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 # 1

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

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

PURGE VOLUME CALCULATION (casing volume):

(120 (TD feet) - 29.96 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 176.33 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
747	29.96	0	5.19	60.2	6.13	19.46	17.3	220	Clear, no odor
759	29.96	35	5.42	54.6	1.09	19.06	17.1	194	Clear, no odor
811	29.96	71	5.67	54.7	0.64	19.70	17.2	194	Clear, no odor
822	29.96	106	5.85	54.1	0.18	19.26	17.3	184	Clear, no odor
834	29.96	142	6.00	54.5	0.95	18.83	17.9	189	Clear, no odor
845	29.96	177	6.15	55.2	0.06	19.67	18.7	202	Clear, no odor

Total Purge Volume: 177 (Gallons)

Total Discharge: 3.01 (Casing Volumes)

Approx. Purge Rate: 3.0 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 744 Purge time start: 747

RECHARGE BEHAVIOR: **X** 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-1	Sample ID: DUPE-7-2Q07	Type: _____	Type: _____
Sample Time: 850	Sample Time: ---------	Sample ID: _____	Sample ID: _____
No. of Containers: 6	No. of Containers: 6	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 5

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

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
Project No: 4-73803
Navy Contract No.: Battelle
Sampled By: Marco Mendoza, Chase Brogdon
Date: 7/13/07
Weather: clear and warm

PURGE VOLUME CALCULATION (casing volume):

(140 (TD feet) - 61.04 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 154.64 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
734	61.04	0	5.08	65.1	16.1	19.84	18.4	286	Clear, no odor
754	61.04	31	5.46	59.6	7.40	19.22	18.9	251	Clear, no odor
815	61.04	62	5.72	60.7	3.80	19.87	19.6	240	Clear, no odor
835	61.04	93	5.92	60.4	1.41	19.77	19.9	253	Clear, no odor
856	61.04	124	5.99	61.9	0.98	9.12	21.1	395	Clear, no odor
916	61.04	155	6.15	64.4	19.3	19.99	21.7	330	Clear, no odor

Total Purge Volume: 155 (Gallons)

Total Discharge: 3.01 (Casing Volumes)

Approx. Purge Rate: 1.50 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 720 Purge time start: 734

RECHARGE BEHAVIOR:
X 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-5	Sample ID:	Type:	Type:
Sample Time: 920	Sample Time:	Sample ID:	Sample ID:
No. of Containers: 6	No. of Containers:	Sample Time:	Sample Time:
		No. of Containers:	No. of Containers:

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 6

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

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
Project No: 4-73803
Navy Contract No.: Battelle
Sampled By: Marco Mendoza, Chase Brogdon
Date: 7/13/07
Weather: clear and warm

PURGE VOLUME CALCULATION (casing volume):

(245 (TD feet) - 165.13 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 156.42 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
1105	165.13	0	6.15	0.1	188	19.77	23.3	349	Reddish brown color, no odor
1126	165.13	31	6.33	0.09	21.7	19.42	22.6	434	Clear, no odor
1148	165.13	63	6.46	0.1	6.03	19.64	23.0	353	Clear, no odor
1209	165.13	94	6.55	0.1	1.71	19.69	23.0	337	Clear, no odor
1231	165.13	126	6.63	0.1	1.08	19.81	23.3	492	Clear, no odor
1252	165.13	157	6.65	0.1	0.16	19.83	23.6	365	Clear, no odor

Total Purge Volume: 157 (Gallons)

Total Discharge: 3.01 (Casing Volumes)

Approx. Purge Rate: 1.50 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 1100 Purge time start: 1105

RECHARGE BEHAVIOR: **X** 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-6	Sample ID:	Type:	Type:
Sample Time: 1255	Sample Time:	Sample ID:	Sample ID:
No. of Containers: 6	No. of Containers:	Sample Time:	Sample Time:
		No. of Containers:	No. of Containers:

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 7

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

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
Project No: 4-73803
Navy Contract No.: Battelle
Sampled By: Marco Mendoza, Chase Brogdon
Date: 7/10/07
Weather: partly cloudy and cool

PURGE VOLUME CALCULATION (casing volume):

(275 (TD feet) - 198.21 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 150.39 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
734	198.21	0	5.36	63.4	153	8.08	21.6	380	Slightly reddish brown, no odor
751	198.21	30	5.65	58.4	25.9	9.73	21.6	329	Clear, no odor
808	198.21	60	5.88	58.1	5.83	12.07	22.2	307	Clear, no odor
825	198.21	91	6.21	58.4	4.09	7.73	22.1	363	Clear, no odor
842	198.21	121	6.28	58.0	6.04	12.63	22.1	286	Clear, no odor
859	198.21	151	6.38	57.9	2.65	11.44	21.9	284	Clear, no odor

Total Purge Volume: 151 (Gallons)

Total Discharge: 3.01 (Casing Volumes)

Approx. Purge Rate: 1.75 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 729 Purge time start: 734

RECHARGE BEHAVIOR:
X 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-7	Sample ID: DUPE-8-2Q07	Type: _____	Type: _____
Sample Time: 904	Sample Time: ---------	Sample ID: _____	Sample ID: _____
No. of Containers: 6	No. of Containers: 6	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 8

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

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
Project No: 4-73803
Navy Contract No.: Battelle
Sampled By: Marco Mendoza, Chase Brogdon
Date: 7/11/07
Weather: partly cloudy and warm

PURGE VOLUME CALCULATION (casing volume):

(205 (TD feet) - 125.86 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 154.59 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
1011	125.86	0	6.50	58.8	28.0	19.87	20.7	258	Slightly cloudy, no odor
1026	125.86	31	6.61	57.9	8.51	19.98	20.5	254	Clear, no odor
1042	125.86	62	6.64	57.9	1.29	19.78	20.4	248	Clear, no odor
1057	125.86	93	6.72	57.7	0.30	19.74	20.9	251	Clear, no odor
1113	125.86	124	6.73	58.3	0.03	19.81	21.1	250	Clear, no odor
1128	125.86	155	6.80	58.1	0.71	19.87	21.3	247	Clear, no odor

Total Purge Volume: 155 (Gallons)

Total Discharge: 3.01 (Casing Volumes)

Approx. Purge Rate: 2.0 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 1006 Purge time start: 1011

RECHARGE BEHAVIOR:
X 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-8	Sample ID:	Type:	Type:
Sample Time: 1133	Sample Time:	Sample ID:	Sample ID:
No. of Containers: 12 (MS/MSD)	No. of Containers:	Sample Time:	Sample Time:
		No. of Containers:	No. of Containers:

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 9

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

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

PURGE VOLUME CALCULATION (casing volume):

(68 (TD feet) - 23.99 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 86.19 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
942	23.99	0	6.25	58.8	23.8	19.66	22.0	226	Clear, no odor
948	23.99	18	6.34	57.2	20.8	14.97	21.5	286	Clear, no odor
954	23.99	36	6.43	58.6	20.8	17.50	21.6	193	Clear, no odor
1000	23.99	54	6.52	57.0	7.20	19.52	21.5	198	Clear, no odor
1006	23.99	72	6.57	56.9	3.59	19.82	21.3	206	Clear, no odor
1012	23.99	90	6.61	59.0	0.99	17.85	22.3	203	Clear, no odor

Total Purge Volume: 90 (Gallons)

Total Discharge: 3.13 (Casing Volumes)

Approx. Purge Rate: 3.0 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 938 Purge time start: 942

RECHARGE BEHAVIOR:
X 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-9	Sample ID:	Type:	Type:
Sample Time: 1016	Sample Time:	Sample ID:	Sample ID:
No. of Containers: 12 (MS/MSD)	No. of Containers:	Sample Time:	Sample Time:
		No. of Containers:	No. of Containers:

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 10

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

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
Project No: 4-73803
Navy Contract No.: Battelle
Sampled By: Marco Mendoza, Chase Brogdon
Date: 7/12/07
Weather: clear and cool

PURGE VOLUME CALCULATION (casing volume):

(155 (TD feet) - 74.97 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 156.73 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
741	74.97	0	4.95	0.09	33.9	19.14	18.8	286	Clear, no odor
753	74.97	31	5.41	0.1	14.7	19.43	19.1	370	Slightly cloudy, no odor
806	74.97	63	5.62	0.1	3.17	18.98	19.0	353	Clear, no odor
818	74.97	94	5.84	0.09	1.98	17.79	19.5	243	Clear, no odor
831	74.97	126	5.97	0.1	1.77	19.51	19.6	357	Clear, no odor
843	74.97	157	6.14	0.1	1.27	17.39	19.5	349	Clear, no odor

Total Purge Volume: 157 (Gallons)

Total Discharge: 3.01 (Casing Volumes)

Approx. Purge Rate: 2.5 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 737 Purge time start: 741

RECHARGE BEHAVIOR:
X 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-10	Sample ID: _____	Type: _____	Type: _____
Sample Time: 849	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: 6	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 13

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

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
Project No: 4-73803
Navy Contract No.: Battelle
Sampled By: Marco Mendoza, Chase Brogdon
Date: 7/11/07
Weather: partly cloudy and cool

PURGE VOLUME CALCULATION (casing volume):

(235 (TD feet) - 168.36 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 130.51 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
743	168.36	0	5.13	78.4	65.3	19.08	20.9	279	Slightly cloudy, no odor
800	168.36	26	5.48	74.3	19.2	18.42	21.2	253	Clear, no odor
818	168.36	52	6.01	75.1	4.96	19.21	21.4	261	Clear, no odor
836	168.36	79	6.05	74.8	2.49	19.52	21.5	257	Clear, no odor
853	168.36	105	6.19	75.7	1.13	19.40	22.7	248	Clear, no odor
910	168.36	131	6.30	77.1	0.50	19.85	23.2	257	Clear, no odor

Total Purge Volume: 131 (Gallons)

Total Discharge: 3.01 (Casing Volumes)

Approx. Purge Rate: 1.5 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 738 Purge time start: 743

' – ' DO meter not operational for first three measurements

RECHARGE BEHAVIOR: **X** 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-13	Sample ID:	Type:	Type:
Sample Time: 914	Sample Time:	Sample ID:	Sample ID:
No. of Containers: 18 (MS/MSD)	No. of Containers:	Sample Time:	Sample Time:
		No. of Containers:	No. of Containers:

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 15

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

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

PURGE VOLUME CALCULATION (casing volume):

(74 (TD feet) - 35.35 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 75.69 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
1102	35.35	0	6.79	64.6	2.31	18.96	28.6	355	Clear, no odor
1112	35.35	15	6.86	67.0	0.65	16.97	28.6	266	Clear, no odor
1122	35.35	30	6.90	65.8	1.49	16.28	28.8	255	Clear, no odor
1132	35.35	45	6.96	66.1	14.4	16.13	28.4	252	Few brown particulates, no odor
1143	35.35	61	7.01	65.9	-0.80	17.84	28.8	271	Clear, no odor
1153	35.35	76	7.11	66.5	-0.63	16.15	28.9	276	Clear, no odor

Total Purge Volume: 76 (Gallons)

Total Discharge: 3.01 (Casing Volumes)

Approx. Purge Rate: 1.5 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 1047 Purge time start: 1102

RECHARGE BEHAVIOR: **X** 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-15	Sample ID:	Type:	Type:
Sample Time: 1156	Sample Time:	Sample ID:	Sample ID:
No. of Containers: 12 (MS/MSD)	No. of Containers:	Sample Time:	Sample Time:
		No. of Containers:	No. of Containers:

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG
WELL ID # 16

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

Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
Project No: 4-73803
Navy Contract No.: Battelle
Sampled By: Marco Mendoza, Chase Brogdon
Date: 7/10/07
Weather: partly cloudy and warm

PURGE VOLUME CALCULATION (casing volume):

(285 (TD feet) - 221.22 (WL feet)) X 4^2 (D inches) X 3 (# Vols) X 0.0408 = 124.91 (Calculated Purge Volume) Gallons

PURGE METHOD **PUMP INTAKE SETTING**

☐ Bailer – Type: _____ **X** 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 (º C)	ORP (mV)	Comments
1040	221.22	0	6.73	55.3	90.6	18.52	24.7	256	Slightly brownish, no odor
1100	221.22	25	6.82	55.7	14.7	19.11	25.2	255	Clear, no odor
1120	221.22	50	6.83	55.6	2.84	19.83	25.7	272	Clear, no odor
1140	221.22	75	6.88	55.2	1.24	19.89	26.6	275	Clear, no odor
1200	221.22	100	6.99	55.7	0.20	19.84	25.2	287	Clear, no odor
1220	221.22	125	7.01	53.8	0.45	17.50	25.6	270	Clear, no odor

Total Purge Volume: 125 (Gallons)

Total Discharge: 3.00 (Casing Volumes)

Approx. Purge Rate: 1.25 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge start at: 1032 Purge time start: 1040

RECHARGE BEHAVIOR:
X 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): _____

Original	***Duplicate***	***Blank***	***Other (Trip / Source / _____)***
Sample ID: MW-16	Sample ID:	Type:	Type:
Sample Time: 1225	Sample Time:	Sample ID:	Sample ID:
No. of Containers: 18 (MS/MSD)	No. of Containers:	Sample Time:	Sample Time:
		No. of Containers:	No. of Containers:

ORIGINAL FIELD RECORD

GEOFON INCORPORATED

Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-3
Sampling Zone No.: 5 to 1
Depth (ft): 653, 558, 346, 252, 172
Beginning of Session: 14.09 psia
End of Session: 14.11 psia

Start Time: 718
Finish Time: 1130

Date: 6/21/07
Page: 1 of 1

Water Pressure Inside Casing: —

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	254.31	✓	253.59	✓	253.57	✓	✓	254.30	755	5.70	7.91	42.6	9.20	20.5	19
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	212.79	✓	212.49	✓	212.49	✓	✓	212.76	839	5.96	9.81	41.8	5.31	21.7	165
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	120.38	✓	123.59	✓	123.58	✓	✓	120.42	918	6.00	0.17	44.5	8.82	22.4	27
3	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	120.35	✓	123.59	✓	123.58	✓	✓	120.30	—	—	—	—	—	—	—
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	79.35	✓	82.53	✓	82.56	✓	✓	79.41	1017	6.13	1.98	54.4	4.26	25.2	204
2	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	79.34	✓	82.52	✓	82.57	✓	✓	79.39	1043	6.66	1.82	53.4	5.54	22.0	192
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	44.93	✓	48.06	✓	48.16	✓	✓	45.04	1125	6.88	3.60	46.5	10.31	23.9	184

Notes:

port 5: CLEAR, STRONG ODOR port 4: CLEAR, SLIGHT ODOR port 3: CLEAR, FAINT ODOR

port 2: CLEAR NO ODOR port 1: CLEAR NO ODOR

Total Volume: —

GEOFON INCORPORATED

Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-4
Sampling Zone No.: 5 to 1
Depth (ft): 513, 392, 322, 240, 150
Beginning of Session: 14.07 psia
End of Session: 14.05 psia

Start Time: 715
Finish Time: 1057

Date: 6/25/07
Page: 1 of 1

Water Pressure Inside Casing: —

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (aC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	147.88	✓	204.9	✓	204.8	✓	✓	147.92	0743	5.45	6.39	44.4	10.65	19.5	199
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	95.15	✓	151.80	✓	151.79	✓	✓	95.20	0819	5.63	1.92	44.0	16.59	20.0	61
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	64.60	✓	121.87	✓	121.86	✓	✓	64.63	0853	6.09	17.2	49.1	14.63	21.6	57
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	28.80	✓	86.25	✓	86.25	✓	✓	28.89	0926	6.59	3.50	96.3	16.53	22.1	50
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.08	✓	48.51	✓	48.49	✓	✓	14.15	1003	7.04	8.76	50.5	9.09	26.7	189
1	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.07	✓	48.47	✓	48.45	✓	✓	14.18	—	—	—	—	—	—	—
1	3	—	✓	✓	✓	✓	✓	✓	✓	✓	14.12	✓	48.51	✓	48.50	✓	✓	14.17	—	—	—	—	—	—	—

Notes:

port 5: CLEAR, NO ODOR port 4: CLEAR, NO ODOR port 3: SLIGHTLY BRAN, FAINT ODOR.

port 2 CLEAR, NO ODOR port 1: CLEAR, NO ODOR

Total Volume: —

GEOFON INCORPORATED

Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-11
Sampling Zone No.: 5 to 1
Depth (ft): 639, 524, 429, 259, 149
Beginning of Session: 14.07 psia
End of Session: 14.05 psia

Start Time: 707
Finish Time: 1026

Date: 6/29/07
Page: 1 of 1

Water Pressure Inside Casing: —

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	241.51	✓	229.58	✓	229.50	✓	✓	241.42	808	6.04	21.8	36.8	11.09	21.2	42
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	193.81	✓	187.90	✓	187.80	✓	✓	193.76	739	5.56	1.55	29.4	9.26	20.5	81
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	152.61	✓	145.10	✓	144.98	✓	✓	152.71	905	6.12	4.61	45.4	7.41	21.2	234
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	79.90	✓	72.51	✓	72.53	✓	✓	78.95	939	6.62	1.30	50.9	7.96	21.9	194
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	32.04	✓	32.51	✓	32.51	✓	✓	32.07	1020	6.95	0.14	44.9	9.82	22.7	157

Notes:
port 5: CLEAR, SLIGHT ODOR port 4: CLEAR, STRONG ODOR port 3: CLEAR, STRONG ODOR
port 2: CLEAR, SLIGHT ODOR port 1: CLEAR, FAINT ODOR.

