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-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 for the 4th Quarter 2012 sampling event was conducted by Blaine Tech Services, Inc.

WELL MONITORING DATA SHEET

Project #: 121102-A11	Site: JPL Pasadena
Sampler: AW	Gauging Date: 11-16-12
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 120'	Depth to Water (DTW): 28.65
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 46.92	

Purge Method: Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; 2" Rediflo pump; Extraction Pump; Other Dedicated RFZ

Sampling Method: Disposable Bailer; Extraction Port; (Dedicated Tubing); Other:

Flow Rate= 4 gpm

Start Purge Date= 11-16-12 Pump @ 90'

59.4 (Gals.) X 3 = 178.2 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius^2 * 0.163

Time	Temp (°C)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
0854	15.9	7.50	517	3.01	0.41	208.3	30	30.31
0902	15.9	7.44	519	1.28	0.36	199.2	60	30.38
0909	15.8	7.48	519	0.78	0.34	193.7	90	30.40
0917	15.8	7.44	520	0.40	0.35	188.6	120	30.40
0924	15.9	7.47	521	0.29	0.34	184.1	150	30.40
0932	16.0	7.52	520	0.27	0.29	180.0	180	30.40

Did well dewater? Yes (No) Gallons actually evacuated: 180

Sampling Date: 11-16-12 Sampling Time: 0935 Depth to Water: 30.40

Sample I.D.: MW-1 Laboratory: BC Labs

Analyzed for: See COC (Level IV) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 121102-tw1	Site: JPL Pasadena
Sampler: TW	Gauging Date: 11-15-12
Well I.D.: MW-5	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 140	Depth to Water (DTW): 89.85
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 99.88	

Purge Method: Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; 2" Rediflo pump; Extraction Pump; Other ___

Sampling Method: Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ___

Flow Rate= 4 gpm

Start Purge Date= 11-15-12 Pump @ 125

32.6 (Gals.) X ___ = 97.8 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (C)	pH	Cond. (mS or (uS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
1255	15.9	6.97	490	2.74	0.91	256.7	17	90.20
1300	15.9	6.92	493	1.91	0.73	251.3	34	90.32
1304	15.5	6.87	495	1.13	0.78	237.4	50	90.32
1308	15.3	6.81	496	0.48	0.67	228.4	66	90.32
1312	15.3	6.83	497	0.32	0.59	224.1	82	90.32
1316	15.1	6.85	497	0.39	0.54	219.3	98	90.32

Did well dewater? Yes (No) Gallons actually evacuated: 98

Sampling Date: 11-15-12 Sampling Time: 1320 Depth to Water: 90.32

Sample I.D.: MW-5 Laboratory: BC Labs

Analyzed for: See C.O.C. (Level IV + MS/MSD) Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 121102-AW1	Site: JPL, Pasadena
Sampler: AW	Gauging Date: 11-15-12
Well I.D.: MW-6	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 245	Depth to Water (DTW): 192.59
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 203.07	

Purge Method:
Disposable Bailer
Positive Air Displacement
Electric Submersible
Waterra
2" Rediflo pump
Extraction Pump
Other Dedicated RFZ

Sampling Method:
Disposable Bailer
Extraction Port
Dedicated Tubing
Other:

Flow Rate= 3 gpm
Start Purge Date= 11-15-12 Pump @ 230'

34.1 (Gals.) X 3 = 102.3 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°C)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
0742	20.1	6.55	1222	1.06	9.42	180.3	18	193.22
0747	20.6	6.49	1206	0.82	10.05	176.4	35	193.24
0753	20.2	6.52	1204	1.35	8.97	178.2	52	193.26
0758	20.3	6.57	1207	0.42	8.96	177.6	69	193.29
0804	20.6	6.58	1207	0.63	8.81	178.3	86	193.29
0810	20.6	6.60	1206	0.57	8.74	178.2	103	193.29

Did well dewater? Yes (No) Gallons actually evacuated: 103

Sampling Date: 11-15-12 Sampling Time: 0815 Depth to Water: 193.29

Sample I.D.: MW-6 Laboratory: BC Labs

Analyzed for: See C.O.C. Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable): DUPE-5-4Q12

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 121102-AW1	Site: JPL Pasadena
Sampler: AW	Gauging Date: 11-15-12
Well I.D.: MW-7	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 275	Depth to Water (DTW): 228.58
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 237.86	

Purge Method:
- Disposable Bailer
- Positive Air Displacement
- Electric Submersible
- Waterra
- 2" Rediflo pump
- Extraction Pump
- Other Dedicated RFZ

Sampling Method:
- Disposable Bailer
- Extraction Port
- Dedicated Tubing
- Other:

Flow Rate= 3 gpm

Start Purge Date= 11-15-12 Pump @ 265'

30.2 (Gals.) X 3 = 90.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°C)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
1345	24.0	7.13	661	21.3	3.10	188.1	16	229.04
1350	23.6	7.12	656	17.4	2.94	171.3	31	229.04
1355	23.7	7.12	654	14.7	2.82	160.4	46	229.04
1400	23.4	7.15	654	4.68	2.80	151.2	61	229.04
1405	23.5	7.11	652	3.66	2.81	146.3	76	229.04
1410	23.2	7.16	656	2.33	2.79	144.0	91	229.04

Did well dewater? Yes (No) Gallons actually evacuated: 91

Sampling Date: 11-15-12 Sampling Time: 1415 Depth to Water: 229.04

Sample I.D.: MW-7 Laboratory: BC Labs

Analyzed for: See COC. Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 121102-AW1	Site: JPL Pasadena
Sampler: AW	Gauging Date: 11-16-12
Well I.D.: MW-8	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 205	Depth to Water (DTW): 155.48
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 165.38	

Purge Method:
- Disposable Bailer
- Positive Air Displacement
- Electric Submersible
- Waterra
- 2" Rediflo pump
- Extraction Pump
- Other Dedicated

Sampling Method:
- Disposable Bailer
- Extraction Port
- (Dedicated Tubing)
- Other: ___

Flow Rate= 3 gpm

Start Purge Date= 11-16-12 Pump @ 195'

32.2 (Gals.) X 3 = 96.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
0731	16.2	7.21	AW 420	1.90	3.21	177.1	17	155.69
0736	16.2	7.04	419	0.52	3.22	171.3	33	155.64
0741	16.2	7.04	418	0.46	3.21	165.4	49	155.64
0747	16.2	7.07	417	0.79	3.18	161.7	65	155.64
0752	16.2	7.07	418	0.88	3.17	157.8	81	155.64
0757	16.2	7.10	419	0.73	3.19	154.9	97	155.64

Did well dewater? Yes (No) Gallons actually evacuated: 97

Sampling Date: 11-16-12 Sampling Time: 0800 Depth to Water: 155.64

Sample I.D.: MW-8 Laboratory: BC Labs

Analyzed for: See C.O.C. Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable): DUPE-8-4Q12

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 121102-AW1	Site: JPL, Pasadena
Sampler: AW	Gauging Date: 11-15-12
Well I.D.: MW-9	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 68'	Depth to Water (DTW): 20.03
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 29.62	

Purge Method:
- Disposable Bailer
- Positive Air Displacement
- Electric Submersible
- Waterra
- 2" Rediflo pump
- Extraction Pump
- Other Dedicated RFZ

Sampling Method:
- Disposable Bailer
- Extraction Port
- (Dedicated Tubing)
- Other:

Flow Rate= 3gpm
Start Purge Date= 11-15-12 Pump @ 60'

31.2 (Gals.) X 3 = 93.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°C)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
1003	17.6	7.10	397	0.30	0.73	235.1	16	21.68
1008	17.8	7.00	394	0.23	0.81	227.8	32	22.27
1014	18.0	7.00	394	0.41	0.98	211.4	48	22.40
1019	17.9	7.01	397	0.69	~~0.69~~ 1.14	200.1	64	22.39
1024	17.9	7.00	398	0.81	1.27	196.2	70	22.40
1030	17.8	7.01	399	0.74	1.18	191.3	96	22.40

Did well dewater? Yes (No) Gallons actually evacuated: 96

Sampling Date: 11-15-12 Sampling Time: 1035 Depth to Water: 22.40

Sample I.D.: MW-9 Laboratory: BC Labs

Analyzed for: See C.O.C. Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 121102-AW1	Site: JPL, Pasadena
Sampler: AW	Gauging Date: 11-15-12
Well I.D.: MW-10	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 155	Depth to Water (DTW): 104.49
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 114.59	

Purge Method:
- Disposable Bailer
- Positive Air Displacement
- Electric Submersible
- Waterra
- 2" Rediflo pump
- Extraction Pump
- Other Dedicated RFZ

Sampling Method:
- Disposable Bailer
- Extraction Port
- (Dedicated Tubing)
- Other:

Flow Rate= 3gpm

Start Purge Date= 11-15-12 Pump @ 140'

32.9	(Gals.) X	3	=	98.7	Gals.
1 Case Volume		Specified Volumes		Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
0850	19.0	6.92	736	2.82	6.41	194.2	17	104.55
0855	19.5	6.78	752	2.21	6.73	222.3	33	104.54
0901	19.4	6.81	758	1.06	6.47	203.4	50	104.54
0906	19.5	6.77	768	0.99	6.42	195.7	66	104.54
0912	19.6	6.77	771	0.91	6.48	190.6	83	104.54
0917	19.8	6.79	776	0.71	6.45	187.4	99	104.54

Did well dewater? Yes (No) Gallons actually evacuated: 99

Sampling Date: 11-15-12 Sampling Time: 0920 Depth to Water: 104.54

Sample I.D.: MW-10 Laboratory: BC Labs

Analyzed for: See COC. Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 121102-4W1	Site: JPL, Pasadena
Sampler: AW	Gauging Date: 11-16-12
Well I.D.: MW-13	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 235	Depth to Water (DTW): 198.92
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 206.13	

Purge Method: Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; 2" Rediflo pump; Extraction Pump; Other Dedicated RF2

Sampling Method: Disposable Bailer; Extraction Port; Dedicated Tubing; Other:

Flow Rate= 3 gpm

Start Purge Date= 11-16-12 Pump @ 220'

23.5 (Gals.) X 3 = 70.5 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°C)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
0658	21.8	6.87	626	8.66	6.57	186.6	12	199.05
0702	21.9	6.97	625	3.65	6.61	173.4	24	199.22
0706	21.6	7.04	622	2.96	6.44	153.7	36	199.19
0710	21.9	6.99	626	1.47	6.23	147.2	48	199.19
0714	22.2	6.98	625	1.88	6.31	142.4	60	199.19
0718	22.1	6.96	623	1.90	6.27	138.7	72	199.19

Did well dewater? Yes (No) Gallons actually evacuated: 72

Sampling Date: 11-16-12 Sampling Time: 0720 Depth to Water: 199.19

Sample I.D.: MW-13 Laboratory: BC Labs

Analyzed for: See C.O.C. Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable): DUPE-7-4Q12

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 121102-AW1	Site: JPL
Sampler: AW	Gauging Date: 11-15-12
Well I.D.: MW-15	Well Diameter: 2 3 4 6 8 ___
Total Well Depth (TD): 74	Depth to Water (DTW): 33.01
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 41.20	

Purge Method: Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; 2" Rediflo pump; Extraction Pump; Other Dedicated RFZ

Sampling Method: Disposable Bailer; Extraction Port; (Dedicated Tubing); Other:

Flow Rate= 4 gpm

Start Purge Date= 11-15-12 Pump @ 54'

26.7 (Gals.) X 3 = 80.1 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (C)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
1100	~~7.22~~ 17.0	7.22	462	0.39	3.49	201.7	14	33.72
1104	16.9	7.27	465	0.17	2.35	192.9	28	33.72
1107	16.8	7.31	467	0.27	1.81	186.3	42	33.72
1110	16.8	7.32	467	0.23	0.91	180.4	56	33.72
1114	16.8	7.29	466	0.12	0.87	177.5	70	33.72
1117	16.8	7.23	466	0.22	0.84	172.8	84	33.72

Did well dewater? Yes (No) Gallons actually evacuated: 84

Sampling Date: 11-15-12 Sampling Time: 1120 Depth to Water: 33.72

Sample I.D.: MW-15 Laboratory: BC Labs

Analyzed for: See C.O.C. Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable): DUPE-6-4Q12

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 121102-AW1	Site: JPL Pasadena
Sampler: AW	Gauging Date: 11-16-12
Well I.D.: MW-16	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 285	Depth to Water (DTW): 251.40
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type YSI
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 258.12	

Purge Method: Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; 2" Rediflo pump; Extraction Pump; Other Dedicated RF2

Sampling Method: Disposable Bailer; Extraction Port; (Dedicated Tubing); Other:

Flow Rate= 1 gpm

Start Purge Date= 11-16-12 Pump @ 265'

21.9 (Gals.) X 3 = 65.7 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°C)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	DTW
1111	24.9	7.22	644	1.22	6.51	698.3	11	251.58
1122	25.0	7.16	653	0.70	7.22	744.1	22	251.58
1133	25.2	7.14	646	1.07	6.87	740.7	33	251.58
1144	25.2	7.16	647	1.00	6.94	742.3	44	251.58
1155	24.8	7.14	644	0.70	7.02	744.7	55	251.58
1206	24.6	7.18	647	0.63	6.93	750.8	66	251.58

Did well dewater? Yes (No) Gallons actually evacuated: 66

Sampling Date: 11-16-12 Sampling Time: 1210 Depth to Water: 251.58

Sample I.D.: MW-16 Laboratory: BC Labs

Analyzed for: See COC. Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

√√ Confirmed that equipment is reading properly

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-3
SAMPLING DATE(S) 11-12-12
LOCATION: W. of E. Parking Lot, Next to spreading ponds JPL
WATER LEVEL INSIDE CASING: 176.30
ATM. PRESSURE (PSI): (Start) 14.24 (Finish) 14.21
22.84°C 18.90°C

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT: JPL Pasadena
OPERATOR(S) AWolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	225.86	✓	227.26	✓	227.26	✓	225.86	18.7	405	8.05	36.4	6.80	191	1245	MW-3-5
4	1	✓	✓	✓	✓	✓	184.62	✓	186.21	✓	186.21	✓	184.62	17.7	412	8.11	8.14	6.66	212	1315	MW-3-4
3	1	✓	✓	✓	✓	✓	92.26	✓	96.06	✓	96.06	✓	92.26	18.0	559	7.11	2.41	7.84	177	1345	MW-3-3
2	1	✓	✓	✓	✓	✓	51.02	✓	63.51	✓	63.51	✓	51.02	17.4	385	7.93	3.333	7.19	221	1410	MW-3-2
1	1	✓	✓	✓	✓	✓	16.42	✓	33.84	✓	33.84	✓	16.42	17.3	407	8.16	37.0	5.97	218	1435	MW-3-1

Comments:

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-4
SAMPLING DATE(S) 11-8-12
LOCATION: Green lot, E. side of JPL, Pasadena
WATER LEVEL INSIDE CASING: 202.20'
ATM. PRESSURE (PSI): (Start) 14.14 (Finish) 14.16
18.70°C 14.46°C

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT: JPL Pasadena
OPERATOR(S) AWolff
WEATHER Overcast

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	153.36	✓	186.38	✓	186.38	✓	153.36	20.7	391	8.36	2.31	6.38	138	1130	MW-4-5
4	1	✓	✓	✓	✓	✓	100.64	✓	133.98	✓	133.98	✓	100.64	22.7	416	8.18	7.46	7.53	168	1200	MW-4-4
3	1	✓	✓	✓	✓	✓	70.01	✓	103.66	✓	103.66	✓	70.01	20.4	434	8.26	2.51	7.28	200	1240	MW-4-3
2	1	✓	✓	✓	✓	✓	33.64	✓	68.88	✓	68.88	✓	33.64	18.7	688	8.00	14.8	6.49	208	1315	MW-4-2
1	1	✓	✓	✓	✓	✓	14.22	✓	35.34	✓	35.34	✓	14.22	16.8	401	8.12	2.91	6.13	210	1355	MW-4-1

