	992.85
1	242	62.47	54.17	62.46	18.70	1014	149.49	993.45

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-20
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,165.05
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	1122	1134
Pressure (psia)	14.08	14.06
Temperature (°C)	21.64	17.68

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	900	329.95	325.11	329.98	21.20	1125	182.45	982.60
4	700	243.25	234.36	243.27	22.27	1128	191.81	973.24
3	562	183.48	167.42	183.46	21.50	1130	208.24	956.81
2	392	109.73	101.16	109.73	20.21	1131	191.11	973.94
1	230	40.22	69.74	40.23	18.22	1133	101.59	1063.46

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-21
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,059.10
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	758	807
Pressure (psia)	14.10	14.13
Temperature (°C)	19.70	18.95

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	372	126.41	154.82	126.43	19.87	800	47.36	1011.74
4	310	99.46	127.96	99.45	19.85	803	47.32	1011.78
3	240	69.41	98.07	69.45	19.69	804	46.28	1012.82
2	161	35.06	63.91	35.06	19.35	805	46.09	1013.01
1	90	14.19	32.68	14.18	19.04	806	47.14	1011.96

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-22
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,176.98
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	819	828
Pressure (psia)	14.07	14.07
Temperature (°C)	18.86	20.02

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	588	201.85	195.19	201.83	20.50	822	170.16	1006.82
4	467	149.48	144.13	149.44	21.08	823	166.95	1010.03
3	389	115.64	111.97	115.64	21.07	825	163.14	1013.84
2	329	89.65	85.87	89.62	20.87	826	163.36	1013.62
1	245	52.76	49.22	52.74	20.43	827	163.91	1013.07

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-23
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,108.84
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	718	728
Pressure (psia)	14.03	14.09
Temperature (°C)	23.73	19.91

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	542	204.49	204.40	204.49	22.41	721	102.82	1006.02
4	445	162.48	162.46	162.46	22.10	723	102.57	1006.27
3	319	107.89	109.45	107.91	21.66	724	98.87	1009.97
2	254	79.67	81.24	79.71	21.23	725	98.95	1009.89
1	174	45.01	47.08	45.00	20.19	727	97.75	1011.09

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-24
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,200.94
 Weather: clear and hot

Ambient Readings	Start	Finish
Time	841	853
Pressure (psia)	14.05	14.08
Temperature (°C)	19.73	20.85

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	678	234.76	221.21	234.77	21.14	844	200.08	1000.86
4	554	181.10	169.15	181.12	21.51	845	196.18	1004.76
3	435	129.56	119.03	129.56	21.43	849	192.81	1008.13
2	373	102.74	92.22	102.69	21.38	851	192.66	1008.28
1	279	61.96	52.35	61.96	21.15	852	190.64	1010.30

GEOFON, Inc.
Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-25
 Project No: 4-73803 Probe Type: Westbay
 Date: 8/20/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. + MSL): 934.52

Weather: clear and hot

Ambient Readings	Start	Finish
Time	1150	1209
Pressure (psia)	14.17	14.16
Temperature (°C)	22.04	19.70

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	713	205.75	206.33	205.76	21.84	1153	269.69	664.83
4	633	171.18	170.31	171.21	21.08	1203	272.79	661.73
3	503	114.96	117.56	114.97	20.97	1204	264.48	670.04
2	423	80.23	86.19	80.25	20.72	1206	256.85	677.67
1	358	51.97	59.20	51.97	20.05	1207	254.12	680.40

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-3
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. + MSL): 1,100.34
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	922	932
Pressure (psia)	14.15	14.11
Temperature (°C)	18.33	18.02

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	653	248.11	249.46	248.13	20.30	925	110.14	990.20
4	558	206.76	208.39	206.73	21.36	926	109.89	990.45
3	346	114.60	119.45	114.66	21.35	928	103.07	997.27
2	252	73.75	78.44	73.80	20.70	929	103.68	996.66
1	172	39.03	43.79	39.03	19.38	930	103.62	996.72

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-4
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. +MSL): 1,082.84
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	1224	1232
Pressure (psia)	14.12	14.11
Temperature (°C)	19.88	19.84

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	513	144.14	200.44	144.21	21.04	1226	83.16	999.68
4	392	91.50	148.06	91.50	21.38	1227	83.00	999.84
3	322	61.06	118.12	61.08	21.23	1228	82.07	1000.77
2	240	25.36	82.49	25.37	20.89	1230	82.27	1000.57
1	150	14.19	44.47	14.19	20.29	1231	79.98	1002.86

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-11
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,139.30
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	904	914
Pressure (psia)	14.09	14.11
Temperature (°C)	19.90	17.98

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)	
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)					
5	639	238.38	226.10	238.45	20.31	907			
								149.89	989.41
4	524	188.82	184.56	188.82	20.74	908			
								130.73	1008.57
3	429	147.97	141.73	147.99	20.44	910			
								134.53	1004.77
2	259	74.36	69.18	74.33	19.65	911			
								131.91	1007.39
1	149	27.07	28.99	27.06	18.67	912			
								114.63	1024.67

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-12
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,102.14
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	1210	1218
Pressure (psia)	14.10	14.10
Temperature (°C)	21.16	18.30

Screen No.	Depth (Ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	548	204.94	204.11	204.93	20.62	1213	109.65	992.49
4	436	156.25	158.85	156.29	21.00	1214	102.06	1000.08
3	323	107.11	110.17	107.12	20.38	1215	101.37	1000.77
2	243	72.27	75.72	72.29	19.53	1216	100.84	1001.30
1	140	27.36	32.54	27.39	18.76	1217	97.46	1004.68

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-14
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,173.47
 Weather: clear and cool

Ambient Readings	Start	Finish
Time	725	739
Pressure (psia)	14.07	14.07
Temperature (°C)	17.59	19.35

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	540	189.38	179.83	189.39	21.19	733	157.59	1015.88
4	456	152.79	143.56	152.75	21.14	734	157.27	1016.20
3	382	120.66	111.50	120.64	20.68	735	157.23	1016.24
2	277	74.95	66.15	74.92	20.04	737	156.85	1016.62
1	207	44.41	36.74	44.45	19.68	738	154.70	1018.77

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-17
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,191.21
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	1026	1037
Pressure (psia)	14.08	14.06
Temperature (°C)	17.60	15.92

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	726	244.67	240.48	244.66	19.16	1030		
								203.70
4	582	182.34	175.89	182.34	19.49	1032		
								208.70
3	468	132.80	124.15	132.85	18.68	1033		
								214.07
2	370	90.27	85.82	90.27	17.74	1035		
								204.50
1	250	38.15	34.84	38.15	16.91	1036		
								202.11

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-18
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: _____
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,225.41

Note: clear and warm

Ambient Readings	Start	Finish
Time	1045	1055
Pressure (psia)	14.05	14.10
Temperature (°C)	17.18	17.01

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	684	157.14	203.36	157.15	19.23	1049		
								247.26
4	564	105.03	152.53	105.01	19.99	1051		
								244.53
3	424	44.15	95.00	44.13	19.47	1052		
								237.25
2	330	14.22	53.55	14.22	18.37	1053		
								238.87
1	270	14.15	27.35	14.15	17.62	1054		
								239.32

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-19
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. +MSL): 1,142.94
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	1010	1018
Pressure (psia)	14.10	14.09
Temperature (°C)	19.55	16.94

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	498	173.48	162.77	173.48	19.05	1012	155.02	987.92
4	444	150.02	139.37	150.04	19.10	1013	155.00	987.94
3	392	127.43	118.09	127.46	19.00	1014	152.10	990.84
2	314	93.61	83.87	93.67	18.82	1015	153.04	989.90
1	242	62.34	52.91	62.33	18.27	1016	152.47	990.47

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-20
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,165.05
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	1106	1119
Pressure (psia)	14.07	14.09
Temperature (°C)	18.81	17.18

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	900	329.74	323.86	329.84	20.36	1104		
							185.31	979.74
4	700	243.03	232.27	243.06	21.61	1112		
							196.61	968.44
3	562	183.19	165.75	183.24	21.15	1114		
							212.07	952.98
2	392	109.45	99.78	109.42	18.50	1117		
							194.27	970.78
1	230	39.12	29.41	39.12	17.44	1118		
							194.61	970.44

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-21
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,059.10
 Weather: clear and cool

Ambient Readings	Start	Finish
Time	750	758
Pressure (psia)	14.11	14.14
Temperature (°C)	17.89	18.71

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	372	126.55	153.75	126.54	18.82	752	49.85	1009.25
4	310	99.57	126.91	99.57	19.27	753	49.77	1009.33
3	240	69.56	97.01	69.53	19.24	754	48.75	1010.35
2	161	35.15	62.84	35.14	19.01	756	48.58	1010.52
1	90	14.20	31.60	14.17	18.80	757	49.65	1009.45

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-22
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,176.98
 Weather: clear and cool

Ambient Readings	Start	Finish
Time	808	817
Pressure (psia)	14.06	14.06
Temperature (°C)	17.43	19.98

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	588	201.77	194.00	201.78	19.99	811	172.88	1004.10
4	467	149.38	142.96	149.39	20.78	812	169.63	1007.35
3	389	115.56	110.86	115.56	20.85	813	165.68	1011.30
2	329	89.56	84.76	89.55	20.71	814	165.90	1011.08
1	245	52.70	48.01	52.68	20.38	815	166.68	1010.30

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-23
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,108.84
 Weather: clear and cool

Ambient Readings	Start	Finish
Time	701	712
Pressure (psia)	14.04	14.11
Temperature (°C)	17.71	19.90

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	542	204.37	203.31	204.37	20.79	705	105.35	1003.49
4	445	162.33	161.31	162.35	21.08	706	105.25	1003.59
3	319	107.71	108.29	107.75	20.94	709	101.57	1007.27
2	254	79.56	80.10	79.57	20.65	710	101.60	1007.24
1	174	44.84	45.87	44.84	20.20	711	100.57	1008.27

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Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-24
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (Ft. + MSL): 1,200.94
 Weather: clear and warm

Ambient Readings	Start	Finish
Time	827	856
Pressure (psia)	14.07	14.09
Temperature (°C)	18.99	20.43

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	678	234.65	219.94	234.60	22.45	839	203.06	997.88
4	554	180.97	167.92	180.94	22.27	840	199.07	1001.87
3	435	129.41	117.84	129.40	21.95	842	195.60	1005.34
2	373	102.59	91.03	102.58	21.76	843	195.45	1005.49
1	279	61.77	50.86	61.80	20.49	855	194.13	1006.81

GEOFON, Inc.
Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena Well ID: MW-25
 Project No: 4-73803 Probe Type: Westbay
 Date: 9/14/07 Serial No.: 2508
 Personnel: Marco Mendoza, Chase Brogdon
 Datum: TOC Casing Size/Type: 1.5" Westbay
 Elevation of Datum (ft. + MSL): 934.52