Total Volume: —

GEOFON INCORPORATED

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: 14.07 psia
End of Session: 14.10 psia

Start Time: 708
Finish Time: 1034

Date: 6/26/07
Page: 1 of 1

Water Pressure Inside Casing: —

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	210.17	✓	207.87	✓	207.85	✓	✓	210.59	736	5.39	9.00	50.3	9.23	19.3	179
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	161.34	✓	162.58	✓	162.55	✓	✓	161.27	813	5.82	0.93	54.0	6.66	20.8	116
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	111.14	✓	113.90	✓	113.92	✓	✓	111.96	845	6.83	2.97	44.3	7.27	21.1	104
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	76.94	✓	79.44	✓	79.46	✓	✓	76.98	917	7.01	2.79	57.4	10.58	22.1	47
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	32.50	✓	36.58	✓	36.58	✓	✓	32.51	1003	7.28	4.58	53.9	10.39	24.1	77
1	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	32.50	✓	36.57	✓	36.58	✓	✓	32.58	1030	7.46	5.35	53.9	14.75	22.0	73

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

Total Volume: —

GEOFON INCORPORATED

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: 14.01 psia | 13.99
End of Session: 14.00 psia | 14.03

Water Pressure Inside Casing: —

Start Time: 720 | 808
Finish Time: 1040 | 1104

Date: 6/22/07 | 7/5/07
Page: 1 of 1

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	194.86	✓	183.69	✓	183.68	✓	✓	194.92	0749	5.50	1.35	39.7	11.70	22.0	153
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	158.10	✓	147.40	✓	147.47	✓	✓	158.16	0828	5.55	0.46	65.0	16.74	23.9	65
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	125.87	✓	115.35	✓	115.38	✓	✓	125.86	0906	6.08	1.93	.093	19.99	23.9	160
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	80.02	✓	70.04	✓	70.05	✓	✓	80.02	0945	5.80	0.42	.110	19.99	26.1	189
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	49.90	✓	40.67	✓	40.68	✓	✓	49.95	1024	6.43	0.42	.113	11.22	26.1	301
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	193.96	✓	182.91	✓	182.94	✓	✓	193.98	842	5.71	1.87	38.1	16.79	24.1	222
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	157.26	✓	146.64	✓	146.67	✓	✓	157.24	917	5.72	0.47	65.0	19.12	24.4	219
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	124.78	✓	114.58	✓	114.59	✓	✓	124.75	948	6.04	7.20	0.09	19.99	23.6	329
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	78.96	✓	69.28	✓	69.35	✓	✓	78.99	1024	6.31	5.69	0.106	19.80	24.8	355
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	48.90	✓	39.90	✓	39.89	✓	✓	48.94	1055	6.58	22.6	0106	19.99	26.2	385

VITIAL SAMPLING 6/22/07

RESAMPLE 7/5/07

Notes:
port 5: CLEAR NO ODOR ✓ port 4: CLEAR, NO ODOR ✓ port 3: CLEAR, NO ODOR ✓
port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR ✓

Total Volume: —

GEOFON INCORPORATED

Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-17
Sampling Zone No.: 5 to 1
Depth (ft): 726, 582, 468, 370, 250
Beginning of Session: 14.05 psia
End of Session: 14.04 psia

Start Time: 725
Finish Time: 1155

Date: 6/19/07
Page: 1 of 1

Water Pressure Inside Casing: —

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (aC)	ORP	
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	246.01	✓	244.68	✓	244.63	✓	✓	246.01	750	5.57	105.6	40.7	10.74	17.6	23	>5
5	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	245.98	✓	244.68	✓	244.62	✓	✓	245.98	—	—	—	—	—	—	—	
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	184.17	✓	180.39	✓	180.35	✓	✓	184.20	847	5.86	0.99	36.9	9.52	20.0	-15	
4	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	184.15	✓	180.42	✓	180.40	✓	✓	184.16	—	—	—	—	—	—	—	>4
4	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	184.14	✓	180.40	✓	180.39	✓	✓	184.12	—	—	—	—	—	—	—	
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	134.79	✓	128.53	✓	128.59	✓	✓	134.76	1015	5.80	35.8	79.9	8.59	22.1	71	>3
3	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	134.82	✓	128.58	✓	128.58	✓	✓	134.82	1040	6.04	42.9	82.8	6.86	20.6	134	
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	92.15	✓	90.02	✓	90.10	✓	✓	92.22	1117	6.27	2.24	0.1	12.65	24.0	136	
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	39.97	✓	39.45	✓	39.49	✓	✓	39.99	1151	6.66	2.39	47.9	12.13	24.3	48	

Notes:
port 5: Cloudy, NO ODOR port 4: CLEAR, NO ODOR port 3: CLEAR, NO ODOR
port 2: CLEAR, NO ODOR port 1: CLEAR, FAINT ODOR

Total Volume: —

GEOFON INCORPORATED

Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-18
Sampling Zone No.: 5 to 1
Depth (ft): 684, 564, 424, 330, 270
Beginning of Session: 14.02 psia
End of Session: 13.98 psia

Start Time: 724
Finish Time: 1057

Date: 6/15/07
Page: 1 of 1

Water Pressure Inside Casing: —

		Surface Function Checks							Position Sampler		Sample Collection Checks								Water Quality Parameters						
Port #	Run #	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	✓	✓	✓	✓	✓	✓	✓	✓	✓	161.53	✓	208.05	✓	208.07	✓	✓	161.57	818	5.62	1.42	38.5	10.91	20.8	70
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	109.17	✓	157.06	✓	157.09	✓	✓	109.20	902	5.70	4.02	48.5	13.46	23.3	-11
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	48.11	✓	99.52	✓	99.59	✓	✓	48.20	940	5.87	1.05	61.6	14.66	23.3	27
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.10	✓	58.47	✓	58.44	✓	✓	14.13	1017	6.13	2.67	54.4	12.92	25.2	84
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.07	✓	32.42	✓	32.40	✓	✓	14.09	1055	6.58	7.53	45.8	5.77	26.5	132

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

Total Volume: —

GEOFON INCORPORATED

Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #:Battelle

Well ID: MW-19

Sampling Zone No.: 5 to 1

Depth (ft): 498, 444, 392, 314, 242

Beginning of Session: 13.99 psia

End of Session: 14.03 psia

Water Pressure Inside Casing: —

Start Time: 717

Finish Time: 1041

Date: 6/14/07

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	✓	✓	✓	✓	✓	✓	✓	✓	✓	175.49	✓	167.26	✓	167.26	✓	✓	175.51	748	5.15	2.12	85.1	8.11	20.3	9
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	152.02	✓	143.89	✓	143.88	✓	✓	152.04	826	5.64	0.05	68.4	10.03	21.3	-41
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	129.41	✓	122.31	✓	122.31	✓	✓	129.44	903	5.91	5.25	76.3	10.61	22.4	-43
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	95.46	✓	88.05	✓	88.08	✓	✓	95.47	939	5.79	25.0	0.1	12.09	22.9	-21
/MSD < 1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	64.14	✓	56.94	✓	57.02	✓	✓	64.18	1017	6.30	6.70	44.8	9.80	24.0	8
1	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	64.17	✓	56.9[illegible]	✓	56.98	✓	✓	64.68	—	—	—	—	—	—	—

Notes:

port 5: CLEAR, NO ODOR port 4: CLEAR, NO ODOR port 3: CLEAR, NO ODOR

port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR

Total Volume: —

GEOFON INCORPORATED

Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-20
Sampling Zone No.: 5 to 1
Depth (ft): 900, 700, 562, 392, 230
Beginning of Session: 13.98 psia
End of Session: 14.01 psia

Start Time: 722
Finish Time: 1100

Date: 6/18/07
Page: 1 of 1

Water Pressure Inside Casing: —

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	332.07	✓	327.72	✓	327.70	✓	✓	332.08	757	5.90	1.14	35.7	10.87	18.4	-143
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	245.27	✓	237.56	✓	237.49	✓	✓	245.29	838	6.16	5.98	36.1	10.56	19.3	-104
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	185.35	✓	170.10	✓	170.10	✓	✓	185.34	917	5.80	2.06	61.7	9.88	20.0	-76
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	111.55	✓	104.13	✓	104.15	✓	✓	111.54	952	6.03	0.24	42.0	10.72	20.3	-74
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	41.13	✓	34.08	✓	34.10	✓	✓	41.20	1031	6.12	3.03	89.8	10.47	21.6	-53
1	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	41.33	✓	34.09	✓	34.09	✓	✓	41.39	1057	6.35	1.14	89.9	11.11	20.4	-16

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

Total Volume: —

GEOFON INCORPORATED

Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-21
Sampling Zone No.: 5 to 1
Depth (ft): 372, 310, 240, 161, 90
Beginning of Session: 14.07 psia
End of Session: 14.07 psia

Start Time: 732
Finish Time: 1100

Date: 6/12/07
Page: 1 of 1

Water Pressure Inside Casing: —

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Vaive	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	128.80	✓	157.95	✓	157.94	✓	✓	128.82	754	5.19	2.76	99.5	10.49	19.4	142
5	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	128.77	✓	157.95	✓	157.95	✓	✓	128.85	—	—	—	—	—	—	—
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	102.70	✓	131.08	✓	131.08	✓	✓	102.73	838	5.80	7.99	85.5	12.30	20.5	31
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	73.56	✓	101.21	✓	101.23	✓	✓	73.55	917	6.49	2.79	0.101	15.52	21.9	102
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	39.06	✓	67.02	✓	67.05	✓	✓	39.12	954	6.97	-0.29	0.113	17.25	23.9	117
2	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	39.05	✓	67.00	✓	67.05	✓	✓	39.12	1020	7.23	-0.67	0.113	19.57	22.2	128
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.13	✓	35.82	✓	35.80	✓	✓	14.15	1056	7.34	0.95	0.108	15.63	27.0	115

DUPE <

> 5

> 2

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

Total Volume: ____

GEOFON INCORPORATED

Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-22
Sampling Zone No.: 5 to 1
Depth (ft): 588, 467, 389, 329, 245
Beginning of Session: 14.10 psia
End of Session: 14.07 psia

Start Time: 715
Finish Time: 1025

Date: 6/20/07
Page: 1 of 1

Water Pressure Inside Casing: ——

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	203.85	✓	198.02	✓	198.01	✓	✓	203.81	745	5.72	0.42	45.4	9.13	19.1	-97
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	151.37	✓	147.00	✓	146.97	✓	✓	151.35	825	6.14	0.91	41.5	9.69	19.3	-21
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	117.54	✓	114.92	✓	114.92	✓	✓	117.52	903	5.77	0.35	71.4	9.30	19.9	-39
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	91.48	✓	88.82	✓	88.82	✓	✓	91.47	942	6.10	0.38	60.5	10.71	23.7	14
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	54.73	✓	52.25	✓	52.23	✓	✓	54.76	1020	6.24	12.6	0.106	11.84	26.1	145

Notes:
port 5: CLEAR, STRONG H_2S ODOR port 4: CLEAR, SLIGHT ODOR port 3: CLEAR, NO ODOR
port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR

Total Volume: ——

GEOFON INCORPORATED

Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-23
Sampling Zone No.: 5 TO 1
Depth (ft): 542, 445, 319, 254, 174
Beginning of Session: 14.06 psia
End of Session: 14.09 psia

Start Time: 702
Finish Time: 1035

Date: 6/27/06
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	206.51	✓	206.87	✓	206.73	✓	✓	206.60	736	6.8	1.54	49.9	9.04	19.2	53
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	164.47	✓	164.94	✓	164.95	✓	✓	164.53	813	7.41	2.53	50.4	8.54	21.8	114
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	109.86	✓	112.01	✓	112.03	✓	✓	109.87	849	6.54	4.71	41.7	10.42	23.7	110
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	81.44	✓	83.78	✓	83.81	✓	✓	81.47	921	6.59	0.60	98.0	6.74	24.2	236
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	47.12	✓	49.67	✓	49.67	✓	✓	47.10	1010	6.81	5.04	.107	11.37	25.8	329
1	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	47.04	✓	49.66	✓	49.65	✓	✓	47.06	—	—	—	—	—	—	—

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

Total Volume: —

GEOFON INCORPORATED

Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-24
Sampling Zone No.: 5 to 1
Depth (ft): 678, 554, 435, 373, 279
Beginning of Session: 14.07 psia
End of Session: 14.02 psia

Start Time: 7:08
Finish Time: 11:15

Date: 6/28/07
Page: 1 of 1

Water Pressure Inside Casing: ←

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	236.01	✓	223.51	✓	223.50	✓	✓	236.01	733	5.15	0.96	48.8	11.84	20.8	162
5	2	✓	—	✓	✓	✓	✓	✓	✓	✓	236.00	✓	223.49	✓	223.48	✓	✓	235.98	—	—	—	—	—	—	—
4	1	✓	✓	✓	✓	✓	—	—	✓	✓	183.02	—	171.49	✓	171.47	✓	✓	183.08	829	6.41	1.74	31.7	6.65	23.0	42
3	1	✓	✓	—	—	—	✓	✓	✓	✓	131.37	✓	121.39	✓	121.42	✓	✓	131.46	904	6.83	4.46	41.0	9.20	24.3	109
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	104.63	✓	94.50	✓	94.50	✓	✓	104.57	939	6.86	4.65	54.7	13.14	25.0	60
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	63.57	✓	54.70	✓	54.69	✓	✓	63.59	1023	7.01	36.5	57.3	14.06	25.0	90
1	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	63.51	✓	54.64	✓	54.65	✓	✓	63.55	—	—	—	—	—	—	—
1	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	63.52	✓	54.66	✓	54.68	✓	✓	63.73	—	—	—	—	—	—	—