Comments: MS/MSD @ Port 3

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-11
SAMPLING DATE(S) 11-14-12
LOCATION: Loading area S. of building 277, JPL
WATER LEVEL INSIDE CASING: 130.77
ATM. PRESSURE (PSI): (Start) 14.16 (Finish) 14.17
15.96°C 18.32°C

PROBE TYPE Westbay
SERIAL NO. FMS 2508
PROJECT: JPL Pasadena
OPERATOR(S) AWolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	238.06	✓	204.85	✓	204.85	✓	238.06	14.0	326	8.45	71.6	7.49	195	0730	MW-11-5
4	1	✓	✓	✓	✓	✓	188.21	✓	170.79	✓	170.79	✓	188.21	16.2	245	8.52	3.09	6.55	-48	0800	MW-11-4
3	1	✓	✓	✓	✓	✓	147.36	✓	128.23	✓	128.23	✓	147.36	18.2	389	8.12	10.3	10.90	31	0830	MW-11-3
	2	✓	✓	✓	✓	✓	147.36	✓	128.21	✓	128.21	✓	147.36					~~5.09~~			
2	1	✓	✓	✓	✓	✓	73.60	✓	58.09	✓	58.09	✓	73.60	22.4	463	8.22	9.27	5.61	111	0930	MW-11-2
1	1	✓	✓	✓	✓	✓	27.21	✓	27.48	✓	27.48	✓	27.21	21.2	502	8.20	2.38	5.38	65	1000	MW-11-1

Comments: TB= TB-8-111912 @ 0650 EB= EB-8-111912 @ 0700 DUP= DUPE-4-40912 @ 0830 (Port 3) MS/MSD @ Port 2

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-12
SAMPLING DATE(S) 11-12-12
LOCATION: White Parking lot, E. of Building 302, JPL
WATER LEVEL INSIDE CASING: 86.91
ATM. PRESSURE (PSI): (Start) 14.26 (Finish) 14.24
17.93°C 18.49°C

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT: JPL, Pasadena
OPERATOR(S) AeJolFF
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	219.44	✓	182.40	✓	182.40	✓	219.44	16.5	426	8.28	2.77	7.18	123	0920	MW-12-5
4	1	✓	✓	✓	✓	✓	170.69	✓	142.64	✓	142.64	✓	170.69	16.5	475	8.23	1.54	6.76	33	1005	MW-12-4
3	1	✓	✓	✓	✓	✓	121.31	✓	95.91	✓	95.91	✓	121.31	17.1	441	8.28	1.18	6.72	10	1035	MW-12-3
2	1	✓	✓	✓	✓	✓	86.47	✓	62.60	✓	62.60	✓	86.47	17.4	546	8.15	2.90	6.52	135	1110	MW-12-2
1	1	✓	✓	✓	✓	✓	41.03	✓	24.60	✓	24.60	✓	41.03	18.4	399	8.05	7.28	5.56	161	1140	MW-12-1

Comments: TB= TB-6-111212 @0800 SB= SB-2-111212 @0820 EB= EB-6-111212 @0830 Level in @ Port 2

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-14-
SAMPLING DATE(S) 11-6-12
LOCATION: JPL Annex Parking lot
WATER LEVEL INSIDE CASING: 149.26
ATM. PRESSURE (PSI): (Start) 14.19 (Finish) 14.19
23.34°C 22.43°C

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT: JPL Pasadena
OPERATOR(S) AWolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	188.80	✓	171.78	✓	171.78	✓	188.80	24.0	329	8.46	2.50	5.90	102	1215	MW-14-5
4	1	✓	✓	✓	✓	✓	151.01	✓	135.68	✓	135.68	✓	151.01	22.4	745	8.08	0.79	5.06	177	1300	MW-14-4
3	1	✓	✓	✓	✓	✓	119.71	✓	103.67	✓	103.67	✓	119.71	23.2	1097	8.16	2.09	5.69	190	1345	MW-14-3
2	1	✓	✓	✓	✓	✓	73.97	✓	58.21	✓	58.21	✓	73.97	22.6	1165	8.07	2.56	5.83	210	1415	MW-14-2
1	1	✓	✓	✓	✓	✓	43.28	✓	28.52	✓	28.52	✓	43.28	23.5	1156	7.77	4.35	5.78	190	1450	MW-14-1

Comments: _____

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-17
SAMPLING DATE(S) 11-7-12
LOCATION: 800 w. Harriet St, Altadena
WATER LEVEL INSIDE CASING: 203.12
ATM. PRESSURE (PSI): (Start) 14.14 (Finish) 14.15
23.61°C 17.32°C

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT: JPL Pasadena
OPERATOR(S) AWolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	242.18	✓	216.57	✓	216.57	✓	242.18	20.0	363	8.51	6.86	7.56	165	1130	MW-17-5
4	1	✓	✓	✓	✓	✓	179.86	✓	155.32	✓	155.32	✓	179.86	19.9	462	8.25	0.98	7.45	171	1200	MW-17-4
3	1	✓	✓	✓	✓	✓	130.40	✓	112.74	✓	112.74	✓	130.40	20.1	522	8.39	3.06	5.98	183	1240	MW-17-3
2	1	✓	✓	✓	✓	✓	87.84	✓	73.21	✓	73.21	✓	87.84	20.9	465	8.36	1.65	7.28	140	1320	MW-17-2
1	1	✓	✓	✓	✓	✓	35.69	✓	27.00	✓	27.00	✓	35.69	21.4	383	8.23	8.47	6.61	84	1355	MW-17-1

Comments: MS/MSD @ Port 3

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-18
SAMPLING DATE(S) 11-7-12
LOCATION: 820 W. Altadena Dr, Altadena
WATER LEVEL INSIDE CASING: 344.90
ATM. PRESSURE (PSI): (Start) 14.17 (Finish) 14.16
21.15°C 18.57°C

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT: JPL Pasadena
OPERATOR(S) MWolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	165.84	✓	188.52	✓	188.52	✓	165.84	17.9	334	8.64	2.05	6.08	165	0805	MW-18-5
4	1	✓	✓	✓	✓	✓	113.61	✓	137.12	✓	137.12	✓	113.61	18.1	395	8.24	2.97	8.03	95	0840	MW-18-4
3	1	✓	✓	✓	✓	✓	52.60	✓	81.48	✓	81.48	✓	52.60	17.6	511	8.26	0.72	7.36	110	0910	MW-18-3
2	1	✓	✓	✓	✓	✓	14.25	✓	44.48	✓	44.48	✓	14.25	19.1	405	8.21	1.40	7.08	174	0945	MW-18-2
1	1	✓	✓	✓	✓	✓	14.23	✓	19.20	✓	19.20	✓	14.23	20.9	391	8.08	12.8	9.42	170	1020	MW-18-1

Comments: TB = TB-3-110712 @ 0730 EB = EB-3-110712 @ 0745 Level IV @ Port 1

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-19
SAMPLING DATE(S) 11-5-12 11-6-12
LOCATION: 2696 Windsor Ave, Altadena
WATER LEVEL INSIDE CASING: 135.62
ATM. PRESSURE (PSI): (Start) 14.13 (Finish) 14.16
27.70°C 19.65°C

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT: JPL Pasadena
OPERATOR(S) AWolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	172.88	✓	143.84	✓	143.84	✓	172.88	24.0	665	8.12	0.67	6.59	146	1300	MW-19-5
4	1	✓	✓	✓	✓	✓	149.38	✓	120.56	✓	120.56	✓	149.38	21.5	676	8.00	1.02	6.76	136	1350	MW-19-4
3	1	✓	✓	✓	✓	✓	126.94	✓	106.64	✓	106.64	✓	126.94	19.1	657	8.00	3.35	6.29	197	0845	MW-19-3
	2	✓	✓	✓	✓	✓	126.95	✓	106.66	✓	106.66	✓	126.95								
2	1	✓	✓	✓	✓	✓	93.04	✓	73.02	✓	73.02	✓	93.04	18.8	1014	7.63	10.3	6.80	201	0935	MW-19-2
1	1	✓	✓	✓	✓	✓	61.78	✓	44.34	✓	44.34	✓	61.78	22.2	427	8.23	6.90	4.70	169	1020	MW-19-1

Comments: TB= TB-2-110612 @ 0800 EB= EB-2-110612 @ 0820 SB= SB-1-110612 @ 0810 DUP Collected @ Port 3 ID= DUPE-1-110612 @ 0845
Level IV @ Port 2

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-20-
SAMPLING DATE(S) 11-5-12
LOCATION: 2580 N. Lincoln Ave, Altadena
WATER LEVEL INSIDE CASING: 191.61
ATM. PRESSURE (PSI): (Start) 14.18 (Finish) 14.20
24.02°C 17.89°C

PROBE TYPE Westbay
SERIAL NO. 2508
PROJECT: JPL Pasadena
OPERATOR(S) tWolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	324.11	✓	317.27	✓	317.27	✓	324.11	21.5	282	8.93	2.32	7.54	-58	0920	MW-20-5
4	1	✓	✓	✓	✓	✓	236.45	✓	229.92	✓	229.92	✓	236.45	21.8	300	9.10	1.38	6.84	-104	0950	MW-20-4
3	1	✓	✓	✓	✓	✓	176.51	✓	159.86	✓	159.86	✓	176.51	21.4	307	9.33	1.13	7.09	-94	1030	MW-20-3
2	1	✓	✓	✓	✓	✓	102.80	✓	94.27	✓	94.27	✓	102.80	21.4	541	8.31	2.39	6.12	84	1100	MW-20-2
1	1	✓	✓	✓	✓	✓	32.42	✓	24.51	✓	24.50	✓	32.42	23.1	637	8.15	4.10	6.25	-22	1125	MW-20-1

Comments: TB= TB-1-110512 @ 0830 EB= EB-1-110512 @0850 MS/MSD Collected @ Port 1

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-21
SAMPLING DATE(S) 11-14-17
LOCATION: Hahamonga Park, Discgolf #5 basket
WATER LEVEL INSIDE CASING: 117.11
ATM. PRESSURE (PSI): (Start) 14.23 (Finish) 14.16
19.27°C 20.17°C

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT: JPL Pasadena
OPERATOR(S) AWolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	129.43	✓	145.90	✓	145.40	✓	129.93	23.9	832	8.08	1.17	6.03	106	1100	MW-21-5
4	1	✓	✓	✓	✓	✓	102.96	✓	118.52	✓	118.52	✓	102.96	23.1	817	7.94	2.79	6.81	124	1130	MW-21-4
3	1	✓	✓	✓	✓	✓	72.21	✓	88.71	✓	88.71	✓	72.21	23.3	1119	7.99	0.75	5.34	135	1200	MW-21-3
2	1	✓	✓	✓	✓	✓	37.97	✓	54.60	✓	54.60	✓	37.97	23.6	1207	8.02	0.68	5.38	179	1230	MW-21-2
1	1	✓	✓	✓	✓	✓	14.20	✓	23.44	✓	23.44	✓	14.20	22.4	1217	7.63	1.99	4.47	177	1300	MW-21-1

Comments: Level IV @ Port 1

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-22
SAMPLING DATE(S) 11-8-12
LOCATION: Parking lot of building 180, JPL Pasadena
WATER LEVEL INSIDE CASING: 160.29'
ATM. PRESSURE (PSI): (Start) 14.10 (Finish) 14.10
19.98°C 19.22°C

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT: JPL, Pasadena
OPERATOR(S) tz Wolff
WEATHER Overcast

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	201.86	✓	179.31	✓	179.31	✓	201.86	17.8	337	8.92	1.70	6.23	8	0735	MW-22-5
4	1	✓	✓	✓	✓	✓	149.43	✓	129.92	✓	129.92	✓	149.43	18.2	389	8.25	1.06	6.45	110	0810	MW-22-4
3	1	✓	✓	✓	✓	✓	115.62	✓	100.44	✓	100.44	✓	115.62	18.2	622	8.30	0.83	8.89	186	0850	MW-22-3
2	1	✓	✓	✓	✓	✓	89.53	✓	74.23	✓	74.23	✓	89.53	17.1	743	8.29	1.42	7.35	202	0930	MW-22-2
1	1	✓	✓	✓	✓	✓	52.63	✓	38.31	✓	38.31	✓	52.63	18.0	1156	8.00	8.92	6.64	213	1010	MW-22-1

Comments: TB= TB-4-110812 EB= EB-4-110812 MS/MSD @ Port 2

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW23 23
SAMPLING DATE(S) 11-13-12
LOCATION: Parking lot N. of building 233, JPL
WATER LEVEL INSIDE CASING: 106.17
ATM. PRESSURE (PSI): (Start) 14.19 (Finish) 14.20
13.73°C 16.32°C

PROBE TYPE Westbay
SERIAL NO. EMS2500
PROJECT: JPL Pasadena
OPERATOR(S) Adolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	205.09	✓	189.14	✓	189.14	✓	205.09	14.9	400	9.43	6.57	7.43	70	0730	MW23-5
4	1	✓	✓	✓	✓	✓	162.99	✓	147.13	✓	147.13	✓	162.99	15.5	358	8.20	1.97	8.31	111	0800	MW-23-4
3	1	✓	✓	✓	✓	✓	108.40	✓	96.90	✓	96.90	✓	108.40	16.5	419	7.98	1.29	6.94	168	0830	MW-23-3
2	1	✓	✓	✓	✓	✓	80.22	✓	68.83	✓	68.83	✓	80.22	17.6	1068	7.91	1.09	7.72	175	0900	MW-23-2
1	1	✓	✓	✓	✓	✓	45.40	✓	36.04	✓	36.04	✓	45.40	19.9	1110	7.92	22.1	7.26	160	0930	MW-23-1

Comments: TB= TB-7-111312 @ 0650 EB= EB-7-111312 @ 0700 Level IV @ Port 2

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-24
SAMPLING DATE(S) 11-13-12
LOCATION: Access Road E. of building 310, JPL
WATER LEVEL INSIDE CASING: 180.29
ATM. PRESSURE (PSI): (Start) 14.12 (Finish) 14.10
18.39°C 21.91°C

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT: JPL, Pasadena
OPERATOR(S) AWolff
WEATHER Clear

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	231.60	✓	201.89	✓	201.89	✓	231.60	19.9	397	8.30	4.49	6.21	137	1050	MW-24-5
4	1	✓	✓	✓	✓	✓	177.80	✓	152.69	✓	152.69	✓	177.80	22.3	241	9.28	2.48	4.97	-87	1130	MW-24-4
3	1	✓	✓	✓	✓	✓	126.16	✓	105.48	✓	105.48	✓	126.16	22.6	416	8.47	1.86	5.22	-22	1200	MW-24-3
2	1	✓	✓	✓	✓	✓	99.40	✓	79.11	✓	79.11	✓	99.40	22.8	523	7.72	1.09	7.70	113	1235	MW-24-2
	2	✓	✓	✓	✓	✓	99.37	✓	79.11	✓	79.11	✓	99.37								
1	1	✓	✓	✓	✓	✓	59.00	✓	41.09	✓	41.09	✓	59.00	22.7	611	7.88	2.24	5.35	81	1350	MW-24-1

Comments: DUP: DUPE-3-4Q12 (@Port 2) @ 1235

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-2S
SAMPLING DATE(S) 11-9-12
LOCATION: Pasadena City Yard, 1000 W. Mountain St Pasadena
WATER LEVEL INSIDE CASING: 261.93'
ATM. PRESSURE (PSI): (Start) 14.25 (Finish) 14.15
1766°C 1881°C

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT: JPL Pasadena
OPERATOR(S) A'Wliff
WEATHER Overcast