Weather: clear and warm

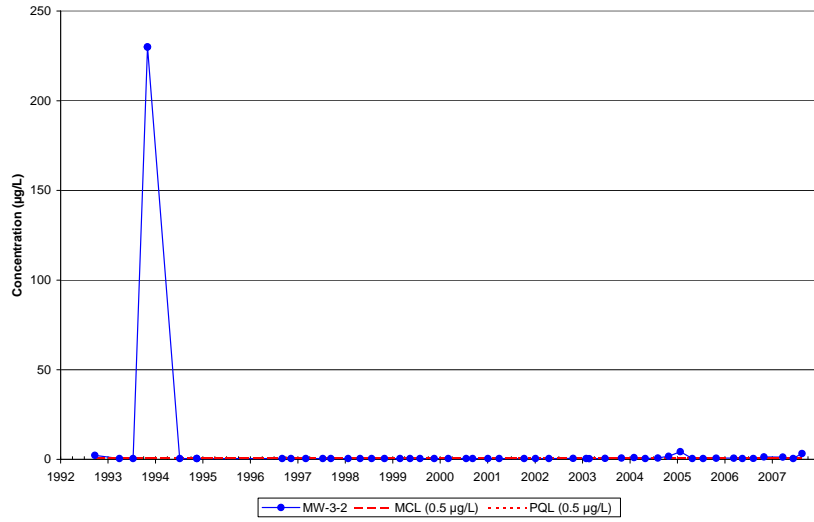
Ambient Readings		Start	Finish
Time		1134	1143
Pressure (psia)		14.21	14.20
Temperature (°C)		20.71	19.93

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings			Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
		Inside Casing (psia)	Outside Casing (psia)	Inside Casing (psia)				
5	713	205.43	207.73	205.48	21.43	1138	266.55	667.97
4	633	170.96	174.82	170.93	21.64	1139	262.47	672.05
3	503	114.69	120.45	114.75	21.38	1140	257.90	676.62
2	423	80.01	86.99	80.02	20.97	1141	255.10	679.42
1	358	51.75	59.37	51.73	20.56	1142	253.82	680.70

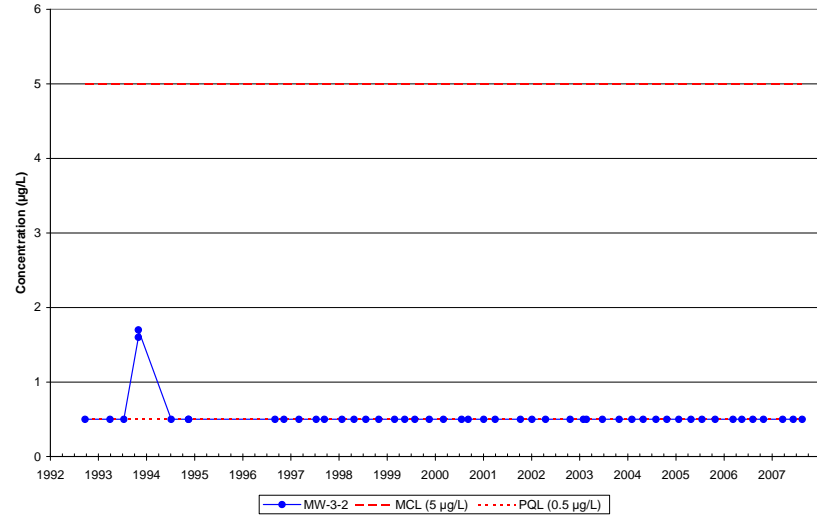
ATTACHMENT 6: TIME-SERIES CONCENTRATION PLOTS

This attachment contains time-series concentrations plots for perchlorate and VOCs in critical wells within the JPL monitoring well network. In general, critical wells have been determined based on the presence of perchlorate and VOC concentrations at levels that exceed cleanup goals or wells that are directly influenced by the operation of the OU-1 treatment system. These plots provide a graphical representation of perchlorate and VOC concentrations trends over time with respect to the cleanup goals for each chemical.

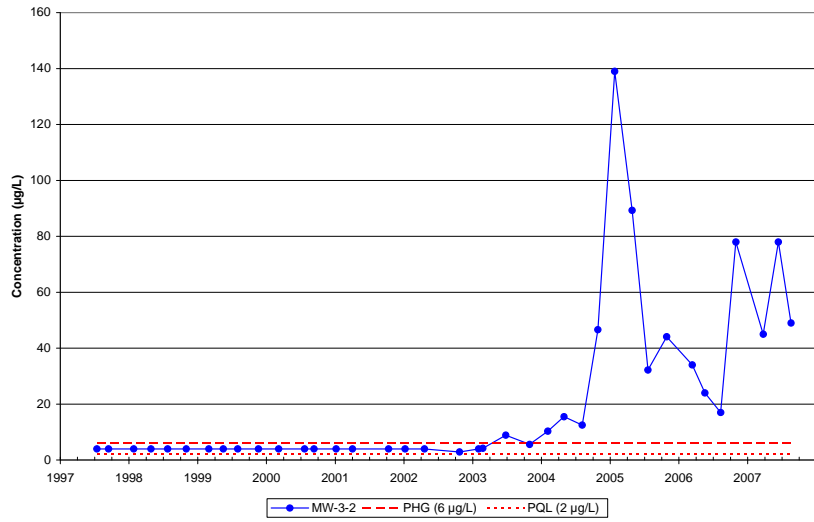
MW-3-2 Carbon tetrachloride Concentrations 1992 to Present



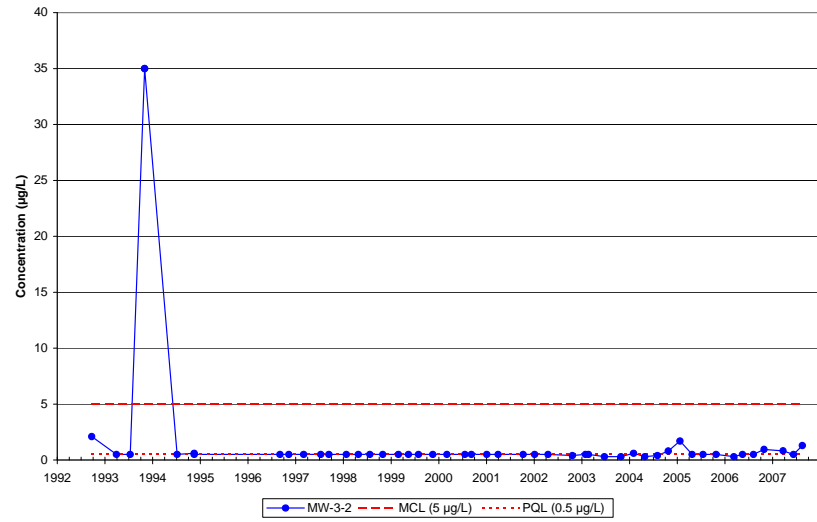
MW-3-2 Tetrachloroethene (PCE) Concentrations 1992 to Present



MW-3-2 Perchlorate Concentrations 1997 to Present

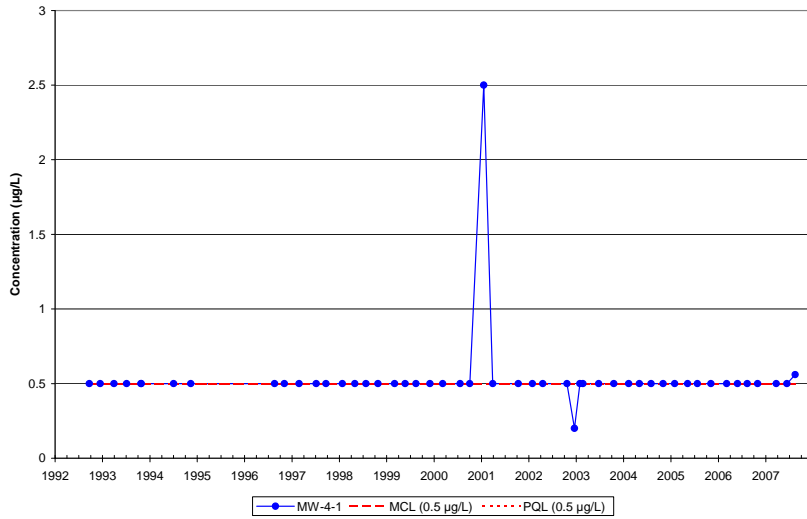


MW-3-2 Trichloroethene (TCE) Concentrations 1992 to Present

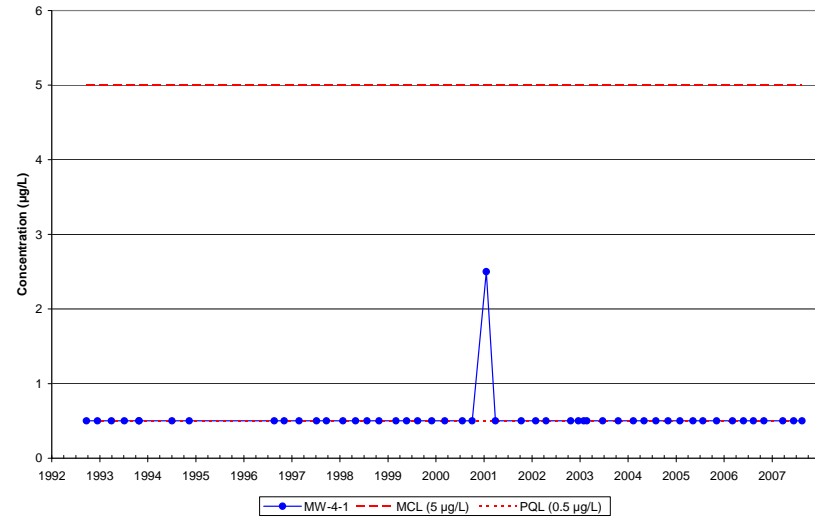


VOCs and Perchlorate Time Series Plots for MW-3-2

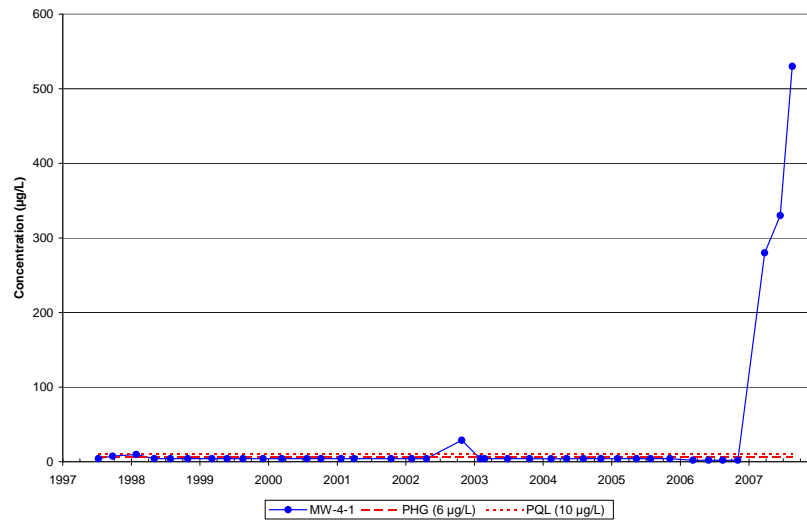
MW-4-1 Carbon tetrachloride Concentrations 1992 to Present



