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TECHNICAL MEMORANDUM

To: Don Carpenter, IDEQ, Boise

From: Robin Nimmer, TerraGraphics, Moscow

Date: January 29, 2015

Project Code: IDEQ C985, 14005-08-02

Subject: Fourth Quarter 2014 Groundwater Monitoring at the East Mission Flats Repository

The purpose of this memorandum is to summarize the East Mission Flats Repository (EMFR) Fourth Quarter 2014 Groundwater Sampling Event and present the data. An evaluation and discussion of the quarterly monitoring results will be completed in the 2014 annual report for EMFR.

1 Sampling Summary

Figure 1 shows the locations of the seven groundwater monitoring wells, one decontamination well, two piezometers, and two floodwater leveloggers in the vicinity of EMFR. Samples were collected from all seven of the groundwater monitoring wells on October 27, 2014.

A detailed description of the field sampling, handling, documentation, and analytical procedures is provided in the *Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) for Groundwater and Surface Water Monitoring at the East Mission Flats Repository* (TerraGraphics 2010), hereinafter referred to as the EMFR SAP/QAPP, and *Sample Plan Alteration Form #2 of the East Mission Flats Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP)* (TerraGraphics 2014), hereinafter referred to as SPAF #2.

All field and analytical procedures were conducted according to the EMFR SAP/QAPP. Attachment A contains the field sheets for each sampled well.

2 Water Levels and Hydrographs

Figure 2 shows hydrographs of the water levels recorded at seven monitoring wells in the immediate vicinity of the repository and data from the U.S. Geological Survey (USGS) Gage Station 12413500 on the Coeur d'Alene River near Cataldo, Idaho (USGS 2014).

There was no water present at the two floodwater levellogger sites (LL-1 and LL-2) during the Fourth Quarter 2014 monitoring period. Piezometer 10-EMF-PZ-A had an insufficient water column for sampling, and piezometer 10-EMF-PZ-B was dry during this sampling event.

3 Groundwater Monitoring Results

The historical and Fourth Quarter 2014 Sampling Event hydraulic gradient at the site is toward the west (Figure 3). Data from 09-EMF-MW-C Deep and 08-EMF-MW-E are not used to develop groundwater elevation contours because 09-EMF-MW-C Deep is screened deeper than the other monitoring wells, and 08-EMF-MW-E appears to be in a different hydrologic unit from the other wells based on water levels and water quality data.

Table 1 and Figure 4 display the cumulative field parameter data for the groundwater sites. Table 2 and Figure 5 display the cumulative groundwater sample results for dissolved metals¹. The Fourth Quarter 2014 Sampling Event parameter and dissolved metal data are highlighted in green in each table.

Dissolved metal concentrations for this project are compared to the groundwater total metal regulatory thresholds because no specific dissolved metal regulatory thresholds exist, and it is assumed that dissolved concentrations are indicators of contamination in groundwater under all conditions (CH2M Hill 2006).

Dissolved metals results exceeding the respective regulatory thresholds are highlighted in pink in Table 2. No Fourth Quarter 2014 groundwater analytical results exceed the respective regulatory thresholds.

The dissolved cadmium concentration at 08-EMF-MW-F is the highest yet observed at this well. Dissolved cadmium will continue to be monitored and will be further evaluated in the 2014 annual report.

Attachment B contains the U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) analytical results (dissolved cations, total and dissolved metals, total hardness, and total phosphorus). Attachment C contains the SVL analytical results (dissolved anions and total alkalinity).

The Fourth Quarter 2014 Sampling Event data were considered acceptable, and no laboratory or field data were rejected. The following laboratory data were qualified as estimates (*J*) as discussed in the data quality review (TerraGraphics 2015):

- All dissolved calcium, magnesium, and sodium results due to laboratory serial dilution

Any qualified data should be reviewed by an experienced data analyst before data analysis and interpretation.

¹ All results in Table 2 are displayed as reported by the laboratory with their associated qualifiers (prior to 2014, results below reporting limits were displayed as 'ND'). Figure 5 displays non-detected results using the detection limits (prior to 2014, non-detected results were displayed using half of the detection limits).

4 References

CH2M Hill, 2006. Environmental Monitoring Plan, Operable Unit 2, Bunker Hill Mining and Metallurgical Complex Superfund Site. Prepared for USEPA Region 10. January.

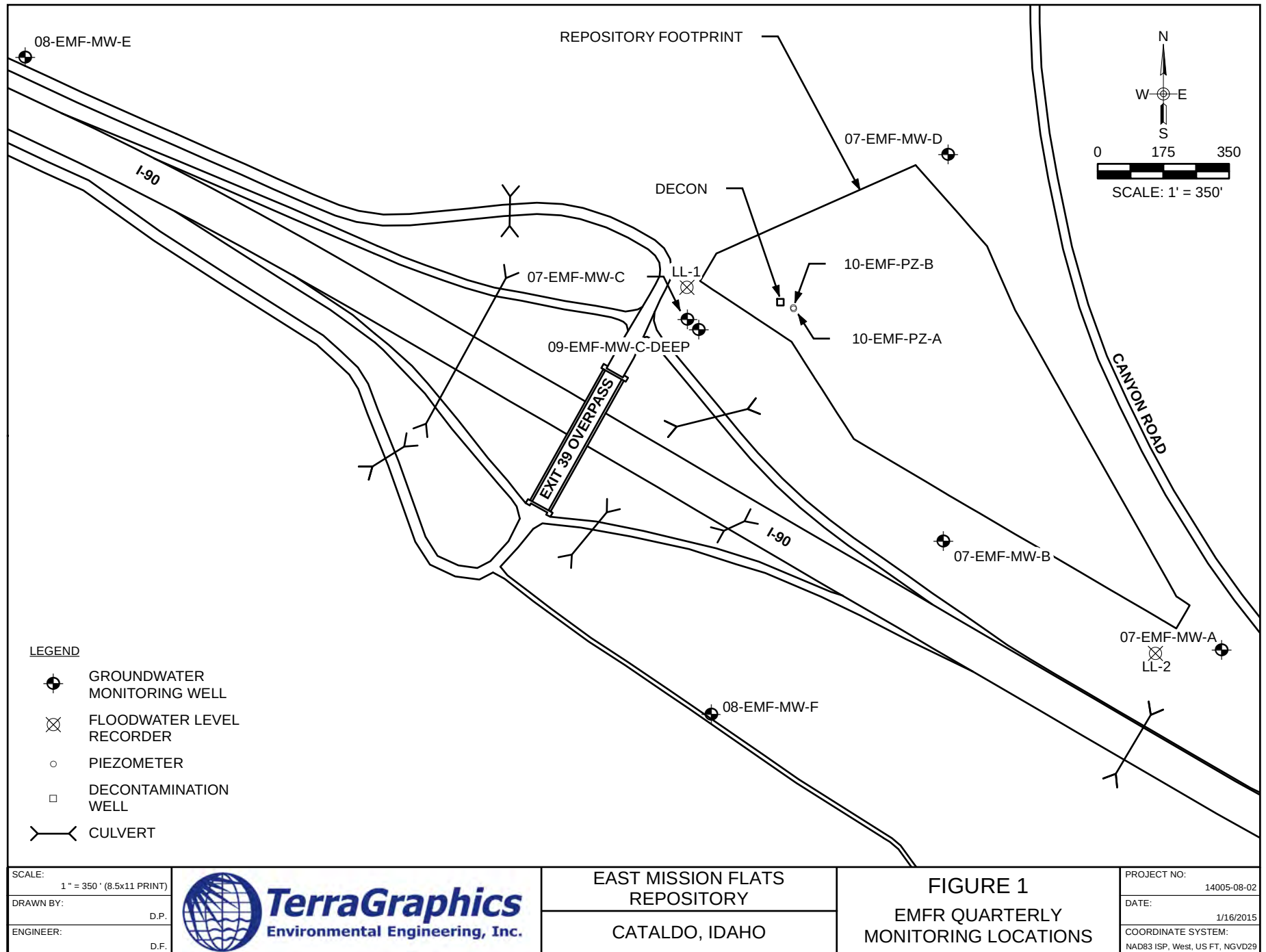
TerraGraphics Environmental Engineering, Inc. (TerraGraphics), 2010. Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) for Groundwater and Surface Water Monitoring at the East Mission Flats Repository. Revision No. 1; October.

TerraGraphics, 2014. Sample Plan Alteration Form (SPAF) #2 of the East Mission Flats Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP). August 2014.

TerraGraphics, 2015. QA/QC Review of the Fourth Quarter 2014 Groundwater Monitoring at East Mission Flats Repository. Memorandum. January.

U.S. Geological Survey (USGS), 2014. 12413500 Coeur d'Alene River NR Cataldo ID, http://waterdata.usgs.gov/id/nwis/uv/?site_no=12413500. July.

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SCALE:	1" = 350' (8.5x11 PRINT)
DRAWN BY:	D.P.
ENGINEER:	D.F.

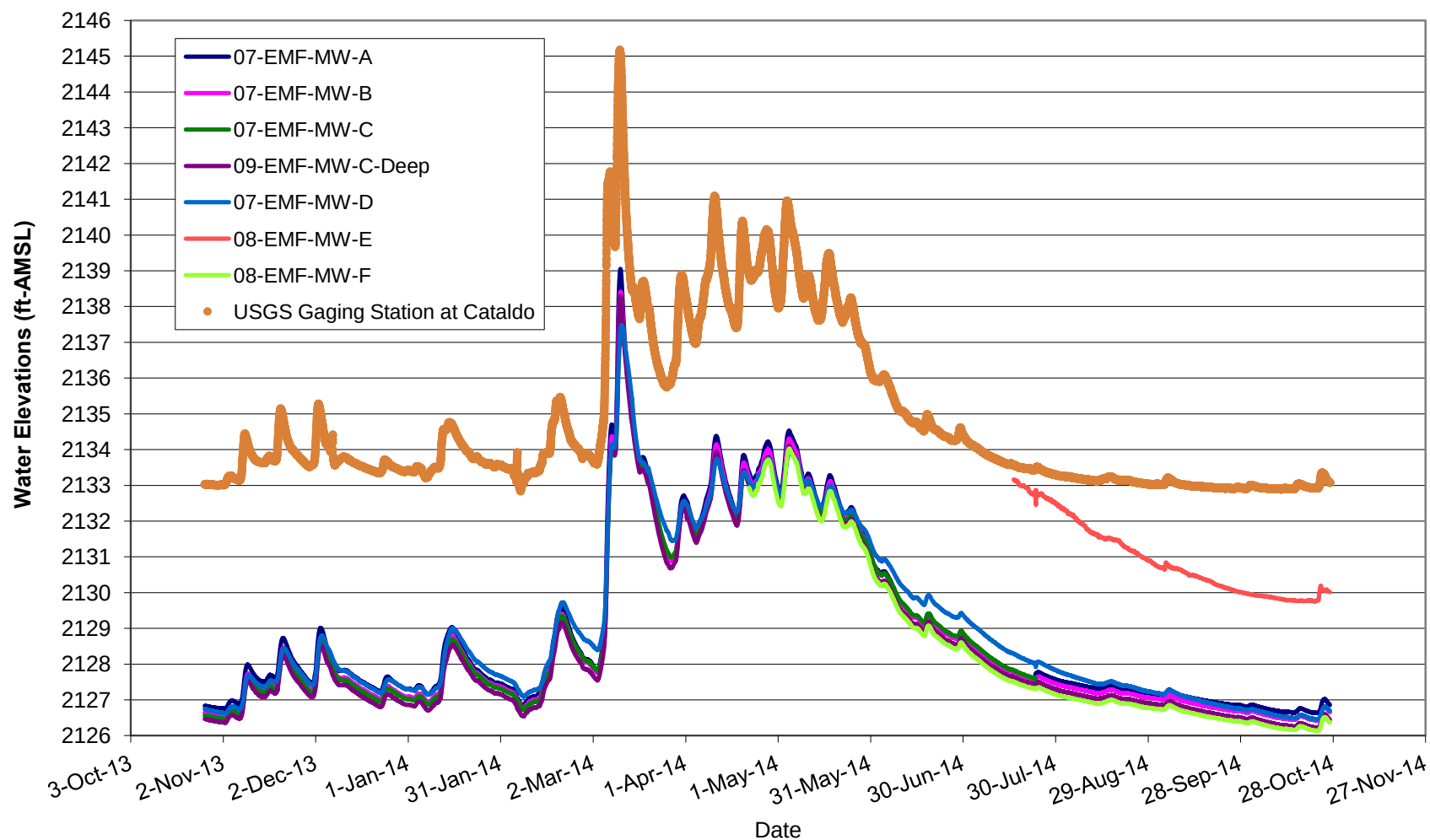


EAST MISSION FLATS
REPOSITORY
CATALDO, IDAHO

FIGURE 1
EMFR QUARTERLY
MONITORING LOCATIONS

PROJECT NO:	14005-08-02
DATE:	1/16/2015
COORDINATE SYSTEM:	NAD83 1SP, West, US FT, NGVD29

Figure 2. Water Levels at EMFR Monitoring Wells Compared to River Stage at Cataldo



Notes:

- Dataloggers were installed at EMF-MW-E in July 2014 and at EMF-MW-F in April 2014. Data collection began following installation.
- All elevations are based on the NGVD29 datum