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

Total Volume: —

GEOFON INCORPORATED

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: 14.14 psia
End of Session: 14.17 psia

Start Time: 715
Finish Time: 1030

Date: 7/2/07
Page: 1 of 1

Water Pressure Inside Casing: ——

Port #	Run #	Surface Function Checks: Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in	Arm In	Position Sampler: Deactivate Set Arm Locate Port	Arm out	Sample Collection Checks: Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Water Quality Parameters: Time	PH	Turb. (NTU)	Cond (mmhos)	Dissolved Oxygen	Temp. (oC)	ORP
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	210.28	✓	206.39	✓	206.38	✓	✓	210.30	744	5.75	1.15	49.2	15.45	20.9	38
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	175.67	✓	170.35	✓	170.34	✓	✓	175.62	822	5.56	1.31	72.6	15.79	21.6	115
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	119.27	✓	117.60	✓	117.69	✓	✓	119.30	857	5.72	2.25	77.0	17.32	22.6	127
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	84.48	✓	86.37	✓	86.37	✓	✓	84.50	928	5.95	-0.14	75.6	16.58	23.7	128
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	56.11	✓	59.43	✓	59.44	✓	✓	56.12	1003	6.30	18.0	98.1	13.00	24.3	169
DUP 1	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	56.06	✓	59.42	✓	59.43	✓	✓	56.07	1028	6.42	14.9	99.2	19.31	24.3	195

Notes:

port 5: CLEAR, STRONG H_2S ODOR port 4: CLEAR, NO ODOR port 3: CLEAR, NO ODOR

port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR

Total Volume: ——

GEOFON INCORPORATED

Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena
Contract #:Battelle

Well ID: MW-26
Sampling Zone No.: 2 to 1
Depth (ft): 215, 135
Beginning of Session: 14.12 psia
End of Session: 14.10 psia

Start Time: 959
Finish Time: 1105

Date: 7/12/07
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)	ORP
2	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	75.49	✓	75.50	✓	25.49	✓	✓	75.49	1025	6.49	10.37	56.7	19.06	23.8	250
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	40.86	✓	39.01	✓	39.00	✓	✓	40.89	1102	6.72	-0.30	85.2	19.43	23.4	312

Notes:

port 2: CLEAR, NO ODOR port 1: CLEAR, NO ODOR

Total Volume: —

ATTACHMENT 5: WATER LEVEL MEASUREMENTS

This attachment contains water level measurements for the Westbay™ multiport JPL monitoring wells obtained during the second quarter of 2007. Water level measurements were recorded before the sampling event on June 11, 2007, and after the sampling event on July 16, 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
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Weather: cloudy and cool

Well ID: MW-3
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay
Elevation of Datum (ft. + MSL): 1,100.34

Ambient Readings	Start	Finish
Time	857	906
Pressure (psia)	13.96	13.97
Temperature (°C)	17.32	17.80

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	251.01	254.17	251.00	19.69	900		
							98.84	1001.50
4	558	209.69	213.13	209.62	21.03	901		
							98.51	1001.83
3	346	117.53	124.17	117.57	21.13	903		
							91.75	1008.59
2	252	76.73	83.16	76.74	20.36	904		
							92.36	1007.98
1	172	41.94	48.72	41.91	18.99	905		
							91.81	1008.53

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (ft. +MSL): 1,082.84
Weather: clear and warm

Well ID: MW-4
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1227	1244
Pressure (psia)	13.94	13.94
Temperature (°C)	19.08	19.30

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	513	143.54	205.04	143.56	20.84	1229		
							72.13	1010.71
4	392	90.89	152.66	90.90	21.24	1231		
							71.97	1010.87
3	322	60.45	122.71	60.45	21.11	1232		
							71.07	1011.77
2	240	24.68	87.08	24.70	19.95	1242		
							71.27	1011.57
1	150	14.03	49.35	14.05	19.69	1243		
							68.31	1014.53

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Well ID: MW-11
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay
Elevation of Datum (Ft. + MSL): 1,139.30
Weather: cloudy and cool

Ambient Readings	Start	Finish
Time	833	844
Pressure (psia)	13.90	13.97
Temperature (°C)	19.69	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	639	239.06	230.77	239.06	20.08	837		
							138.68	1000.62
4	524	189.57	188.90	189.56	20.65	838		
							120.28	1019.03
3	429	148.70	146.22	148.71	20.38	839		
							123.74	1015.56
2	259	75.07	73.62	75.07	18.44	842		
							121.23	1018.07
1	149	27.72	33.34	27.74	17.86	843		
							104.15	1035.15

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,102.14
Weather: clear and warm

Well ID: MW-12
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1201	1220
Pressure (psia)	13.94	14.01
Temperature (°C)	20.05	18.12

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	205.75	208.85	205.74	20.80	1214		
							98.34	1003.80
4	436	157.14	163.47	157.08	21.06	1215		
							91.03	1011.11
3	323	107.91	114.82	107.90	20.28	1217		
							90.27	1011.87
2	243	73.03	80.35	73.04	19.35	1218		
							89.79	1012.35
1	140	28.09	37.52	28.09	18.60	1219		
							85.60	1016.54

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,173.47
Weather: cloudy and cool

Well ID: MW-14
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	713	722
Pressure (psia)	13.89	13.90
Temperature (°C)	19.26	19.17

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	190.57	184.31	190.58	19.86	716		
							146.84	1026.63
4	456	154.07	148.05	154.07	20.32	717		
							146.49	1026.98
3	382	121.86	116.01	121.86	20.16	718		
							146.41	1027.06
2	277	76.15	70.70	76.15	19.79	719		
							145.94	1027.53
1	207	45.60	41.31	45.61	19.41	720		
							143.74	1029.73

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,191.21
Weather: partly cloudy and cool

Well ID: MW-17
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1001	1011
Pressure (psia)	13.90	13.91
Temperature (°C)	17.14	15.81

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	244.96	245.16	244.98	18.55	1004		
							192.48	998.73
4	582	182.67	180.76	182.64	19.16	1005		
							197.05	994.16
3	468	133.24	129.18	133.20	18.42	1007		
							202.05	989.16
2	370	90.65	90.60	90.65	17.59	1008		
							193.05	998.16
1	250	38.47	39.98	38.45	16.60	1009		
							189.83	1001.38

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Well ID: MW-18
Probe Type: Westbay
Serial No.:
Casing Size/Type: 1.5" Westbay
Elevation of Datum (Ft. + MSL): 1,225.41
Note: partly cloudy and warm

Ambient Readings	Start	Finish
Time	1019	1027
Pressure (psia)	13.89	13.89
Temperature (°C)	16.61	16.85

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	684	157.41	208.45	157.41	18.36	1021		
							235.15	990.26
4	564	105.27	157.53	105.30	19.49	1023		
							232.62	992.79
3	424	44.35	99.92	44.36				
					19.16	1024	225.53	999.88
2	330	14.07	58.74	14.07	18.02	1025		
							226.53	998.88
1	270	14.05	32.71	14.04	1736.00	1026		
							226.58	998.83

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (ft. +MSL): 1,142.94
Weather: partly cloudy and cool

Well ID: MW-19
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	945	953
Pressure (psia)	13.95	13.95
Temperature (°C)	17.28	16.92

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	498	173.75	167.43	173.76	17.79	947		
							143.92	999.02
4	444	150.36	144.02	150.35	18.21	948		
							143.93	999.01
3	392	127.77	122.49	127.78	18.33	949		
							141.60	1001.34
2	314	93.91	88.27	93.92	18.31	950		
							142.54	1000.40
1	242	62.64	57.17	62.64	17.85	951		
							142.29	1000.65

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,165.05
Weather: clear and warm

Well ID: MW-20
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1037	1050
Pressure (psia)	13.91	13.93
Temperature (°C)	18.07	17.62

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	330.12	327.98	330.17	20.42	1041		
							175.44	989.61
4	700	243.46	238.18	243.49	21.50	1044		
							182.61	982.44
3	562	183.71	171.19	183.66	21.11	1045		
							199.16	965.89
2	392	109.93	104.86	109.98	19.90	1047		
							182.18	982.87
1	230	39.57	34.75	39.58	18.24	1048		
							181.92	983.13

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: 6/11/07 | 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: cloudy and cool

Ambient Readings	Start	Finish
Time	733	743
Pressure (psia)	13.97	13.96
Temperature (°C)	18.57	18.57

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	126.61	158.04	126.61	18.99	735		
							39.63	1019.47
4	310	99.69	131.18	99.70	19.37	736		
							39.60	1019.50
3	240	69.60	101.30	69.62	19.01	739		
							38.53	1020.57
2	161	35.17	67.10	35.16	18.74	740		
							38.43	1020.67
1	90	14.01	35.82	14.01	18.61	742		
							39.59	1019.51

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: 6/11/07 | 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: cloudy and cool

Ambient Readings	Start	Finish
Time	755	804
Pressure (psia)	13.86	13.96
Temperature (°C)	18.09	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	588	201.98	198.54	201.97	19.89	758		
							161.94	1015.04
4	467	149.62	147.49	149.58	20.69	800		
							158.72	1018.26
3	389	115.74	115.41	115.79	20.78	801		
							154.72	1022.26
2	329	89.75	89.31	89.74	20.70	802		
							154.94	1022.04
1	245	52.77	52.76	52.84	20.30	803		
							155.26	1021.72

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,108.84
Weather: cloudy and cool

Well ID: MW-23
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	653	702
Pressure (psia)	13.92	13.96
Temperature (°C)	21.93	19.94

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	542	204.74	207.75	204.75	21.57	656		
							94.83	1014.01
4	445	162.77	165.85	162.76	21.58	657		
							94.50	1014.34
3	319	108.19	112.86	108.17	21.30	658		
							90.75	1018.09
2	254	79.95	84.65	79.96	20.61	700		
							90.83	1018.01
1	174	45.21	50.53	45.20	20.22	701		
							89.54	1019.30

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,200.94
Weather: cloudy and cool

Well ID: MW-24
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	812	825
Pressure (psia)	13.88	13.90
Temperature (°C)	18.96	20.51

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	235.01	224.55	234.99	20.48	815		
							191.98	1008.96
4	554	181.27	172.50	181.31	21.07	816		
							188.06	1012.88
3	435	129.79	122.45	129.77	21.17	818		
							184.53	1016.41
2	373	102.90	95.52	102.89	21.07	821		
							184.66	1016.28
1	279	62.14	55.65	62.14	20.68	823		
							182.64	1018.30

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (ft. + MSL): 934.52
Weather: clear and warm

Well ID: MW-25
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1124	1133
Pressure (psia)	14.03	14.07
Temperature (°C)	20.66	19.87

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	206.11	206.41	206.13	21.15	1127		
							269.18	665.34
4	633	171.64	170.40	171.64	21.45	1128		
							272.25	662.27
3	503	115.40	117.77	115.39	21.18	1130		
							263.67	670.85
2	423	80.66	86.51	80.65	20.80	1131		
							255.79	678.73
1	358	52.36	59.60	52.33	20.40	1132		
							252.87	681.65

GEOFON, Inc.
Piezometric Pressure/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 6/11/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (ft. + MSL): 1,059.08
Weather: clear and warm

Well ID: MW-26
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1145	1149
Pressure (psia)	13.95	14.01
Temperature (°C)	20.45	19.27

Screen No.	Depth (ft. BTOC)	Fluid Pressure Readings: Inside Casing (psia)	Fluid Pressure Readings: Outside Casing (psia)	Fluid Pressure Readings: Inside Casing (psia)	Temp. (°C)	Time	Piezometric Level Outside Port (ft.)	Water Level Elevation (ft.)
2	215	76.38	76.41	76.39	19.97	1147	70.90	988.18
1	135	41.85	39.95	41.85	19.63	1148	75.02	984.06

GEOFON, Inc.
Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Weather: partly cloudy and warm

Well ID: MW-3
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay
Elevation of Datum (ft. + MSL): 1,100.34

Ambient Readings	Start	Finish
Time	852	903
Pressure (psia)	14.07	14.07
Temperature (°C)	18.20	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	249.56	253.40	249.64	20.51	856		
							100.87	999.47
4	558	208.28	212.31	208.33	21.72	857		
							100.66	999.68
3	346	116.07	122.59	116.09	21.45	859		
							95.64	1004.70
2	252	75.24	81.58	75.25	20.46	900		
							96.25	1004.09
1	172	40.51	46.96	40.51	18.71	902		
							96.12	1004.22

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (ft. +MSL): 1,082.84
Weather: clear and hot

Well ID: MW-4
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1200	1213
Pressure (psia)	14.09	14.10
Temperature (°C)	19.21	19.40

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	143.79	203.56	143.84	20.53	1202		
							75.89	1006.95
4	392	91.20	151.13	91.21	21.14	1207		
							75.85	1006.99
3	322	60.76	121.10	60.75	21.07	1208		
							75.13	1007.71
2	240	25.07	85.47	25.08	20.65	1210		
							75.33	1007.51
1	150	14.15	17.25	14.16	19.83	1211		
							142.71	940.13

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Weather: partly cloudy and warm

Well ID: MW-11
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay
Elevation of Datum (Ft. + MSL): 1,139.30

Ambient Readings	Start	Finish
Time	833	844
Pressure (psia)	14.07	14.07
Temperature (°C)	20.75	18.19

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	238.72	229.83	238.69	20.97	837		
							141.24	998.06
4	524	189.13	187.43	189.16	20.98	840		
							124.06	1015.24
3	429	148.27	144.63	148.29	20.65	841		
							127.80	1011.50
2	259	74.67	71.89	74.68	19.71	842		
							125.61	1013.69
1	149	27.38	31.70	27.38	18.71	843		
							108.33	1030.97

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,102.14
Weather: clear and hot

Well ID: MW-12
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1138	1154
Pressure (psia)	14.10	14.07
Temperature (°C)	21.16	18.18

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	548	205.32	207.98	205.32	21.78	1148		
							100.72	1001.42
4	436	156.76	162.03	156.65	21.53	1149		
							94.73	1007.41
3	323	107.53	113.17	107.48	20.59	1151		
							94.45	1007.69
2	243	72.66	78.64	72.63	19.64	1152		
							94.11	1008.03
1	140	27.75	35.51	27.77	18.69	1153		
							90.61	1011.53

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,173.47
Weather: partly cloudy and cool

Well ID: MW-14
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	720	728
Pressure (psia)	14.04	14.06
Temperature (°C)	19.40	19.27

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	540	189.77	182.50	189.76	19.98	723		
							151.36	1022.11
4	456	153.23	146.24	153.21	20.40	724		
							151.01	1022.46
3	382	121.03	114.19	121.06	20.26	725		
							150.95	1022.52
2	277	75.27	68.87	75.26	19.80	726		
							150.51	1022.96
1	207	44.77	39.47	44.79	19.46	727		
							148.33	1025.14

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,191.21
Weather: clear and warm

Well ID: MW-17
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	954	1004
Pressure (psia)	14.06	14.04
Temperature (°C)	18.05	15.79

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	244.79	244.21	244.80	18.60	957		
							195.04	996.17
4	582	182.44	180.94	182.42	19.23	959		
							197.01	994.20
3	468	132.99	129.07	132.99	18.59	1000		
							202.67	988.54
2	370	90.43	89.48	90.42	17.68	1001		
							196.01	995.20
1	250	38.30	38.08	38.28	16.56	1003		
							194.59	996.62

GEOFON, Inc.