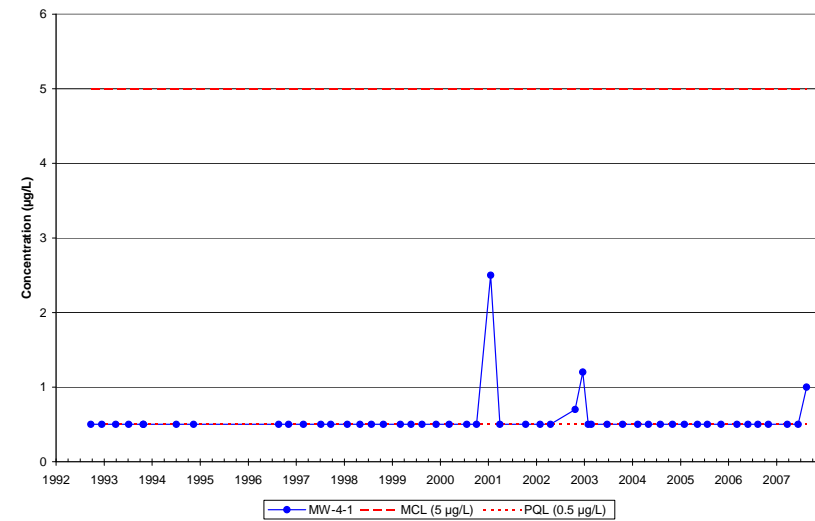
MW-4-1 Tetrachloroethene (PCE) Concentrations 1992 to Present



MW-4-1 Perchlorate Concentrations 1997 to Present

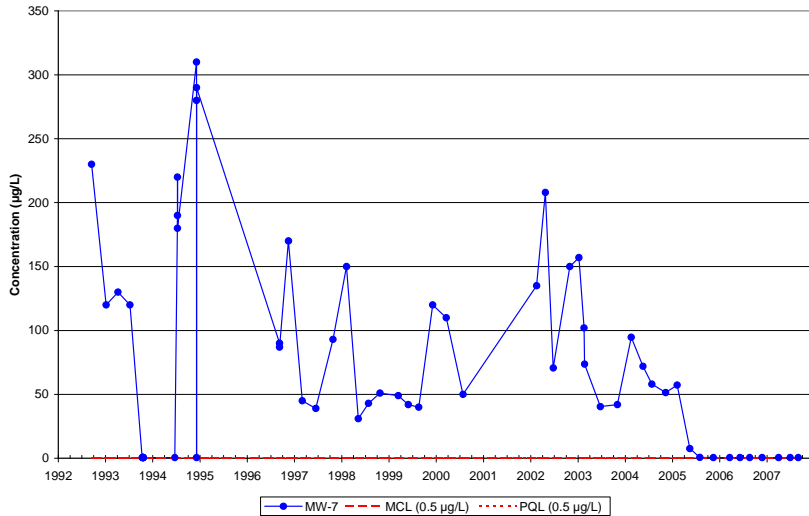


MW-4-1 Trichloroethene (TCE) Concentrations 1992 to Present

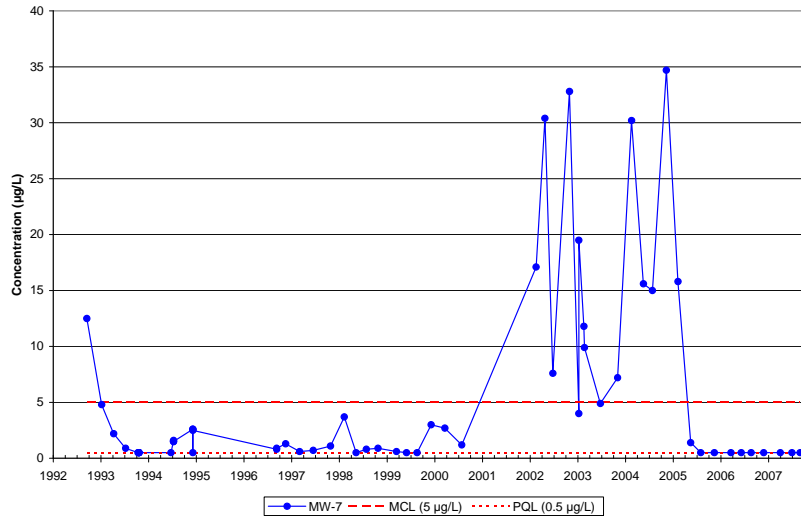


VOCs and Perchlorate Time Series Plots for MW-4-1

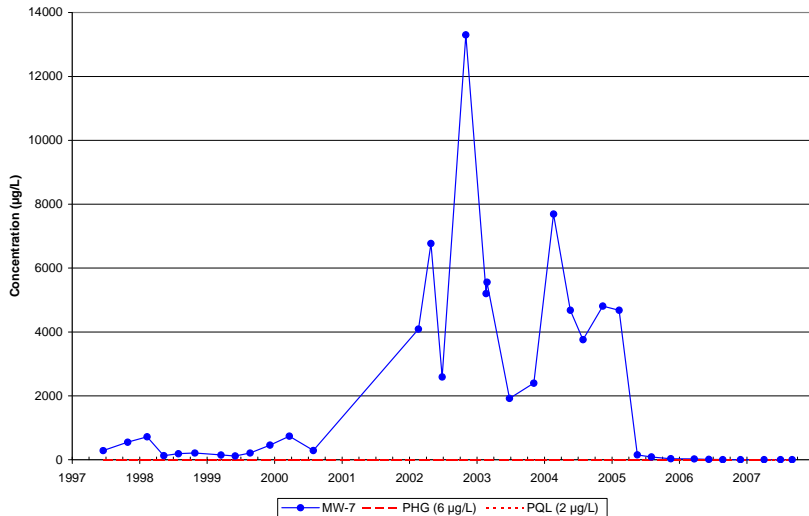
MW-7 Carbon tetrachloride Concentrations 1992 to Present



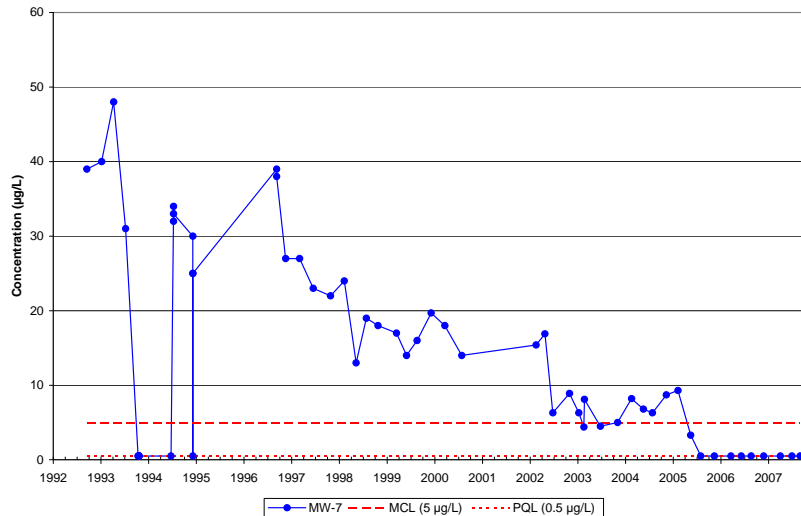
MW-7 Tetrachloroethene (PCE) Concentrations 1992 to Present



MW-7 Perchlorate Concentrations 1997 to Present

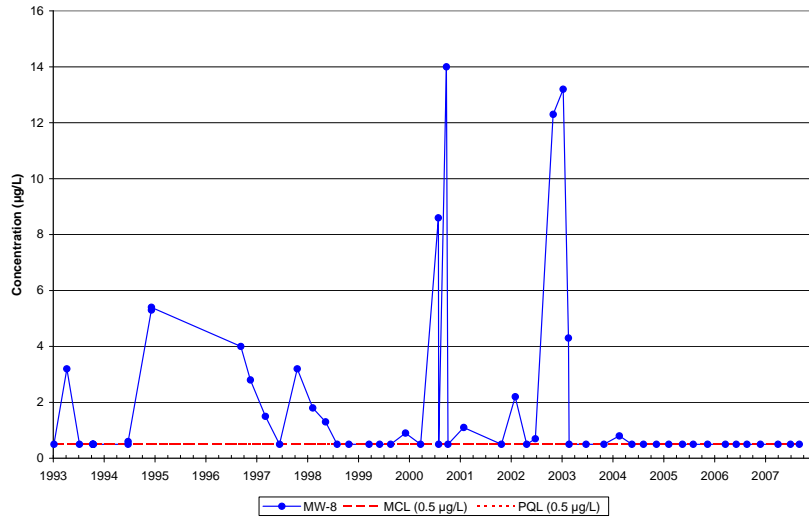


MW-7 Trichloroethene (TCE) Concentrations 1992 to Present

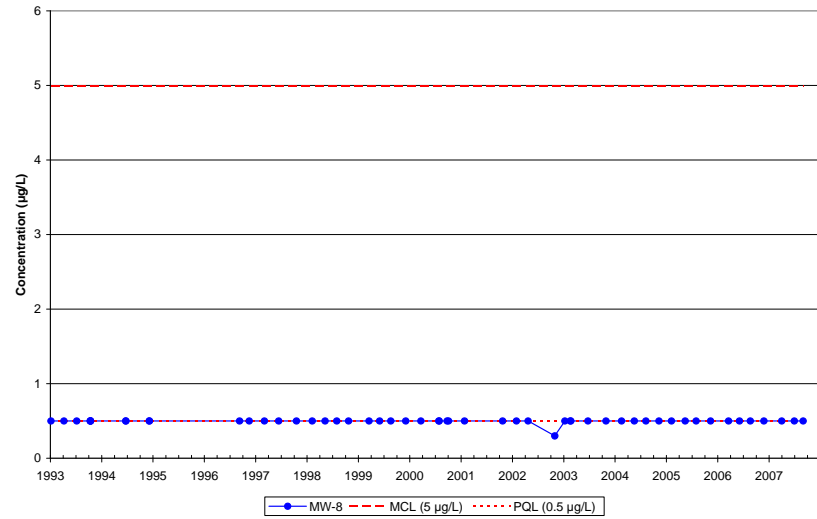


VOCs and Perchlorate Time Series Plots for MW-7

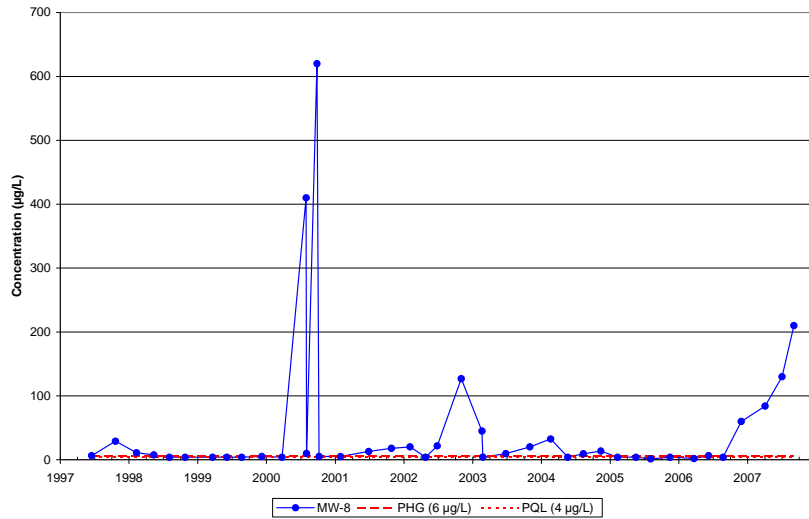
MW-8 Carbon tetrachloride Concentrations 1993 to Present