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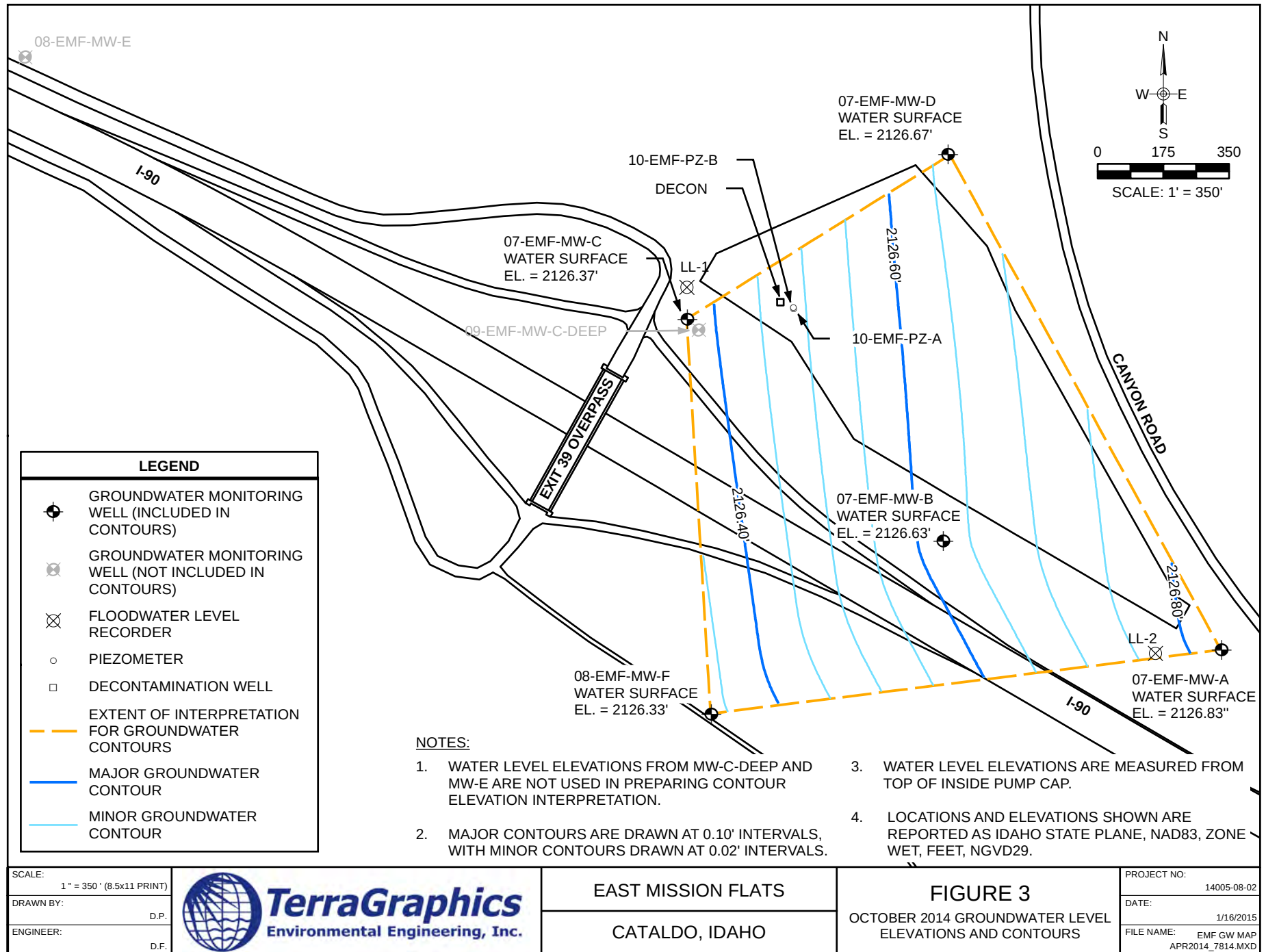