Piezometric Pressures/Levels

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Well ID: MW-18
Probe Type: Westbay
Serial No.:
Casing Size/Type: 1.5" Westbay
Elevation of Datum (Ft. + MSL): 1,225.41
Note: clear and warm

Ambient Readings	Start	Finish
Time	1012	1021
Pressure (psia)	14.05	14.04
Temperature (°C)	17.53	16.98

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	684	157.28	208.03	157.29	19.28	1015		
							236.49	988.92
4	564	105.18	157.47	105.15	20.32	1017		
							233.13	992.28
3	424	44.29	98.56	44.25	19.66	1018		
							229.04	996.37
2	330	14.22	56.86	14.20	18.38	1019		
							231.24	994.17
1	270	14.15	30.61	14.14	17.56	1020		
							231.80	993.61

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (ft. +MSL): 1,142.94
Weather: clear and warm

Well ID: MW-19
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	937	946
Pressure (psia)	14.06	14.07
Temperature (°C)	18.55	17.03

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	498	173.55	166.58	173.52	18.53	940		
							146.14	996.80
4	444	150.18	143.22	150.18	18.74	941		
							146.03	996.91
3	392	127.57	121.29	127.63	18.76	943		
							144.62	998.32
2	314	93.77	87.04	93.81	18.70	944		
							145.64	997.30
1	242	62.48	55.75	62.49	18.06	945		
							145.82	997.12

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,165.05
Weather: clear and hot

Well ID: MW-20
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1032	1046
Pressure (psia)	14.07	14.07
Temperature (°C)	20.16	17.29

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	330.04	326.42	330.02	20.93	1036		
							179.41	985.64
4	700	243.29	235.61	243.25	21.97	1039		
							188.91	976.14
3	562	183.47	174.14	183.45	21.43	1040		
							192.72	972.33
2	392	109.71	103.96	109.73	18.78	1043		
							184.62	980.43
1	230	39.42	32.93	39.41	17.58	1044		
							186.49	978.56

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: 7/16/07 | 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: partly cloudy and cool

Ambient Readings	Start	Finish
Time	739	746
Pressure (psia)	14.09	14.10
Temperature (°C)	18.89	18.82

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	126.42	156.35	126.45	19.23	741		
							43.81	1015.29
4	310	99.46	129.49	99.45	19.55	742		
							43.77	1015.33
3	240	69.46	99.63	69.42	19.46	743		
							42.66	1016.44
2	161	35.05	65.45	35.07	19.16	744		
							42.51	1016.59
1	90	14.16	34.21	14.13	18.92	745		
							43.58	1015.52

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: 7/16/07 | 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: partly cloudy and cool

Ambient Readings	Start	Finish
Time	757	805
Pressure (psia)	14.03	14.05
Temperature (°C)	18.67	20.04

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	197.08	201.86	20.40	800		
							165.70	1011.28
4	467	149.44	145.94	149.45	21.02	801		
							162.68	1014.30
3	389	115.64	113.63	115.65	21.03	802		
							159.22	1017.76
2	329	89.58	87.54	89.62	20.84	803		
							159.41	1017.57
1	245	52.76	50.86	52.77	20.49	804		
							160.03	1016.95

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,108.84
Weather: partly cloudy and warm

Well ID: MW-23
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	701	709
Pressure (psia)	14.08	14.05
Temperature (°C)	18.10	19.74

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	204.57	206.33	204.56	20.22	704		
							98.48	1010.36
4	445	162.56	164.38	162.54	20.71	705		
							98.26	1010.58
3	319	107.96	111.17	107.96	20.64	706		
							95.01	1013.83
2	254	79.75	82.94	79.76	20.40	707		
							95.14	1013.70
1	174	45.06	48.69	45.04	20.02	708		
							94.15	1014.69

GEOFON, Inc.
Piezometric Pressures/Levels
Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (Ft. + MSL): 1,200.94
Weather: partly cloudy and cool

Well ID: MW-24
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	815	824
Pressure (psia)	14.04	14.03
Temperature (°C)	19.51	20.78

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	234.86	223.34	234.83	21.04	818		
							195.14	1005.80
4	554	181.16	171.07	181.20	21.41	819		
							191.73	1009.21
3	435	129.61	120.74	129.58	21.38	821		
							188.84	1012.10
2	373	102.71	93.76	102.70	21.35	822		
							189.09	1011.85
1	279	61.96	53.74	61.98	21.10	823		
							187.41	1013.53

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Elevation of Datum (ft. + MSL): 934.52
Weather: clear and hot

Well ID: MW-25
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay

Ambient Readings	Start	Finish
Time	1100	1110
Pressure (psia)	14.17	14.17
Temperature (°C)	22.19	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	713	205.82	206.36	205.80	21.93	1104		
							269.62	664.90
4	633	171.30	170.34	171.32	21.97	1105		
							272.72	661.80
3	503	115.02	117.63	115.04	21.56	1106		
							264.32	670.20
2	423	80.31	86.34	80.33	21.07	1107		
							256.50	678.02
1	358	52.03	59.39	52.05	20.65	1108		
							253.68	680.84

Field Data Sheet for Multi-Port Monitoring Wells

Project Name: JPL Pasadena
Project No: 4-73803
Date: 7/16/07
Personnel: Marco Mendoza, Chase Brogdon
Datum: TOC
Weather: clear and hot

Well ID: MW-26
Probe Type: Westbay
Serial No.: 2508
Casing Size/Type: 1.5" Westbay
Elevation of Datum (ft. + MSL): 1,059.08

Ambient Readings	Start	Finish
Time	1121	1125
Pressure (psia)	14.13	14.11
Temperature (°C)	20.91	19.52

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)				
2	215	75.07	75.13					
				75.17	20.46	1123		
							74.27	984.81
1	135	40.79	38.91					
				40.63	20.02	1124		
							77.83	981.25

GEOFON INCORPORATED
22632 Golden Springs Drive, Suite 270
Diamond Bar, CA 91765
Telephone (909)396-7662 Fax (909)396-1455
Internet: www.geofon.com

Pre- SHALLOW WELL SOUNDING LOG

Project Name: JPL GW Monitoring 2Q07 | **Project No.: 4-73803**

WELL #	*DATE*	*TIME*	*DEPTH (FT.)*
MW-1	6/11/07	1320	25.48
MW-5	6/11/07	1305	56.99
MW-6	6/11/07	1350	161.02
MW-7	6/11/07	1337	194.14
MW-8	6/11/07	1342	121.75
MW-9	6/11/07	1316	20.76
MW-10	6/11/07	1356	71.07
MW-13	6/11/07	625	164.18
MW-15	6/11/07	1309	31.47
MW-16	6/11/07	1331	217.26

GEOFON INCORPORATED
22632 Golden Springs Drive, Suite 270
Diamond Bar, CA 91765
Telephone (909)396-7662 Fax (909)396-1455
Internet: www.geofon.com

Post- SHALLOW WELL SOUNDING LOG

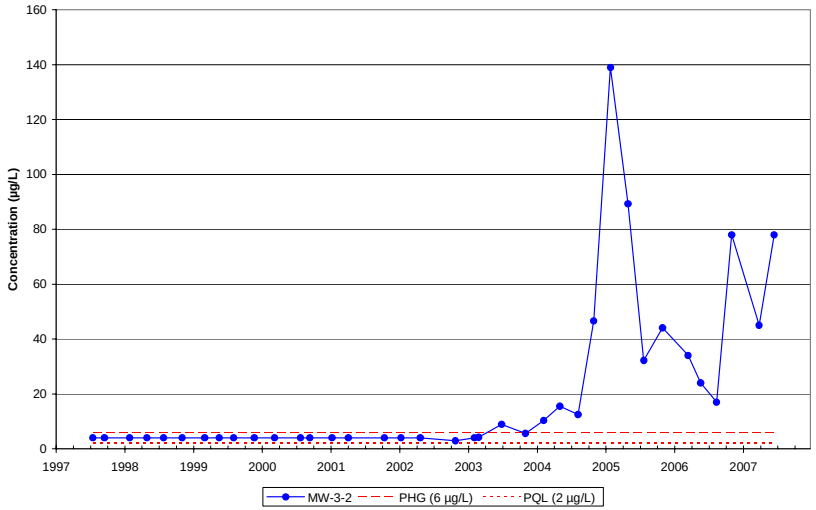
Project Name: JPL GW Monitoring 2Q07 | **Project No.: 4-73803**

WELL #	*DATE*	*TIME*	*DEPTH (FT.)*
MW-1	7/16/07	1255	30.37
MW-5	7/16/07	1239	61.35
MW-6	7/16/07	1320	165.39
MW-7	7/16/07	1308	198.71
MW-8	7/16/07	1312	126.30
MW-9	7/16/07	1251	24.30
MW-10	7/16/07	1324	75.31
MW-13	7/16/07	619	168.77
MW-15	7/16/07	1244	35.84
MW-16	7/16/07	1304	221.80

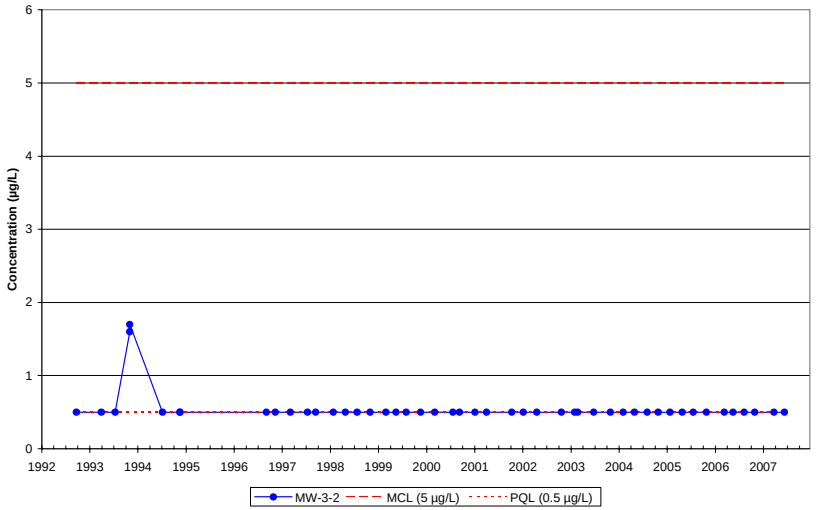
ATTACHMENT 6: TIME-SERIES CONCENTRATION PLOTS

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.

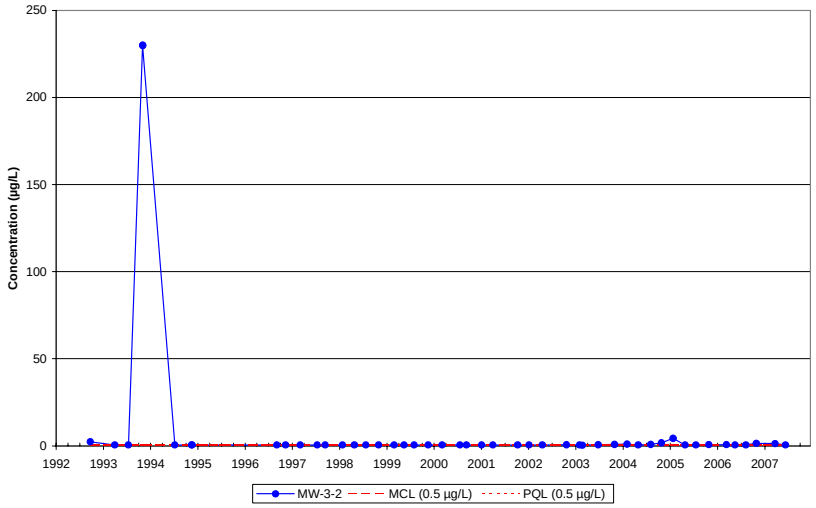
MW-3-2 Perchlorate Concentrations 1997 to Present



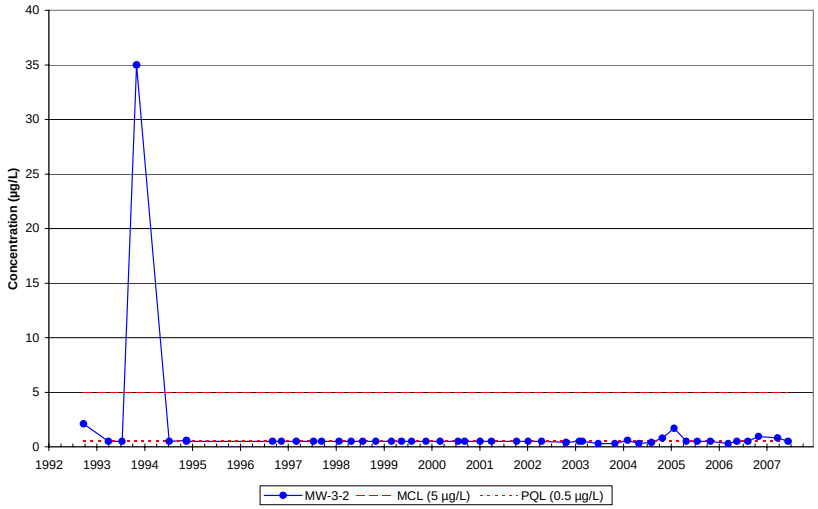
MW-3-2 Tetrachloroethene (PCE) Concentrations 1992 to Present