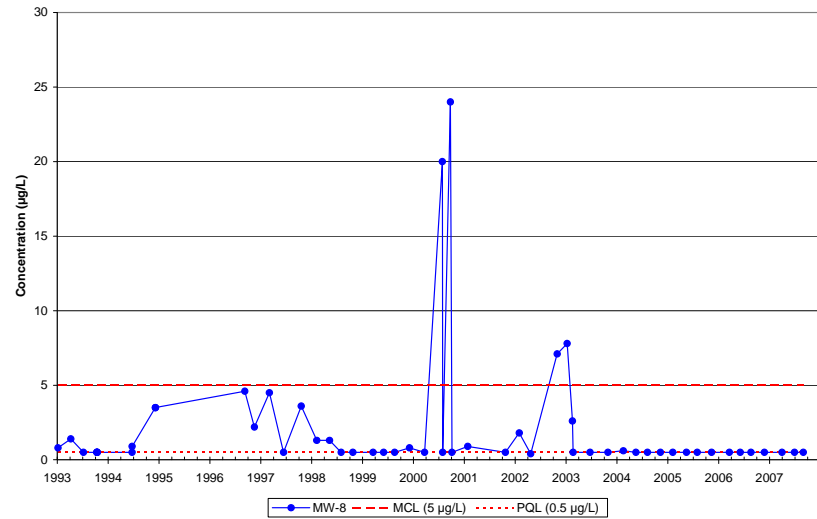
MW-8 Tetrachloroethene (PCE) Concentrations 1993 to Present



MW-8 Perchlorate Concentrations 1997 to Present

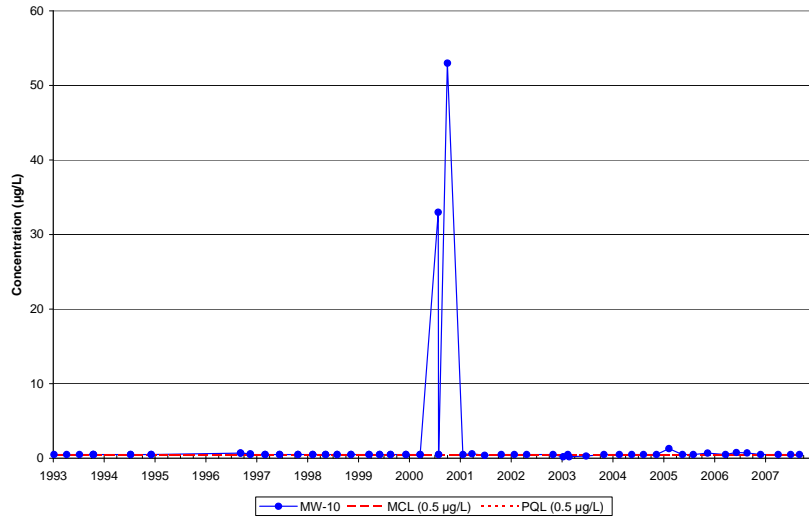


MW-8 Trichloroethene (TCE) Concentrations 1993 to Present

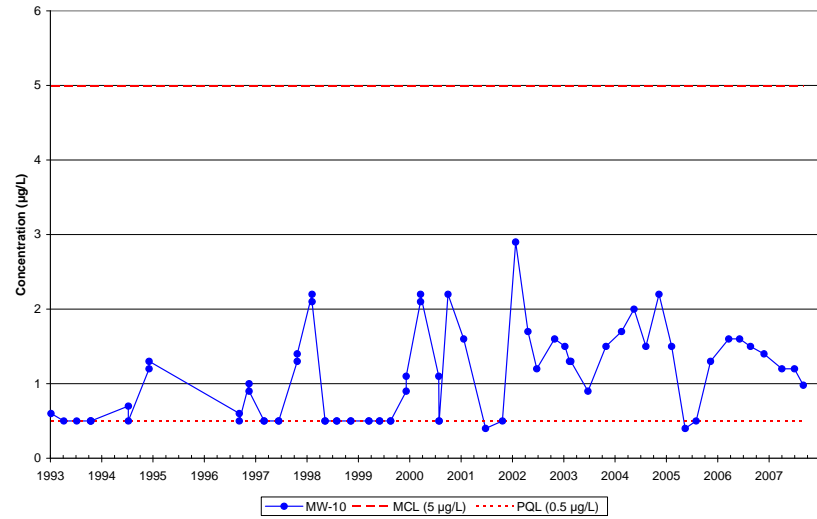


VOCs and Perchlorate Time Series Plots for MW-8

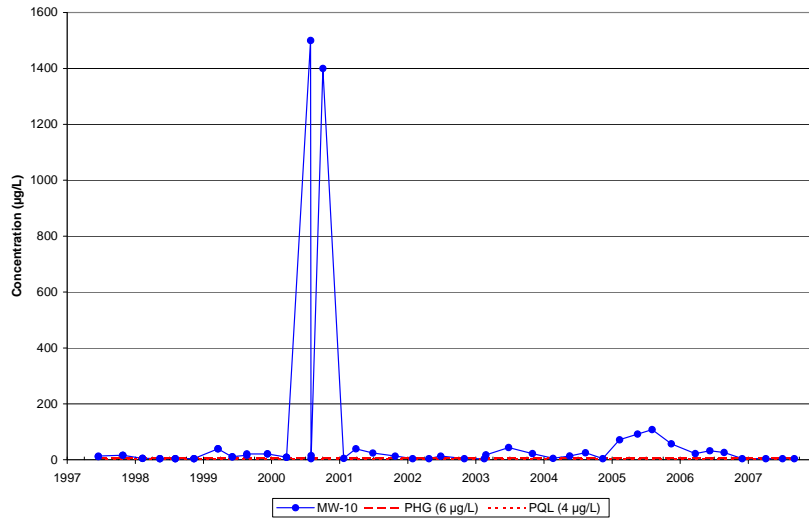
MW-10 Carbon tetrachloride Concentrations 1993 to Present



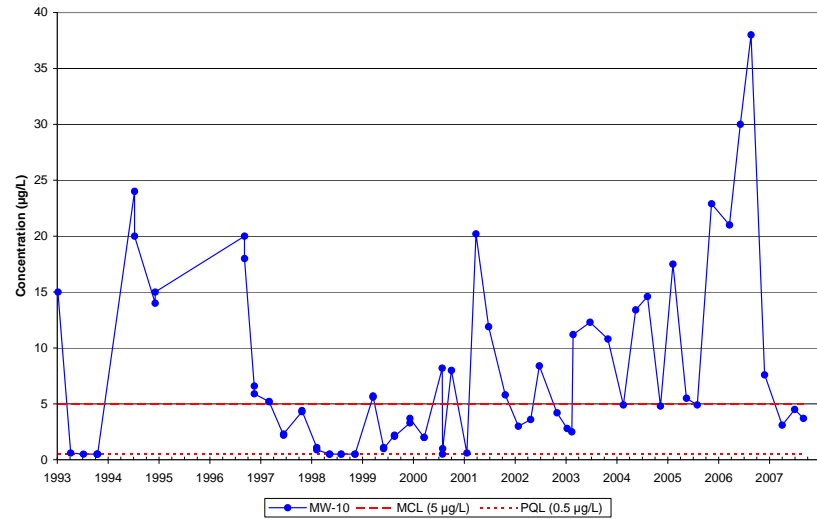
MW-10 Tetrachloroethene (PCE) Concentrations 1993 to Present



MW-10 Perchlorate Concentrations 1997 to Present

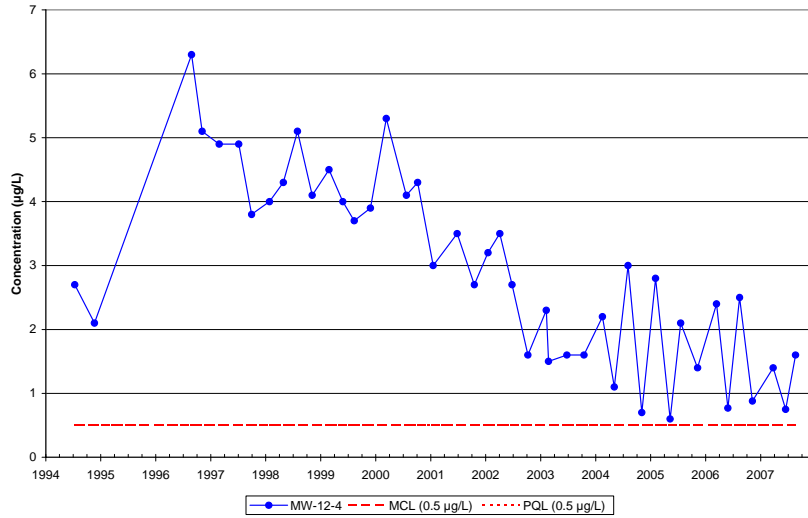


MW-10 Trichloroethene (TCE) Concentrations 1993 to Present

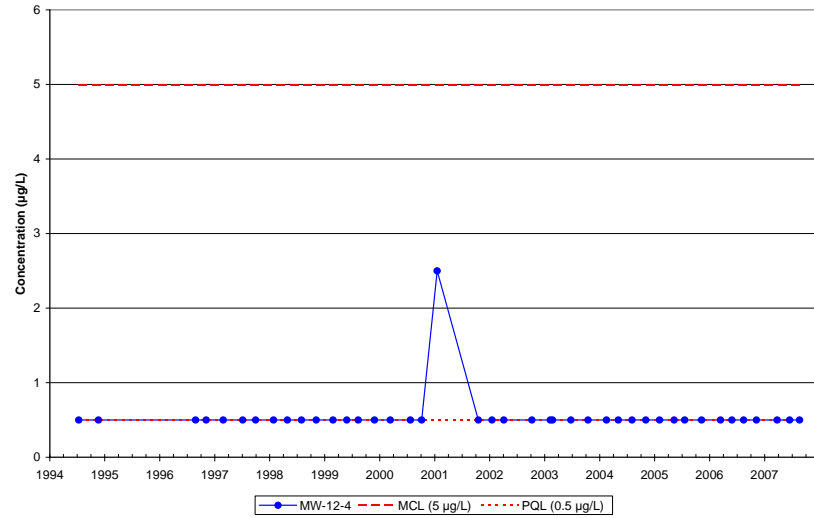


VOCs and Perchlorate Time Series Plots for MW-10

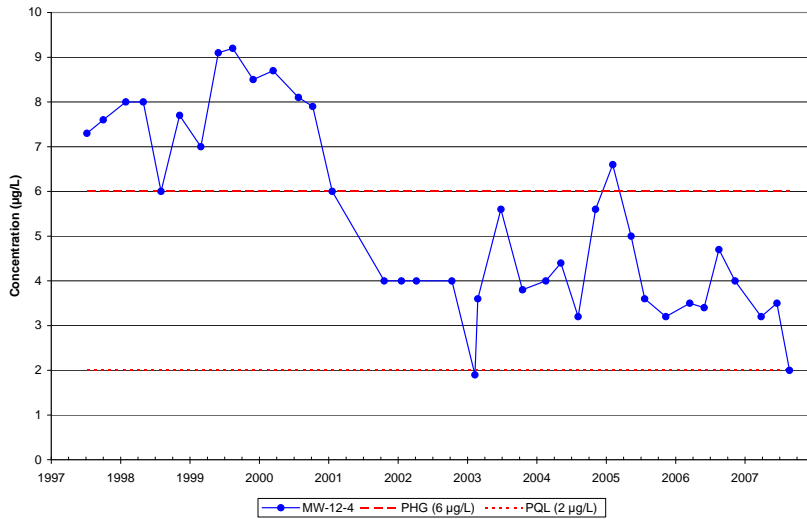
MW-12-4 Carbon tetrachloride Concentrations 1994 to Present