Figure 4. Field Parameter Data at EMFR Groundwater Sites

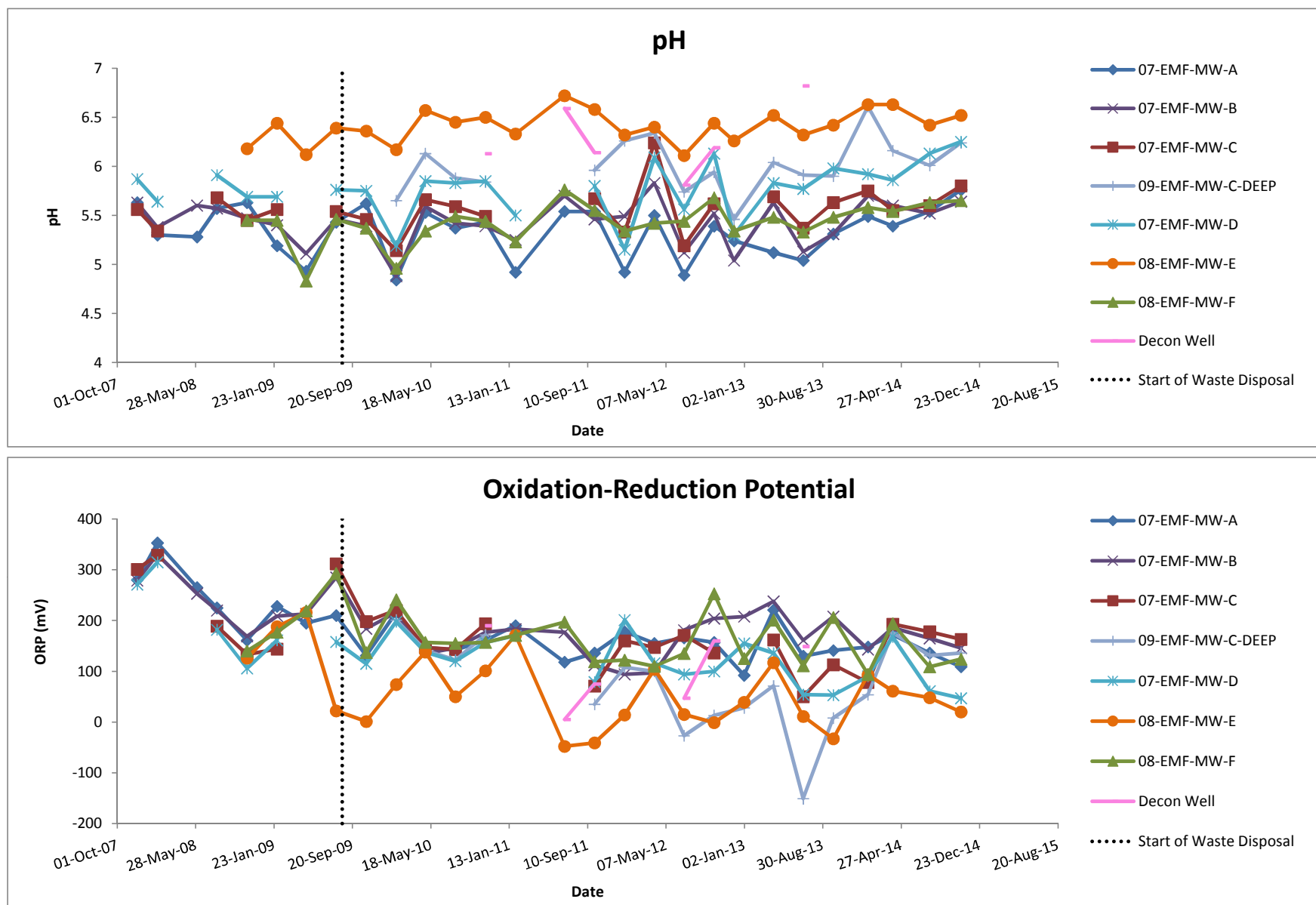


Figure 4. Field Parameter Data at EMFR Groundwater Sites

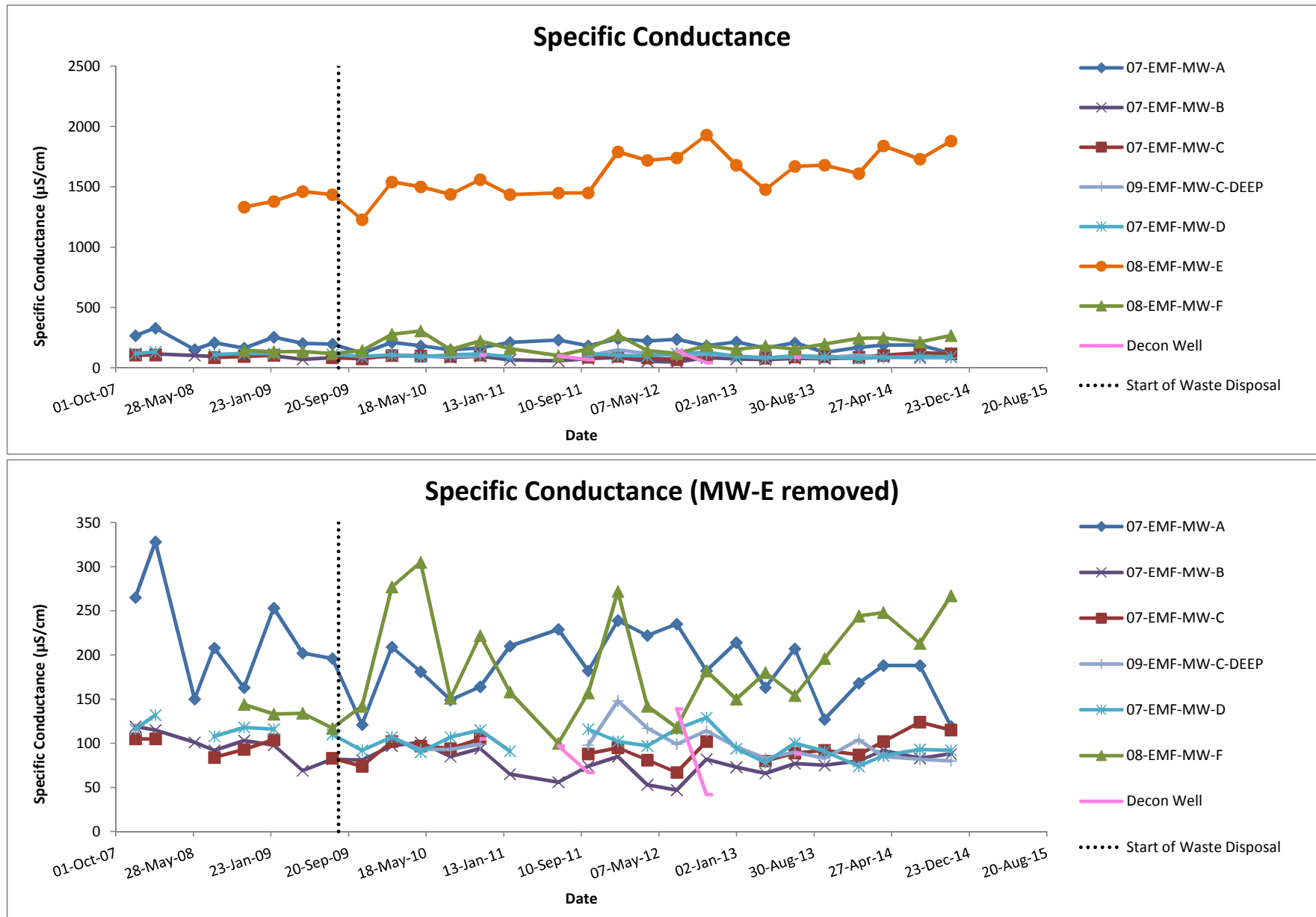


Figure 4. Field Parameter Data at EMFR Groundwater Sites

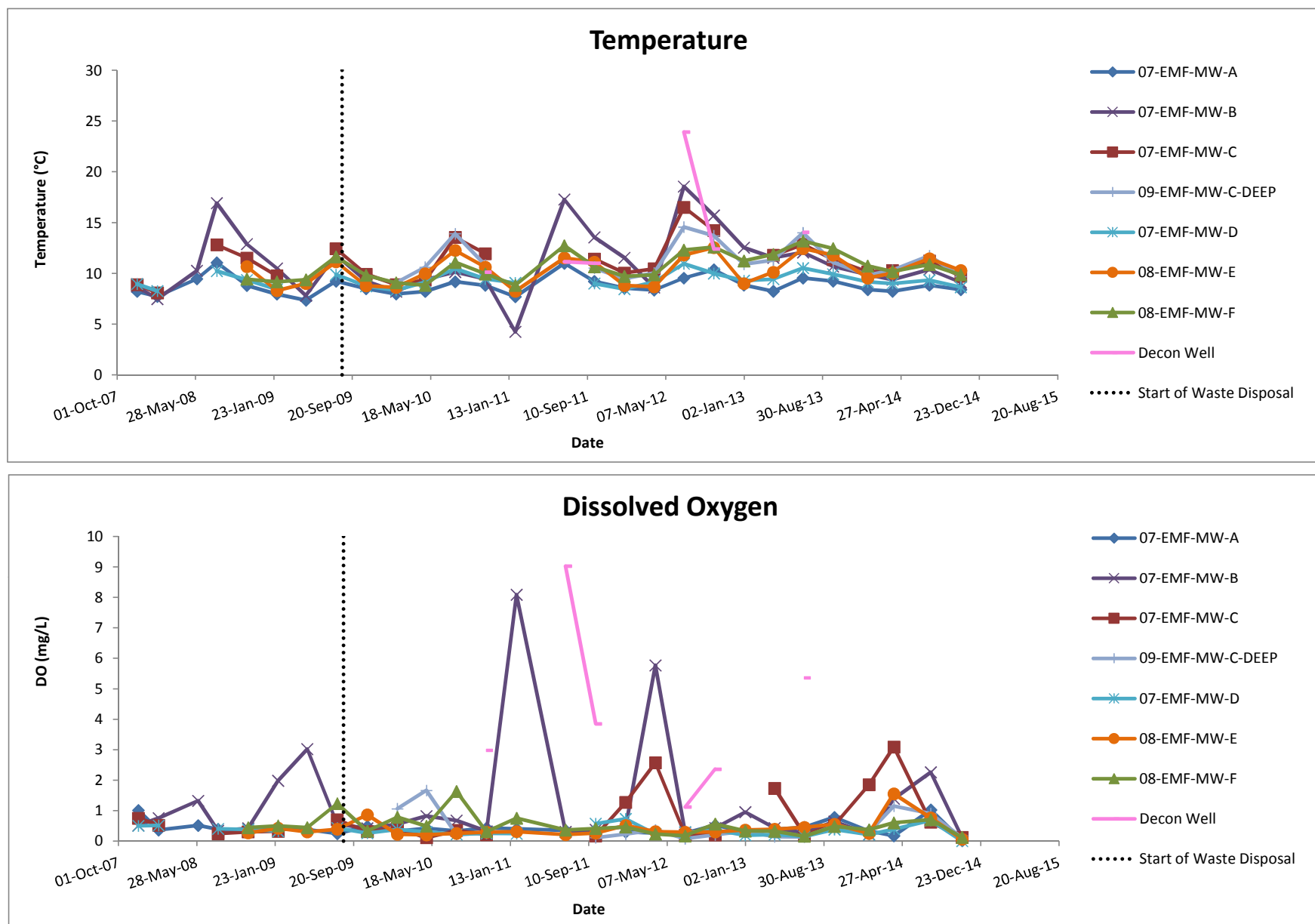


Figure 5. Dissolved Metals Data at EMFR Groundwater Sites

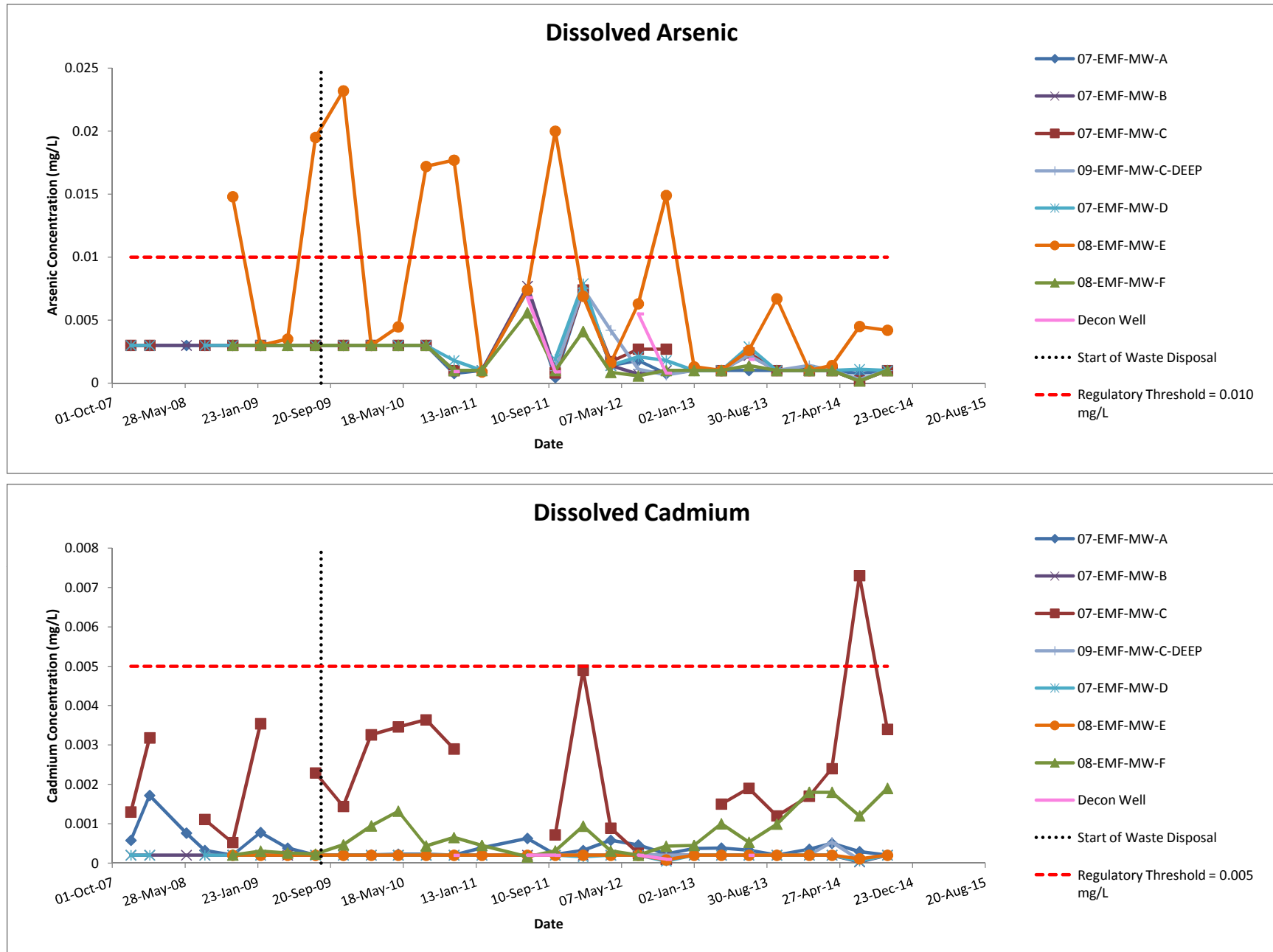
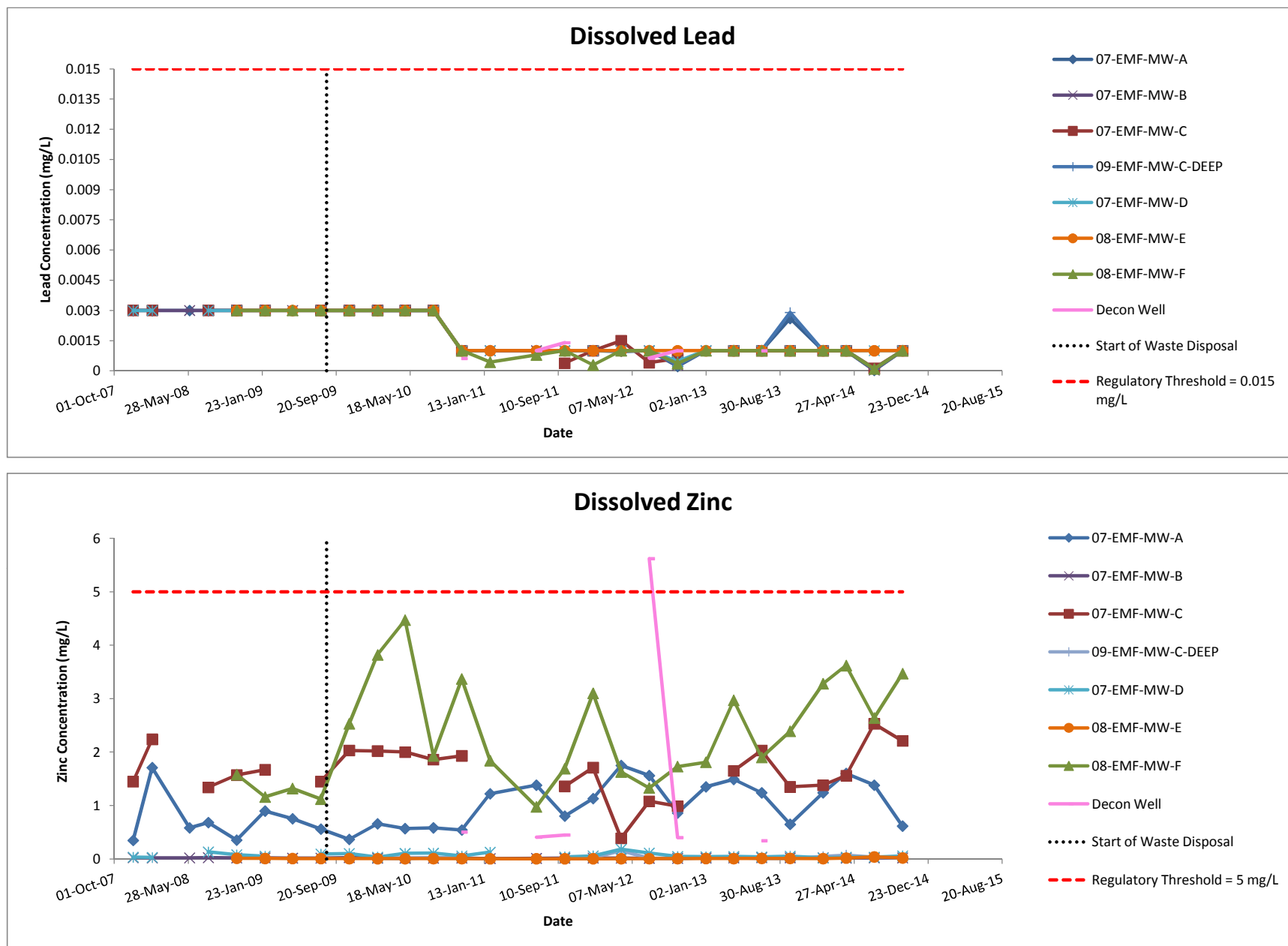


Figure 5. Dissolved Metals Data at EMFR Groundwater Sites



*Dissolved antimony not shown as it has never been detected at EMFR.

Table 1
Field Parameter Data
East Mission Flats Repository

Well	Parameter					
	Date	pH	Specific Conductance (µS/cm)	Temperature (°C)	DO (mg/L)	ORP (mV)
07-EMF-MW-A	11-Dec-07	5.63	265	8.21	1.01	280
	25-Feb-08	5.30	328	7.73	0.36	353
	3-Jun-08	5.28	150	9.45	0.51	265
	19-Aug-08	5.57	208	11.05	0.39	225
	10-Nov-08	5.63	163	8.79	0.34	161
	4-Feb-09	5.19	253	7.95	0.39	228
	7-May-09	4.93	202	7.35	0.38	195
	10-Aug-09	5.43	196	9.23	0.24	210
	11-Nov-09	5.62	121	8.49	0.48	131
	25-Feb-10	4.84	209	7.97	0.32	216
	19-May-10	5.53	181	8.21	0.42	147
	25-Aug-10	5.37	149	9.17	0.33	142
	16-Nov-10	5.43	164	8.81	0.43	161
	10-Feb-11	4.92	210	7.69	0.40	190
	6-Jul-11	5.54	229	10.98	0.35	118
	24-Oct-11	5.54	182	9.21	R	136
	25-Jan-12	4.92	239	8.54	0.30	178
	10-Apr-12	5.50	222	8.34	0.26	155
	31-Jul-12	4.89	235	9.53	0.26	166
	29-Oct-12	5.39	182	10.35	0.52	157
	23-Jan-13	5.24	214	8.84	0.30	92
	2-Apr-13	5.12	163	8.23	0.39	221
	23-Jul-13	5.04	207	9.54	0.45	130
	17-Oct-13	5.31	127	9.22	0.78	141
	15-Jan-14	5.49	168	8.39	0.33	148
	1-Apr-14	5.39	188	8.23	0.17	172
	23-Jul-14	5.54	188	8.83	1.02	136
	27-Oct-14	5.76	119	8.39	0.01	109
07-EMF-MW-B	10-Dec-07	5.63	119	8.71	0.51	279
	25-Feb-08	5.38	115	7.46	0.75	330
	3-Jun-08	5.60	101	10.26	1.32	253
	19-Aug-08	5.57	92	16.92	0.34	220
	10-Nov-08	5.47	103	12.88	0.42	169
	4-Feb-09	5.40	98	10.48	1.98	209
	7-May-09	5.11	69	7.8	3.02	213
	10-Aug-09	5.46	82	11.81	0.55	285
	11-Nov-09	5.39	81	9.24	0.42	184
	25-Feb-10	4.88	97	8.2	0.55	216
	19-May-10	5.59	101	9.37	0.82	135
	25-Aug-10	5.42	85	10.13	0.67	146
	16-Nov-10	5.39	94	9.44	0.32	177
	10-Feb-11	5.25	65	4.24	8.09	183
	6-Jul-11	5.70	56	17.28	0.30	177
	24-Oct-11	5.46	74	13.55	0.37 J	112
	25-Jan-12	5.49	85	11.53	0.47	94
	10-Apr-12	5.83	53	8.61	5.77	97
	31-Jul-12	5.12	47	18.55	0.28	181
	29-Oct-12	5.52	82	15.71	0.43	204
	24-Jan-13	5.04	73	12.53	0.95	208
	2-Apr-13	5.63	66	11.54	0.43	238
	23-Jul-13	5.13	77	12.06	0.27	161
	17-Oct-13	5.31	75	10.67	0.64	208
	15-Jan-14	5.70	80	9.88	0.22	143
	1-Apr-14	5.60	92	9.38	1.39	186
	23-Jul-14	5.52	83	10.38	2.26	165
	27-Oct-14	5.64	88	9.10	0.11	146