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
5	1	✓	✓	✓	✓	✓	214.11	✓	211.30	✓	211.30	✓	214.11	16.9	421	8.56	1.96	7.54	18	0935	MW-2S-5
4	1	✓	✓	✓	✓	✓	179.60	✓	175.77	✓	175.77	✓	179.60	17.2	740	8.14	2.24	7.03	175	1010	MW-2S-4
3	1	✓	✓	✓	✓	✓	123.11	✓	122.56	✓	122.56	✓	123.11	16.9	642	8.14	1.29	7.36	154	1040	MW-2S-3
2	1	✓	✓	✓	✓	✓	88.40	✓	90.44	✓	90.44	✓	88.40	18.4	646	8.27	1.51	7.20	191	1115	MW-2S-2
1	1	✓	✓	✓	✓	✓	60.11	✓	63.60	✓	63.60	✓	60.11	19.8	799	8.10	9.81	7.04	158	1150	MW-2S-1

Comments: _____

WESTBAY™ GROUNDWATER MONITORING WELL
FIELD DATA LOG SHEET

WELL ID: MW-26
SAMPLING DATE(S) 11-9-12
LOCATION: Muir High School Parking lot,
WATER LEVEL INSIDE CASING: 33.58
ATM. PRESSURE (PSI): (Start) 14.13 (Finish) 14.10
17.13°C 17.39°C

PROBE TYPE Westbay
SERIAL NO. EMS2568
PROJECT: JPL Pasadena
OPERATOR(S) AWolff
WEATHER Overcast

Port Number	Run Number	Probe to Top Collar	Surface Function Tests / Position Sampler (probe in top of collar) / (lower probe to port)				Sample Collection Checks (probe at sampling port in MP casing)							Field Parameters						Sample	
		Arm out / Land Probe	Shoe Out/ Close Valve/ Check Vacuum	Open Valve/ Apply Vacuum (5 psi)	Close Valve/ Shoe In/ Arm In	Locate Port/ Arm Out/ Land Probe	Pressure in MP Casing (psi)	Shoe Out	Port Pressure (psi)	Open Valve	Port Pressure (psi)	Close Valve/ Shoe In	Pressure in MP Casing (psi)	Sample Temp (°C)	SC (µS/cm)	pH	Turbidity (NTU)	Dissolved Oxygen (ppm)	ORP (mV)	Sample Time	Sample ID
2	1	✓	✓	✓	✓	✓	74.46	✓	67.49	✓	67.49	✓	74.46	14.9	746	8.09	2.96	7.92	211	0715	MW-26-2
1	1	✓	✓	✓	✓	✓	39.60	✓	32.64	✓	32.64	✓	39.60	14.4	977	7.12	1.53	8.77	217	0750	MW-26-1
	2	✓	✓	✓	✓	✓	39.60	✓	32.62	✓	32.62	✓	39.60								

Comments: TB= TB-5-110912 0630 EB= EB-5-110912 0650 DUP@ Port 1 = DUPE-2-4Q12 0750

ATTACHMENT 5: WATER LEVEL MEASUREMENTS

This attachment contains water level measurements for the JPL relatively shallow standpipe monitoring wells (MW-1, MW-5 through MW-10, MW-13, MW-15, and MW-16) and the Westbay™ multiport wells (MW-3, MW-4, MW-11, MW-12, MW-14, and MW-17 through MW-26) obtained during the 4th Quarter 2012. Water level measurements were recorded before the sampling event on November 2, 2012 for the relatively shallow standpipe monitoring wells and for the Westbay™ multiport wells (MW-22 collected on November 8, 2012). Water level measurements were recorded after the sampling event on November 19, 2012 for the relatively shallow standpipe monitoring wells and the Westbay™ multiport wells (MW-23 water levels unable to be collected due to a parked vehicle prohibiting well access). Water levels for the shallow wells were measured using a Solinst™ water level meter. In the deep multiport wells, the hydraulic head at each sampling port was measured with a Westbay™ MOSDAX sampling probe. Water level measurements were conducted by Blaine Tech Services, Inc.

WELL GAUGING DATA

Project # 121102-AWI Date 11-2-12 Client Battelle

Site JPL

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: ~~TOB~~ or TOC	Notes
MW-5	0955	4					88.67			
MW-6	0720	4					191.40			
MW-7	1128	4					227.41			
MW-8	0823	4					159.43			
MW-9	1220	4					19.18			
MW-10	0951	4					101.09			
MW-13	0828	4					197.60			
MW-15	1037	4					32.43			
MW-16	0805	4					249.87			
MW-1	1215	4					27.70		↓	

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-3
PROBE TYPE Westbay
DATE: 11-2-12
SERIAL NO. EMS2508
LOCATION: JPL
PROJECT JPL Pasadena
ELEV. TOP OF WASTBAY CASING 1,100.34
OPERATOR(S) A Wolff
WEATHER: Clear
ATM. PRESSURE (Patm): (start) 14.17 (finish) 14.17
19.85°C 18.73°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	653	651	221.40	226.90	221.40	20.91	490.77	162.23	653	1245
4	558	556	180.13	185.84	180.13	21.33	396.04	161.96	558	1246
3	346	345	87.91	96.75	87.91	21.15	190.51	155.49	346	1247
2	252	251	47.06	63.04	47.06	20.61	112.74	139.26	252	1248
1	172	172	14.28	33.58	14.28	19.61	44.78	127.22	172	1249

Comments: Collar detect is 2' above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-4
DATE: 11-2-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,082.84
WEATHER: Partly Cloudy

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT JPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.17 (finish) 14.16
19.37° C 19.81° C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	513	511	149.58	186.51	149.58	20.56	397.59	115.41	513	1004
4	392	390	96.97	134.09	69.97	20.99	276.66	115.34	392	1005
3	322	320	66.50	103.75	66.50	20.99	206.66	115.34	322	1006
2	240	238	30.81	69.05	30.81	20.76	126.61	113.39	240	1007
1	150	148	14.22	35.59	14.22	20.30	49.42	100.58	150	1008

Comments: Collar datum is 2' above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-11
PROBE TYPE Westbay
DATE: 11-2-12
SERIAL NO. EMS2508
LOCATION: JPL
PROJECT JPL Pasadena
ELEV. TOP OF WASTBAY CASING 1,139.30
OPERATOR(S) A Wolff
WEATHER: Partly Cloudy
ATM. PRESSURE (Patm): (start) 14.12 (finish) 14.11
18.89° C 17.91° C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	639	635	238.76	204.51	238.76	20.08	439.23	199.77	639	1021
4	524	520	189.24	170.75	189.24	20.60	361.35	162.65	524	1022
3	429	425	148.42	128.38	148.42	20.45	263.60	165.40	429	1023
2	259	256	74.81	58.40	74.81	19.71	102.15	156.85	259	1024
1	149	147	27.50	~~23.56~~ 17.36	27.50	17.76	31.01	117.99	149	1025

Comments: Collar detect is 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-12 | PROBE TYPE Westbay

DATE: 11-2-12 | SERIAL NO. EMS 2508

LOCATION: JPL | PROJECT JPL Pasadena

ELEV. TOP OF WASTBAY CASING 1,102.14 | OPERATOR(S) A Wolff

WEATHER: Clear | ATM. PRESSURE (Patm): (start) 14.16 (finish) 14.15

17.97" c 17.53" c

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	548	547	215.38	181.61	215.38	19.23	386.31	161.69	548	1045
4	436	435	166.74	142.29	166.74	19.93	295.60	140.40	436	1046
3	323	323	117.56	95.65	117.56	19.66	188.00	135.00	323	1047
2	243	243	82.69	62.42	82.69	19.13	111.34	131.66	243	1048
1	140	140	37.87	24.69	37.87	18.58	24.29	115.71	140	1049

Comments: Collar detect is 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-14
PROBE TYPE Westbay
DATE: 11-2-12
SERIAL NO. EMS 2508
LOCATION: JPL
PROJECT JPL Pasadena
ELEV. TOP OF WASTBAY CASING 1,173.47
OPERATOR(S) A Wolff
WEATHER: Clear
ATM. PRESSURE (Patm): (start) 14.12 (finish) 14.14
21.37° C 19.64° C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	540	539	184.79	172.03	184.79	20.92	364 30	175.70	540	1146
4	456	456	148.23	135.87	148.23	21.02	280.88	175.12	456	1147
3	382	382	116.04	103.82	116.04	20.77	206.94	175.06	382	1148
2	277	277	70.43	58.33	70.43	20.36	101.99	175.01	277	1149
1	207	207	39.91	~~40.82~~ EW 28.69	39.91	19.94	33.61	173.39	207	1150

Comments: Collar detects 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-17
DATE: 11-2-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,191.21
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT JPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.15 19.49°C (finish) 14.11 17.33°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	726	725	240.58	216.08	240.58	19.46	465.85	260.15	726	1306
4	582	581	178.23	155.27	178.23	19.67	325.56	256.44	582	1307
3	468	468	128.81	112.84	128.81	19.12	227.68	240.32	468	1308
2	370	370	86.33	73.30	86.33	18.47	136.46	233.54	370	1310
1	250	250	34.18	27.19	34.18	17.67	30.08	219.92	250	1311

Comments: Collar detect is located 6" above sampling port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-18
DATE: 11-2-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,225.41
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT JPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.12 (finish) 14.08
20.16°C 17.54°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	684	682	161.04	187.88	161.04	20.48	400.86	283.14	684	1325
4	564	562	109.90	134.82	109.90	20.53	278.45	285.55	564	1326
3	424	422	49.01	81.54	49.01	19.91	155.54	268.46	424	1328
2	330	329	14.25	44.60	14.25	18.88	70.32	259.68	330	1329
1	270	269	14.21	19.40	14.21	18.11	12.18	257.82	270	1330

Comments: Collar detect located 6" above samples port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-19
DATE: 11-2-12
LOCATION: SPL, 2696 Windsor Ave, Alta Dena
ELEV. TOP OF WASTBAY CASING 1,142.94
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT SPL Pasadena
OPERATOR(S) AWaff
ATM. PRESSURE (Patm): (start) 14.16 (finish) 14.16
20.24°C 17.32°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	498	495	171.31	143.39	171.31	19.54	298.13	199.87	498	1206
4	444	442	147.85	120.09	147.85	19.49	244.38	199.62	444	1207
3	392	390	125.30	106.23	125.30	19.43	212.41	179.59	392	1208
2	314	312	91.49	72.63	91.49	19.33	134.89	179.11	314	1209
1	242	240	60.28	44.17	60.28	18.11	69.23	172.77	242	1210

Comments: Collar detect @ 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-20 | PROBE TYPE Westbay

DATE: 11-2-12 | SERIAL NO. EMS 2508

LOCATION: JPL. | PROJECT JPL Pasadena

ELEV. TOP OF WASTBAY CASING 1,165.05 | OPERATOR(S) A Wolff

WEATHER: Clear | ATM. PRESSURE (Patm): (start) 14.14 (finish) 14.10

21.66 °C 18.02° C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	900	897	321.46	317.23	321.46	21.60	699.23	200.77	900	1349
4	700	698	234.76	222.36	234.76	22.18	480.36	219.64	700	1351
3	562	560	174.92	168.89	174.92	21.52	338.55	223.45	562	1352
2	392	391	101.29	95.15	101.29	20.34	186.89	205.11	392	1353
1	230	229	30.91	25.26	30.91	18.61	25.65	204.35	230	1354

Comments: Collar is located 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-21
DATE: 11-2-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,059.10
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS 258
PROJECT JPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.16 (finish) 14.13
22.41°c 19.47°c

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	372	372	125.42	145.80	125.42	21.05	303.69	68.31	372	1458
4	310	310	98.81	118.97	98.81	20.85	241.80	68.20	310	1502
3	240	241	68.77	89.09	68.77	20.50	172.86	67.14	240	1503
2	161	162	34.41	55.02	34.41	20.04	94.26	66.74	161	1504
1	90	90	14.22	23.98	14.22	19.68	22.65	67.35	90	1505

Comments: Collar detect is 2' above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-22 | PROBE TYPE Westbay

DATE: 11-8-12 | SERIAL NO. EMS 2508

LOCATION: Parking lot of building 180, JPL Pasadena | PROJECT JPL Pasadena

ELEV. TOP OF WASTBAY CASING 1176.98' | OPERATOR(S) KWolff

WEATHER: Overcast | ATM. PRESSURE (Patm): (start) 14.10 19.98°C (finish) 14.10 19.22°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	588	585	201.86	179.31	201.86	21.46	381.14	206.86	588	0718
4	467	464	149.43	129.90	149.43	22.26	207.15	199.85	407	0720
3	389	386	115.61	100.42	115.61	21.76	199.14	189.86	389	0722
2	329	327	89.56	74.20	89.56	21.32	138.65	190.35	329	0723
1	245	243	52.66	38.30	52.66	20.51	55.83	189.17	245	0725

Comments: Collar detect located 1' above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-23
PROBE TYPE Westbay
DATE: 11-2-12
SERIAL NO. EMS 2502
LOCATION: JPL
PROJECT JPL Pasadena
ELEV. TOP OF WASTBAY CASING 1,108.84
OPERATOR(S) A Wolff
WEATHER: Partly Cloudy
ATM. PRESSURE (Patm): (start) 14.06 (finish) 14.15
13.64°C 18.50

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	542	541	203.44	188.99	203.44	18.34	403.56	138.44	542	0845
4	445	444	161.38	147.08	161.38	19.99	306.88	138.12	445	0855
3	319	319	106.79	97.22	106.79	20.38	191.85	127.15	319	0858
2	254	254	78.60	69.15	78.60	16.60	127.09	126.91	254	0940 *
1	174	174	43.91	36.48	43.91	17.56	51.72	122.28	174	0942

Comments: Collar detect is 1' above sample port
* Changed tool s/N EMS 2508

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-24
DATE: 11-2-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,200.94
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT JPL Pasadena
OPERATOR(S) AWolff
ATM. PRESSURE (Patm): (start) 14.10 (finish) 14.14
15.95°C 21.44°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	678	675	232.19	201.69	232.19	20.61	432.77	245.23	678	1115
4	554	551	178.38	152.68	178.38	21.09	314.70	234.30	554	1116
3	435	433	126.81	105.74	126.81	21.26	211.41	223.59	435	1117
2	373	371	99.96	79.36	99.96	21.26	150.55	222.45	373	1118
1	279	277	59.24	41.41	59.24	21.34	63.10	215.90	279	1119

Comments: Collar detect is 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-25
PROBE TYPE Westbay
DATE: 11-2-12
SERIAL NO. EMS 2508
LOCATION: JPL
PROJECT JPL Pasadena
ELEV. TOP OF WASTBAY CASING 934.52
OPERATOR(S) A Wolff
WEATHER: Clear
ATM. PRESSURE (Patm): (start) 14.23 (finish) 14.20
22.30°C 20.23°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	713	711	210.28	210.53	210.28	21.96	452.86	260.14	713	1434
4	633	631	175.81	174.74	175.81	22.07	376.30	262.70	633	1435
3	503	502	119.58	121.88	119.58	21.66	248.35	254.65	503	1436
2	423	422	84.91	90.15	84.91	21.24	175.15	247.85	423	1438
1	358	357	56.60	63.12	56.60	20.85	112.79	245.21	358	1440

Comments: Collar detect is 2' below sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-26
DATE: 11-2-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,059.08
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS2568
PROJECT JPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.17 (finish) 14.17
22.58°C 20.30°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
2	215	212	70.94	67.91	70.94	21.76	123.98	91.02	215	1416
1	135	132	36.12	32.88	36.12	20.91	43.16	91.84	135	1417

Comments: Collar detect located 2' below sample port

WELL GAUGING DATA

Project # 121102-AWI Date 11-19-12 Client Battelle

Site JPL Pasadena

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-1	0712	4					28.28			
MW-5	0636	4					90.01			
MW-6	0626	4					192.31			
MW-7	0828	4					227.02			
MW-8	0802	4					155.51			
MW-9	0717	4					19.28			
MW-10	1158	4					104.51			
MW-13	0543	4					199.27			
MW-15	0742	4					32.70			
MW-16	0839	4					251.54			