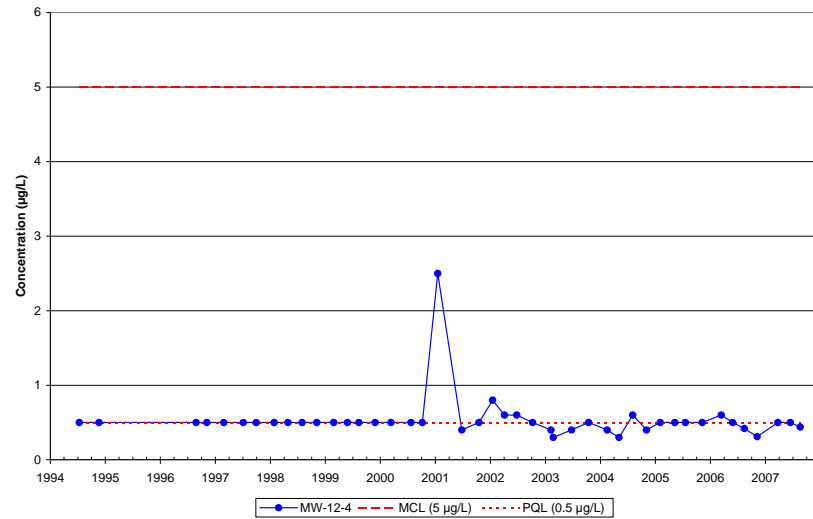
MW-12-4 Tetrachloroethene (PCE) Concentrations 1994 to Present



MW-12-4 Perchlorate Concentrations 1997 to Present

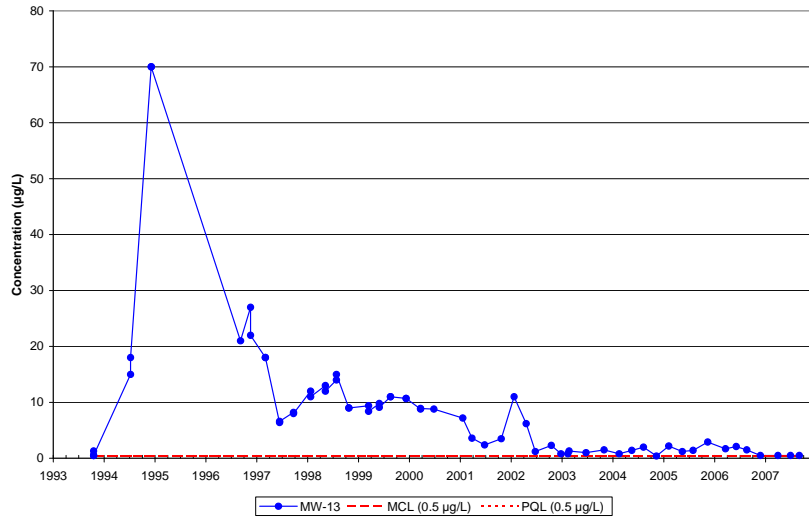


MW-12-4 Trichloroethene (TCE) Concentrations 1994 to Present

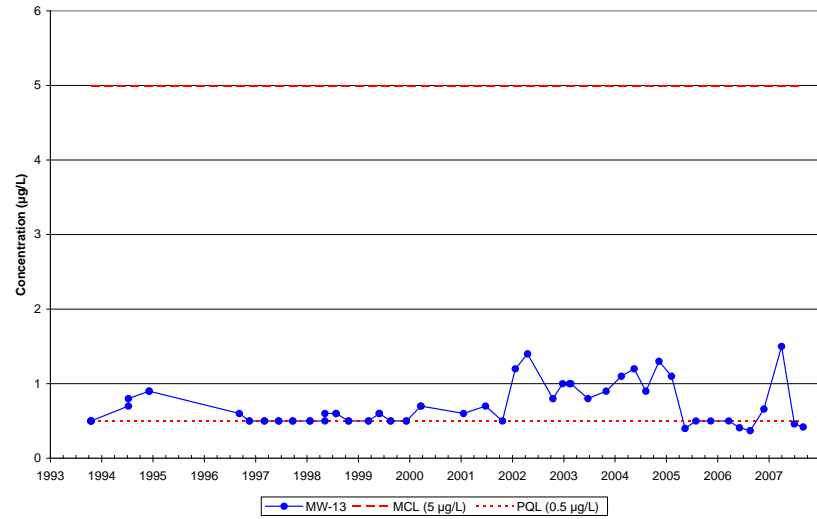


VOCs and Perchlorate Time Series Plots for MW-12-4

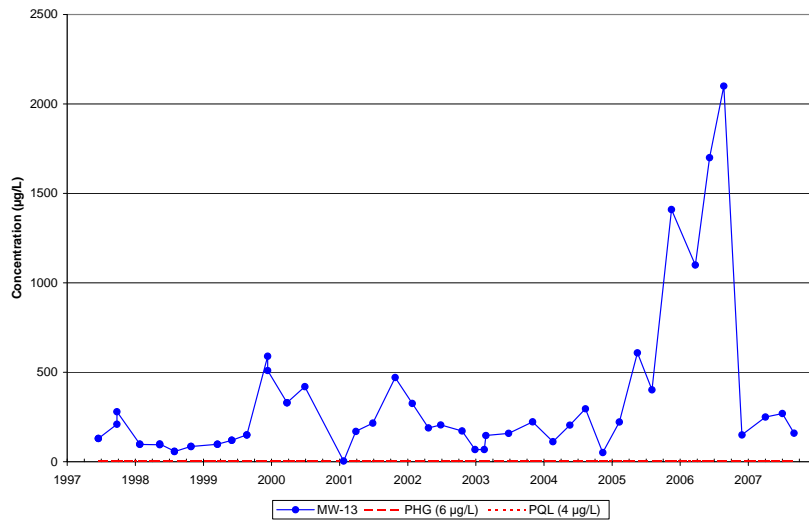
MW-13 Carbon tetrachloride Concentrations 1993 to Present



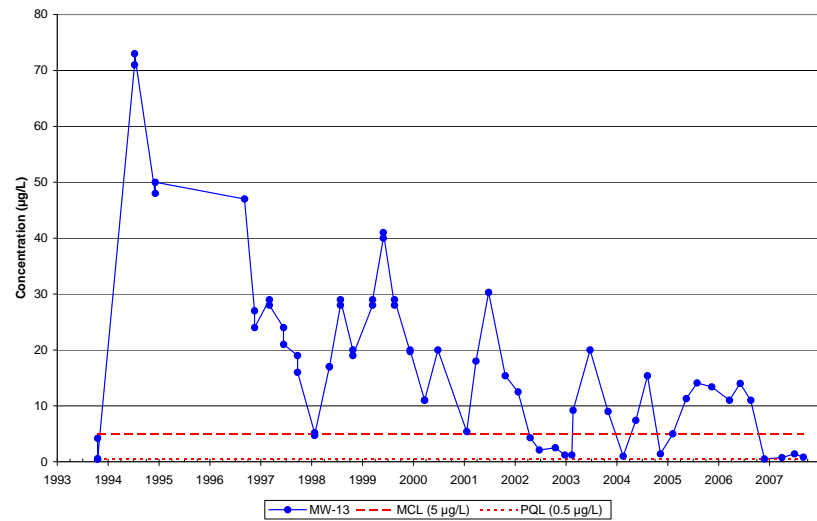
MW-13 Tetrachloroethene (PCE) Concentrations 1993 to Present