Well	Parameter					
	Date	pH	Specific Conductance (µS/cm)	Temperature (°C)	DO (mg/L)	ORP (mV)
07-EMF-MW-C	10-Dec-07	5.56	105	8.89	0.75	301
	25-Feb-08	5.34	105	8.07	0.52	329
	3-Jun-08	NS	NS	NS	NS	NS
	19-Aug-08	5.68	84	12.81	0.24	189
	10-Nov-08	5.45	93	11.51	0.3	133
	3-Feb-09	5.56	104	9.76	0.32	144
	7-May-09	NS	NS	NS	NS	NS
	10-Aug-09	5.54	83	12.42	0.7	312
	11-Nov-09	5.46	74	9.91	0.31	198
	25-Feb-10	5.14	102	8.89	0.42	220
	19-May-10	5.66	97	9.33	0.11 J	147
	25-Aug-10	5.59	94	13.54	0.35	143
	16-Nov-10	5.49	105	11.94	0.21	194
	10-Feb-11	NS	NS	NS	NS	NS
	6-Jul-11	NS	NS	NS	NS	NS
	24-Oct-11	5.67	88	11.41	0.17 J	71
	25-Jan-12	5.33	95	10.03	1.27	160
	10-Apr-12	6.24	81	10.45	2.57	147
	31-Jul-12	5.19	67	16.51	0.2	171
	29-Oct-12	5.62	102	14.22	0.20	136
	23-Jan-13	NS	NS	NS	NS	NS
	2-Apr-13	5.69	80	11.78	1.73	162
	23-Jul-13	5.37	89	12.85	0.2	50
	17-Oct-13	5.63	92	11.36	0.52	113
	15-Jan-14	5.75	87	10.14	1.85	78
	1-Apr-14	5.55	102	10.27	3.09	193
	23-Jul-14	5.6	124	11.21	0.62	178
	27-Oct-14	5.80	115	9.71	0.12	163
09-EMF-MW-C Deep	25-Feb-10	5.65	107	9.07	1.06	201
	19-May-10	6.13	93	10.60	1.66	141
	25-Aug-10	5.88	93	13.90	0.21	122
	16-Nov-10	5.84	99	10.79	0.26	172
	10-Feb-11	NS	NS	NS	NS	NS
	6-Jul-11	NS	NS	NS	NS	NS
	24-Oct-11	5.96	98	10.52	0.11	35
	25-Jan-12	6.26	148	9.46	0.23	108
	10-Apr-12	6.34	117	10.03	0.36	100
	31-Jul-12	5.74	99	14.56	0.08	-27
	29-Oct-12	5.94	114	13.70	0.20	13
	23-Jan-13	5.46	96	10.90	0.32	28
	2-Apr-13	6.04	83	11.29	0.14	71
	23-Jul-13	5.91	90	13.99	0.13	-151
	17-Oct-13	5.9	83	11.09	0.50	8
	15-Jan-14	6.61	104	9.82	0.29	54
	1-Apr-14	6.16	85	10.31	1.15	176
	23-Jul-14	6.01	82	11.72	0.90	131
	27-Oct-14	6.24	80	9.67	0.11	136

Well	Parameter					
	Date	pH	Specific Conductance (µS/cm)	Temperature (°C)	DO (mg/L)	ORP (mV)
07-EMF-MW-D	10-Dec-07	5.87	116	8.95	0.5	271
	25-Feb-08	5.64	132	8.26	0.51	315
	3-Jun-08	NS	NS	NS	NS	NS
	19-Aug-08	5.91	108	10.22	0.4	182
	10-Nov-08	5.69	118	9.34	0.38	106
	3-Feb-09	5.69	116	8.43	0.32	161
	7-May-09	NS	NS	NS	NS	NS
	11-Aug-09	5.76	110	9.87	0.43	158
	11-Nov-09	5.75	92	8.72	0.26	115
	25-Feb-10	5.19	107	8.32	0.38	198
	19-May-10	5.85	90	9.13	0.30	138
	25-Aug-10	5.83	107	10.46	0.22	120
	16-Nov-10	5.85	115	9.44	0.25	157
	10-Feb-11	5.50	91	9.07	0.24	170
	6-Jul-11	NS	NS	NS	NS	NS
	25-Oct-11	5.80	116	9	0.57 J	79
	26-Jan-12	5.15	102	8.44	0.73	201
	10-Apr-12	6.09	97	9.16	0.23	116
	1-Aug-12	5.56	116	10.95	0.29	94
	30-Oct-12	6.13	129	9.99	0.36	100
	24-Jan-13	5.30	94	9.27	0.19	155
	2-Apr-13	5.83	78	9.43	0.21	136
	23-Jul-13	5.77	100	10.52	0.15	54
	17-Oct-13	5.98	91	9.91	0.38	53
	15-Jan-14	5.92	74	9.15	0.21	90
	1-Apr-14	5.86	86	9.00	0.39	168
	23-Jul-14	6.13	93	9.32	0.68	61
	27-Oct-14	6.25	92	8.63	0.00	47
08-EMF-MW-E	10-Nov-08	6.18	1,332	10.66	0.27	126
	3-Feb-09	6.44	1,379	8.29	0.42	188
	7-May-09	6.12	1,461	8.99	0.3	216
	11-Aug-09	6.39	1,435	11.14	0.39	22
	11-Nov-09	6.36	1,228	8.77	0.86	1
	25-Feb-10	6.17	1,540	8.61	0.22	74
	19-May-10	6.57	1,500	9.96	0.20	138
	25-Aug-10	6.45	1,438	12.26	0.25	50
	16-Nov-10	6.50	1,560	10.61	0.29	101
	10-Feb-11	6.33	1,436	8.23	0.31	171
	6-Jul-11	6.72	1,449	11.52	0.21	-48
	24-Oct-11	6.58	1,450	11.1	0.26	-41
	26-Jan-12	6.32	1,790	8.79	0.51	14
	11-Apr-12	6.40	1,720	8.67	0.31	104
	1-Aug-12	6.11	1,740	11.81	0.29	15
	29-Dec-12	6.44	1,930	12.53	0.30	-1
	23-Jan-13	6.26	1,680	8.99	0.36	39
	2-Apr-13	6.52	1,478	10.10	0.39	117
	23-Jul-13	6.32	1,670	12.43	0.45	11
	17-Oct-13	6.42	1,680	11.79	0.55	-33
	15-Jan-14	6.63	1,610	9.53	0.25	93
	1-Apr-14	6.63	1,840	10.01	1.55	61
	23-Jul-14	6.42	1,730	11.44	0.76	48
	27-Oct-14	6.52	1,880	10.28	0.06	20

Well	Parameter					
	Date	pH	Specific Conductance (μS/cm)	Temperature (°C)	DO (mg/L)	ORP (mV)
08-EMF-MW-F	11-Nov-08	5.45	144	9.43	0.44	140
	3-Feb-09	5.45	133	9.16	0.5	177
	7-May-09	4.83	134	9.37	0.44	219
	10-Aug-09	5.46	117	11.63	1.23	293
	11-Nov-09	5.37	142	9.81	0.33	137
	25-Feb-10	4.96	277	9.07	0.78	241
	19-May-10	5.34	305	8.82	0.49	157
	25-Aug-10	5.49	151	11.08	1.63	155
	16-Nov-10	5.44	222	9.94	0.31	157
	10-Feb-11	5.23	158	8.82	0.75	171
	6-Jul-11	5.76	100	12.72	0.36	197
	25-Oct-11	5.55	157	10.65	0.41 J	119
	26-Jan-12	5.34	272	9.70	0.46	122
	11-Apr-12	5.42	142	9.85	0.23	110
	1-Aug-12	5.44	118	12.29	0.17	135
	30-Oct-12	5.68	182	12.59	0.56	253
	23-Jan-13	5.34	150	11.22	0.33	125
	2-Apr-13	5.48	180	11.87	0.32	201
	23-Jul-13	5.33	154	13.18	0.16	111
	17-Oct-13	5.48	196	12.45	0.48	206
	15-Jan-14	5.58	244	10.72	0.37	94
	1-Apr-14	5.54	248	10.17	0.6	194
	23-Jul-14	5.63	213	10.86	0.7	109
	27-Oct-14	5.65	267	9.85	0.12	124
Decon Well	16-Nov-10	6.13	105	10.12	2.98	190
	10-Feb-11	NS	NS	NS	NS	NS
	6-Jul-11	6.59	97	11.14	9.03	5
	25-Oct-11	6.14	67	11.00	3.85	75
	26-Jan-11	NS	NS	NS	NS	NS
	10-Apr-12	NS	NS	NS	NS	NS
	1-Aug-12	5.81	139	23.92	1.12	47
	30-Oct-12	6.19	42	12.40	2.36	160
	23-Jan-13	NS	NS	NS	NS	NS
	2-Apr-13	NS	NS	NS	NS	NS
	24-Jul-13	6.82	88	14.05	5.36	149
	17-Oct-13	NS	NS	NS	NS	NS
	15-Jan-14	NS	NS	NS	NS	NS
	1-Apr-14	NS	NS	NS	NS	NS
sampling discontinued after April 2014						

Notes:

°C = degrees Celsius

mg/L = milligrams per liter

mV = millivolts

μS/cm = microSiemens per centimeter

DO = Dissolved oxygen

ORP = Oxidation-reduction potential

NS = Not sampled

R = Rejected

J = Estimate

 = Data from the current sampling event.

Table 2
Groundwater Monitoring Results
Dissolved Metals
East Mission Flats Repository

Well No.	Sample Date	Constituents (mg/L)				
		Antimony	Arsenic	Cadmium	Lead	Zinc
07-EMF-MW-A	11-Dec-07	0.003 U	0.003 U	0.000578 J	0.003 U	0.347 J
	25-Feb-08	0.003 U	0.003 U	0.00172	0.003 U	1.71 J
	3-Jun-08	0.003 U	0.003 U	0.000763	0.003 U	0.582
	19-Aug-08	0.003 U	0.003 U	0.000321	0.003 U	0.683
	10-Nov-08	0.003 U	0.003 U	0.0002 U	0.003 U	0.353
	4-Feb-09	0.003 U	0.003 U	0.000777	0.003 U	0.898
	7-May-09	0.003 U	0.003 U	0.000382	0.003 U	0.753
	10-Aug-09	0.003 U	0.003 U	0.000204	0.003 U	0.558
	11-Nov-09	0.003 U	0.003 U	0.0002 U	0.003 U	0.368
	25-Feb-10	0.003 U	0.003 U	0.000208	0.003 U	0.657
	19-May-10	0.003 U	0.003 U	0.000225	0.003 U	0.568
	25-Aug-10	0.003 U	0.003 U	0.000227	0.003 U	0.584
	16-Nov-10	0.002 U	0.00076 J	0.0002 U	0.001 U	0.544 J
	10-Feb-11	0.002 U	0.001 U	0.00039	0.001 U	1.22 J
	6-Jul-11	0.002 U	0.0073 J*	0.00063	0.001 U	1.38
	24-Oct-11	0.002 U	0.00044 J	0.000220	0.001 UJ	0.804
	25-Jan-12	0.002 U	0.0074 J*	0.00032	0.001 U	1.13
	10-Apr-12	0.002 U	0.0014	0.00058	0.001 U	1.75
	31-Jul-12	0.002 U	0.0018	0.00046	0.001 U	1.56
	29-Oct-12	0.002 U	0.00075 J	0.00023	0.00022 J	0.862 J
	23-Jan-13	0.002 U	0.001 U	0.00037	0.001 U	1.35
	2-Apr-13	0.002 U	0.001 U	0.00038	0.001 U	1.49
	23-Jul-13	0.002 U	0.001 U	0.00033	0.001 U	1.24
	17-Oct-13	0.002 U	0.001 U	0.0002 U	0.0026	0.648
	15-Jan-14	0.002 U	0.0011	0.00035	0.001 U	1.24 J
	1-Apr-14	0.002 U	0.001 U	0.00050	0.001 U	1.60 J
	23-Jul-14	0.002 U	0.00076 J	0.00029	0.000025 J	1.38 J
	27-Oct-14	0.002 U	0.001 U	0.0002 U	0.001 U	0.616
07-EMF-MW-B	10-Dec-07	0.003 U	0.003 U	0.0002 U	0.003 U	0.0243 J
	25-Feb-08	0.003 U	0.003 U	0.0002 U	0.003 U	0.0198 J
	3-Jun-08	0.003 U	0.003 U	0.0002 U	0.003 U	0.0212
	19-Aug-08	0.003 U	0.003 U	0.0002 U	0.003 U	0.0244
	10-Nov-08	0.003 U	0.003 U	0.0002 U	0.003 U	0.0197
	4-Feb-09	0.003 U	0.003 U	0.0002 U	0.003 U	0.0210
	7-May-09	0.003 U	0.003 U	0.0002 U	0.003 U	0.0168
	10-Aug-09	0.003 U	0.003 U	0.0002 U	0.003 U	0.0160
	11-Nov-09	0.003 U	0.003 U	0.0002 U	0.003 U	0.0264
	25-Feb-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.0153
	19-May-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.0157
	25-Aug-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.0157
	16-Nov-10	0.002 U	0.001 U	0.0002 U	0.001 U	0.0187 J
	10-Feb-11	0.002 U	0.001 U	0.0002 U	0.001 U	0.0091 J*
	6-Jul-11	0.002 U	0.0077 J*	0.0002 U	0.001 U	0.0126
	24-Oct-11	0.002 U	0.001 U	0.0002 U	0.001 UJ	0.0148 J*
	25-Jan-12	0.002 U	0.0073 J*	0.0002 U	0.001 U	0.0180
	10-Apr-12	0.002 U	0.0014	0.0002 U	0.001 U	0.0162
	31-Jul-12	0.002 U	0.00071 J	0.0002 U	0.001 U	0.0142
	29-Oct-12	0.002 U	0.001 U	0.0002 U	0.00028 J	0.0121 J
	24-Jan-13	0.002 U	0.001 U	0.0002 U	0.001 U	0.0181
	2-Apr-13	0.002 U	0.001 U	0.0002 U	0.001 U	0.0197
	23-Jul-13	0.002 U	0.0022 J*	0.0002 U	0.001 U	0.0285 J*
	17-Oct-13	0.002 U	0.001 U	0.0002 U	0.001 U	0.0227
	15-Jan-14	0.002 U	0.001 U	0.0002 U	0.001 U	0.0226 J
	1-Apr-14	0.002 U	0.001 U	0.0002 U	0.001 U	0.0182 J
	23-Jul-14	0.002 U	0.00016 J	0.000031 J	0.000037 J	0.0219 J
	27-Oct-14	0.002 U	0.001 U	0.0002 U	0.001 U	0.0207