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-3
DATE: 11-19-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,100.34
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT JPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.30 15.13°C (finish) 14.29 17.92°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	653	652	222.19	227.76	222.19	17.96	492.45	160.55	653	0728
4	558	557	180.91	186.53	180.91	19.18	398.03	159.97	558	0729
3	346	345	88.72	96.79	88.72	19.70	190.30	155.70	346	0730
2	252	251	49.85	63.48	49.85	19.61	113.46	138.54	252	0731
1	172	172	14.41	15.33	14.41	18.86	2.38	169.62	172	0732

Comments: Collar detect is 2' above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-4
PROBE TYPE Westbay
DATE: 11-19-12
SERIAL NO. EMS 2508
LOCATION: JPL
PROJECT JPL Pasadena
ELEV. TOP OF WASTBAY CASING 1,082.84
OPERATOR(S) A Wolff
WEATHER: Clear
ATM. PRESSURE (Patm): (start) 14.27 (finish) 14.31
16.17°C 19.13°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	513	512	149.84	186.81	149.84	18.36	398.05	114.95	513	0643
4	392	392	97.19	134.39	97.19	19.38	277.12	114.88	392	0644
3	322	322	66.77	104.06	66.77	19.73	207.15	114.85	322	0645
2	240	240	31.09	69.20	31.09	19.80	126.72	113.28	240	0646
1	150	150	14.38	35.32	14.38	19.53	48.56	101.44	150	0647

Comments: Collar detect is 2' above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-11
PROBE TYPE Westbay
DATE: 11-19-12
SERIAL NO. EMS2508
LOCATION: JPL
PROJECT JPL Pasadena
ELEV. TOP OF WASTBAY CASING 1,139.30
OPERATOR(S) A Waff
WEATHER: Clear
ATM. PRESSURE (Patm): (start) 14.28 (finish) 14.26
16.65°C 18.18

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	639	637	233.70	205.53	233.70	18.91	441.21	197.79	639	0654
4	524	522	184.29	170.98	184.29	19.63	369.51	162.49	524	0700
3	429	428	143.39	128.62	143.39	19.76	263.78	165.22	429	0701
2	259	258	69.72	58.38	69.72	19.19	101.74	157.26	259	0702
1	149	149	22.44	27.53	22.44	18.65	30.57	118.43	149	0703

Comments: Collar defect is 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-12
DATE: 11-19-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,102.14
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT JPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.30 (15.22°C) (finish) 14.28 (17.54°C)

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	548	547	215.41	182.73	215.41	17.46	388.57	159.43	548	0750
4	436	435	166.72	142.78	166.72	18.66	296.40	139.60	436	0751
3	323	322	117.52	95.92	117.52	18.85	188.30	134.70	323	0752
2	243	242	82.73	62.54	82.73	18.53	111.29	131.71	243	0753
1	140	140	37.81	24.46	37.81	18.15	23.44	116.56	140	0754

Comments: Collar detect is 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-14
DATE: 11-19-12
LOCATION: SPL
ELEV. TOP OF WASTBAY CASING 1,173.47
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT SPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.27 (finish) 14.26
19.97°C 19.48°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	540	540	184.57	172.11	184.87	20.25	364.14	175.86	540	0856
4	456	456	149.22	135.53	149.22	20.52	280.44	175.56	456	0857
3	382	382	116.14	103.73	116.14	20.38	206.38	175.62	382	0858
2	277	277	70.48	58.16	70.48	20.02	101.25	175.75	277	0859
1	207	207	39.97	28.37	39.97	19.72	32.53	174.47	207	0900

Comments: Collar defect is located 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-17
DATE: 11-19-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,191.21
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT JPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.26 (finish) 14.24
19.64°C 16.78°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	726	725	240.63	217.03	240.63	19.37	467.79	258.21	726	0919
4	582	581	178.40	156.73	178.40	19.67	328.68	253.32	582	0920
3	468	467	129.01	115.52	129.01	19.22	233.61	234.39	468	0921
2	370	~~374~~ 373	84.21	74.82	84.21	17.25	139.71	230.29	370	0922
1	250	254	34.27	26.82	34.27	16.81	28.98	221.02	250	0923

Comments: Collar detect is located 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-18
DATE: 11-19-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,225.41
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS 2508
PROJECT JPL Pasadena
OPERATOR(S) A Wolff
ATM. PRESSURE (Patm): (start) 14.26 17.42°C (finish) 14.23 17.09°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	684	683	162.33	188.71	162.33	19.21	402.46	281.54	684	1002
4	564	564	110.15	138.01	110.15	19.81	285.49	278.51	564	1003
3	424	428	49.31	82.36	49.31	18.64	157.11	266.89	424	1004
2	330	336	14.39	44.45	14.39	18.02	69.65	260.35	330	1005
1	270	277	14.36	18.83	14.36	17.59	10.54	259.46	270	1006

Comments: Collar detect located 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-19 | PROBE TYPE West bay

DATE: 11-19-12 | SERIAL NO. EMS 2508

LOCATION: JPL | PROJECT JPL Pasadena

ELEV. TOP OF WASTBAY CASING 1,142.94 | OPERATOR(S) A Waff

WEATHER: Clear | ATM. PRESSURE (Patm): (start) 14.30 18.02°C (finish) 14.26 17.51°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	498	496	171.48	144.21	171.48	18.33	299.70	198.30	498	0940
4	444	442	148.01	120.88	148.01	18.56	245.88	198.12	444	0941
3	392	390	125.75	106.52	125.75	18.72	212.75	179.25	392	0942
2	314	312	91.60	72.83	91.60	18.79	135.03	178.97	314	0943
1	242	240	60.38	43.98	60.38	18.52	68.47	173.53	242	0944

Comments: Collar detect is 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-20
DATE: 11-19-12
LOCATION: JPL
ELEV. TOP OF WASTBAY CASING 1,165.05
WEATHER: Clear

PROBE TYPE Westbay
SERIAL NO. EMS2508
PROJECT JPL Pasadena
OPERATOR(S) A. Wolff
ATM. PRESSURE (Patm): (start) 14.26 (finish) 14.26
19.62°C 16.75°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	900	899	321.64	317.06	321.64	20.64	698.56	201.44	900	1024
4	700	703	234.91	228.03	234.91	21.63	479.33	220.67	700	1026
3	562	565	175.02	161.95	175.02	20.69	340.72	221.28	562	1027
2	392	395	101.30	~~94.24~~ ~~168.54~~	101.30	~~17.14~~ ~~19.56~~	184.51	207.49	392	1029
1	230	233	30.99	24.32	30.99	15.33	23.21	206.79	230	1030

Comments: Collar detect us located 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-21
PROBE TYPE Westbay
DATE: 11-19-12
SERIAL NO. FMS 2508
LOCATION: JPL
PROJECT JPL. Pasadena
ELEV. TOP OF WASTBAY CASING 1,059.10
OPERATOR(S) A Wolff
WEATHER: Clear
ATM. PRESSURE (Patm): (start) 14.30 (finish) 14.30
20.84°c 19.25°c

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	372	372	125.73	145.58	125.73	20.62	302.86	69.14	372	1140
4	310	310	98.81	118.73	98.81	20.55	240.92	69.08	310	1141
3	240	241	68.81	88.84	68.81	20.25	171.96	68.04	240	1142
2	161	162	34.42	54.68	34.42	19.76	93.16	67.84	161	1143
1	90	90	14.34	23.41	14.34	19.40	21.02	68.98	90	1144

Comments: Collar detected 2' above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-22 | PROBE TYPE Westbay

DATE: 11-19-12 | SERIAL NO. EMS 2508

LOCATION: Parking Lot Building 180, JPL Pasadena | PROJECT JPL Pasadena

ELEV. TOP OF WASTBAY CASING 1,176.98 | OPERATOR(S) A Wolff

WEATHER: Clear | ATM. PRESSURE (Patm): (start) 14.20 16.35°C (finish) 14.20 19.88°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	588	588	200.31	179.76	200.31	19.13	381.95	206.05	588	0612
4	467	467	147.90	130.31	147.90	20.13	247.87	199.13	407	0613
3	389	389	114.02	100.72	114.02	20.36	199.60	189.40	389	0614
2	329	329	88.09	74.47	88.09	20.37	139.04	189.96	329	0615
1	245	245	51.21	38.07	51.21	20.15	55.07	189.93	245	0616

Comments: Collar detect located 1' above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-23 | PROBE TYPE

DATE: 11-19-12 | SERIAL NO.

LOCATION: JPL | PROJECT JPL, Pasadena

ELEV. TOP OF WASTBAY CASING | OPERATOR(S)

WEATHER: | ATM. PRESSURE (Patm): (start) (finish)

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
	- Car parked over well									
	- Unable to access									

Comments: _____

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-24
PROBE TYPE Westbay
DATE: 11-19-12
SERIAL NO. EMS 2508
LOCATION: SPL
PROJECT SPL Pasadena
ELEV. TOP OF WASTBAY CASING 1,200.94
OPERATOR(S) A Waff
WEATHER: Clear
ATM. PRESSURE (Patm): (start) 14.26 (finish) 14.26
16.99°C 21.20°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	678	676	229.87	202.43	229.87	19.57	434.11	243.89	678	0815
4	554	553	176.21	153.18	176.21	20.37	320.49	233.51	554	0816
3	435	435	124.63	105.79	124.63	20.66	211.16	223.84	435	0817
2	373	374	97.79	79.30	97.79	20.82	150.05	222.15	373	0818
1	279	281	57.10	40.93	57.10	21.01	61.53	217.47	279	0819

Comments: Collar detect is 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-25
PROBE TYPE Westbay
DATE: 11-19-12
SERIAL NO. EMS2508
LOCATION: JPL
PROJECT JPL Pasadena
ELEV. TOP OF WASTBAY CASING 1,200.94
OPERATOR(S) A Wolff
WEATHER: Clear
ATM. PRESSURE (Patm): (start) 14.38 (finish) 14.33
19.72°C 20.25°C

Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
5	~~713~~ ~~718~~ (TV)	711	212.97	211.05	212.97	21.93	453.72	259.28	713	1116
4	633 ~~654~~ (TV)	631	177.45	175.41	177.45	21.94	371.50	261.50	633	1117
3	503 ~~515~~ (TV)	502	121.27	122.35	121.27	21.49	299.09	253.91	503	1118
2	423 ~~437~~ (TV)	422	86.61	90.34	86.61	21.10	175.24	247.76	423	1119
1	~~279~~ 358 (TV)	357	58.31	63.18	58.31	20.79	112.56	245.42	358	1120

Comments: Collar detect is 6" above sample port

WESTBAY™ GROUNDWATER MONITORING WELL
WATER LEVEL MEASUREMENT LOG SHEET

WELL ID: MW-26 | PROBE TYPE Westbay

DATE: 11-19-12 | SERIAL NO. EMS 2508

LOCATION: JPL | PROJECT JPL Pasadena

ELEV. TOP OF WASTBAY CASING 1,059.08 | OPERATOR(S) A Wolff

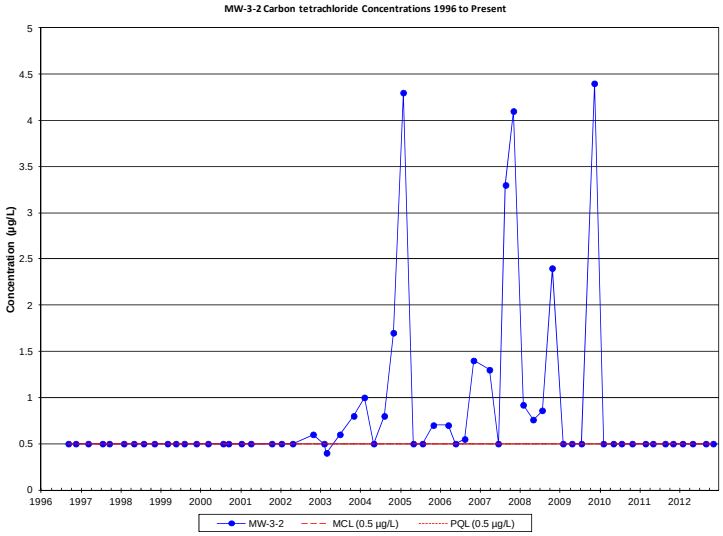
WEATHER: Clear | ATM. PRESSURE (Patm): (start) 14.33 (finish) 14.32

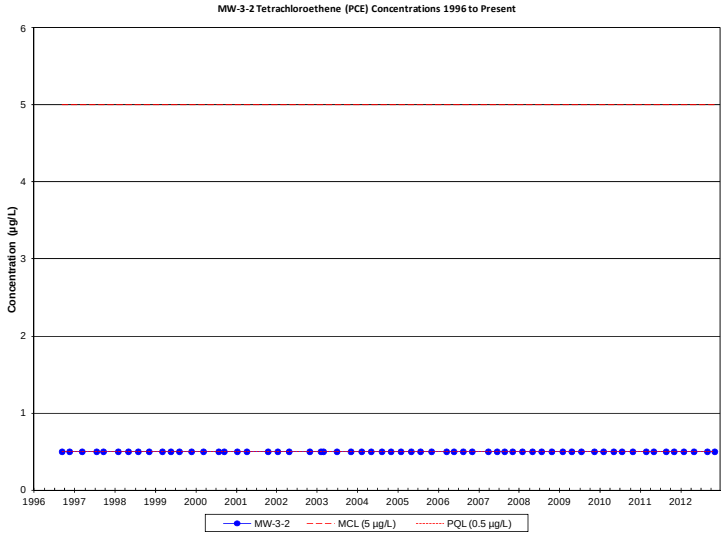
19.09°C 18.91°C

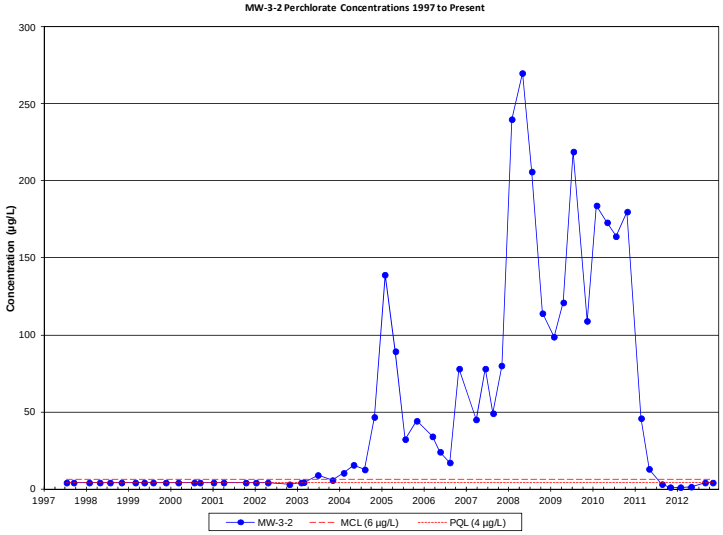
Port No.	Depth to Meas. Port Valve (ft)		Pressure Readings (psi)				Pressure Head Outside Port (ft) P(ft)=(P2-Patm)*2.307 ft/psi)	Depth to Water Outside Port (ft) DTW = Dp-P(ft)	True Port Depth (Dp) (ft)	Time
	From Log (Dp)	From Cable	Inside Casing (psi)	Outside Casing (psi)	Inside Casing (psi)	Trans. Temp. (oC)				
2	215	213	71.00	69.53	71.00	19.26	122.73	92.27	215	1050
1	135	133	36.19	32.44	36.19	19.16	41.78	93.22	135	1051