MW-13 Perchlorate Concentrations 1997 to Present

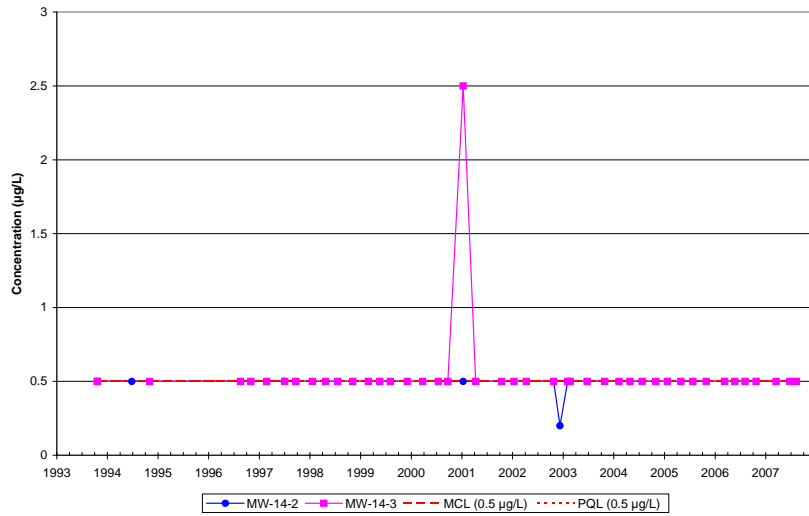


MW-13 Trichloroethene (TCE) Concentrations 1993 to Present

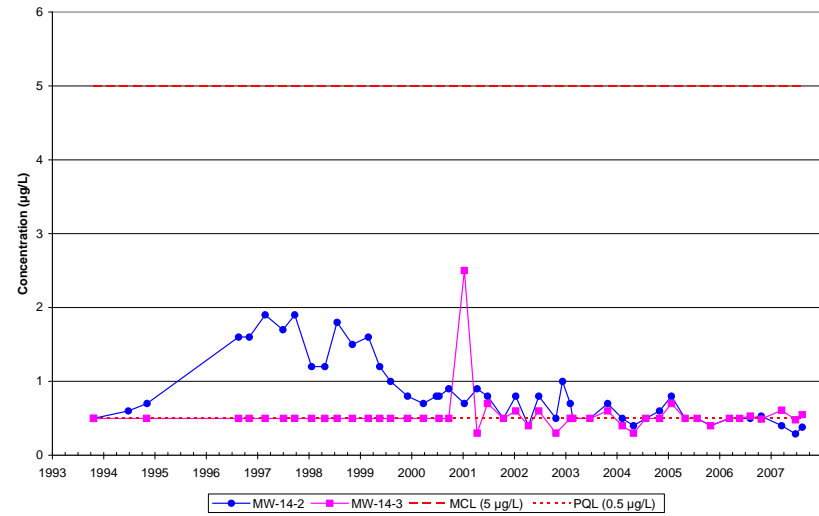


VOCs and Perchlorate Time Series Plots for MW-13

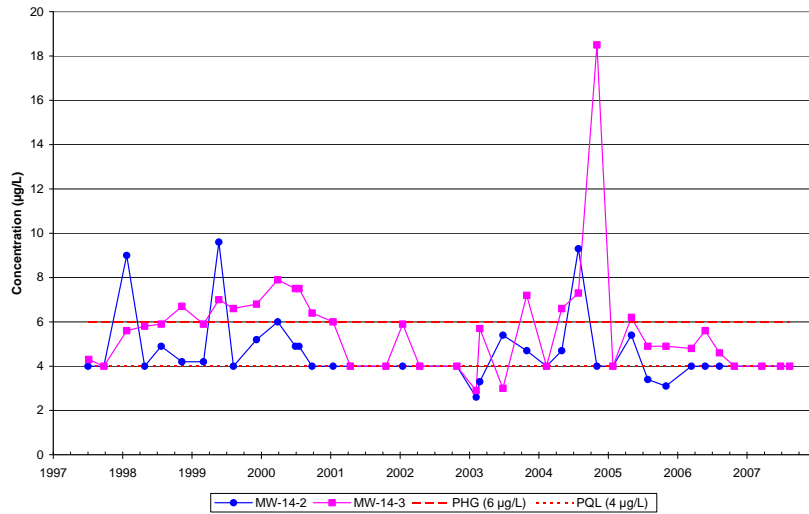
MW-14-2 and MW-14-3 Carbon tetrachloride Concentrations 1993 to Present



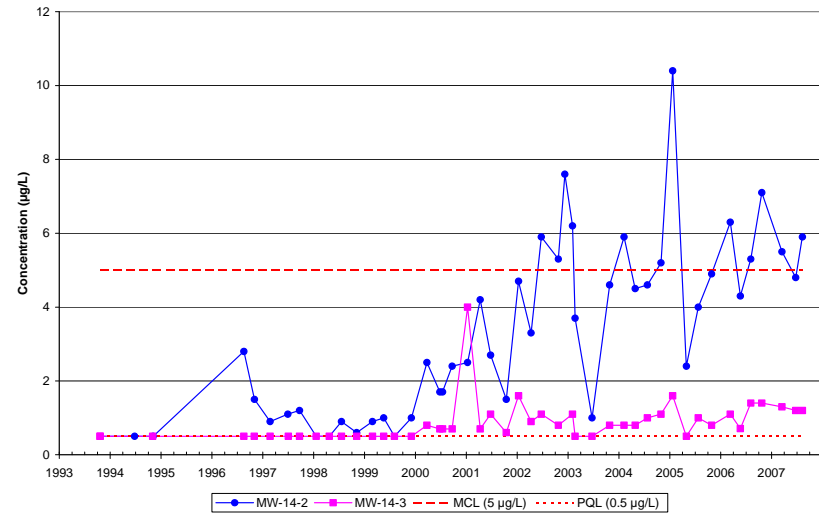
MW-14-2 and MW-14-3 Tetrachloroethene (PCE) Concentrations 1993 to Present



MW-14-2 and MW-14-3 Perchlorate Concentrations 1997 to Present

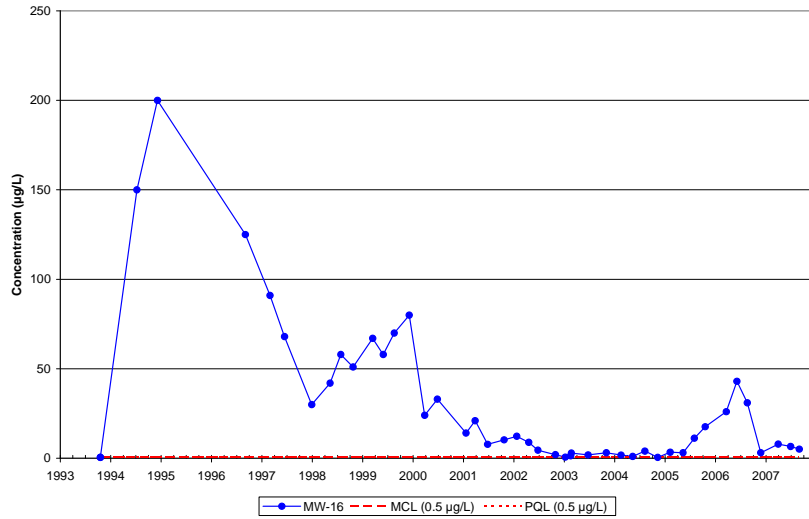


MW-14-2 and MW-14-3 Trichloroethene (TCE) Concentrations 1993 to Present

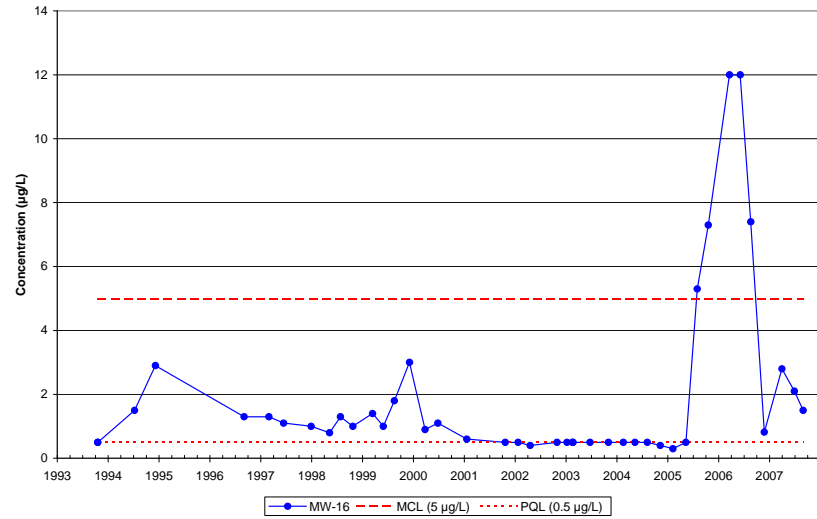


VOCs and Perchlorate Time Series Plots for MW-14-2 and MW-14-3

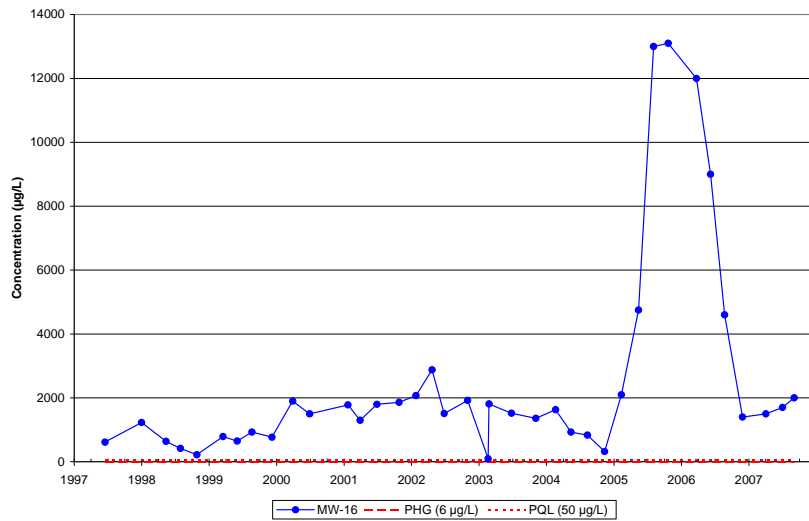
MW-16 Carbon tetrachloride Concentrations 1993 to Present



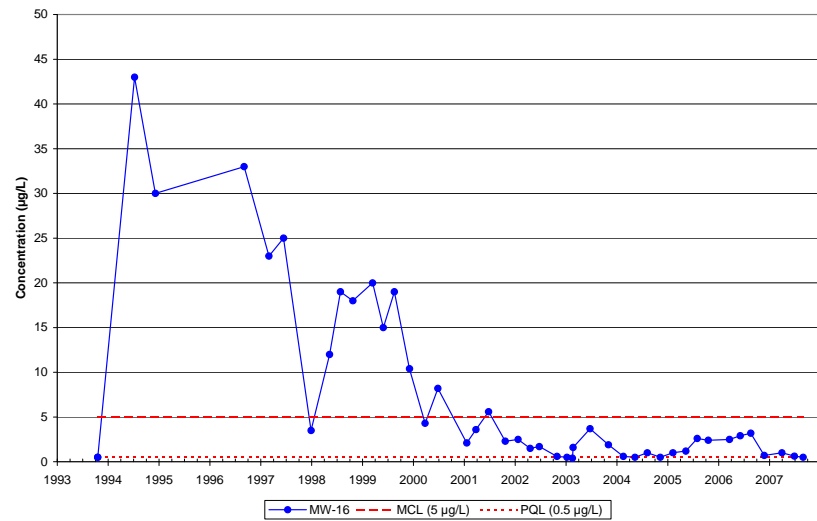
MW-16 Tetrachloroethene (PCE) Concentrations 1993 to Present