Well No.	Sample Date	Constituents (mg/L)				
		Antimony	Arsenic	Cadmium	Lead	Zinc
07-EMF-MW-C	10-Dec-07	0.003 U	0.003 U	0.0013 J	0.003 U	1.45 J
	25-Feb-08	0.003 U	0.003 U	0.00318	0.003 U	2.24 J
	3-Jun-08	NS	NS	NS	NS	NS
	19-Aug-08	0.003 U	0.003 U	0.00111	0.003 U	1.34
	10-Nov-08	0.003 U	0.003 U	0.000522	0.003 U	1.57
	3-Feb-09	0.003 U	0.003 U	0.00354	0.003 U	1.67
	7-May-09	NS	NS	NS	NS	NS
	10-Aug-09	0.003 U	0.003 U	0.00229	0.003 U	1.45
	11-Nov-09	0.003 U	0.003 U	0.00144	0.003 U	2.03
	25-Feb-10	0.003 U	0.003 U	0.00326	0.003 U	2.02
	19-May-10	0.003 U	0.003 U	0.00346	0.003 U	2.00
	25-Aug-10	0.003 U	0.003 U	0.00364	0.003 U	1.86
	16-Nov-10	0.002 U	0.001 U	0.0029	0.001 U	1.93 J
	10-Feb-11	NS	NS	NS	NS	NS
	6-Jul-11	NS	NS	NS	NS	NS
	24-Oct-11	0.002 U	0.00081 J	0.00072	0.00038 J	1.36
	25-Jan-12	0.002 U	0.0074 J*	0.0049	0.001 U	1.71
	10-Apr-12	0.002 U	0.0017	0.00089	0.0015	0.388
	31-Jul-12	0.002 U	0.0027	0.00025	0.00041 J	1.08
	29-Oct-12	0.002 U	0.0027	0.00010 J	0.00061 J	0.988 J
	23-Jan-13	NS	NS	NS	NS	NS
	2-Apr-13	0.002 U	0.001 U	0.0015	0.001 U	1.65
	23-Jul-13	0.002 U	0.0024 J*	0.0019	0.001 U	2.03
	17-Oct-13	0.002 U	0.001 U	0.0012	0.001 U	1.35
	15-Jan-14	0.002 U	0.001 U	0.0017	0.001 U	1.38 J
	1-Apr-14	0.002 U	0.001 U	0.0024	0.001 U	1.56 J
	23-Jul-14	0.002 U	0.00019 J	0.0073	0.00012 J	2.53 J
	27-Oct-14	0.002 U	0.001 U	0.0034	0.001 U	2.21
09-EMF-MW-C Deep	25-Feb-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.0113
	19-May-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.005 U
	25-Aug-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.0317
	16-Nov-10	0.002 U	0.001 U	0.0002 U	0.001 U	0.0216 J
	10-Feb-11	NS	NS	NS	NS	NS
	6-Jul-11	NS	NS	NS	NS	NS
	24-Oct-11	0.002 U	0.001 U	0.0002 U	0.001 UJ	0.0167
	25-Jan-12	0.002 U	0.0075 J*	0.0002 U	0.001 U	0.0191
	10-Apr-12	0.002 U	0.0042 J*	0.0002 U	0.00095 J	0.154
	31-Jul-12	0.002 U	0.0011	0.0002 U	0.001 U	0.0116
	29-Oct-12	0.002 U	0.00065 J	0.0002 U	0.00028 J	0.0032 J
	23-Jan-13	0.002 U	0.001 U	0.0002 U	0.001 U	0.0226
	2-Apr-13	0.002 U	0.001 U	0.0002 U	0.001 U	0.0237
	23-Jul-13	0.002 U	0.0022 J*	0.0002 U	0.001 U	0.0088 J*
	17-Oct-13	0.002 U	0.001 U	0.0002 U	0.0029	0.0096 J*
	15-Jan-14	0.002 U	0.0014	0.0002 U	0.001 U	0.0463 J
	1-Apr-14	0.002 U	0.001 U	0.00053	0.001 U	0.0724 J
	23-Jul-14	0.002 U	0.00029 J	0.00009 J	0.000079 J	0.0328 J
	27-Oct-14	0.002 U	0.001 U	0.0002 U	0.001 U	0.0222

Well No.	Sample Date	Constituents (mg/L)				
		Antimony	Arsenic	Cadmium	Lead	Zinc
07-EMF-MW-D	10-Dec-07	0.003 U	0.003 U	0.0002 U	0.003 U	0.0326 J
	25-Feb-08	0.003 U	0.003 U	0.0002 U	0.003 U	0.0285 J
	3-Jun-08	NS	NS	NS	NS	NS
	19-Aug-08	0.003 U	0.003 U	0.0002 U	0.003 U	0.132
	10-Nov-08	0.003 U	0.003 U	0.0002 U	0.003 U	0.0794
	3-Feb-09	0.003 U	0.003 U	0.0002 U	0.003 U	0.0531
	7-May-09	NS	NS	NS	NS	NS
	11-Aug-09	0.003 U	0.003 U	0.0002 U	0.003 U	0.0918
	11-Nov-09	0.003 U	0.003 U	0.0002 U	0.003 U	0.103
	25-Feb-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.0352
	19-May-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.105
	25-Aug-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.109
	16-Nov-10	0.002 U	0.0018	0.0002 U	0.001 U	0.0563 J
	10-Feb-11	0.002 U	0.001 U	0.0002 U	0.001 U	0.127 J*
	6-Jul-11	NS	NS	NS	NS	NS
	25-Oct-11	0.002 U	0.0019	0.0002 U	0.001 UJ	0.0395
	26-Jan-12	0.002 U	0.0079 J*	0.00016 J	0.001 U	0.0584
	10-Apr-12	0.002 U	0.0014	0.0002 U	0.001 U	0.184
	1-Aug-12	0.002 U	0.0021	0.0002 U	0.001 U	0.112
	30-Oct-12	0.002 U	0.0018	0.00005 J	0.00047 J	0.0464 J
	24-Jan-13	0.002 U	0.001 U	0.0002 U	0.001 U	0.0425
	2-Apr-13	0.002 U	0.001 U	0.0002 U	0.001 U	0.0466
	23-Jul-13	0.002 U	0.0029 J*	0.0002 U	0.001 U	0.0387 J*
	17-Oct-13	0.002 U	0.001 U	0.0002 U	0.001 U	0.0537
	15-Jan-14	0.002 U	0.001 U	0.0002 U	0.001 U	0.0210 J
	1-Apr-14	0.002 U	0.001 U	0.0002 U	0.001 U	0.0326 J
	23-Jul-14	0.002 U	0.0011	0.000048 J	0.001 U	0.0331 J
	27-Oct-14	0.002 U	0.001 U	0.0002 U	0.001 U	0.0587
08-EMF-MW-E	10-Nov-08	0.003 U	0.0148	0.0002 U	0.003 U	0.0141
	3-Feb-09	0.003 U	0.003 U	0.0002 U	0.003 U	0.01 U
	7-May-09	0.003 U	0.0035	0.0002 U	0.003 U	0.00889
	11-Aug-09	0.003 U	0.0195	0.0002 U	0.003 U	0.00848
	11-Nov-09	0.003 U	0.0232	0.0002 U	0.003 U	0.00671
	25-Feb-10	0.003 U	0.003 U	0.0002 U	0.003 U	0.00599
	19-May-10	0.003 U	0.00447	0.0002 U	0.003 U	0.00633
	25-Aug-10	0.003 U	0.0172	0.0002 U	0.003 U	0.00687
	16-Nov-10	0.002 U	0.0177	0.0002 U	0.001 U	0.0069 J
	10-Feb-11	0.002 U	0.00089 J	0.0002 U	0.001 U	0.0042 J
	6-Jul-11	0.002 U	0.0074 J*	0.0002 U	0.001 U	0.0048 J
	24-Oct-11	0.002 U	0.020	0.0002 U	0.001 UJ	0.0045
	26-Jan-12	0.002 U	0.0069 J*	0.0002 U	0.001 U	0.0051 J*
	11-Apr-12	0.002 U	0.002	0.0002 U	0.001 U	0.0063 J*
	1-Aug-12	0.002 U	0.0063	0.0002 U	0.001 U	0.0064
	29-Oct-12	0.002 U	0.0149	0.00008 J	0.001 U	0.0071 J*
	23-Jan-13	0.002 U	0.0013	0.0002 U	0.001 U	0.0091 J*
	2-Apr-13	0.002 U	0.001 U	0.0002 U	0.001 U	0.0083 J*
	23-Jul-13	0.002 U	0.0026 J*	0.0002 U	0.001 U	0.0124 J*
	17-Oct-13	0.002 U	0.0067	0.0002 U	0.001 U	0.0120 J*
	15-Jan-14	0.002 U	0.001 U	0.0002 U	0.001 U	0.0073 J
	1-Apr-14	0.002 U	0.0014	0.0002 U	0.001 U	0.0175 J
	23-Jul-14	0.002 U	0.0045	0.0001 J	0.001 U	0.0392 J
	27-Oct-14	0.002 U	0.0042	0.0002 U	0.001 U	0.0198

Well No.	Sample Date	Constituents (mg/L)				
		Antimony	Arsenic	Cadmium	Lead	Zinc
08-EMF-MW-F	11-Nov-08	0.003 U	0.003 U	0.000205	0.003 U	1.58
	3-Feb-09	0.003 U	0.003 U	0.000304	0.003 U	1.16
	7-May-09	0.003 U	0.003 U	0.000258	0.003 U	1.32
	10-Aug-09	0.003 U	0.003 U	0.00023	0.003 U	1.12
	11-Nov-09	0.003 U	0.003 U	0.000464	0.003 U	2.53
	25-Feb-10	0.003 U	0.003 U	0.000947	0.003 U	3.82
	19-May-10	0.003 U	0.003 U	0.00132	0.003 U	4.47
	25-Aug-10	0.003 U	0.003 U	0.000436	0.003 U	1.93
	16-Nov-10	0.002 U	0.001 U	0.00065	0.001 U	3.37 J
	10-Feb-11	0.002 U	0.001 U	0.00045	0.00043 J	1.84 J
	6-Jul-11	0.002 U	0.0056 J*	0.00016 J	0.00079 J	0.976
	25-Oct-11	0.002 U	0.001 U	0.00031	0.001 UJ	1.69
	26-Jan-12	0.002 U	0.0041 J*	0.00094	0.00029 J	3.10
	11-Apr-12	0.002 U	0.00086 J	0.00031	0.001 U	1.63
	1-Aug-12	0.002 U	0.00057 J	0.0002 U	0.001 U	1.33
	30-Oct-12	0.002 U	0.001 U	0.00043	0.00036 J	1.73 J
	23-Jan-13	0.002 U	0.001 U	0.00045	0.001 U	1.81
	2-Apr-13	0.002 U	0.001 U	0.0010	0.001 U	2.97
	23-Jul-13	0.002 U	0.0014 J*	0.00053	0.001 U	1.90
	17-Oct-13	0.002 U	0.001 U	0.00099	0.001 U	2.39
	15-Jan-14	0.002 U	0.001 U	0.0018	0.001 U	3.28 J
	1-Apr-14	0.002 U	0.001 U	0.0018	0.001 U	3.62 J
	23-Jul-14	0.002 U	0.00017 J	0.0012	0.000098 J	2.64 J
	27-Oct-14	0.002 U	0.001 U	0.0019	0.001 U	3.47
Decon Well	16-Nov-10	0.002 U	0.00092 J	0.0002 U	0.00061 J	0.504 J
	10-Feb-11	NS	NS	NS	NS	NS
	6-Jul-11	0.002 U	0.0068 J*	0.0002 U	0.001 U	0.407
	25-Oct-11	0.002 U	0.0009 J	0.0002 U	0.0014 J	0.449
	26-Jan-12	NS	NS	NS	NS	NS
	10-Apr-12	NS	NS	NS	NS	NS
	1-Aug-12	0.002 U	0.0055	0.0002 U	0.00063 J	5.62
	30-Oct-12	0.002 U	0.00080 J	0.000099 J	0.001 U	0.401 J
	23-Jan-13	NS	NS	NS	NS	NS
	2-Apr-13	NS	NS	NS	NS	NS
	24-Jul-13	0.002 U	0.00190 J*	0.0002 U	0.001 U	0.342
	17-Oct-13	NS	NS	NS	NS	NS
	15-Jan-14	NS	NS	NS	NS	NS
	1-Apr-14	NS	NS	NS	NS	NS
Regulatory Threshold		0.006 ^a	0.01 ^a	0.005 ^a	0.015 ^a	5.0 ^b

Notes:

mg/L = milligrams per liter

NS = Not sampled

U = Concentration was not detected (detection limits used by the laboratories are the contract required quantitation limit, the reporting limit, or the method detection limit, depending on the laboratory).