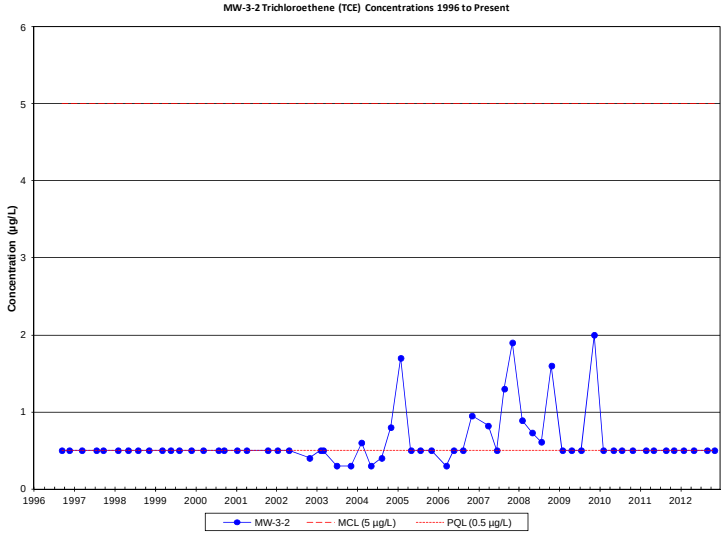
Comments: Collar detect is 2' below sample port