MW-3-2 Carbon Tetrachloride Concentrations 1992 to Present

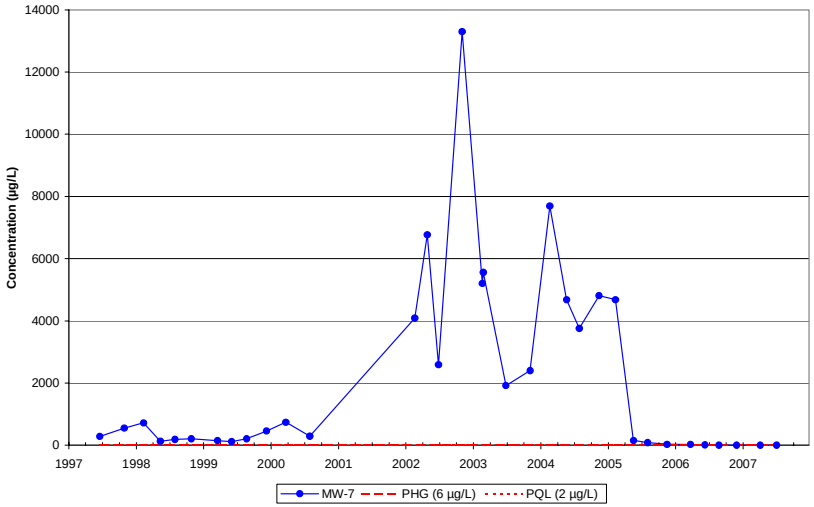


MW-3-2 Trichloroethene (TCE) Concentrations 1992 to Present

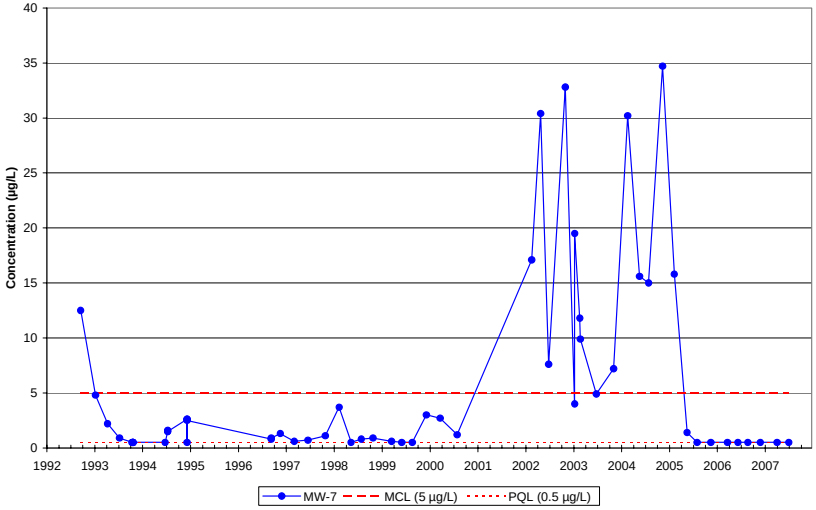


VOCs and Perchlorate Time Series Plots for MW-3-2

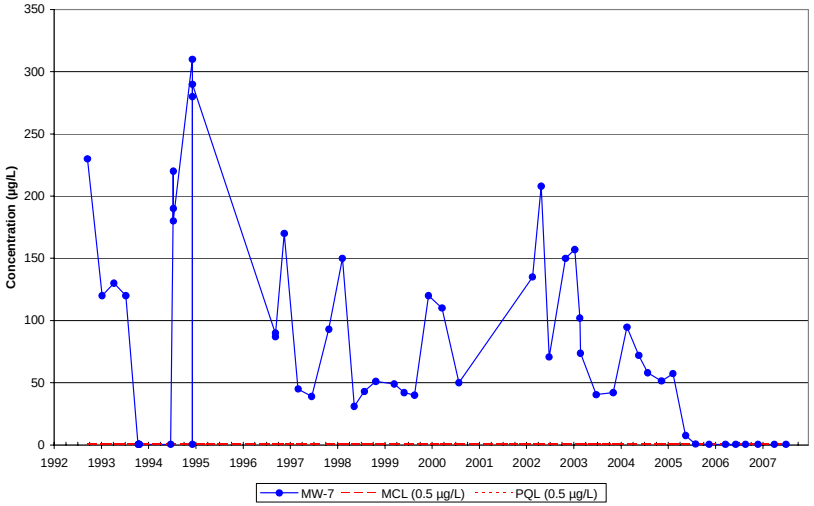
MW-7 Perchlorate Concentrations 1997 to Present



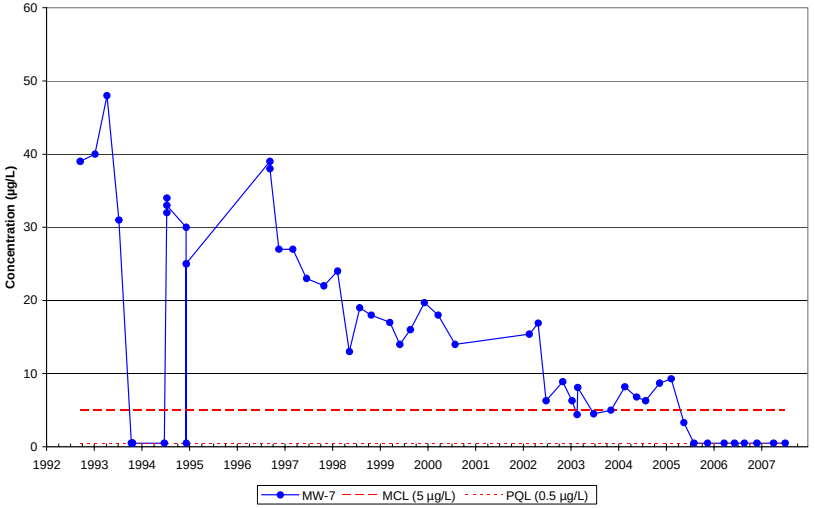
MW-7 Tetrachloroethene (PCE) Concentrations 1992 to Present



MW-7 Carbon Tetrachloride Concentrations 1992 to Present

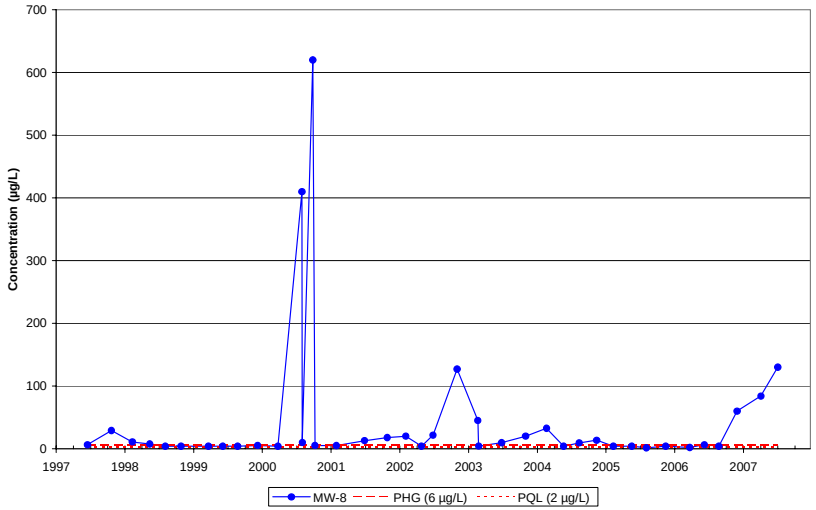


MW-7 Trichloroethene (TCE) Concentrations 1992 to Present

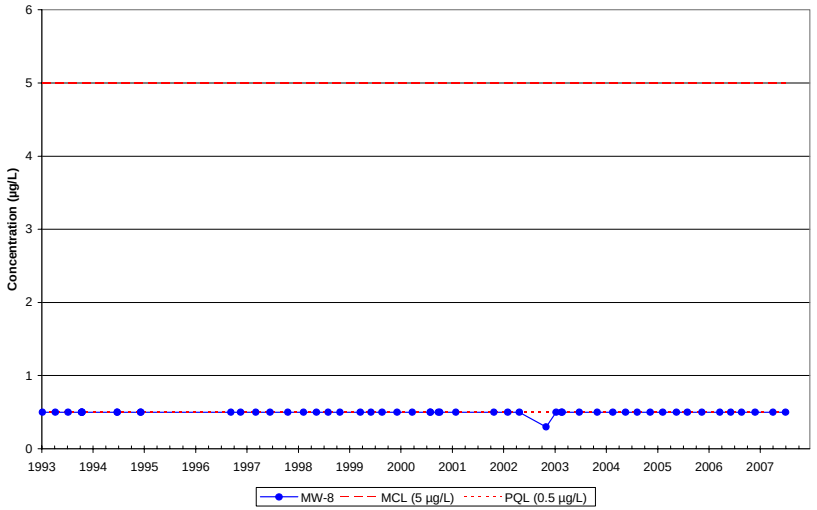


VOCs and Perchlorate Time Series Plots for MW-7

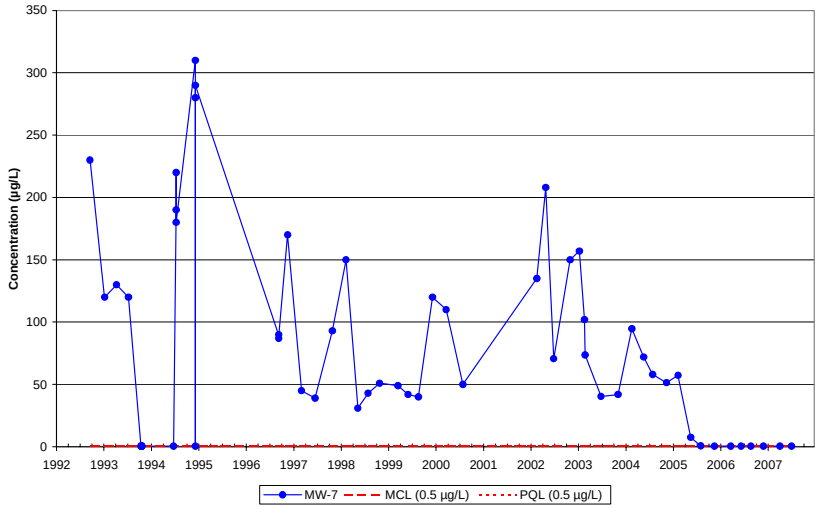
MW-8 Perchlorate Concentrations 1997 to Present



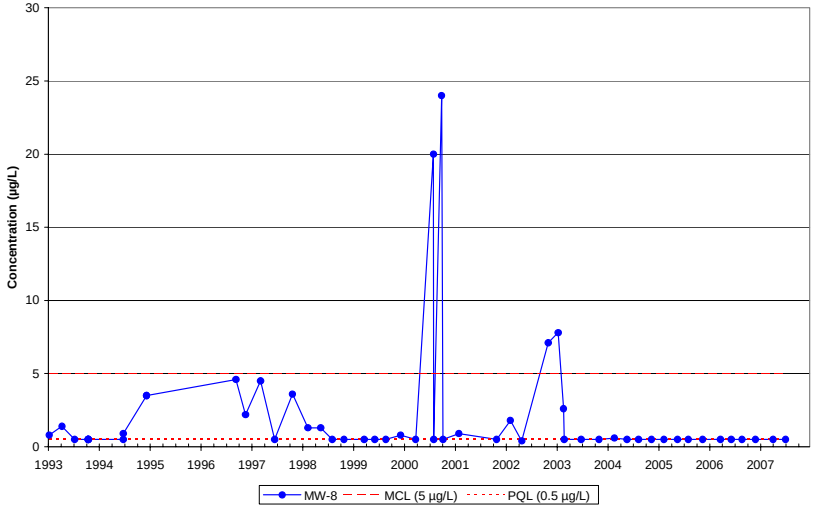
MW-8 Tetrachloroethene (PCE) Concentrations 1993 to Present



MW-7 Carbon Tetrachloride Concentrations 1992 to Present

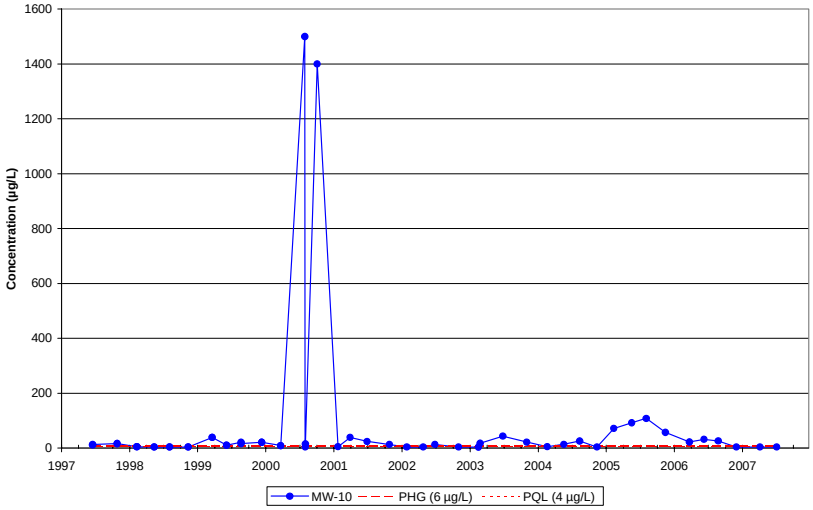


MW-8 Trichloroethene (TCE) Concentrations 1993 to Present

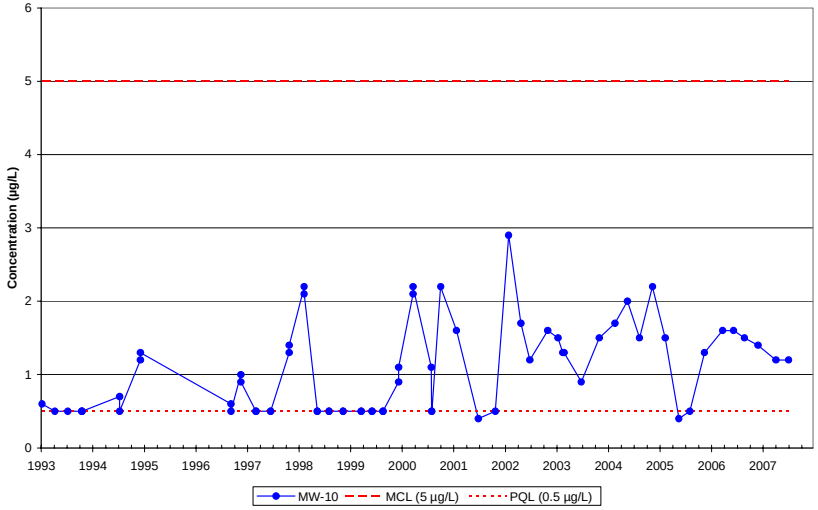


VOCs and Perchlorate Time Series Plots for MW-8

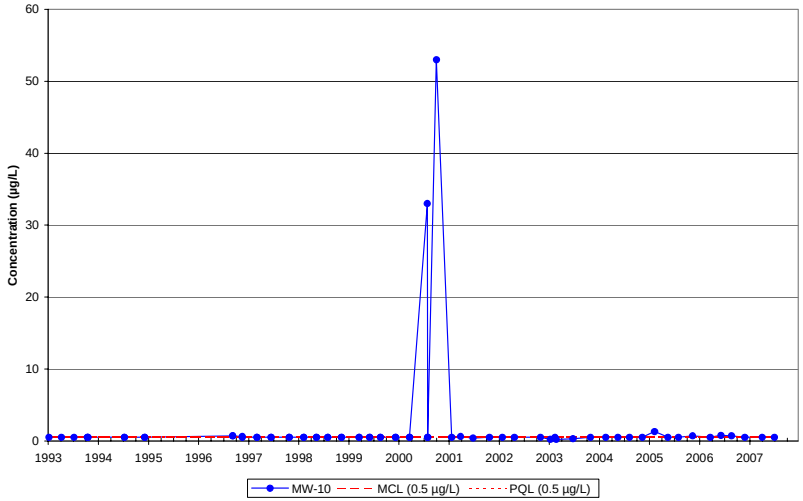
MW-10 Perchlorate Concentrations 1997 to Present



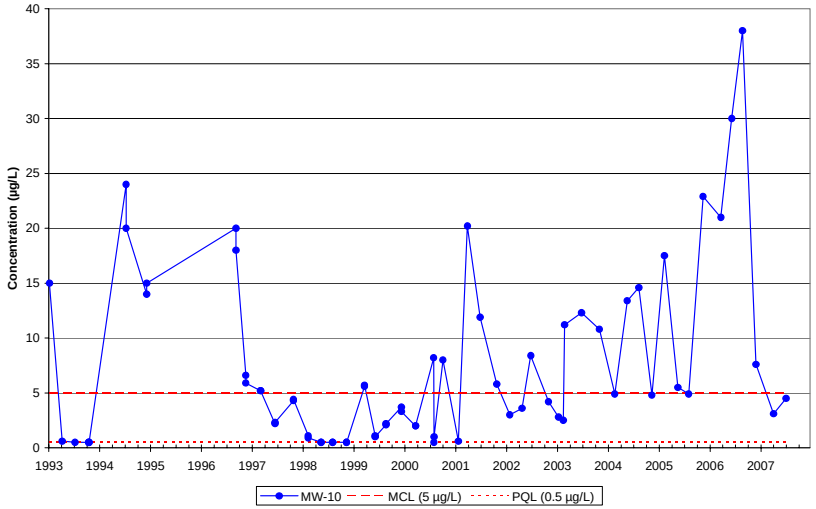
MW-10 Tetrachloroethene (PCE) Concentrations 1993 to Present