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J* = The result is an estimated quantity. This analyte was detected in both the sample and an associated field blank sample during the same sampling event.

a. National Primary Drinking Water Regulation (Maximum Contaminant Level)

b. National Secondary Drinking Water Regulation

	= Value exceeds the regulatory threshold
	= Data from the current sampling event.

Attachment A
Field Sheets



TerraGraphics

Environmental Engineering, Inc.

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 07-EMF-MW-A			
Project Number: 14005-08-02-01				Sample Number: (07-EMF-MW-A)102714			
Location:				Weather: Cloudy 44°			
Date: 10/27/2014				Sampler(s): GM/RJK			
[De-Ionized Water Date:]							
Depth to Bottom (ft): 29.59				Purge Time: 12 min			
Depth to Water (ft): 14.90				Purge Method: Low Flow			
DTB-DTW (ft): 14.69				Volume Measurement Method:			
1 Well Volume (gal):				Purge Volume (Volume x 3) (gal):			
Conversion Factors (height x factor= 1 well volume)	¾" diameter 0.023	1" diameter 0.041	1 ½" diameter 0.092	2" diameter 0.163	4" diameter 0.652	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	6.54	0.166	9.39	6.47	61.4	189
	08:00	5.77	0.119	8.39	0.16	1.5	111
	10:00	5.76	0.119	8.39	0.13	1.1	109
	12:00	5.76	0.119	8.39	0.10	1.0	109

Sampling Date: 10/27/2014 Sampling Method: Low Flow Time Sampled: 11:38

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
Poly	1L	HNO3	Y	N	Hard, TP	CLP
Poly	1L	HNO3	Y	Y	DM, Cations	CLP
Poly	500mL	None	Y	N	Alkalinity	SVL
Poly	500mL	none	Y	Y	Anions	SVL

Chain-of-Custody: Yes/No

Duplicate Sample Number:

Chain-of-Custody Number:

QC Sample Number:

Time:

Notes:

Deviations/Observations:

Picture Log:

Expendable Supplies Used: 1 Hi Cap



TerraGraphics

Environmental Engineering, Inc.

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 07-EMF-MW-B			
Project Number: 14005-08-02-01				Sample Number: (07-EMF-MW-B) 102714			
Location:				Weather: cloudy 44°			
Date: 10/27/2014				Sampler(s): GM/RJK			
[De-Ionized Water Date:]							
Depth to Bottom (ft): 30.27				Purge Time: 12 min			
Depth to Water (ft): 12.60				Purge Method: Low Flow			
DTB-DTW (ft): 17.67				Volume Measurement Method:			
1 Well Volume (gal):				Purge Volume (Volume x 3) (gal):			
Conversion Factors (height x factor= 1 well volume)	¾" diameter 0.023	1" diameter 0.041	1 ½" diameter 0.092	2" diameter 0.163	4" diameter 0.652	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	6.14	0.083	9.30	7.08	66.8	116
	08:00	5.66	0.088	9.16	0.17	1.6	144
	10:00	5.64	0.088	9.13	0.12	1.1	146
	12:00	5.64	0.088	9.10	0.11	1.0	146

Sampling Date: **10/27/2014** Sampling Method: Low Flow Time Sampled: **12:06**

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
Poly	1L	HNO3	Y	N	Hard, TP	CLP
Poly	1L	HNO3	Y	Y	DM, Cations	CLP
Poly	500mL	None	Y	N	Alkalinity	SVL
Poly	500mL	none	Y	Y	Anions	SVL

Chain-of-Custody: Yes/No Duplicate Sample Number:

Chain-of-Custody Number: QC Sample Number: Time:

Notes:

Deviations/Observations:

Picture Log:

Expendable Supplies Used: **1 standard filter**



TerraGraphics
Environmental Engineering, Inc.

MS/d

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 01-EMF-MW-C			
Project Number: 14005-08-02-01				Sample Number: (01-EMF-MW-C)102714			
Location:				Weather: cloudy 43°			
Date: 10/27/2014				Sampler(s): GM/RJK			
[De-Ionized Water Date:]							
Depth to Bottom (ft): 30.32				Purge Time: 18 min			
Depth to Water (ft): 10.03				Purge Method: Low Flow			
DTB-DTW (ft): 20.29				Volume Measurement Method:			
1 Well Volume (gal):				Purge Volume (Volume x 3) (gal):			
Conversion Factors (height x factor= 1 well volume)	¾" diameter 0.023	1" diameter 0.041	1 ½" diameter 0.092	2" diameter 0.163	4" diameter 0.652	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	6.18	0.116	9.74	7.46	71.1	159
	14:00	5.80	0.115	9.72	0.21	2.0	163
	16:00	5.80	0.115	9.71	0.17	1.6	163
	18:00	5.80	0.115	9.71	0.12	1.2	163

Sampling Date: 10/27/2014 Sampling Method: Low Flow Time Sampled: 13:11

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
Poly	1L	HNO3	Y	N	Hard, TP	CLP
Poly	1L	HNO3	Y	Y	DM, Cations	CLP
Poly	500mL	None	Y	N	Alkalinity	SVL
Poly	500mL	none	Y	Y	Anions	SVL

Chain-of-Custody: Yes/No Duplicate Sample Number:

Chain-of-Custody Number: QC Sample Number: Time:

Notes:

Deviations/Observations:

Picture Log:

Expendable Supplies Used: 1 HiCap



Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: <u>09-EMF-MW-C Deep</u>			
Project Number: 14005-08-02-01				Sample Number: <u>(09-EMF-MW-C Deep) 102714</u>			
Location:				Weather: <u>cloudy 43°</u>			
Date: <u>10/27/2014</u>				Sampler(s): <u>GM/RJK</u>			
[De-Ionized Water Date: <u> </u>]							
Depth to Bottom (ft): <u>98.17</u>				Purge Time: <u>18 mins</u>			
Depth to Water (ft): <u>10.05</u>				Purge Method: Low Flow			
DTB-DTW (ft): <u>88.12</u>				Volume Measurement Method:			
1 Well Volume (gal):				Purge Volume (Volume x 3) (gal):			
Conversion Factors (height x factor= 1 well volume)	¾" diameter 0.023	1" diameter 0.041	1 ½" diameter 0.092	2" diameter 0.163	4" diameter 0.652	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	<u>6.20</u>	<u>0.078</u>	<u>9.58</u>	<u>5.99</u>	<u>58.3</u>	<u>138</u>
	<u>14:00</u>	<u>6.26</u>	<u>0.081</u>	<u>9.68</u>	<u>0.07</u>	<u>0.7</u>	<u>136</u>
	<u>16:00</u>	<u>6.28</u>	<u>0.080</u>	<u>9.66</u>	<u>0.09</u>	<u>0.9</u>	<u>136</u>
	<u>18:00</u>	<u>6.24</u>	<u>0.080</u>	<u>9.67</u>	<u>0.11</u>	<u>1.0</u>	<u>136</u>

Sampling Date: 10/27/2014 Sampling Method: Low Flow Time Sampled: 12:43

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
Poly	1L	HNO3	Y	N	Hard, TP	CLP
Poly	1L	HNO3	Y	Y	DM, Cations	CLP
Poly	500mL	None	Y	N	Alkalinity	SVL
Poly	500mL	none	Y	Y	Anions	SVL

Chain-of-Custody: Yes/No	Duplicate Sample Number:
Chain-of-Custody Number:	QC Sample Number: Time:

Notes:

Deviations/Observations:

Picture Log:

Expendable Supplies Used: 1 standard filter



TerraGraphics
Environmental Engineering, Inc.

FB

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 07-EMF-MW-D			
Project Number: 14005-08-02-01				Sample Number: (07-EMF-MW-D) 102714			
Location:				Weather: Cloudy 46°			
Date: 10/27/2014				Sampler(s): GM/BJK			
[De-Ionized Water Date:]							
Depth to Bottom (ft): 30.34				Purge Time: 12 min			
Depth to Water (ft): 11.03				Purge Method: Low Flow			
DTB-DTW (ft):				Volume Measurement Method:			
1 Well Volume (gal):				Purge Volume (Volume x 3) (gal):			
Conversion Factors (height x factor = 1 well volume)	¾" diameter 0.023	1" diameter 0.041	1 ½" diameter 0.092	2" diameter 0.163	4" diameter 0.652	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	7.54	0.086	8.83	7.32	68.3	-1
	08:00	6.33	0.092	8.66	0.02	0.2	44
	10:00	6.27	0.092	8.61	0.00	0.0	46
	12:00	6.25	0.092	8.63	0.00	0.0	47

Sampling Date: 10/27/2014 Sampling Method: Low Flow Time Sampled: 14:20

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
Poly	1L	HNO3	Y	N	Hard, TP	CLP
Poly	1L	HNO3	Y	Y	DM, Cations	CLP
Poly	500mL	None	Y	N	Alkalinity	SVL
Poly	500mL	none	Y	Y	Anions	SVL

Chain-of-Custody: Yes/No

Duplicate Sample Number:

Chain-of-Custody Number:

QC Sample Number: (07-EMF-MW-D) 102714-E Time: 14:31

Notes:

Deviations/Observations:

Picture Log:

Expendable Supplies Used: 1 Standard filter, 1 Nalgene



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Environmental Engineering, Inc.

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 08-EMF-MW-E				
Project Number: 14005-08-02-01				Sample Number: (08-EMF-MW-E) 102714				
Location:				Weather: cloudy 45°				
Date: 10/27/2014				Sampler(s): GM/AJK				
[De-Ionized Water Date:]								
Depth to Bottom (ft): 27.45				Purge Time: 10 min				
Depth to Water (ft): 10.75				Purge Method: Low Flow				
DTB-DTW (ft): 16.7				Volume Measurement Method:				
1 Well Volume (gal):				Purge Volume (Volume x 3) (gal):				
Conversion Factors (height x factor = 1 well volume)		¾" diameter 0.023	1" diameter 0.041	1 ½" diameter 0.092	2" diameter 0.163	4" diameter 0.652	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	6.47	1.580	10.76	7.55	75.1	137
	06:00	6.50	1.880	10.17	0.15	1.4	28
	08:00	6.51	1.880	10.23	0.08	0.9	23
	10:00	6.52	1.880	10.28	0.06	0.6	20

Sampling Date: 10/27/2014 Sampling Method: Low Flow Time Sampled: 13:47

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
Poly	1L	HNO3	Y	N	Hard, TP	CLP
Poly	1L	HNO3	Y	Y	DM, Cations	CLP
Poly	500mL	None	Y	N	Alkalinity	SVL
Poly	500mL	none	Y	Y	Anions	SVL

Chain-of-Custody: Yes/No

Duplicate Sample Number:

Chain-of-Custody Number:

QC Sample Number:

Time:

Notes:

Deviations/Observations:

Picture Log:

Expendable Supplies Used: 1 standard filter



TerraGraphics
Environmental Engineering, Inc.