ATTACHMENT 6: TIME SERIES PLOTS

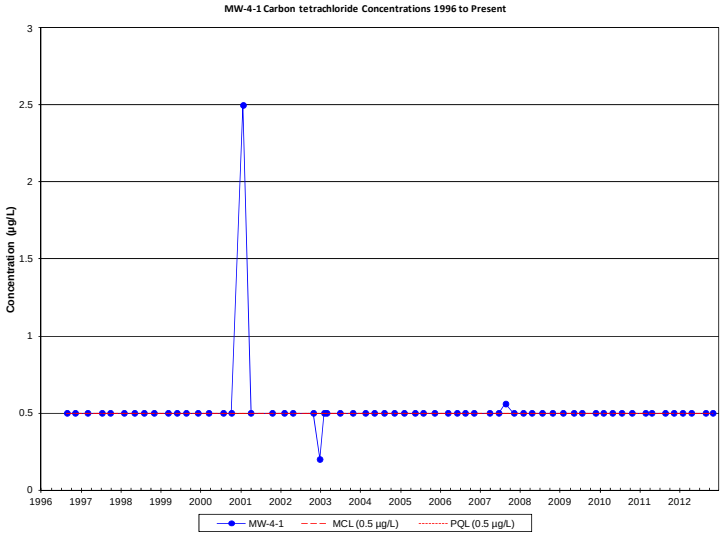


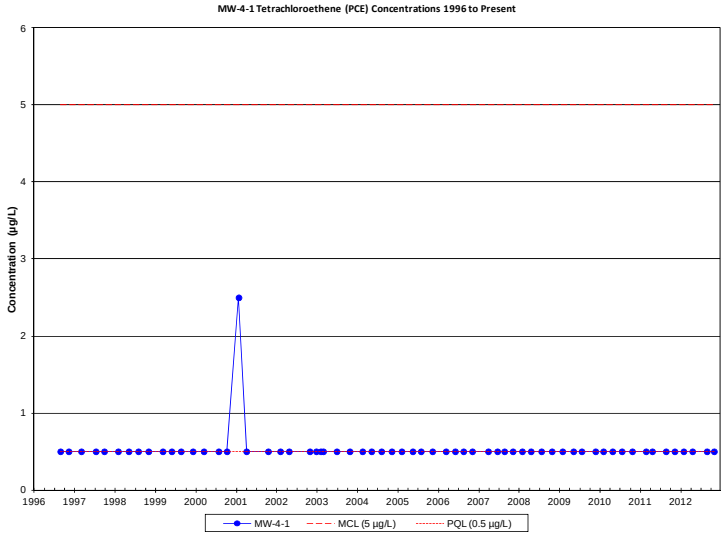


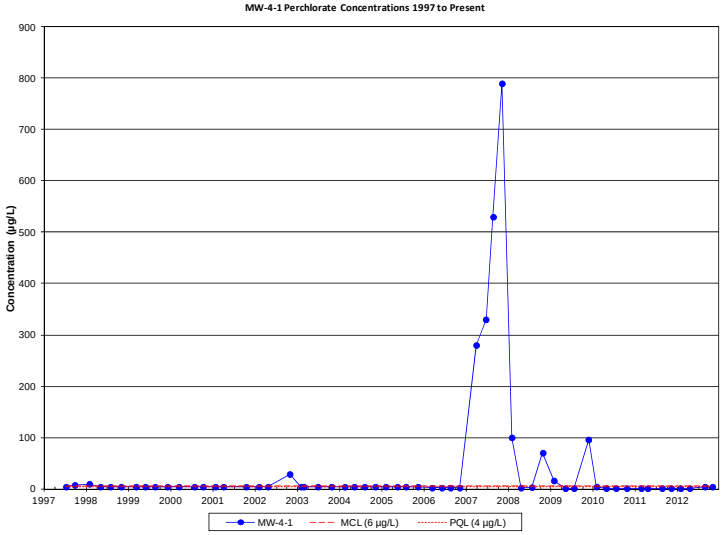


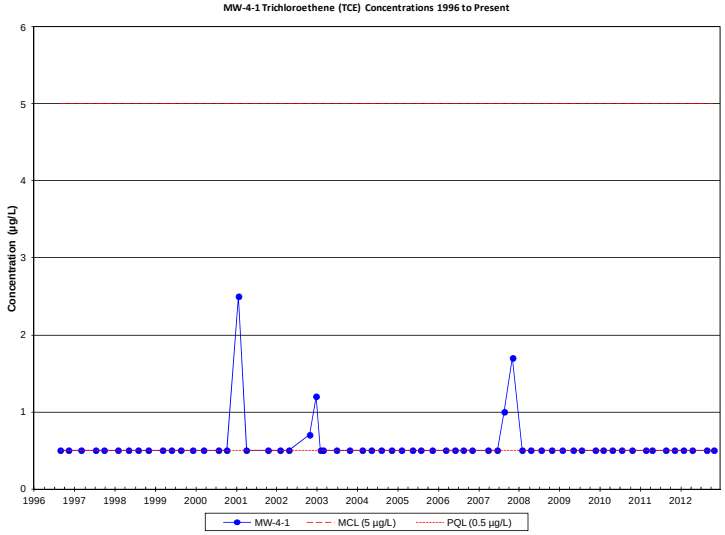


VOCs and Perchlorate Time Series Plots for MW-3-2

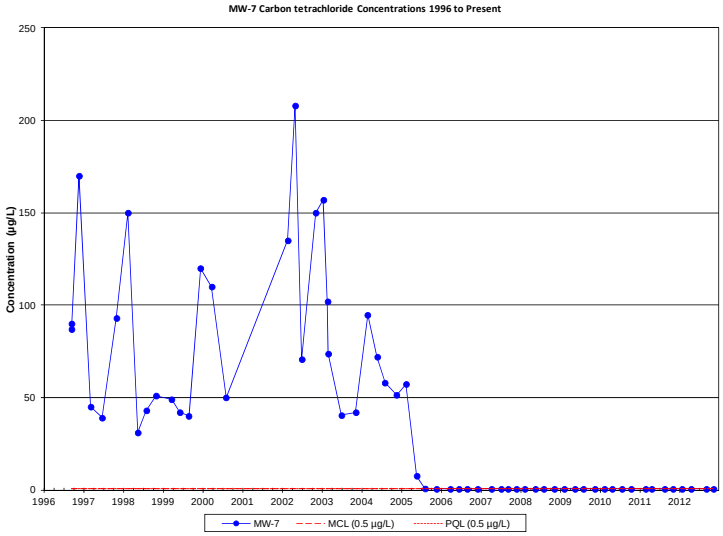


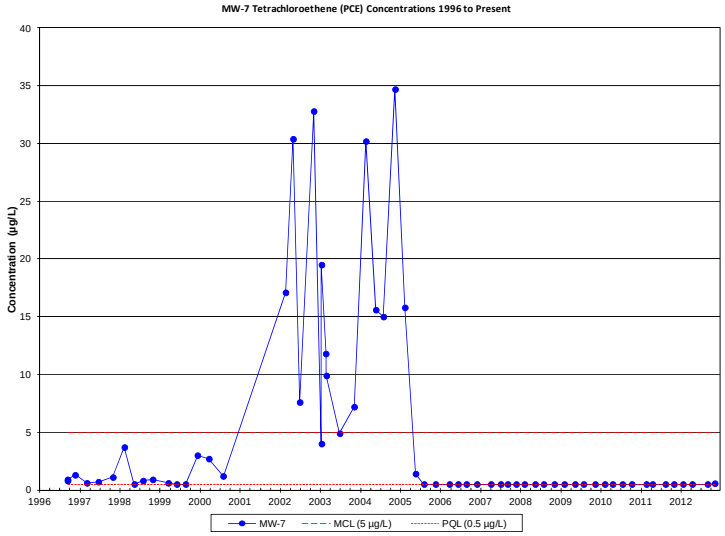


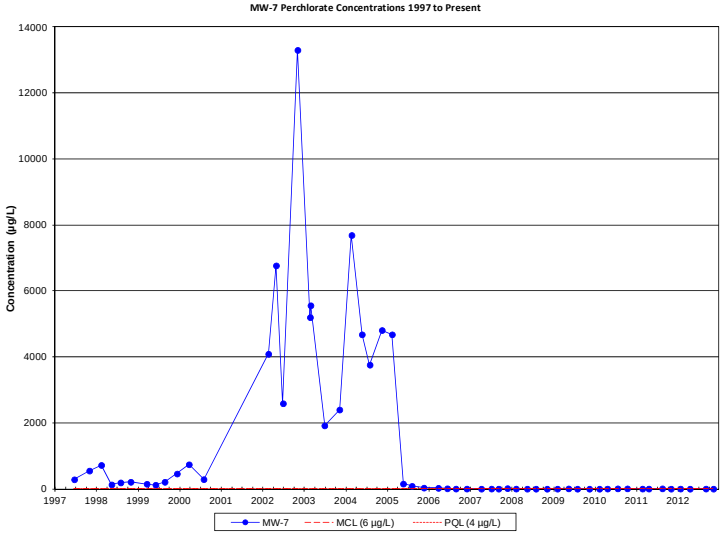


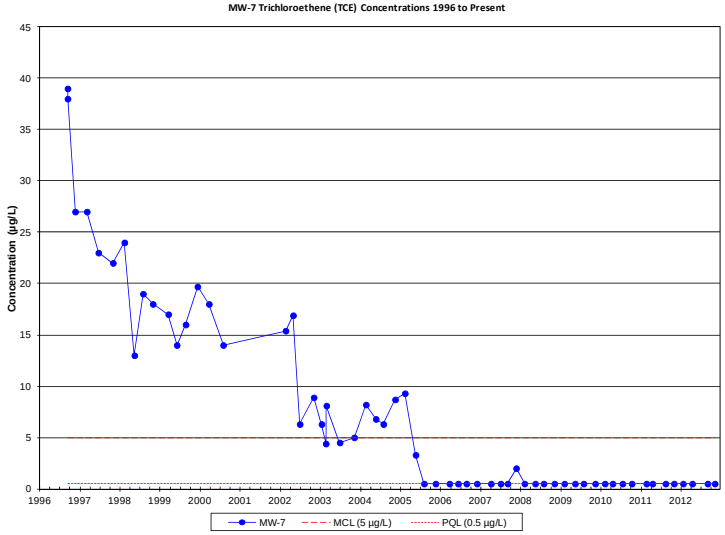


VOCs and Perchlorate Time Series Plots for MW-4-1

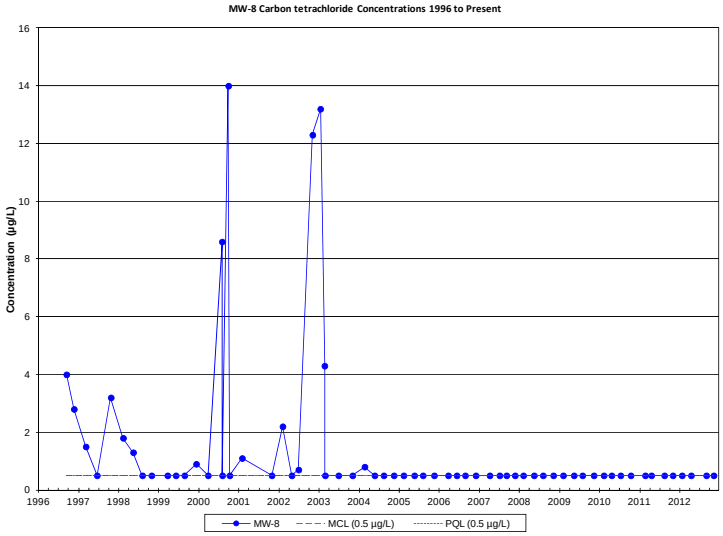


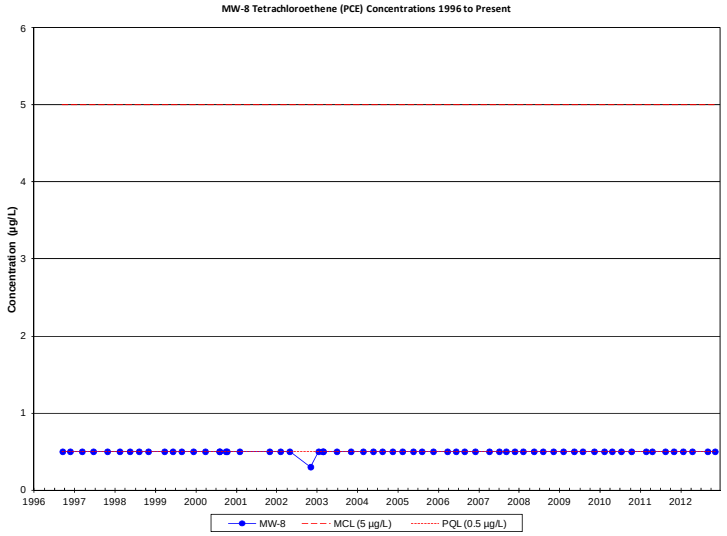


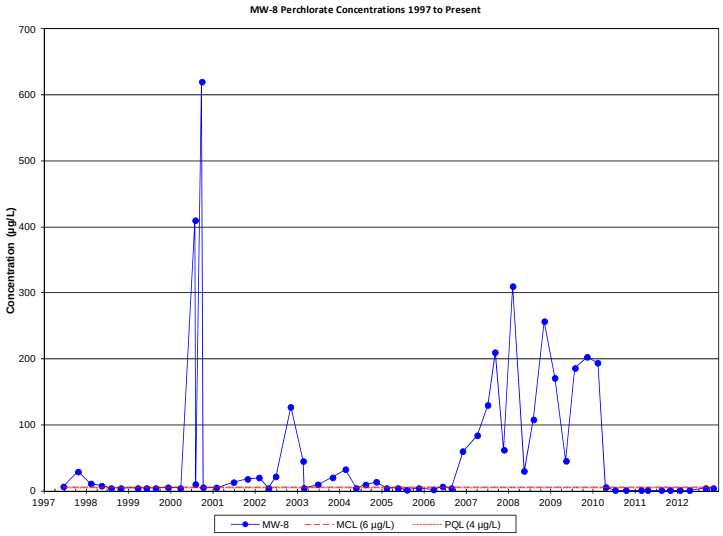


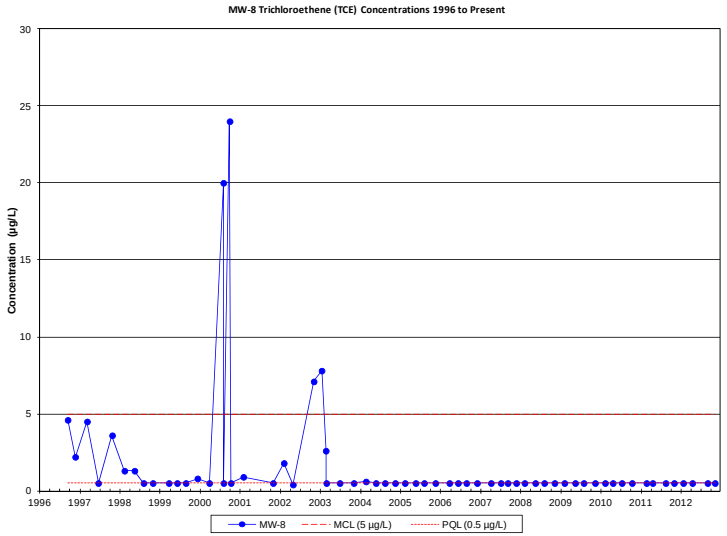


VOCs and Perchlorate Time Series Plots for MW-7

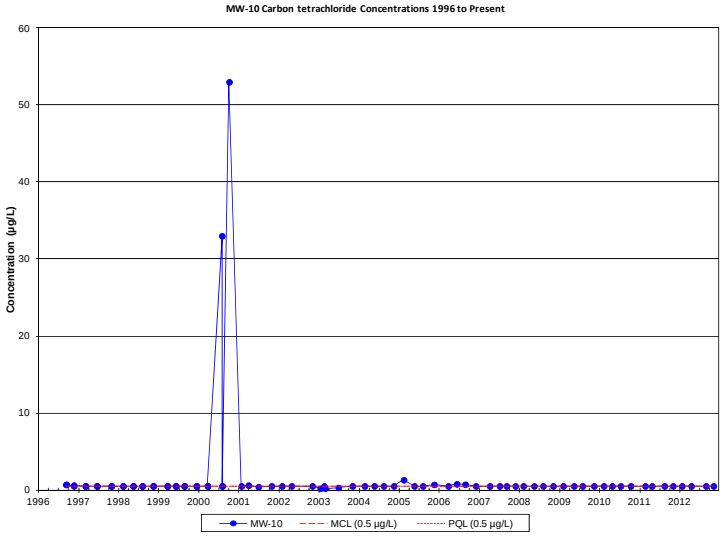


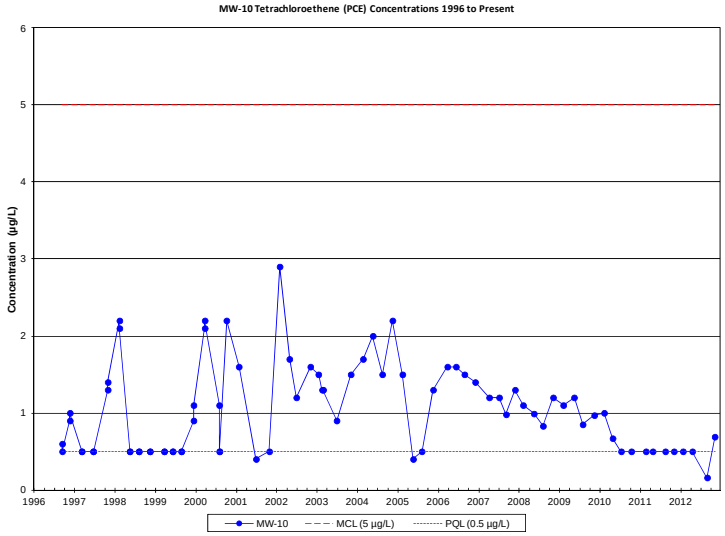


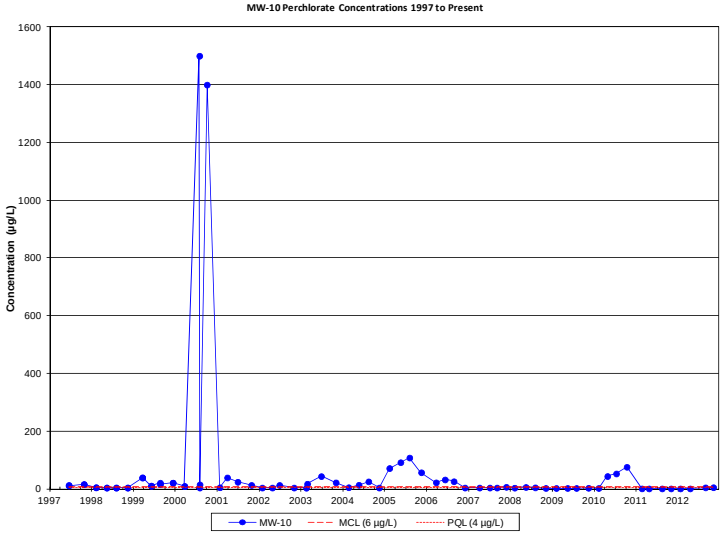


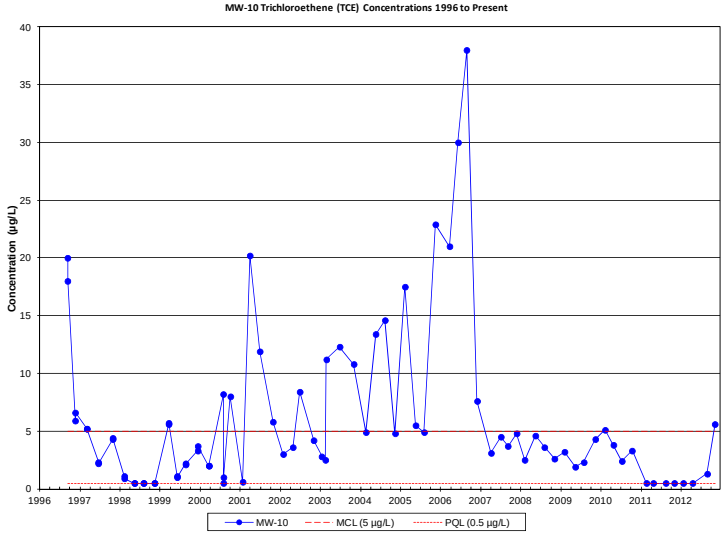


VOCs and Perchlorate Time Series Plots for MW-8

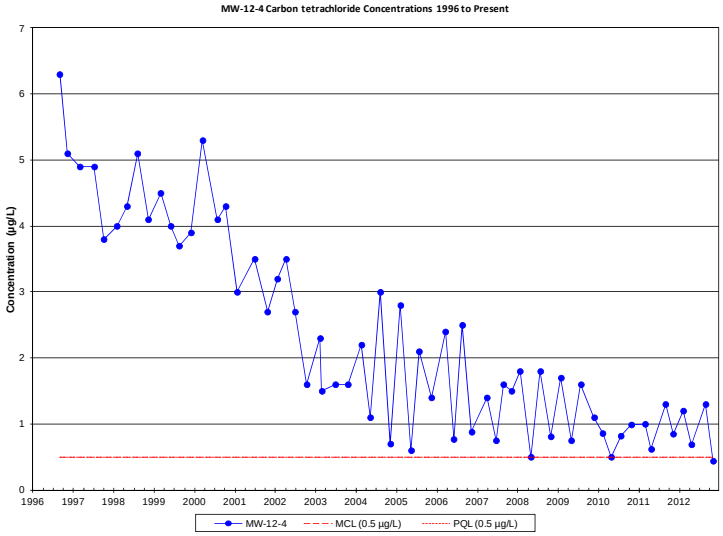