MW-16 Perchlorate Concentrations 1997 to Present

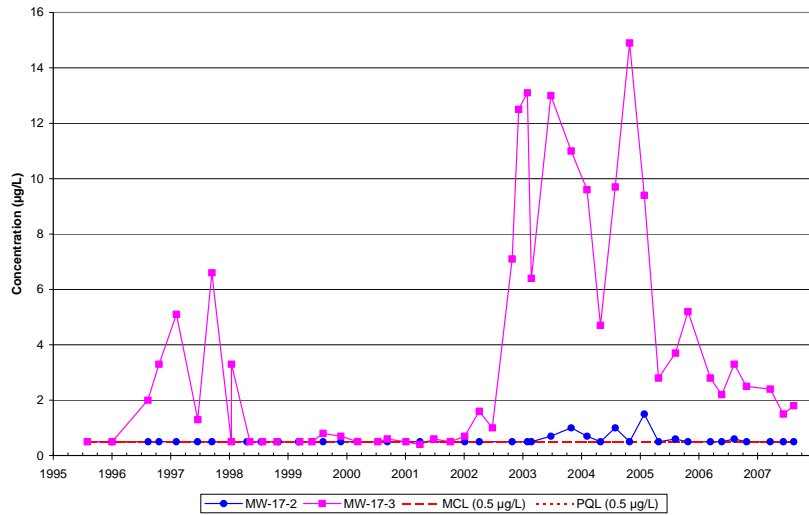


MW-16 Trichloroethene (TCE) Concentrations 1993 to Present

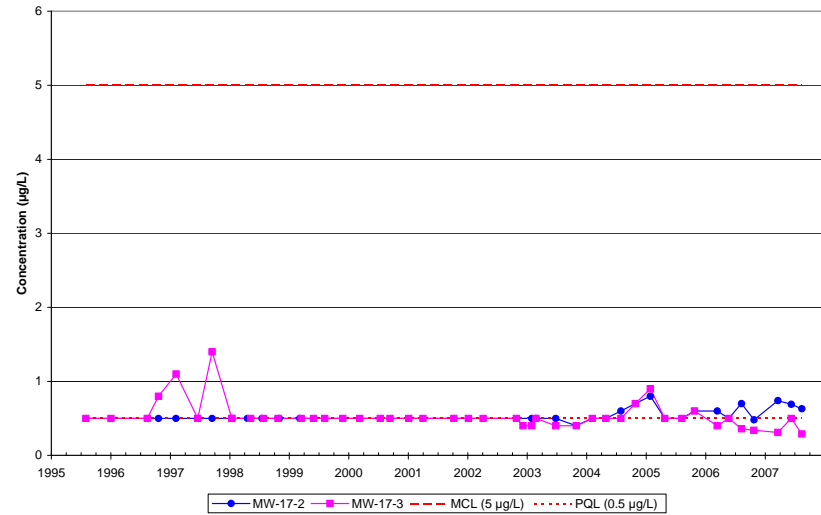


VOCs and Perchlorate Time Series Plots for MW-16

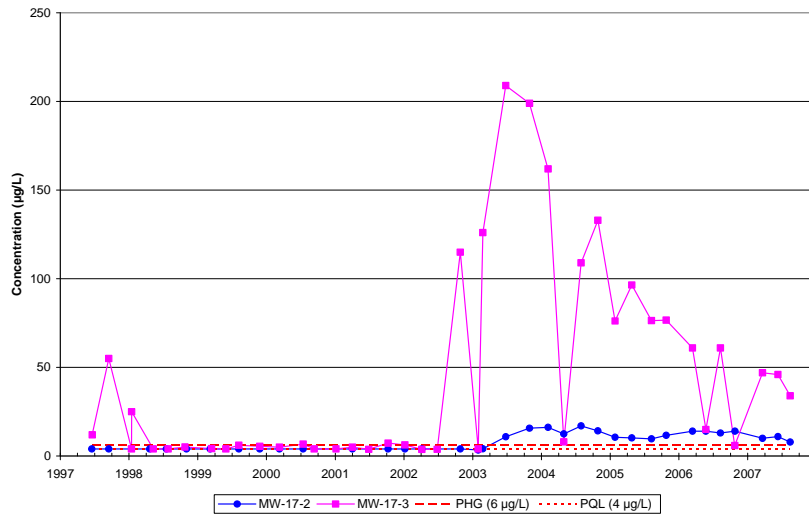
MW-17-2 and MW-17-3 Carbon tetrachloride Concentrations 1995 to Present



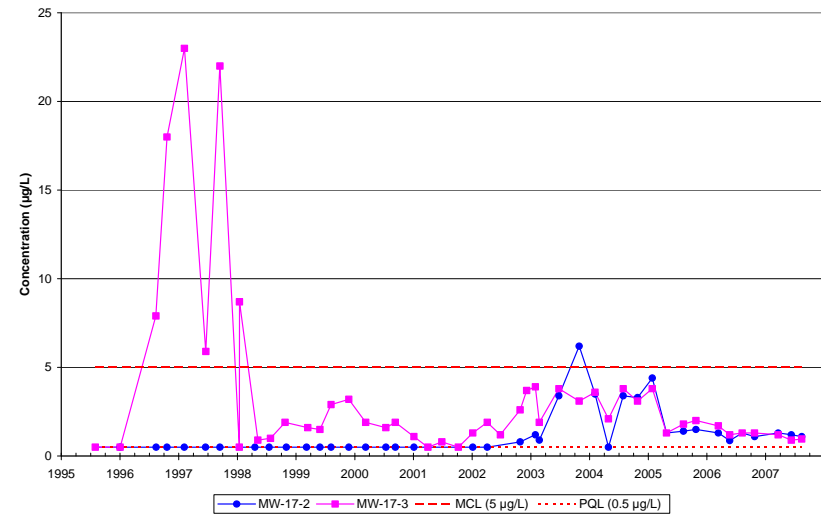
MW-17-2 and MW-17-3 Tetrachloroethene (PCE) Concentrations 1995 to Present



MW-17-2 and MW-17-3 Perchlorate Concentrations 1997 to Present

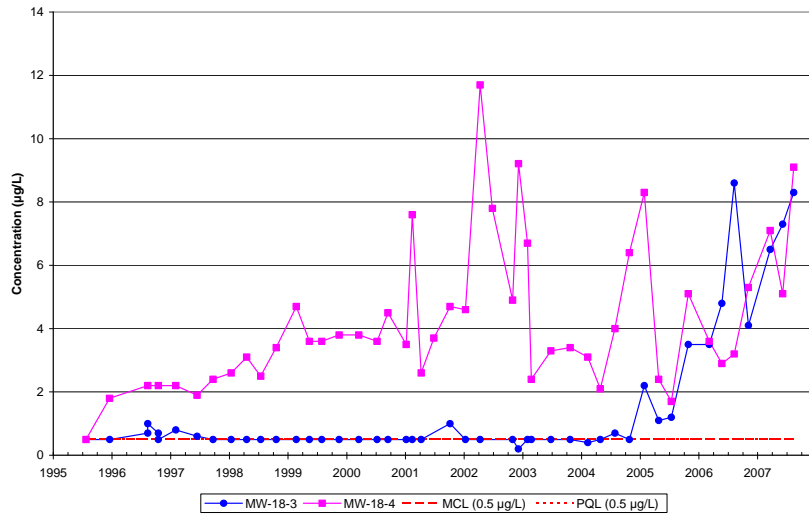


MW-17-2 and MW-17-3 Trichloroethene (TCE) Concentrations 1995 to Present

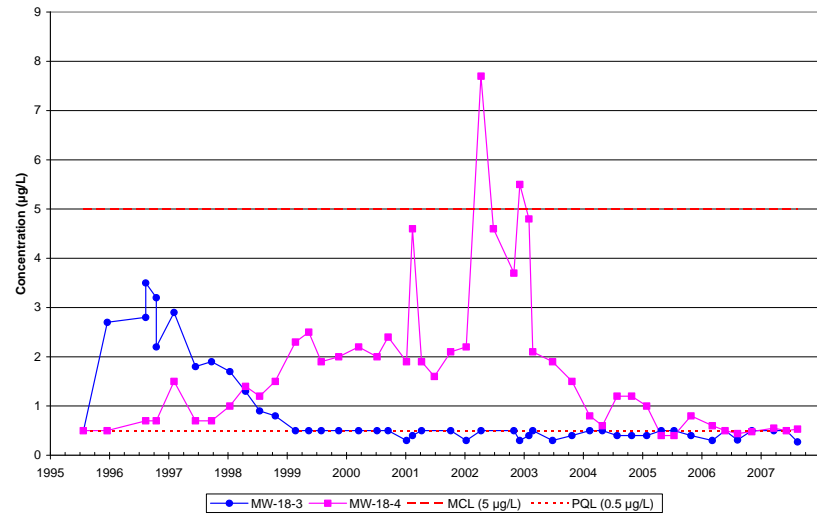


VOCs and Perchlorate Time Series Plots for MW-17-2 and MW-17-3

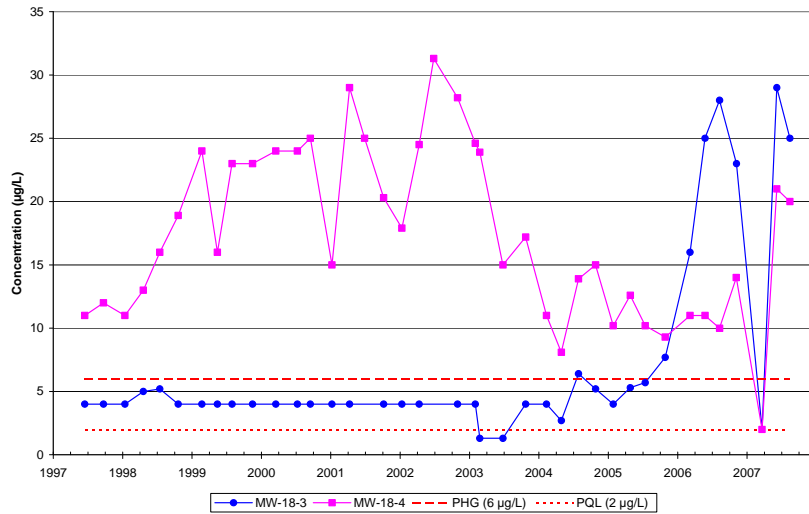
MW-18-3 and MW-18-4 Carbon tetrachloride Concentrations 1995 to Present



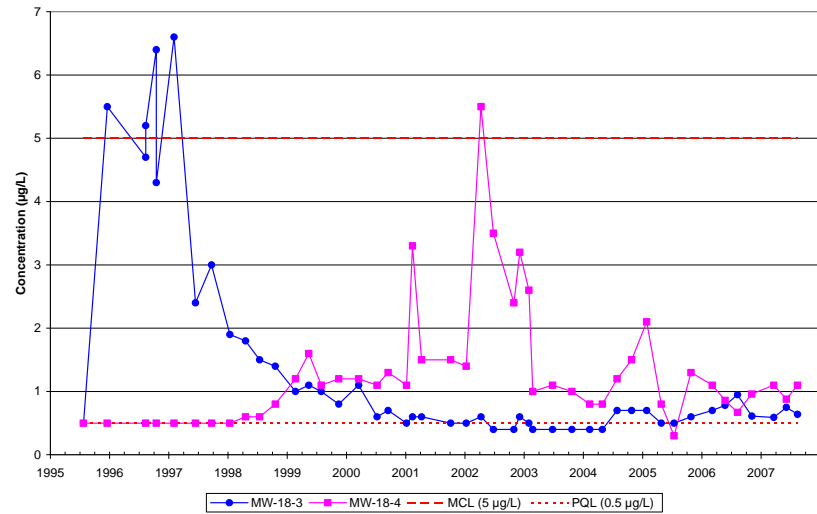
MW-18-3 and MW-18-4 Tetrachloroethene (PCE) Concentrations 1995 to Present