DUP

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 08-EMF-MW-F			
Project Number: 14005-08-02-01				Sample Number: (08-EMF-MW-F)102714			
Location:				Weather: cloudy 47°			
Date: 10/27/2014				Sampler(s): GM/RTK			
[De-Ionized Water Date:]							
Depth to Bottom (ft): 31.66				Purge Time: 10 min			
Depth to Water (ft): 12.63				Purge Method: Low Flow			
DTB-DTW (ft):				Volume Measurement Method:			
1 Well Volume (gal):				Purge Volume (Volume x 3) (gal):			
Conversion Factors (height x factor= 1 well volume)	¾" diameter 0.023	1" diameter 0.041	1 ½" diameter 0.092	2" diameter 0.163	4" diameter 0.652	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	6.34	0.210	10.16	7.88	76.0	99
	06:00	5.65	0.268	9.80	0.20	1.9	120
	08:00	5.67	0.267	9.82	0.15	1.4	122
	10:00	5.65	0.267	9.85	0.12	1.2	124

Sampling Date: 10/27/2014 Sampling Method: Low Flow Time Sampled: 14:56

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
Poly	1L	HNO3	Y	N	Hard, TP	CLP
Poly	1L	HNO3	Y	Y	DM, Cations	CLP
Poly	500mL	None	Y	N	Alkalinity	SVL
Poly	500mL	none	Y	Y	Anions	SVL

Chain-of-Custody: Yes/No Duplicate Sample Number: (08-EMF-MW-F)102714-C

Chain-of-Custody Number: QC Sample Number: Time:

Notes:

Deviations/Observations:

Picture Log:

Expendable Supplies Used: 1 standard P; lter



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Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 10-EMF-P2A			
Project Number: 14005-08-02-01				Sample Number:			
Location:				Weather: cloudy 46°			
Date: 10/27/2014 @ 15:13				Sampler(s): GMI/RJK			
[De-Ionized Water Date:]							
Depth to Bottom (ft):				Purge Time:			
Depth to Water (ft): 19.41				Purge Method: Low Flow			
DTB-DTW (ft):				Volume Measurement Method:			
1 Well Volume (gal):				Purge Volume (Volume x 3) (gal):			
Conversion Factors (height x factor= 1 well volume)	¾" diameter 0.023	1" diameter 0.041	1 ½" diameter 0.092	2" diameter 0.163	4" diameter 0.652	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00						

No Sample
insufficient water column

Sampling Date:			Sampling Method: Low Flow		Time Sampled:	
Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
Poly	1L	HNO3	Y	N	Hard, TP	CLP
Poly	1L	HNO3	Y	Y	DM, Cations	CLP
Poly	500mL	None	Y	N	Alkalinity	SVL
Poly	500mL	none	Y	Y	Anions	SVL

Chain-of-Custody: Yes/No	Duplicate Sample Number:
Chain-of-Custody Number:	QC Sample Number: Time:
Notes:	

Deviations/Observations:

Picture Log:

Expendable Supplies Used:



TerraGraphics

Environmental Engineering, Inc.

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 10-EAF-P2-B			
Project Number: 14005-08-02-01				Sample Number:			
Location:				Weather: Cloudy 46°			
Date: 10/27/2014 @ 15:14				Sampler(s): GMRJK			
[De-Ionized Water Date:]							
Depth to Bottom (ft):				Purge Time:			
Depth to Water (ft): Dry				Purge Method: Low Flow			
DTB-DTW (ft):				Volume Measurement Method:			
1 Well Volume (gal):				Purge Volume (Volume x 3) (gal):			
Conversion Factors (height x factor= 1 well volume)	¾" diameter 0.023	1" diameter 0.041	1 ½" diameter 0.092	2" diameter 0.163	4" diameter 0.652	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00						

No Sample
Dry

Sampling Date:			Sampling Method: Low Flow		Time Sampled:	
Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
Poly	1L	HNO3	Y	N	Hard, TP	CLP
Poly	1L	HNO3	Y	Y	DM, Cations	CLP
Poly	500mL	None	Y	N	Alkalinity	SVL
Poly	500mL	none	Y	Y	Anions	SVL
Chain-of-Custody: Yes/No			Duplicate Sample Number:			
Chain-of-Custody Number:			QC Sample Number:			Time:
Notes:						
Deviations/Observations:						
Picture Log:						
Expendable Supplies Used:						

Attachment B
CLP Analytical Results

										DATA		SAMPLE		SAMPLE		NONMOISTURE				NONMOISTURE												PARENT	PARENT	LAB	
CASE	DELIVERY	SAMPLE	CAS		FINAL	RESULT	VALIDATION	IDEQ	COMB	VAL	ADJUSTED	ADJUSTED	LAB	LAB	METHOD	ADJUSTED	CRQL	CRQL	INSTRUMEN	ADJUSTED	MDL	SAMPLE DATE TIME	LAB SAMPLE	SPIKE	STATION	LOCATION	SCRIBE SAMPLE NUMBER	SAMPLE	SAMPLE	REPLICATE	SAMPLE				
NUMBER	GROUP	ID	NUMBER	ANALYTE	RESULT	UNITS	QUALIFIER	QUALIFIER	QUALIFIER	LABEL	CRQL	MDL	RESULT	QUALIFIERS	CRQL	MDL	UNITS	UNITS		MDL	UNITS		TYPE	ADDED				NAME	LOCATION	TYPE	SOURCE				
44730	MJGYX9	MJGYX9	7440-36-0	Antimony	2.0	ug/L	U		U	S4VEM	2.0	0.35	2.0	U	2	2.0	ug/L	0.35	0.35	ug/L	10/27/2014 11:38:00	Field_Sample		07-EMF-MW-A	(07-EMF-MW-A) 102714	DM									
44730	MJGYX9	MJGYX9	7440-38-2	Arsenic	1.0	ug/L	U		U	S4VEM	1.0	0.061	0.38	J	1	1.0	ug/L	0.061	0.061	ug/L	10/27/2014 11:38:00	Field_Sample		07-EMF-MW-A	(07-EMF-MW-A) 102714	DM									
44730	MJGYX9	MJGYX9	7440-43-9	Cadmium	0.20	ug/L	U		U	S4VEM	0.20	0.028	0.12	J	0.2	0.20	ug/L	0.028	0.028	ug/L	10/27/2014 11:38:00	Field_Sample		07-EMF-MW-A	(07-EMF-MW-A) 102714	DM									
44730	MJGYX9	MJGYX9	7440-70-2	Calcium	9780	ug/L	J		J	S4VEM	40.0	12.0	9780	E	40	40.0	ug/L	12.0	12.0	ug/L	10/27/2014 11:38:00	Field_Sample		07-EMF-MW-A	(07-EMF-MW-A) 102714	DM									
44730	MJGYX9	MJGYX9	7439-92-1	Lead	1.0	ug/L	U		U	S4VEM	1.0	0.021	0.026	J	1	1.0	ug/L	0.021	0.021	ug/L	10/27/2014 11:38:00	Field_Sample		07-EMF-MW-A	(07-EMF-MW-A) 102714	DM									
44730	MJGYX9	MJGYX9	7439-95-4	Magnesium	5120	ug/L	J		J	S4VEM	60.0	19.0	5120	E	60	60.0	ug/L	19.0	19.0	ug/L	10/27/2014 11:38:00	Field_Sample		07-EMF-MW-A	(07-EMF-MW-A) 102714	DM									
44730	MJGYX9	MJGYX9	7440-09-7	Potassium	1260	ug/L				S4VEM	500	38.0	1260		500	500	ug/L	38.0	38.0	ug/L	10/27/2014 11:38:00	Field_Sample		07-EMF-MW-A	(07-EMF-MW-A) 102714	DM									
44730	MJGYX9	MJGYX9	7440-23-5	Sodium	5180	ug/L	J		J	S4VEM	500	11.3	5180	E	500	500	ug/L	11.3	11.3	ug/L	10/27/2014 11:38:00	Field_Sample		07-EMF-MW-A	(07-EMF-MW-A) 102714	DM									
44730	MJGYX9	MJGYX9	7440-66-6	Zinc	616	ug/L				S4VEM	2.0	0.32	616		2	2.0	ug/L	0.32	0.32	ug/L	10/27/2014 11:38:00	Field_Sample		07-EMF-MW-A	(07-EMF-MW-A) 102714	DM									
44730	MJGYX9	MJGYX9	7440-36-0	Antimony	2.0	ug/L	U		U	S4VEM	2.0	0.35	2.0	U	2	2.0	ug/L	0.35	0.35	ug/L	10/27/2014 12:06:00	Field_Sample		07-EMF-MW-B	(07-EMF-MW-B) 102714	DM									
44730	MJGYX9	MJGYX9	7440-38-2	Arsenic	1.0	ug/L	U		U	S4VEM	1.0	0.061	0.13	J	1	1.0	ug/L	0.061	0.061	ug/L	10/27/2014 12:06:00	Field_Sample		07-EMF-MW-B	(07-EMF-MW-B) 102714	DM									
44730	MJGYX9	MJGYX9	7440-43-9	Cadmium	0.20	ug/L	U		U	S4VEM	0.20	0.028	0.040	J	0.2	0.20	ug/L	0.028	0.028	ug/L	10/27/2014 12:06:00	Field_Sample		07-EMF-MW-B	(07-EMF-MW-B) 102714	DM									
44730	MJGYX9	MJGYX9	7440-70-2	Calcium	9880	ug/L	J		J	S4VEM	40.0	12.0	9880	E	40	40.0	ug/L	12.0	12.0	ug/L	10/27/2014 12:06:00	Field_Sample		07-EMF-MW-B	(07-EMF-MW-B) 102714	DM									
44730	MJGYX9	MJGYX9	7439-92-1	Lead	1.0	ug/L	U		U	S4VEM	1.0	0.021	0.15	J	1	1.0	ug/L	0.021	0.021	ug/L	10/27/2014 12:06:00	Field_Sample		07-EMF-MW-B	(07-EMF-MW-B) 102714	DM									
44730	MJGYX9	MJGYX9	7439-95-4	Magnesium	3590	ug/L	J		J	S4VEM	60.0	19.0	3590	E	60	60.0	ug/L	19.0	19.0	ug/L	10/27/2014 12:06:00	Field_Sample		07-EMF-MW-B	(07-EMF-MW-B) 102714	DM									
44730	MJGYX9	MJGYX9	7440-09-7	Potassium	500	ug/L	U		U	S4VEM	500	38.0	431	J	500	500	ug/L	38.0	38.0	ug/L	10/27/2014 12:06:00	Field_Sample		07-EMF-MW-B	(07-EMF-MW-B) 102714	DM									
44730	MJGYX9	MJGYX9	7440-23-5	Sodium	4520	ug/L	J		J	S4VEM	500	11.3	4520	E	500	500	ug/L	11.3	11.3	ug/L	10/27/2014 12:06:00	Field_Sample		07-EMF-MW-B	(07-EMF-MW-B) 102714	DM									
44730	MJGYX9	MJGYX9	7440-66-6	Zinc	20.7	ug/L				S4VEM	2.0	0.32	20.7		2	2.0	ug/L	0.32	0.32	ug/L	10/27/2014 12:06:00	Field_Sample		07-EMF-MW-B	(07-EMF-MW-B) 102714	DM									
44730	MJGYX9	MJGYX9	7440-36-0	Antimony	2.0	ug/L	U		U	S4VEM	2.0	0.35	2.0	U	2	2.0	ug/L	0.35	0.35	ug/L	10/27/2014 12:43:00	Field_Sample		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	DM									
44730	MJGYX9	MJGYX9	7440-38-2	Arsenic	1.0	ug/L	U		U	S4VEM	1.0	0.061	0.12	J	1	1.0	ug/L	0.061	0.061	ug/L	10/27/2014 12:43:00	Field_Sample		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	DM									
44730	MJGYX9	MJGYX9	7440-43-9	Cadmium	0.20	ug/L	U		U	S4VEM	0.20	0.028	0.077	J	0.2	0.20	ug/L	0.028	0.028	ug/L	10/27/2014 12:43:00	Field_Sample		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	DM									
44730	MJGYX9	MJGYX9	7440-70-2	Calcium	9760	ug/L	J		J	S4VEM	40.0	12.0	9760	E	40	40.0	ug/L	12.0	12.0	ug/L	10/27/2014 12:43:00	Field_Sample		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	DM									
44730	MJGYX9	MJGYX9	7439-92-1	Lead	1.0	ug/L	U		U	S4VEM	1.0	0.021	0.046	J	1	1.0	ug/L	0.021	0.021	ug/L	10/27/2014 12:43:00	Field_Sample		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	DM									
44730	MJGYX9	MJGYX9	7439-95-4	Magnesium	3330	ug/L	J		J	S4VEM	60.0	19.0	3330	E	60	60.0	ug/L	19.0	19.0	ug/L	10/27/2014 12:43:00	Field_Sample		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	DM									
44730	MJGYX9	MJGYX9	7440-09-7	Potassium	688	ug/L				S4VEM	500	38.0	688		500	500	ug/L	38.0	38.0	ug/L	10/27/2014 12:43:00	Field_Sample		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	DM									
44730	MJGYX9	MJGYX9	7440-23-5	Sodium	5520	ug/L	J		J	S4VEM	500	11.3	5520	E	500	500	ug/L	11.3	11.3	ug/L	10/27/2014 12:43:00	Field_Sample		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	DM									
44730	MJGYX9	MJGYX9	7440-66-6	Zinc	22.2	ug/L				S4VEM	2.0	0.32	22.2		2	2.0	ug/L	0.32	0.32	ug/L	10/27/2014 12:43:00	Field_Sample		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	DM									
44730	MJGYX9	MJGYX9	7440-36-0	Antimony	2.0	ug/L	U		U	S4VEM	2.0	0.35	2.0	U	2	2.0	ug/L	0.35	0.35	ug/L	10/27/2014 13:11:00	Field_Sample		07-EMF-MW-C	(07-EMF-MW-C) 102714	DM									
44730	MJGYX9	MJGYX9	7440-38-2	Arsenic	1.0	ug/L	U		U	S4VEM	1.0	0.061																							