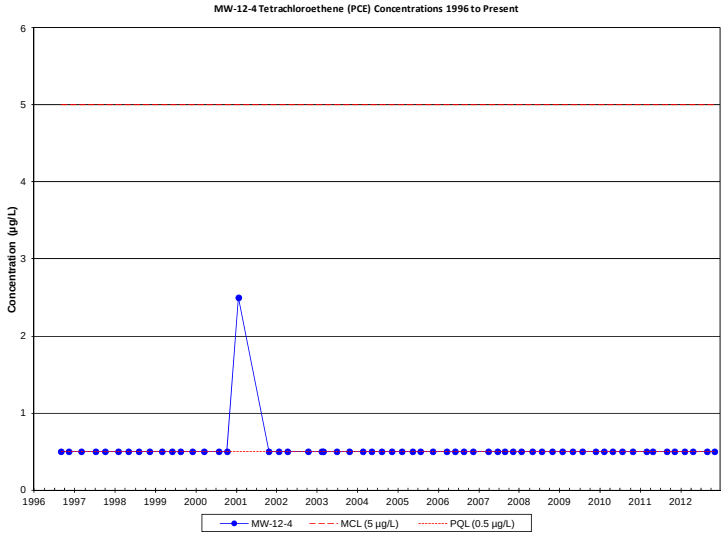


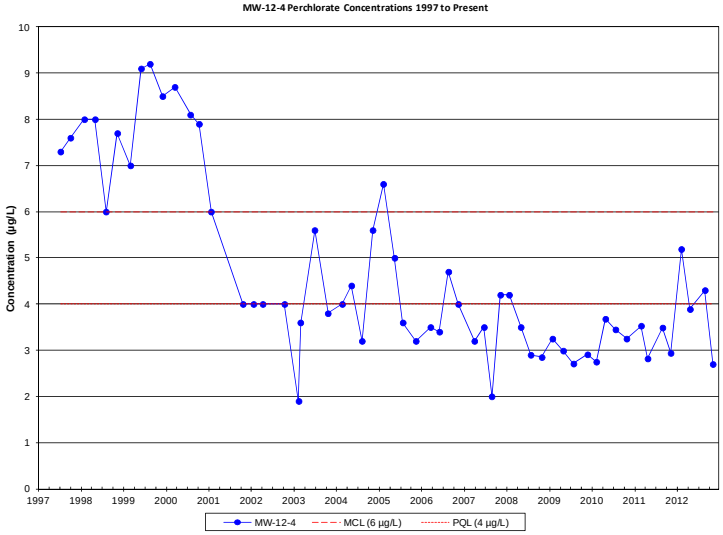


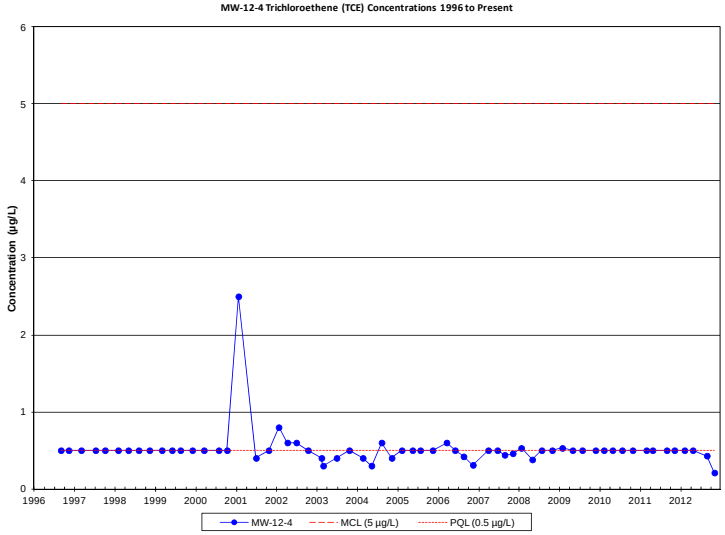


VOCs and Perchlorate Time Series Plots for MW-10

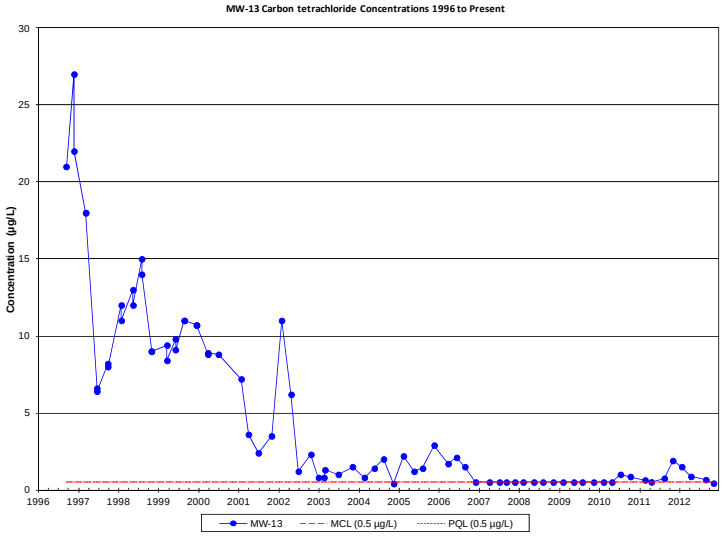


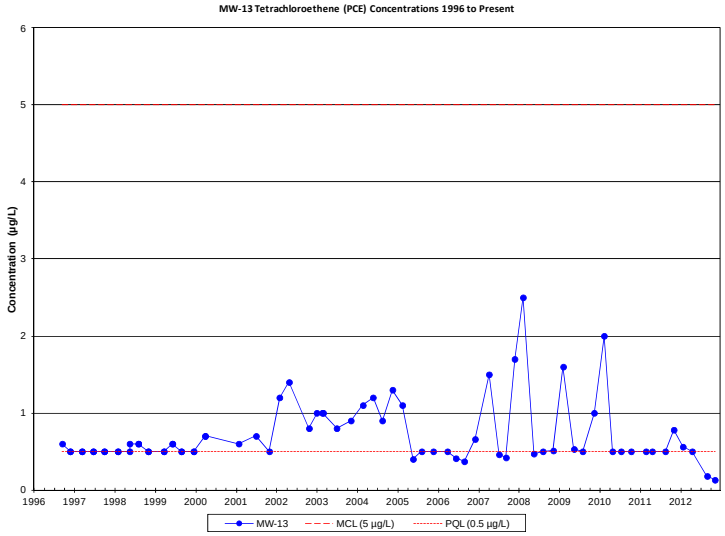


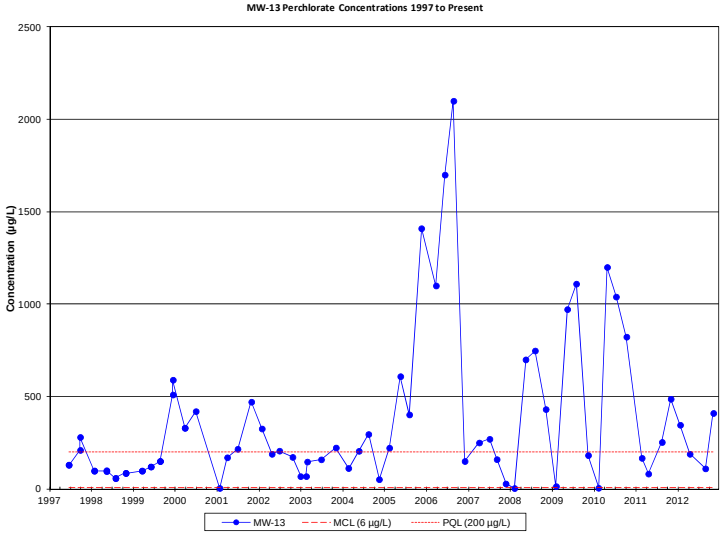


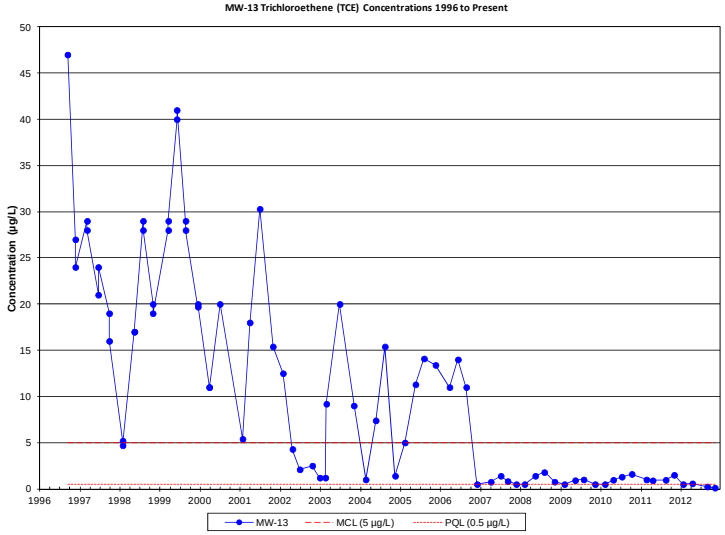


VOCs and Perchlorate Time Series Plots for MW-12-4

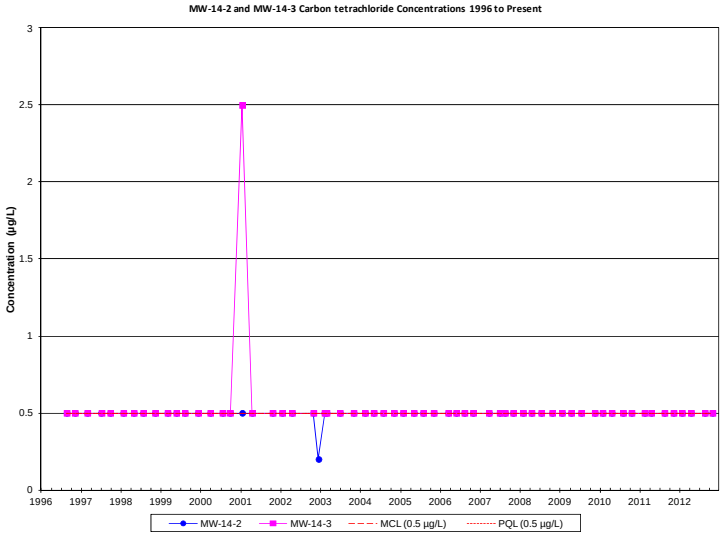


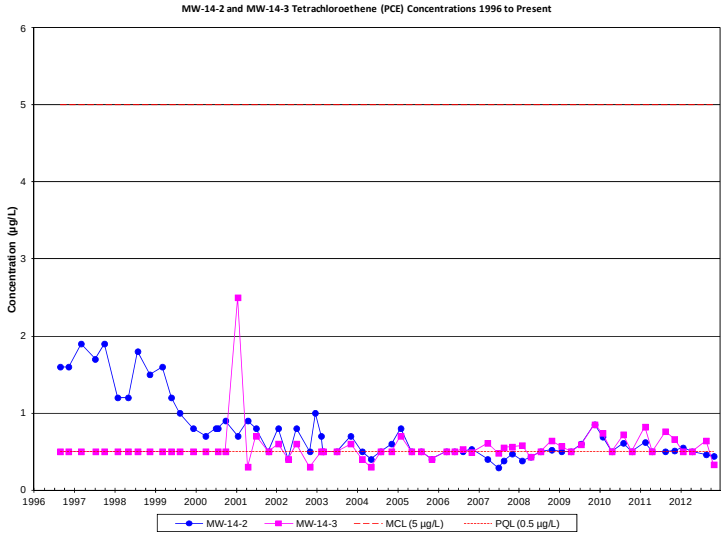


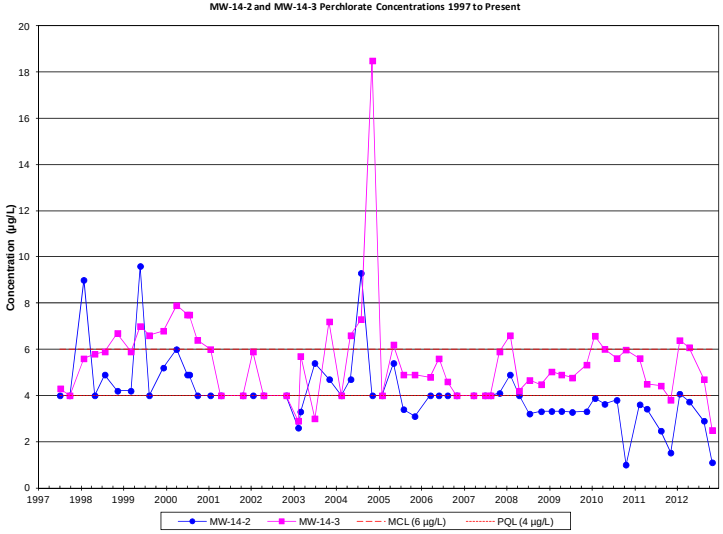


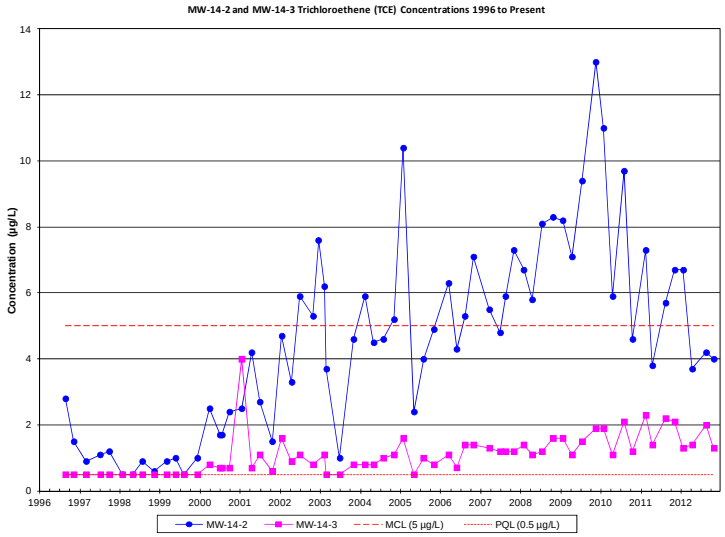


VOCs and Perchlorate Time Series Plots for MW-13

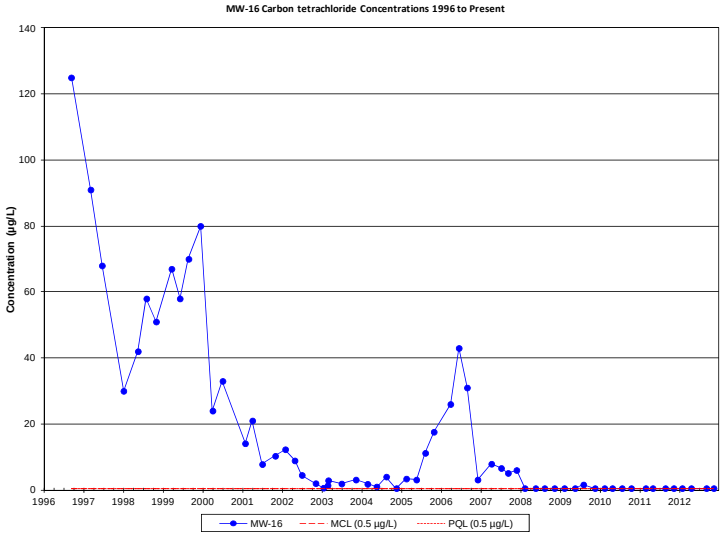


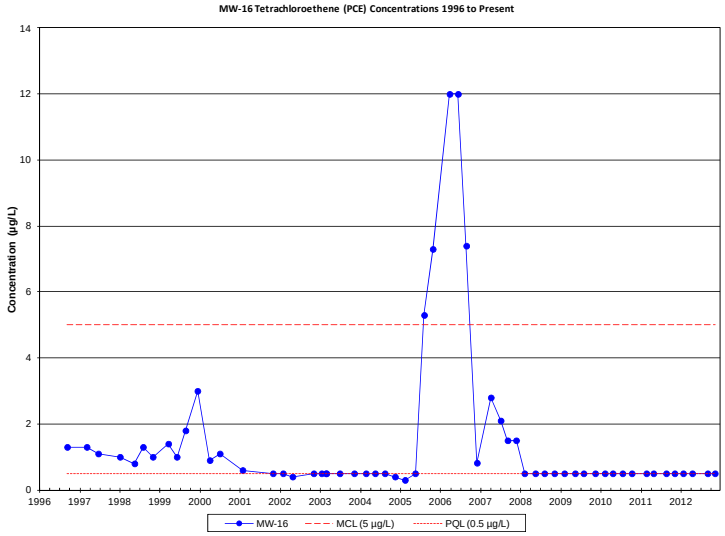


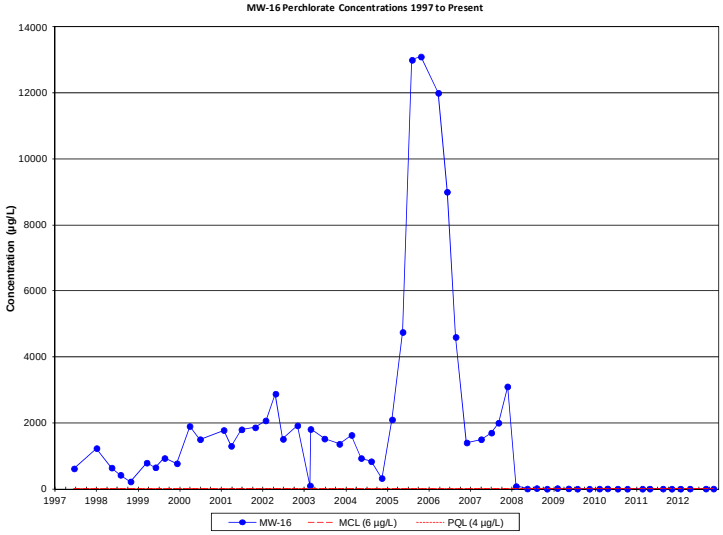


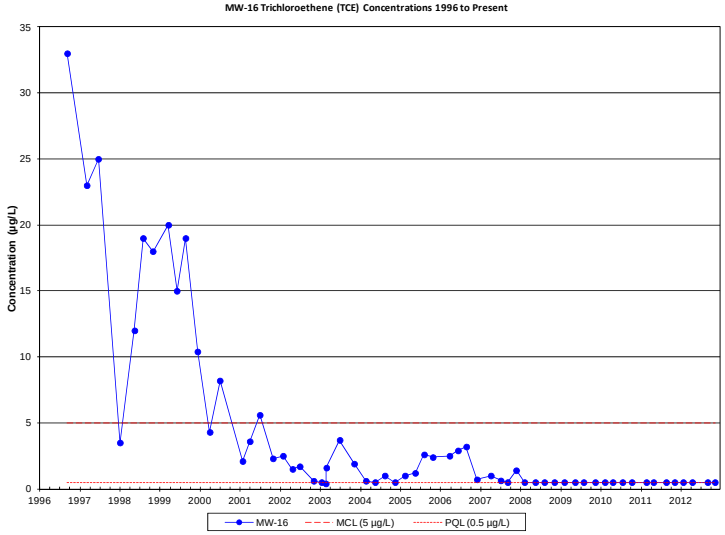


VOCs and Perchlorate Time Series Plots for MW-14-2 and MW-14-3

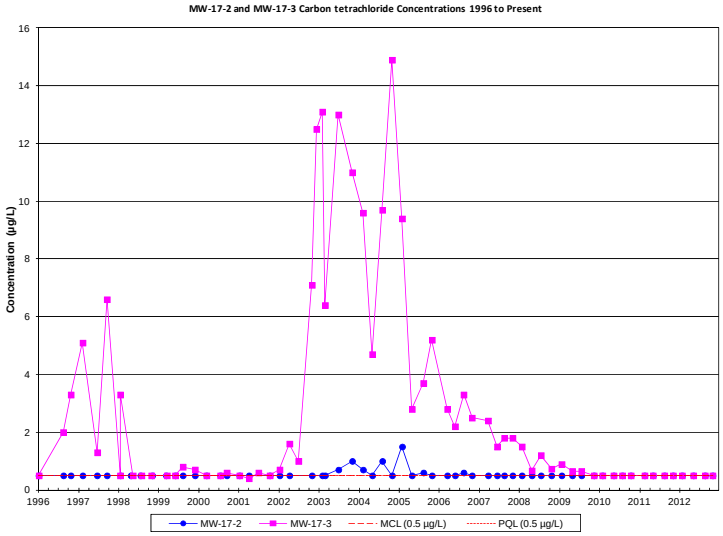