MW-18-3 and MW-18-4 Perchlorate Concentrations 1997 to Present

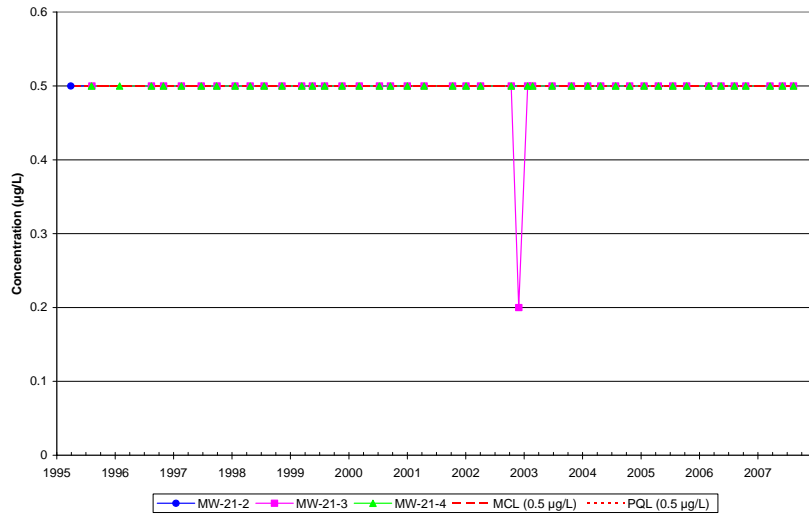


MW-18-3 and MW-18-4 Trichloroethene (TCE) Concentrations 1995 to Present

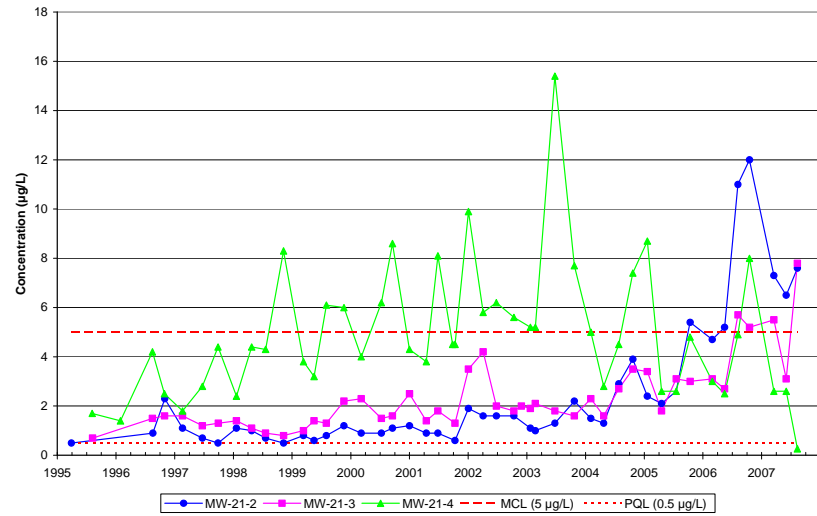


VOCs and Perchlorate Time Series Plots for MW-18-3 and MW-18-4

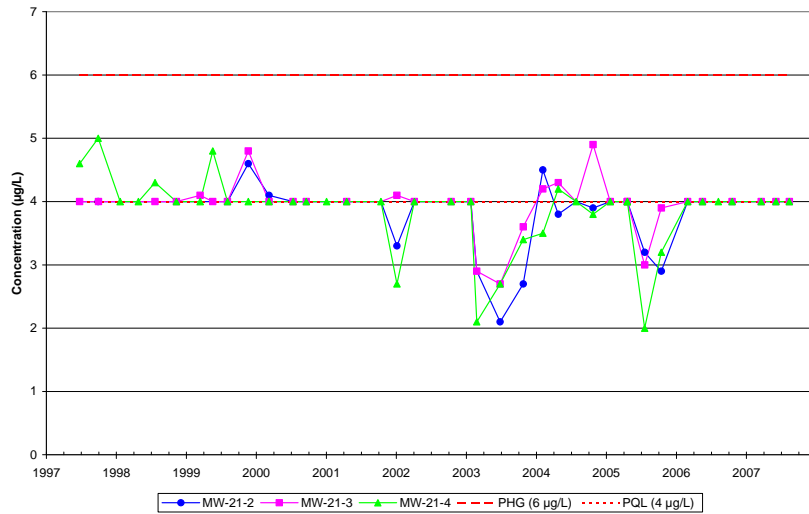
MW-21-2, MW-21-3, and MW-21-4 Carbon tetrachloride Concentrations 1995 to Present



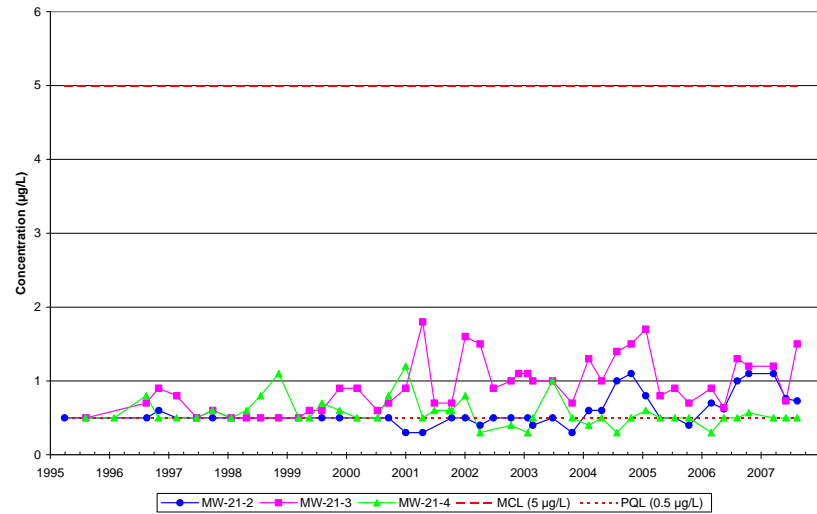
MW-21-2, MW-21-3, and MW-21-4 Tetrachloroethene (PCE) Concentrations 1995 to Present



MW-21-2, MW-21-3, and MW-21-4 Perchlorate Concentrations 1997 to Present

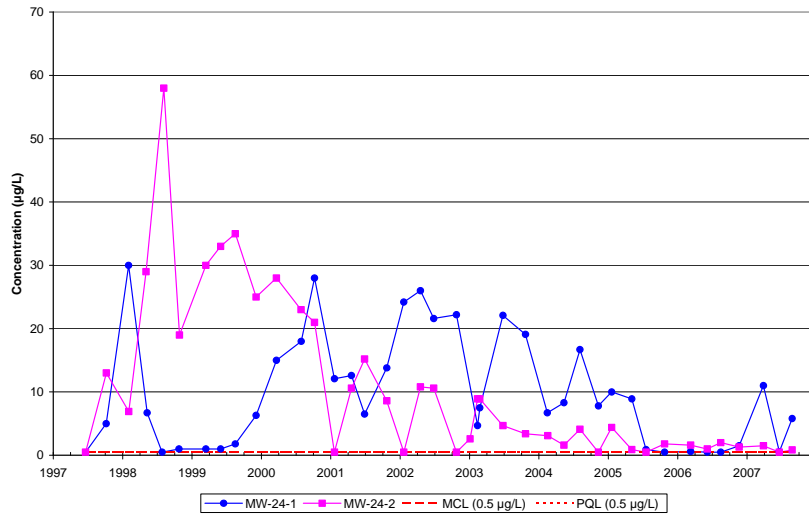


MW-21-2, MW-21-3, and MW-21-4 Trichloroethene (TCE) Concentrations 1995 to Present

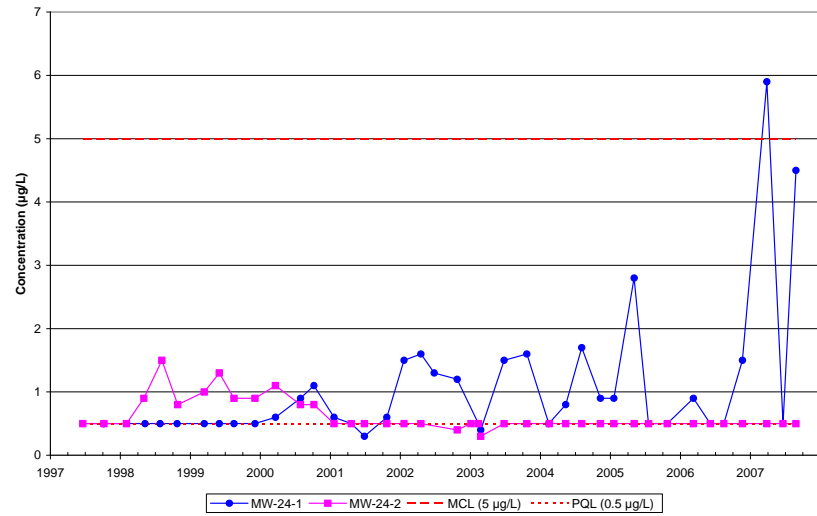


VOCs and Perchlorate Time Series Plots for MW-21-2, MW-21-3 and MW-21-4

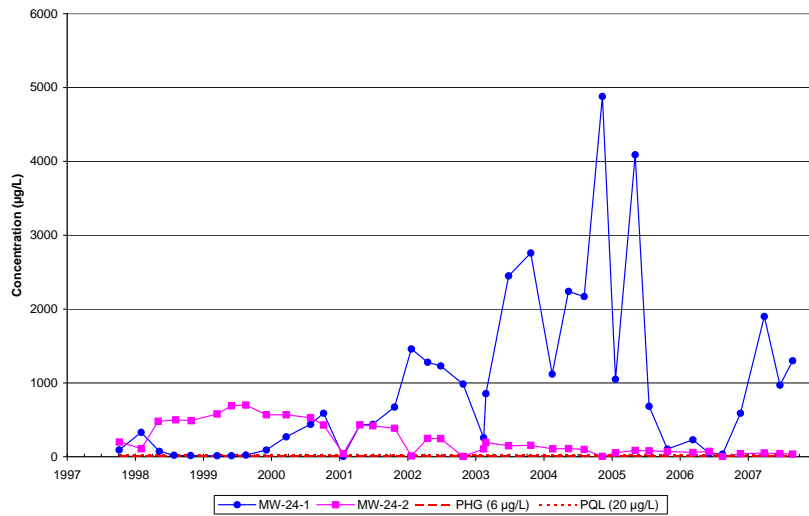
MW-24-1 and MW-24-2 Carbon tetrachloride Concentrations 1997 to Present



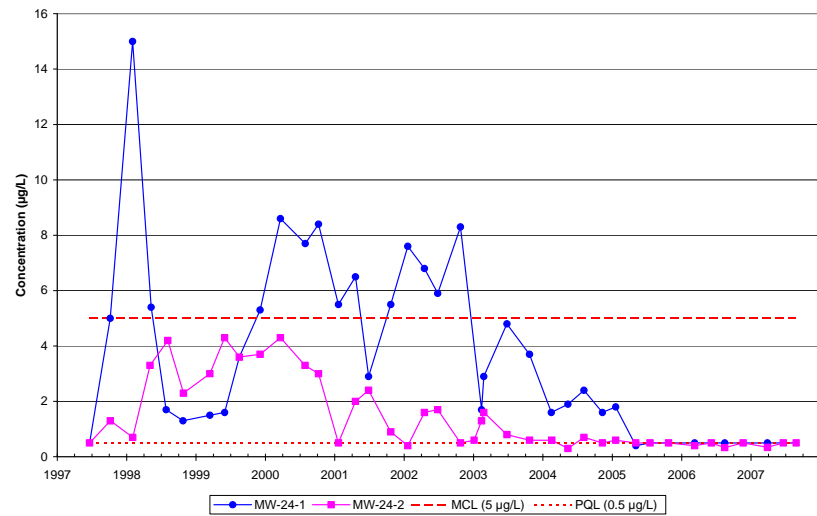
MW-24-1 and MW-24-2 Tetrachloroethene (PCE) Concentrations 1997 to Present



MW-24-1 and MW-24-2 Perchlorate Concentrations 1997 to Present



MW-24-1 and MW-24-2 Trichloroethene (TCE) Concentrations 1997 to Present



VOCs and Perchlorate Time Series Plots for MW-24-1 and MW-24-2