MW-10 Carbon Tetrachloride Concentrations 1993 to Present

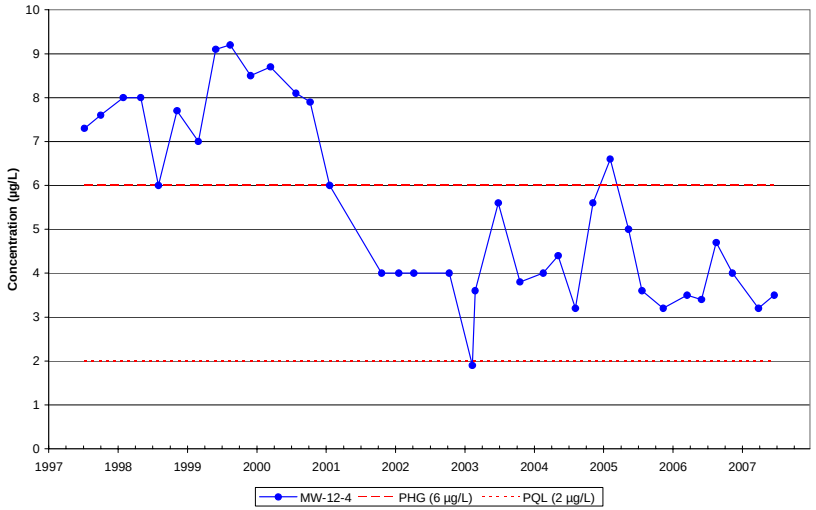


MW-10 Trichloroethene (TCE) Concentrations 1993 to Present

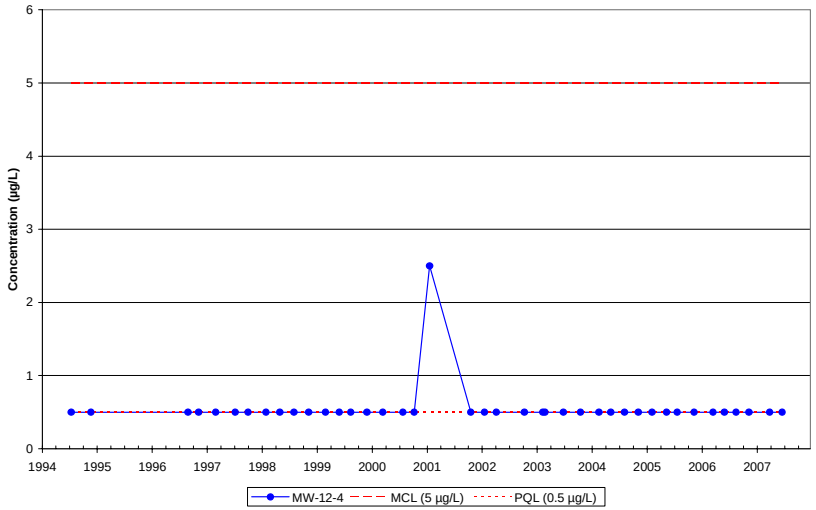


VOCs and Perchlorate Time Series Plots for MW-10

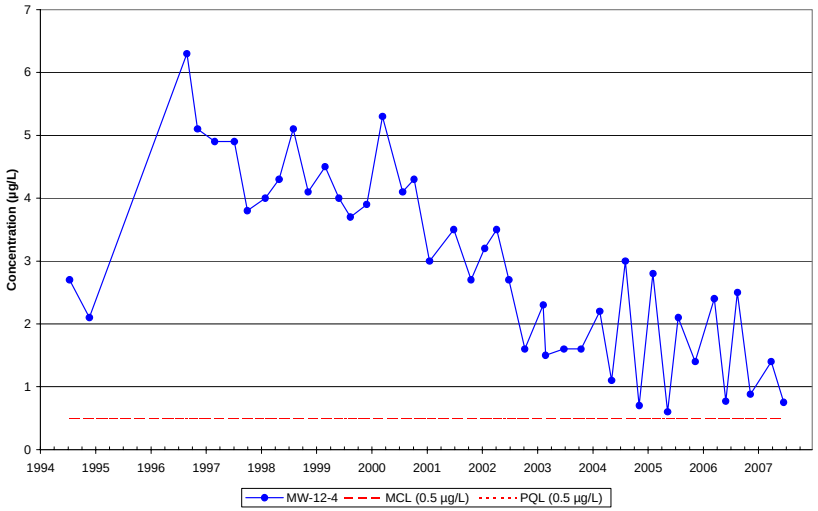
MW-12-4 Perchlorate Concentrations 1997 to Present



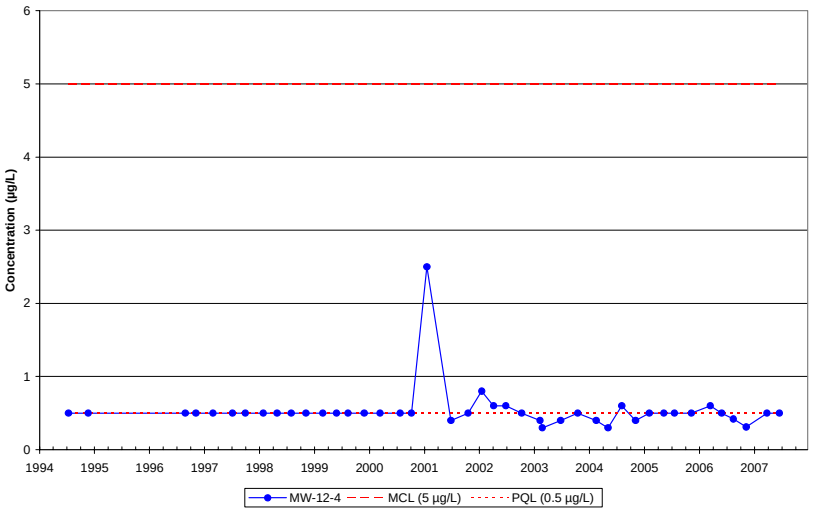
MW-12-4 Tetrachloroethene (PCE) Concentrations 1994 to Present



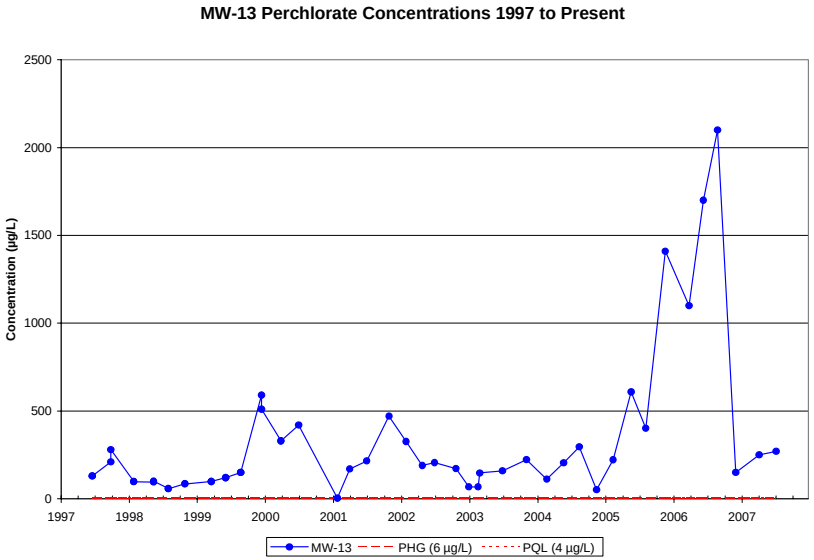
MW-12-4 Carbon Tetrachloride Concentrations 1994 to Present

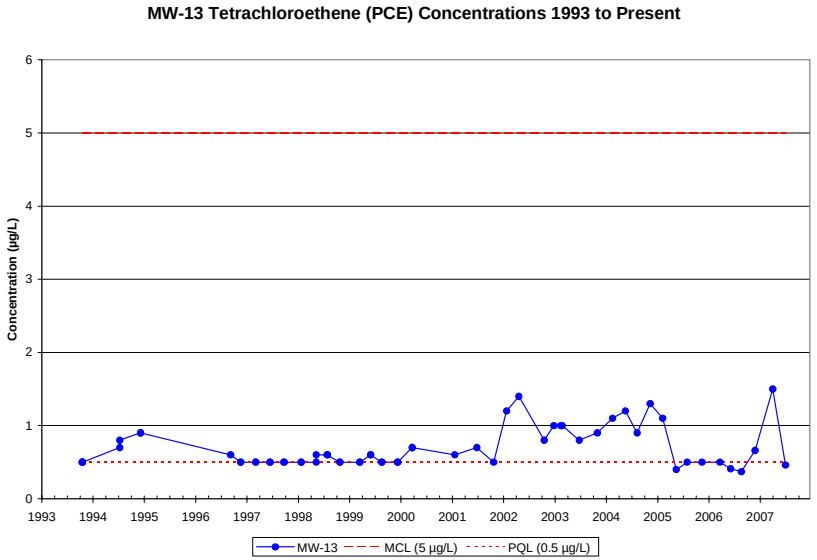


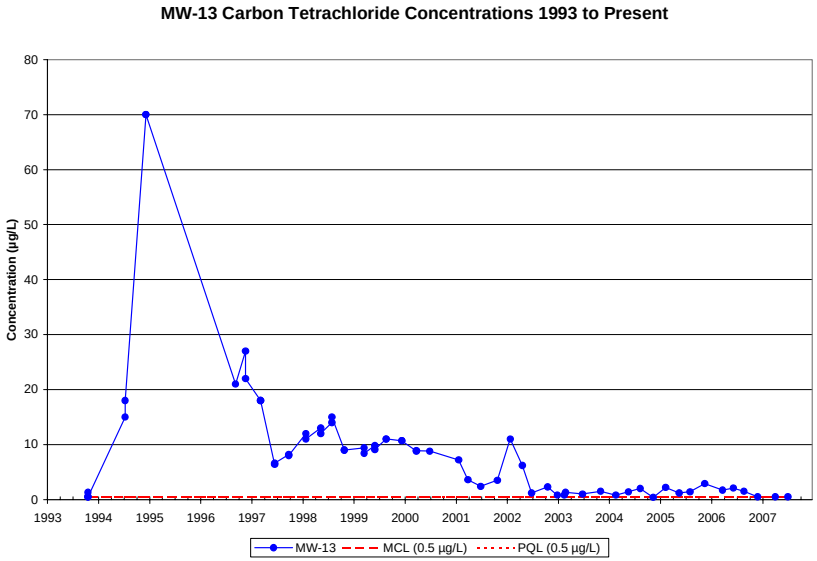
MW-12-4 Trichloroethene (TCE) Concentrations 1994 to Present

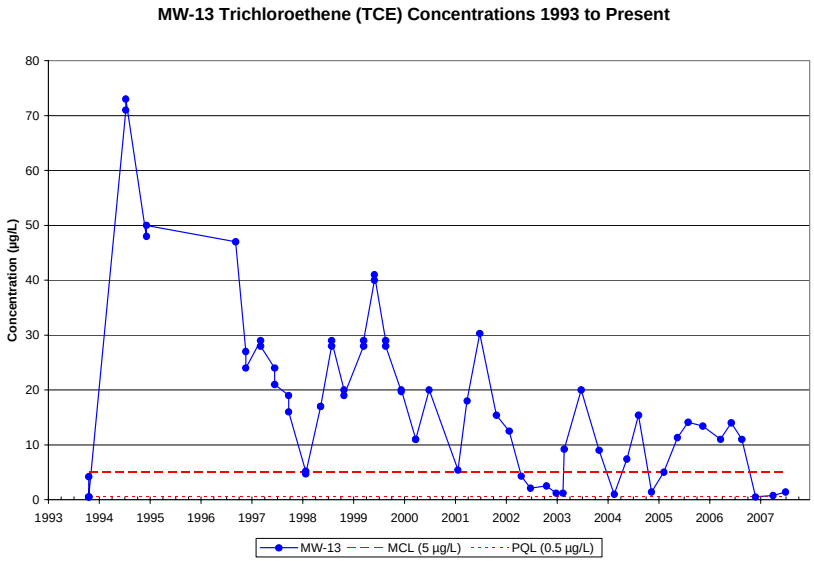


VOCs and Perchlorate Time Series Plots for MW-12-4



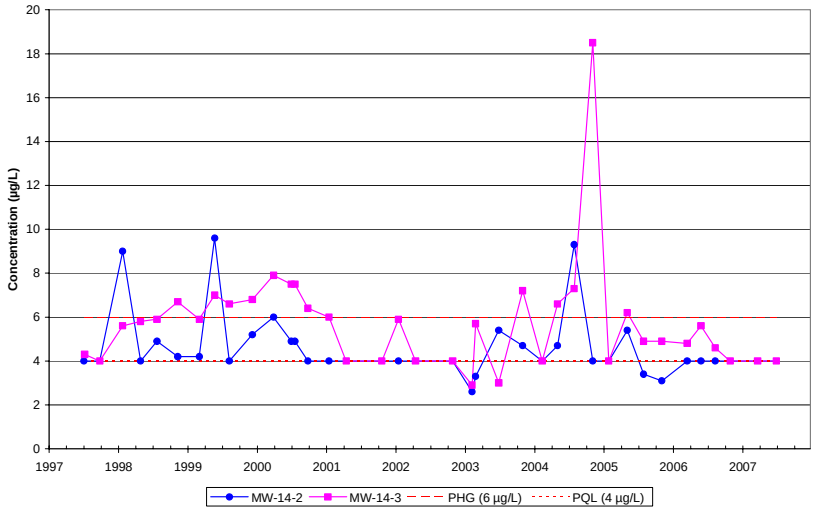




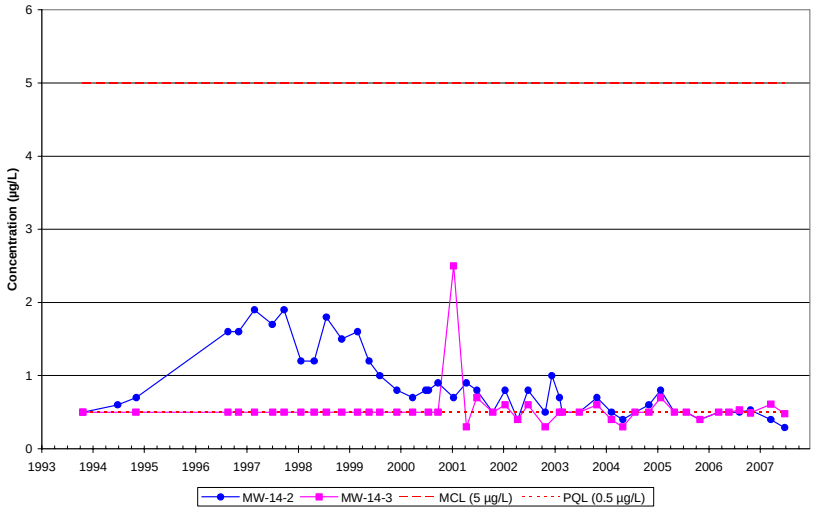


VOCs and Perchlorate Time Series Plots for MW-13

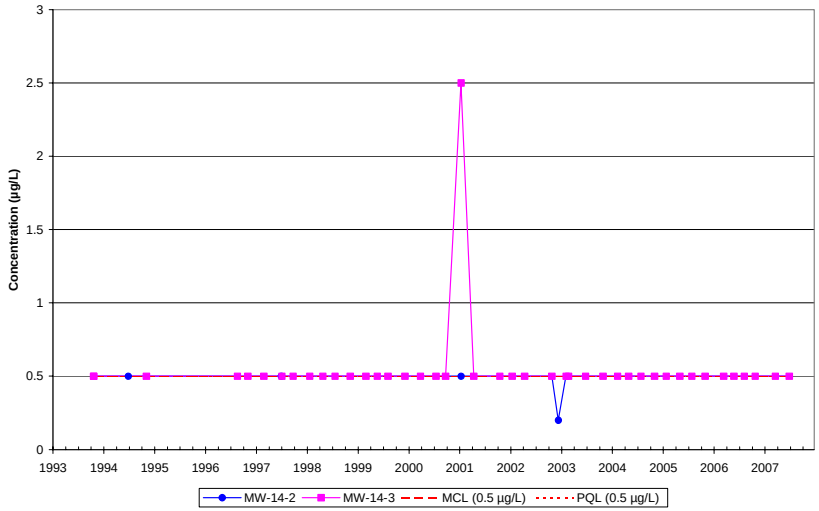
MW-14-2 and MW-14-3 Perchlorate Concentrations 1997 to Present