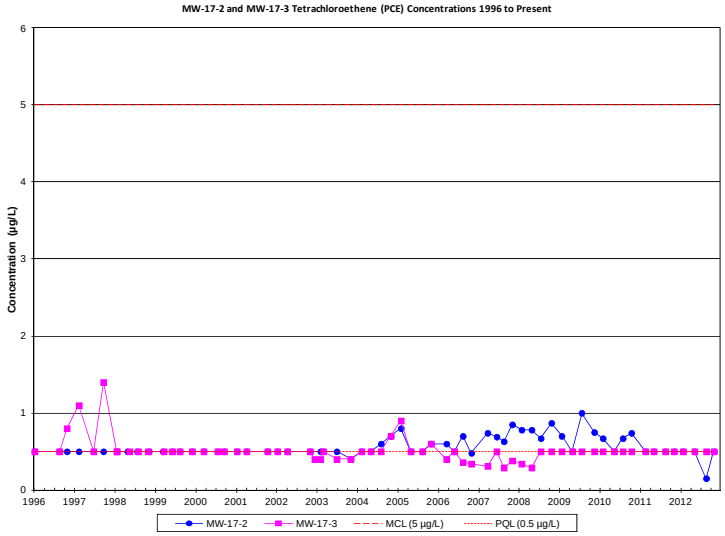


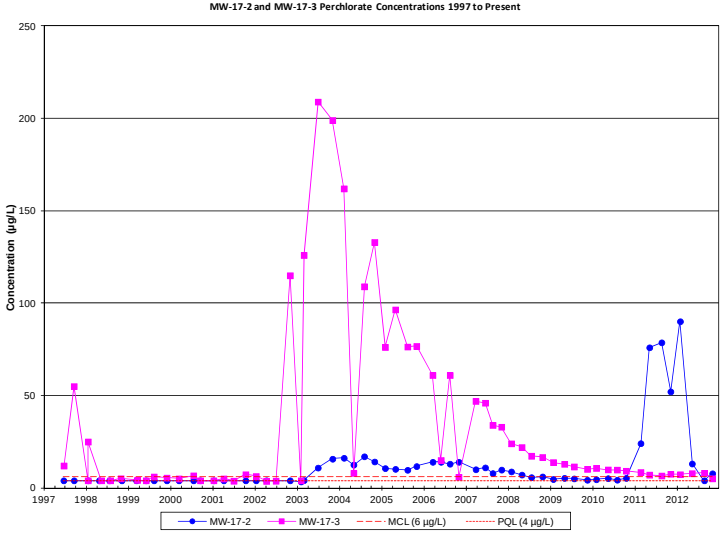


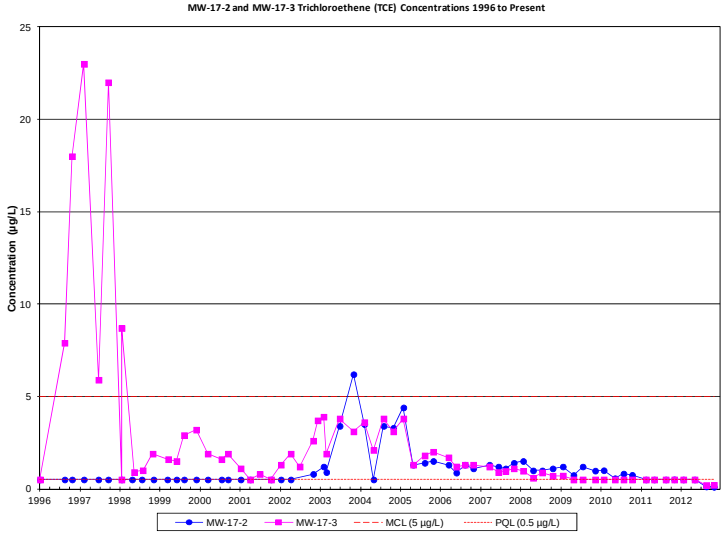


VOCs and Perchlorate Time Series Plots for MW-16

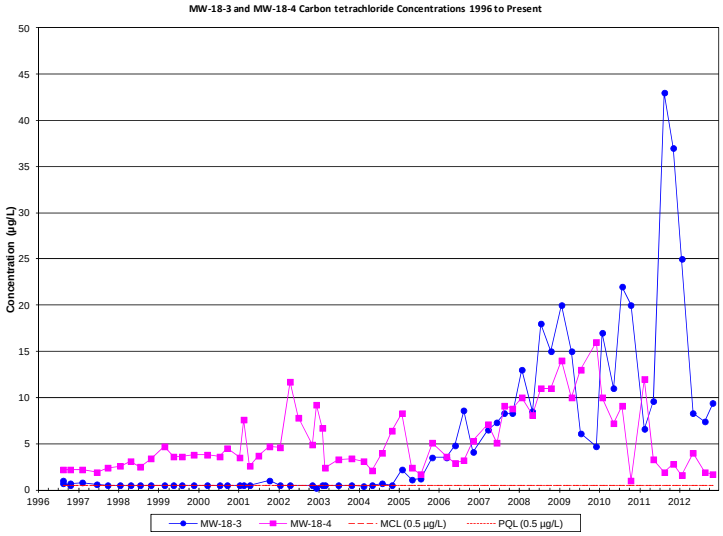


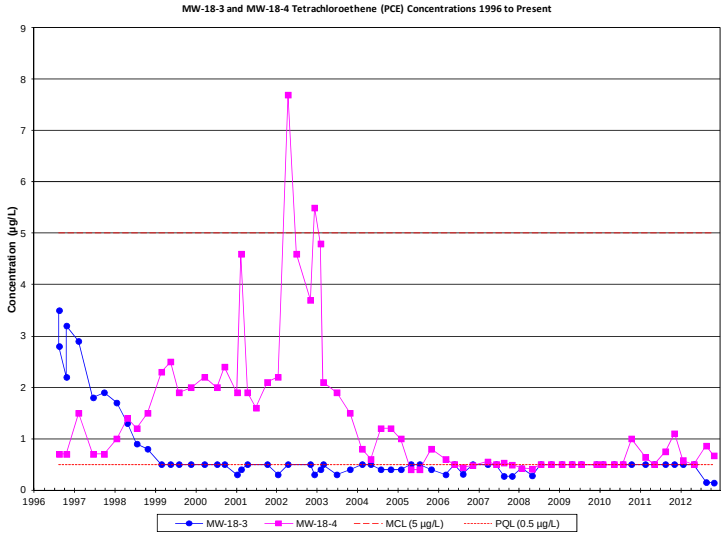


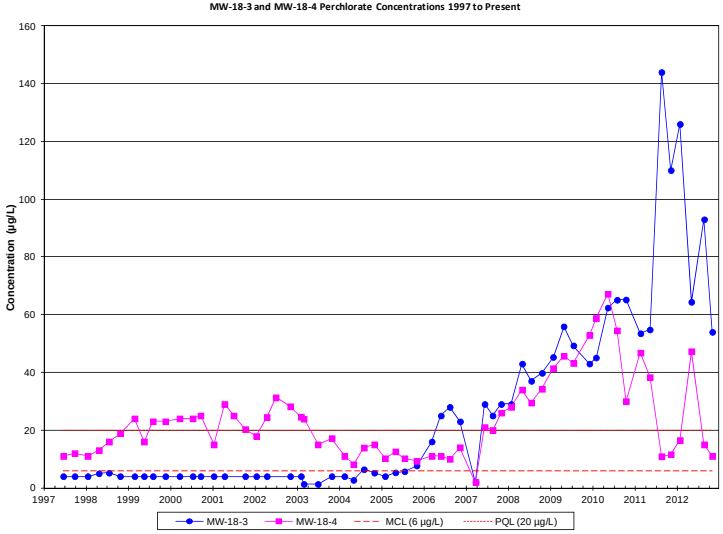


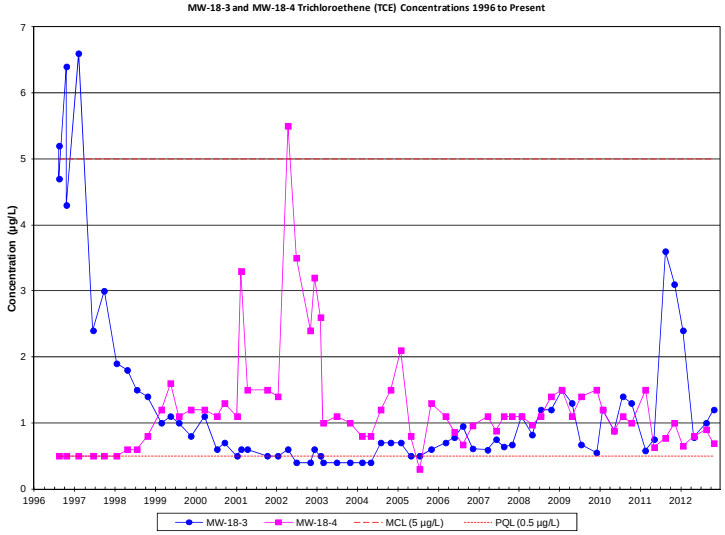


VOCs and Perchlorate Time Series Plots for MW-17-2 and MW-17-3

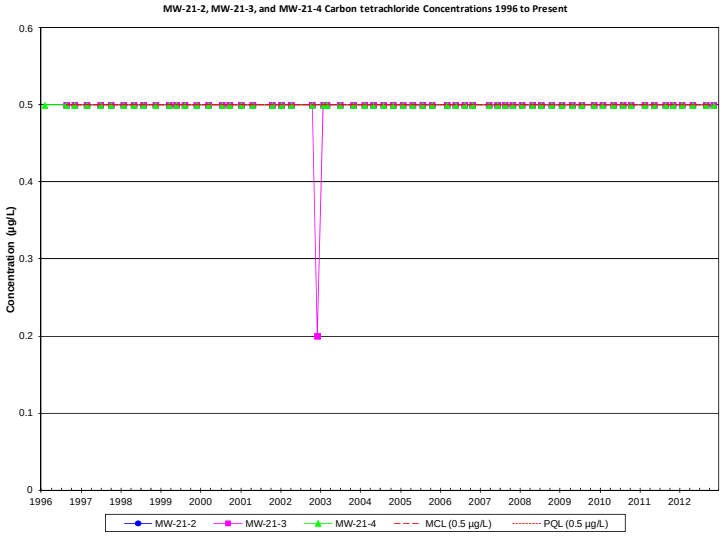


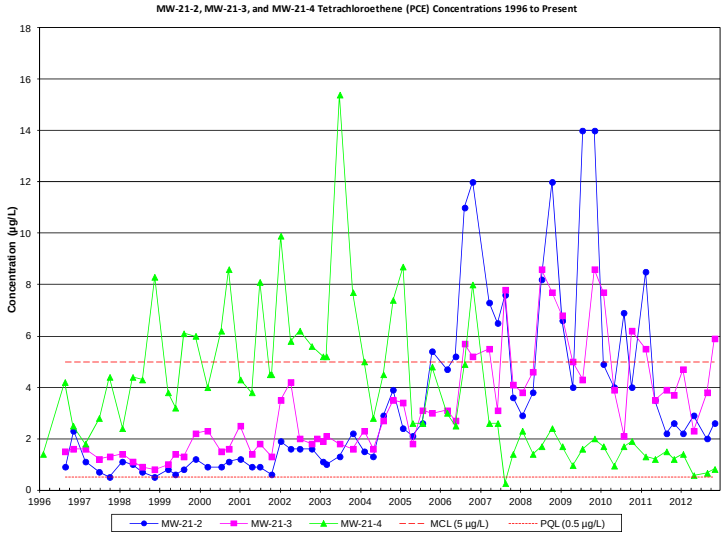


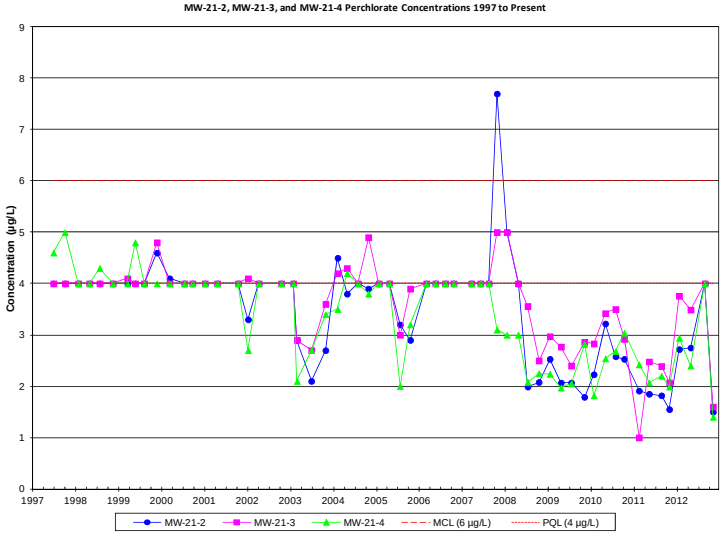


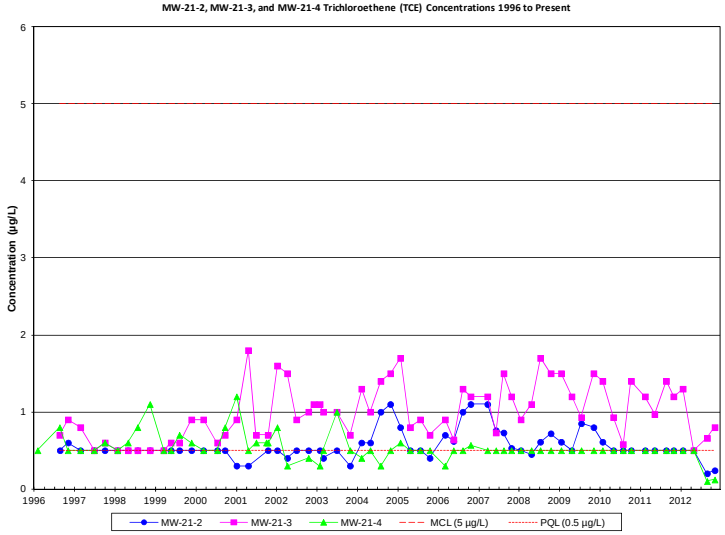


VOCs and Perchlorate Time Series Plots for MW-18-3 and MW-18-4

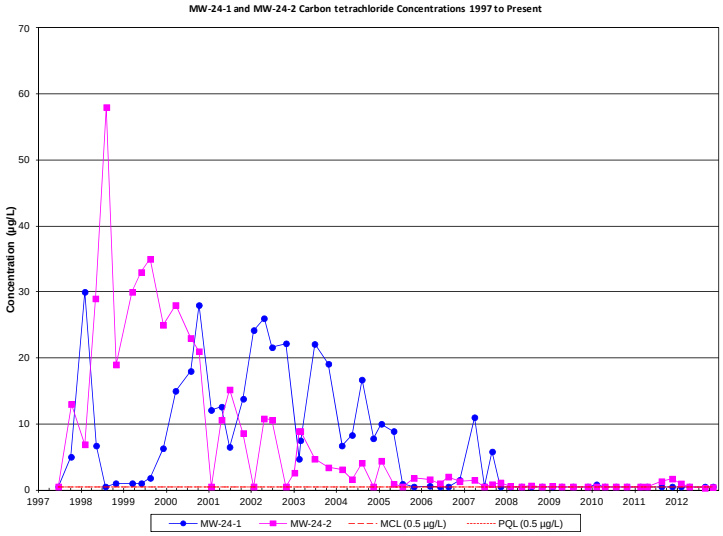


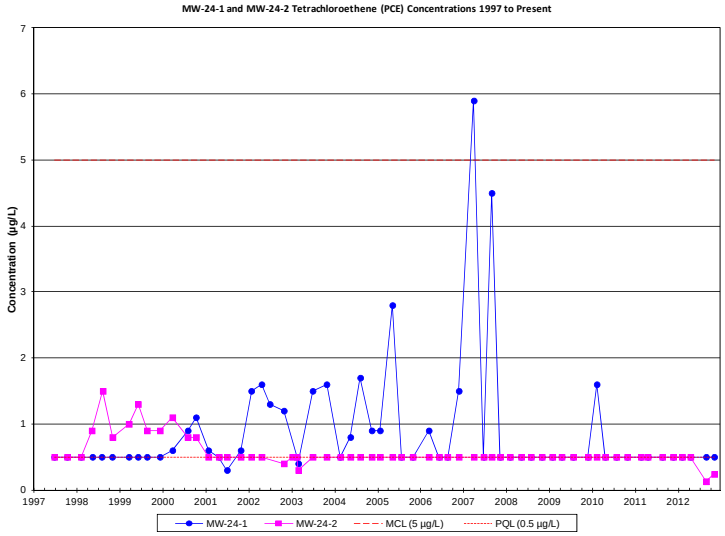


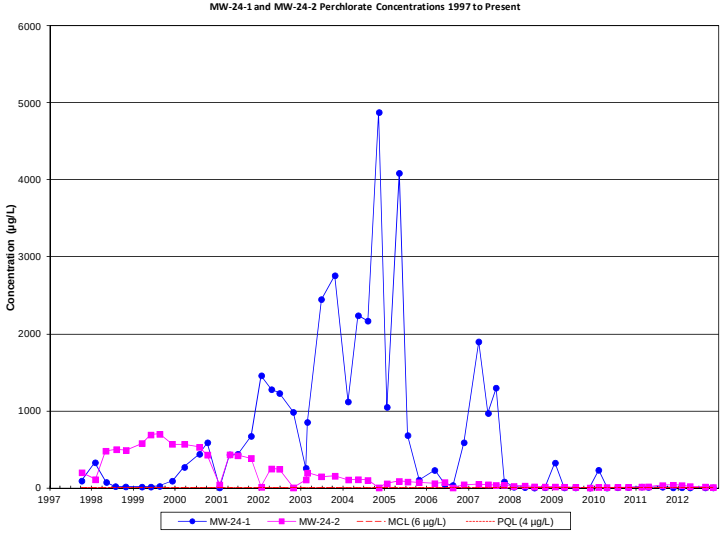


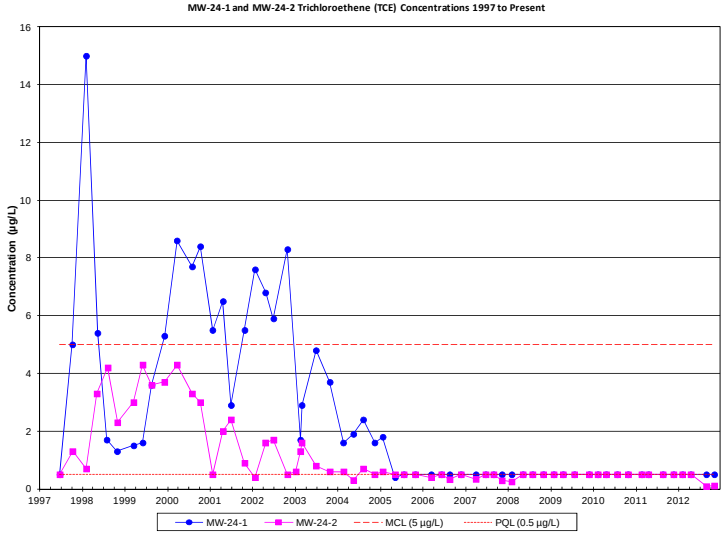


VOCs and Perchlorate Time Series Plots for MW-21-2 and MW-21-3 and MW-21-4









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