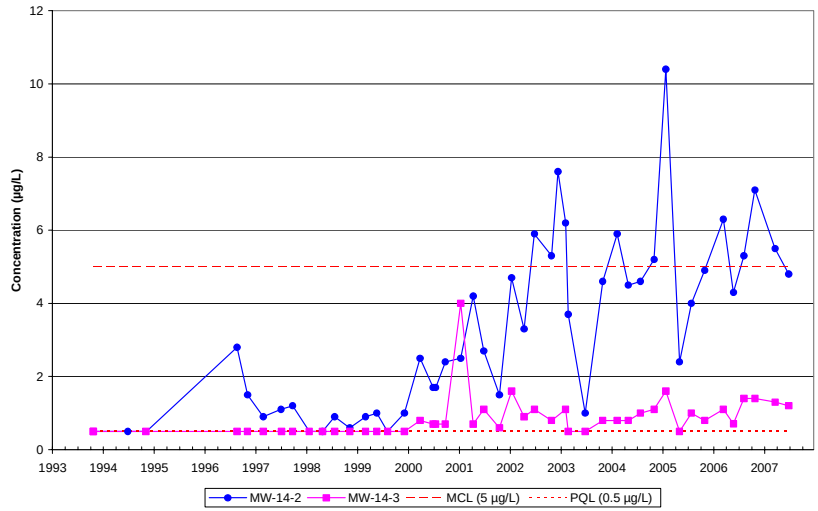
MW-14-2 and MW-14-3 Tetrachloroethene (PCE) Concentrations 1993 to Present



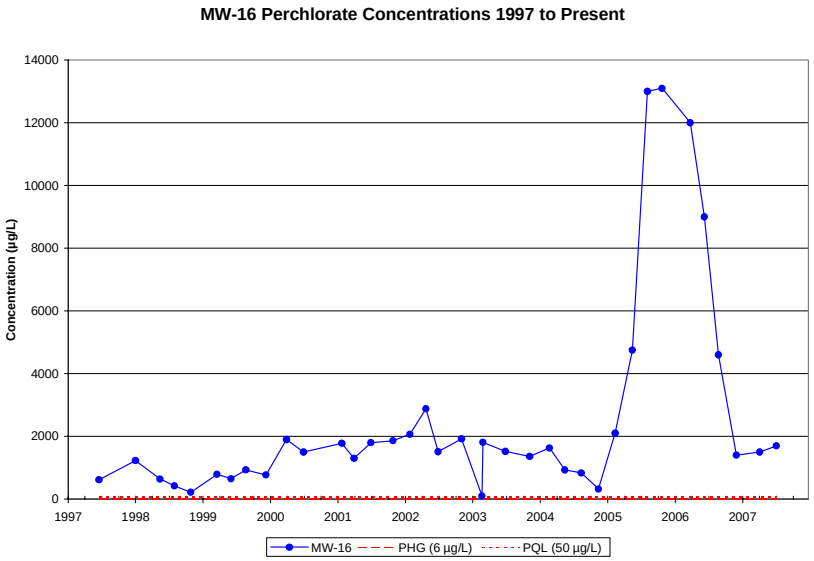
MW-14-2 and MW-14-3 Carbon Tetrachloride Concentrations 1993 to Present

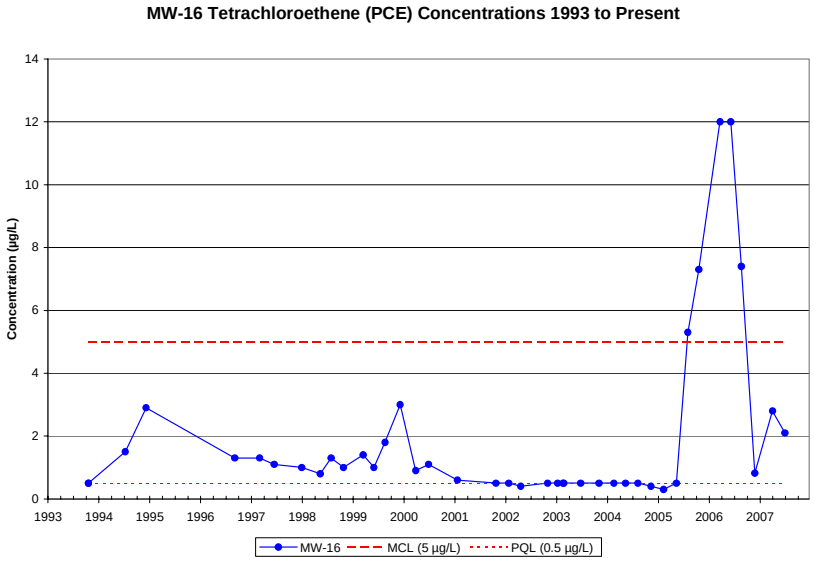


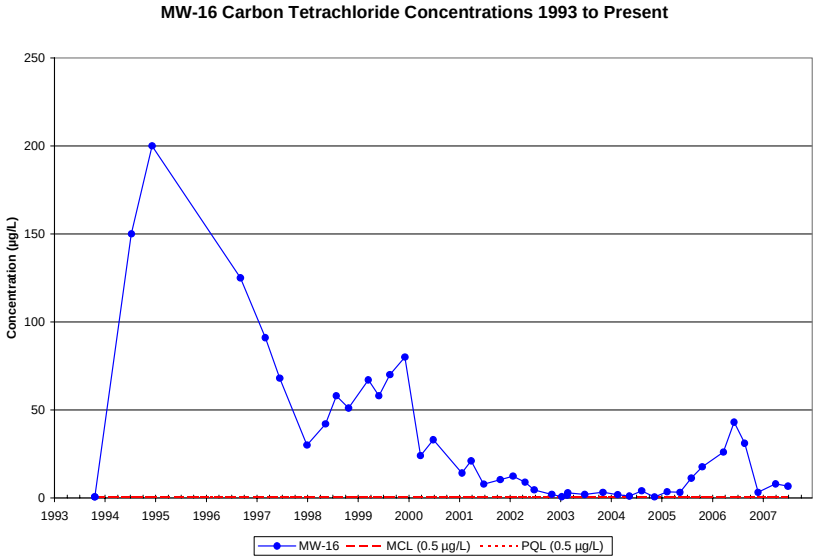
MW-14-2 and MW-14-3 Trichloroethene (TCE) Concentrations 1993 to Present

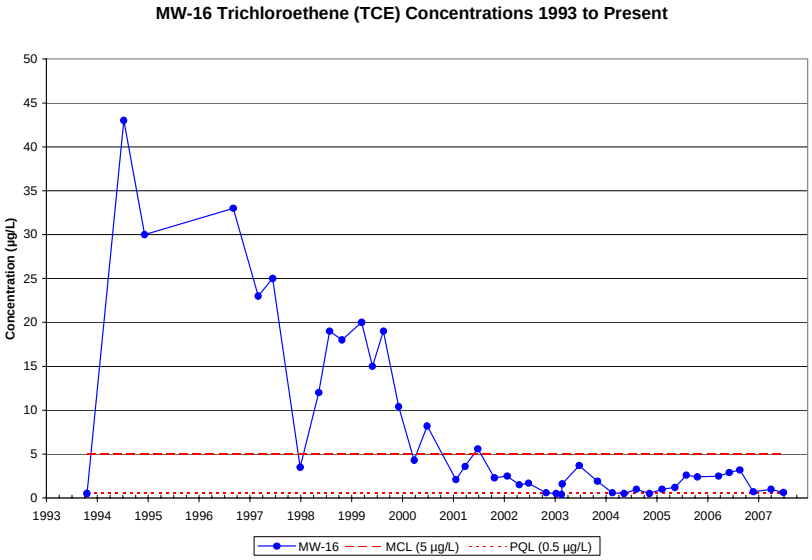


VOCs and Perchlorate Time Series Plots for MW-14-2 and MW-14-3



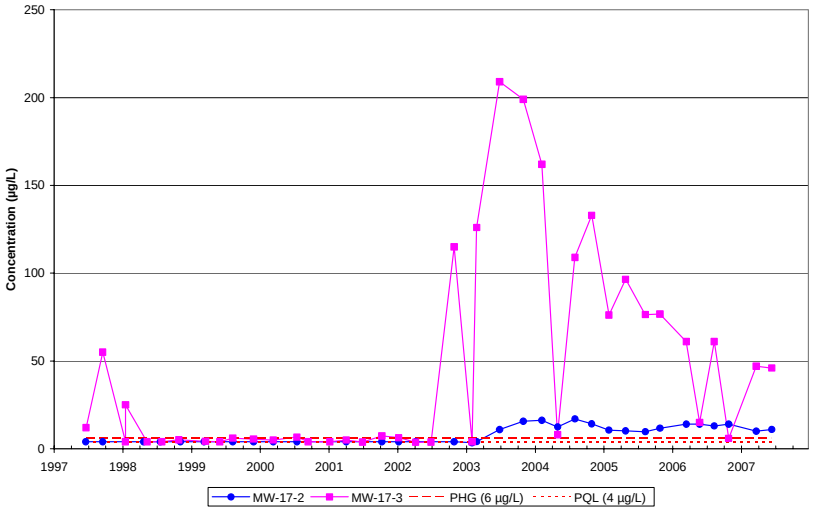




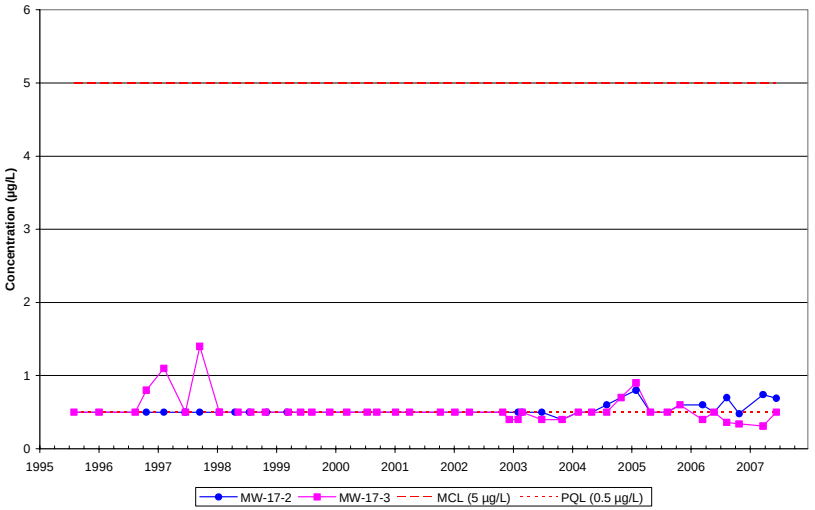


VOCs and Perchlorate Time Series Plots for MW-16

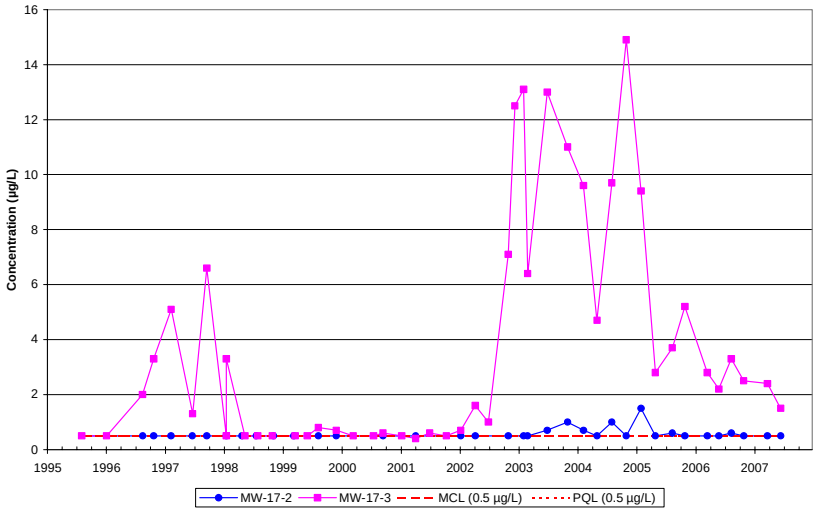
MW-17-2 and MW-17-3 Perchlorate Concentrations 1997 to Present



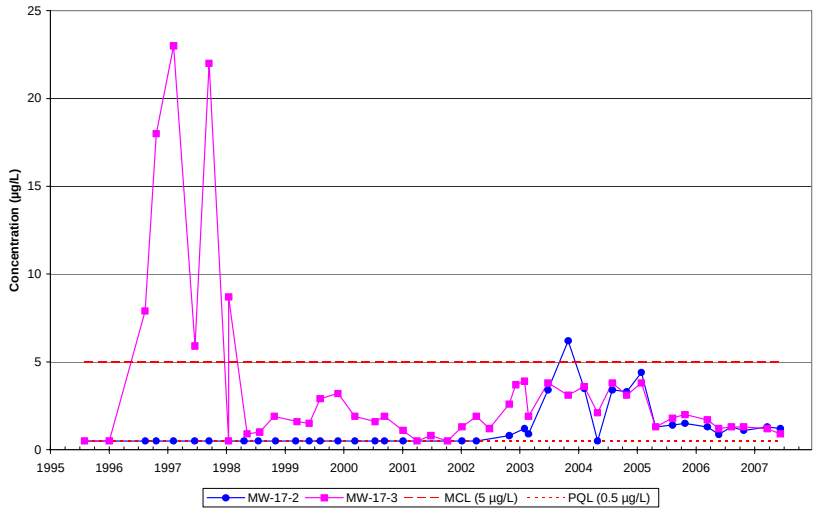
MW-17-2 and MW-17-3 Tetrachloroethene (PCE) Concentrations 1995 to Present



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



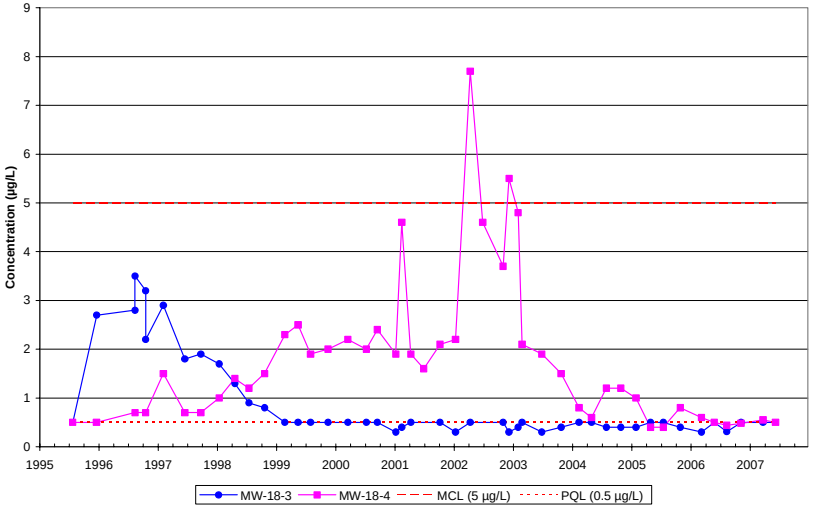
MW-17-2 and MW-17-3 Trichloroethene (TCE) Concentrations 1995 to Present



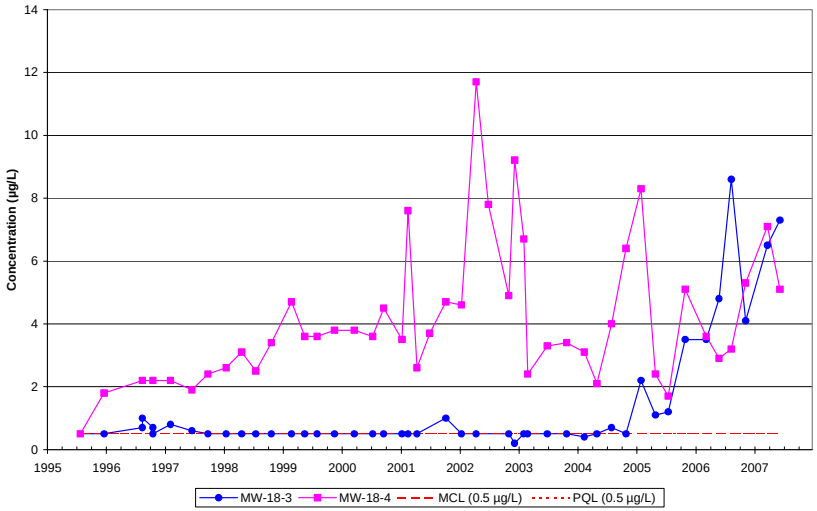
VOCs and Perchlorate Time Series Plots for MW-17-2 and MW-17-3

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

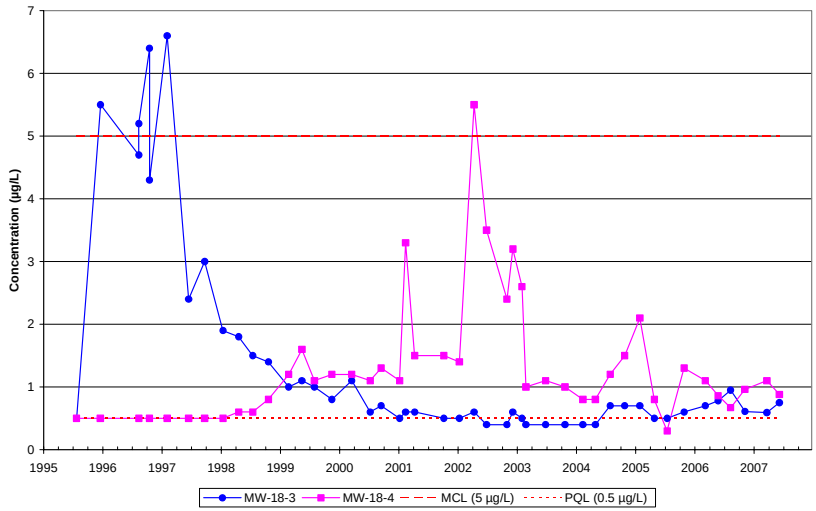
MW-18-3 and MW-18-4 Tetrachloroethene (PCE) Concentrations 1995 to Present



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

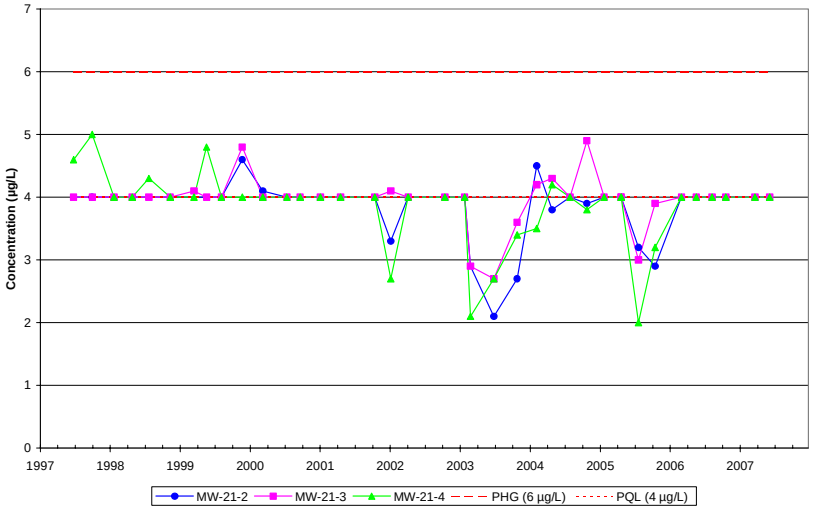


MW-18-3 and MW-18-4 Trichloroethene (TCE) Concentrations 1995 to Present

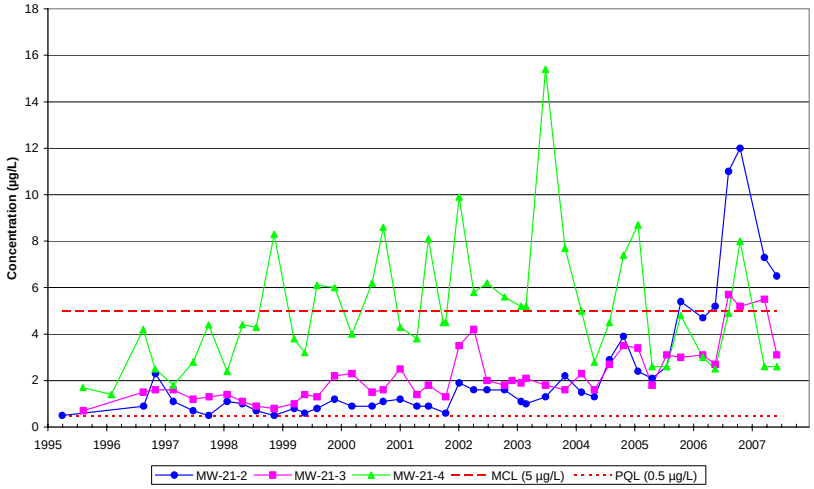


VOCs and Perchlorate Time Series Plots for MW-18-3 and MW-18-4

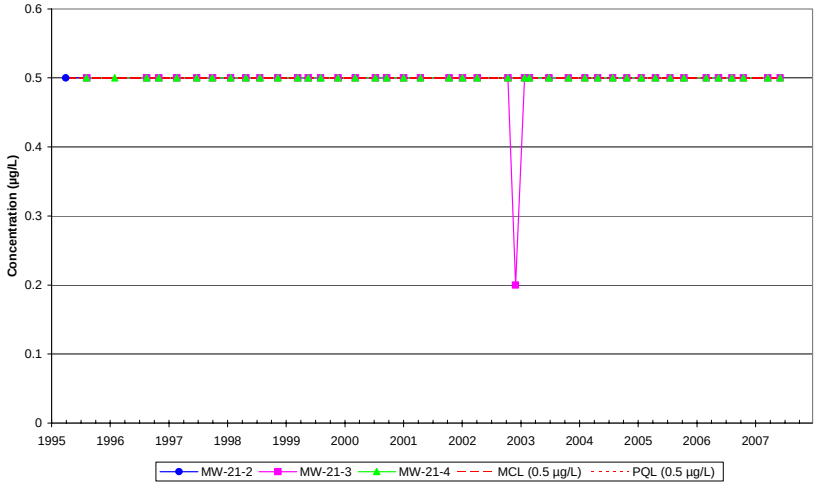
MW-21-2, MW-21-3, and MW-21-4 Perchlorate Concentrations 1997 to Present



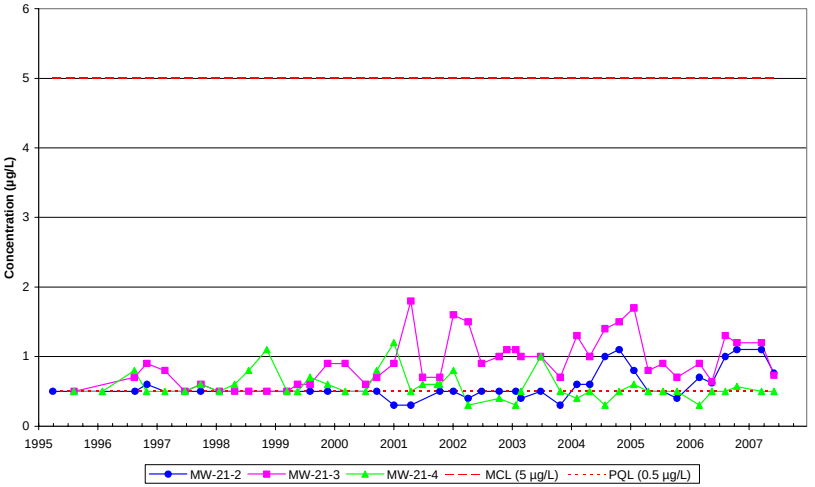
MW-21-2, MW-21-3, and MW-21-4 Tetrachloroethene (PCE) Concentrations 1995 to Present



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

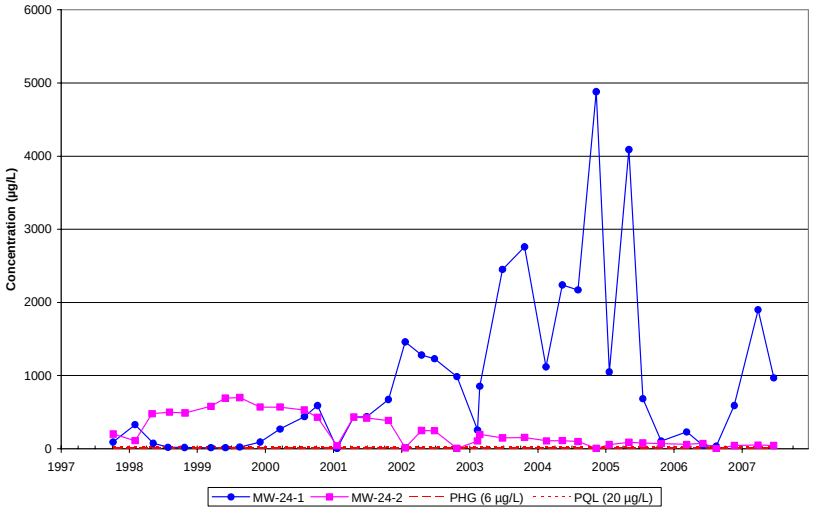


MW-21-2, MW-21-3, and MW-21-4 Trichloroethene (TCE) Concentrations 1995 to Present

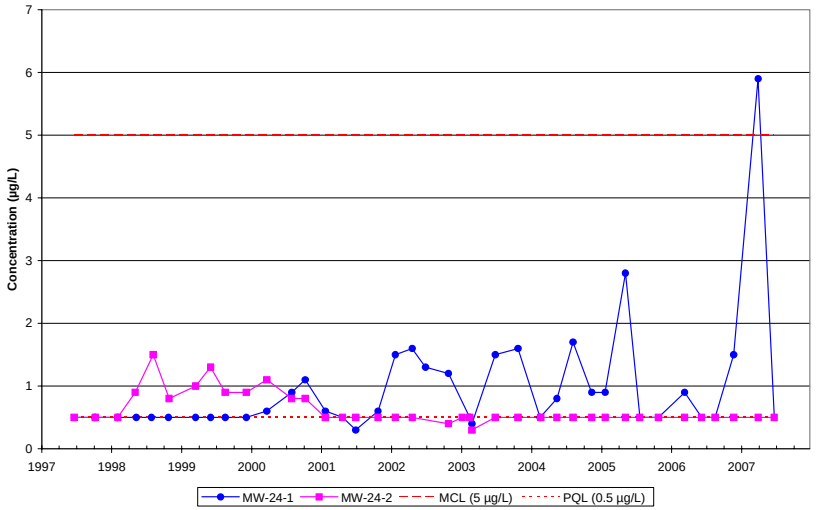


VOCs and Perchlorate Time Series Plots for MW-21-2, MW-21-3 and MW-21-4

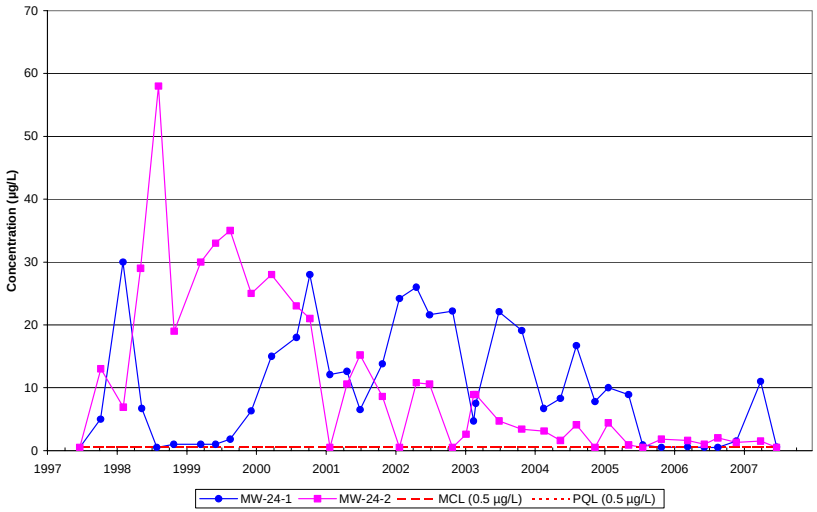
MW-24-1 and MW-24-2 Perchlorate Concentrations 1997 to Present



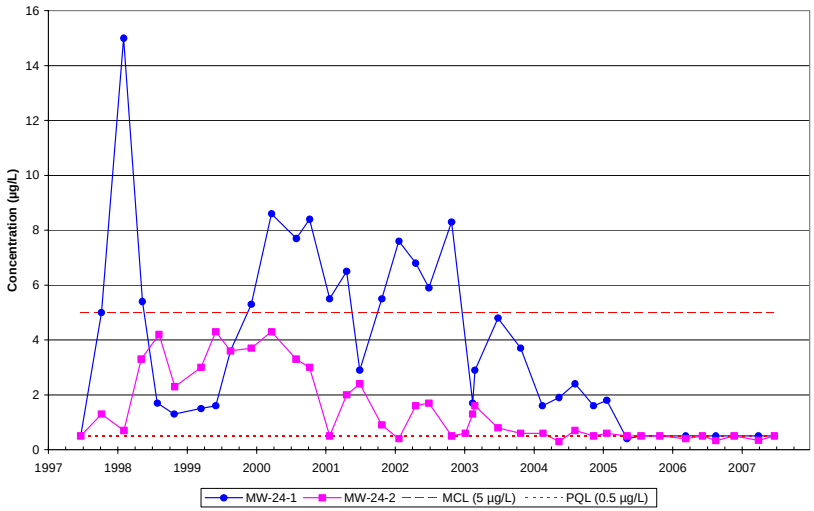
MW-24-1 and MW-24-2 Tetrachloroethene (PCE) Concentrations 1997 to Present



MW-24-1 and MW-24-2 Carbon Tetrachloride 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