CASE NUMBER	DELIVERY GROUP	SAMPLE ID	CAS NUMBER	ANALYTE	FINAL RESULT	RESULT UNITS	FINAL VALIDATION QUALIFIER	IDEQ QUALIFIER	COMB QUALIFIER	DATA VAL LABEL	SAMPLE ADJUSTED CRQL	SAMPLE ADJUSTED MDL	LAB RESULT	LAB QUALIFIERS	NONMOISTURE SAMPLE				NONMOISTURE SAMPLE				LAB SAMPLE TYPE	SPIKE ADDED	STATION	LOCATION	SCRIBE SAMPLE NUMBER	PARENT SAMPLE NAME	PARENT SAMPLE LOCATION	LAB REPLICATE TYPE	SAMPLE SOURCE
															METHOD CRQL	ADJUSTED CRQL	CRQL UNITS	INSTRUMEN T MDL	ADJUSTED MDL	MDL UNITS	SAMPLE DATE TIME	ADJUSTED MDL									
44730	MJGYX9	MJGYY2D	7440-23-5	Sodium	5970	ug/L				S4VEM	500	11.3	5970		500	500	ug/L	11.3	11.3	ug/L	10/27/2014 13:11:00	Duplicate				(07-EMF-MW-C) 102714	DM	MJGYY2	07-EMF-MWD	FIELD	
44730	MJGYX9	MJGYY2D	7440-66-6	Zinc	2240	ug/L				S4VEM	2.0	0.32	2240		2	2.0	ug/L	0.32	0.32	ug/L	10/27/2014 13:11:00	Duplicate				(07-EMF-MW-C) 102714	DM	MJGYY2	07-EMF-MWD	FIELD	
44730	MJGYX9	MJGYY2S	7440-36-0	Antimony	103	ug/L				S4VEM	2.0	0.35	103		2	2.0	ug/L	0.35	0.35	ug/L	10/27/2014 13:11:00	Matrix_Spike	100			(07-EMF-MW-C) 102714	DM	MJGYY2	07-EMF-MW	FIELD	
44730	MJGYX9	MJGYY2S	7440-38-2	Arsenic	41.1	ug/L				S4VEM	1.0	0.061	41.1		1	1.0	ug/L	0.061	0.061	ug/L	10/27/2014 13:11:00	Matrix_Spike	40.0			(07-EMF-MW-C) 102714	DM	MJGYY2	07-EMF-MW	FIELD	
44730	MJGYX9	MJGYY2S	7440-43-9	Cadmium	54.2	ug/L				S4VEM	0.20	0.028	54.2		0.2	0.20	ug/L	0.028	0.028	ug/L	10/27/2014 13:11:00	Matrix_Spike	50.0			(07-EMF-MW-C) 102714	DM	MJGYY2	07-EMF-MW	FIELD	
44730	MJGYX9	MJGYY2S	7439-92-1	Lead	20.0	ug/L				S4VEM	1.0	0.021	20.0		1	1.0	ug/L	0.021	0.021	ug/L	10/27/2014 13:11:00	Matrix_Spike	20.0			(07-EMF-MW-C) 102714	DM	MJGYY2	07-EMF-MW	FIELD	
44730	MJGYX9	MJGYY2S	7440-66-6	Zinc	2810	ug/L				S4VEM	2.0	0.32	2810		2	2.0	ug/L	0.32	0.32	ug/L	10/27/2014 13:11:00	Matrix_Spike	500			(07-EMF-MW-C) 102714	DM	MJGYY2	07-EMF-MW	FIELD	
44730	MJGYX9	LCS01	7440-70-2	Calcium	82.8	ug/L				S4VEM	40.0	12.0	82.8		40	40.0	ug/L	12.0	12.0	ug/L		Laboratory_Con	80.0							LAB	
44730	MJGYX9	LCS01	7439-95-4	Magnesium	132	ug/L				S4VEM	60.0	19.0	132		60	60.0	ug/L	19.0	19.0	ug/L		Laboratory_Con	120							LAB	
44730	MJGYX9	LCS01	7440-09-7	Potassium	1030	ug/L				S4VEM	500	38.0	1030		500	500	ug/L	38.0	38.0	ug/L		Laboratory_Con	1000							LAB	
44730	MJGYX9	LCS01	7440-23-5	Sodium	1110	ug/L				S4VEM	500	11.3	1110		500	500	ug/L	11.3	11.3	ug/L		Laboratory_Con	1000							LAB	
44730	MJGYX9	LCS01	7440-36-0	Antimony	4.1	ug/L				S4VEM	2.0	0.35	4.1		2	2.0	ug/L	0.35	0.35	ug/L		Laboratory_Con	4.0							LAB	
44730	MJGYX9	LCS01	7440-38-2	Arsenic	1.9	ug/L				S4VEM	1.0	0.061	1.9		1	1.0	ug/L	0.061	0.061	ug/L		Laboratory_Con	2.0							LAB	
44730	MJGYX9	LCS01	7439-92-1	Lead	2.0	ug/L				S4VEM	1.0	0.021	2.0		1	1.0	ug/L	0.021	0.021	ug/L		Laboratory_Con	2.0							LAB	
44730	MJGYX9	LCS01	7440-66-6	Zinc	4.4	ug/L				S4VEM	2.0	0.32	4.4		2	2.0	ug/L	0.32	0.32	ug/L		Laboratory_Con	4.0							LAB	
44730	MJGYX9	LCS02	7440-43-9	Cadmium	0.44	ug/L				S4VEM	0.20	0.028	0.44		0.2	0.20	ug/L	0.028	0.028	ug/L		Laboratory_Con	0.40							LAB	
44730	MJGYX9	PBW01	7440-70-2	Calcium	40.0	ug/L	U		U	S4VEM	40.0	12.0	40.0	U	40	40.0	ug/L	12.0	12.0	ug/L		Method_Blank								LAB	
44730	MJGYX9	PBW01	7439-95-4	Magnesium	60.0	ug/L	U		U	S4VEM	60.0	19.0	60.0	U	60	60.0	ug/L	19.0	19.0	ug/L		Method_Blank								LAB	
44730	MJGYX9	PBW01	7440-09-7	Potassium	500	ug/L	J		J	S4VEM	500	38.0	-56	J	500	500	ug/L	38.0	38.0	ug/L		Method_Blank								LAB	
44730	MJGYX9	PBW01	7440-23-5	Sodium	500	ug/L	U		U	S4VEM	500	11.3	500	U	500	500	ug/L	11.3	11.3	ug/L		Method_Blank								LAB	
44730	MJGYX9	PBW01	7440-36-0	Antimony	2.0	ug/L	U		U	S4VEM	2.0	0.35	2.0	U	2	2.0	ug/L	0.35	0.35	ug/L		Method_Blank								LAB	
44730	MJGYX9	PBW01	7440-38-2	Arsenic	1.0	ug/L	U		U	S4VEM	1.0	0.061	1.0	U	1	1.0	ug/L	0.061	0.061	ug/L		Method_Blank								LAB	
44730	MJGYX9	PBW01	7440-43-9	Cadmium	0.20	ug/L	U		U	S4VEM	0.20	0.028	0.20	U	0.2	0.20	ug/L	0.028	0.028	ug/L		Method_Blank								LAB	
44730	MJGYX9	PBW01	7439-92-1	Lead	1.0	ug/L	U		U	S4VEM	1.0	0.021	0.029	J	1	1.0	ug/L	0.021	0.021	ug/L		Method_Blank								LAB	
44730	MJGYX9	PBW01	7440-66-6	Zinc	0.50	ug/L	J		J	S4VEM	2.0	0.32	0.50	J	2	2.0	ug/L	0.32	0.32	ug/L		Method_Blank								LAB	
44730	MJGYX0	MJGYX0	7440-70-2	Calcium	9210	ug/L				S4VEM	40.0	12.0	9210		40	40.0	ug/L	12.0	12.0	ug/L	10/27/2014 11:38:00	Field_Blank		07-EMF-MW-A	(07-EMF-MW-A) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX0	7439-95-4	Magnesium	4760	ug/L				S4VEM	60.0	19.0	4760		60	60.0	ug/L	19.0	19.0	ug/L	10/27/2014 11:38:00	Field_Blank		07-EMF-MW-A	(07-EMF-MW-A) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX0	7723-14-0	Phosphorus	420	ug/L				S4VEM	10.0	1.6	420		10	10.0	ug/L	1.6	1.6	ug/L	10/27/2014 11:38:00	Field_Blank		07-EMF-MW-A	(07-EMF-MW-A) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX0	Hardness	Hardness	42.6	mg/L				S4VEM	33.0	0.10	42.6		33	33.0	mg/L	0.10	0.10	mg/L	10/27/2014 11:38:00	Field_Blank		07-EMF-MW-A	(07-EMF-MW-A) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX1	7440-70-2	Calcium	9600	ug/L				S4VEM	40.0	12.0	9600		40	40.0	ug/L	12.0	12.0	ug/L	10/27/2014 12:06:00	Field_Blank		07-EMF-MW-B	(07-EMF-MW-B) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX1	7439-95-4	Magnesium	3470	ug/L				S4VEM	60.0	19.0	3470		60	60.0	ug/L	19.0	19.0	ug/L	10/27/2014 12:06:00	Field_Blank		07-EMF-MW-B	(07-EMF-MW-B) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX1	7723-14-0	Phosphorus	11.7	ug/L				S4VEM	10.0	1.6	11.7		10	10.0	ug/L	1.6	1.6	ug/L	10/27/2014 12:06:00	Field_Blank		07-EMF-MW-B	(07-EMF-MW-B) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX1	Hardness	Hardness	38.3	mg/L				S4VEM	33.0	0.10	38.3		33	33.0	mg/L	0.10	0.10	mg/L	10/27/2014 12:06:00	Field_Blank		07-EMF-MW-B	(07-EMF-MW-B) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX2	7440-70-2	Calcium	8920	ug/L				S4VEM	40.0	12.0	8920		40	40.0	ug/L	12.0	12.0	ug/L	10/27/2014 12:43:00	Field_Blank		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX2	7439-95-4	Magnesium	3070	ug/L				S4VEM	60.0	19.0	3070		60	60.0	ug/L	19.0	19.0	ug/L	10/27/2014 12:43:00	Field_Blank		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJGYX2	7723-14-0	Phosphorus	11.3	ug/L				S4VEM	10.0	1.6	11.3		10	10.0	ug/L	1.6	1.6	ug/L	10/27/2014 12:43:00	Field_Blank		09-EMF-MW-C-DEEP	(09-EMF-MW-C-DEEP) 102714	Hard, TP				FIELD	
44730	MJGYX0	MJ																													

Attachment C
SVL Analytical Results

																IDEQ	COMB														
CASE	SDG	EPASAMP	LABID	MATRIX	QCCODE	SMPQUAL	ANDATE	ANTIME	CASNUM	ANALYTE	STATE	CONC	UNITS	RLIMIT	MDL	LABQUAL	QUAL	QUAL	SMPDATE	VALDQAL	PRPDATE	LRDATE	LEVEL	PERSOLD	SMPWTWTVL	FINLVOL	METHOD	STATLOC	PERCENT_RECOVERY	TRUE_VALUE	RPD
W444068	W444068	PBW	W444068-BLK1	WATER	LRB	.	#####	19:06	16887006 CL	Dissolved	0.2 mg/L		0.2	0.06 U			U	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	Blank	.	.	.	.
W444068	W444068	PBW	W444068-BLK1	WATER	LRB	.	#####	19:06	14797558 NO3-N	Dissolved	0.05 mg/L		0.05	0.008 U			U	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	Blank	.	.	.	.
W444068	W444068	PBW	W444068-BLK1	WATER	LRB	.	#####	19:06	14808798 SO4	Dissolved	0.3 mg/L		0.3	0.05 U			U	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	Blank	.	.	.	.
W444068	W444068	LCSW	W444068-BS1	WATER	LCM	.	#####	19:17	16887006 CL	Dissolved	2.99 mg/L		0.2	0.06 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	LCS		99.7	3 .	.
W444068	W444068	LCSW	W444068-BS1	WATER	LCM	.	#####	19:17	14797558 NO3-N	Dissolved	2.01 mg/L		0.05	0.008 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	LCS		100	2 .	.
W444068	W444068	LCSW	W444068-BS1	WATER	LCM	.	#####	19:17	14808798 SO4	Dissolved	9.74 mg/L		0.3	0.05 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	LCS		97.4	10 .	.
W444068	W444068	(07-EMF-MW-A) 102714MS1	W444068-MS1	WATER	LSF	.	#####	12:21	16887006 CL	Dissolved	14.1 mg/L		1	0.28 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	(07-EMF-MW-A) 102714		109	3 .	.
W444068	W444068	(07-EMF-MW-A) 102714MS1	W444068-MS1	WATER	LSF	.	#####	21:28	14797558 NO3-N	Dissolved	2.05 mg/L		0.05	0.008 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	(07-EMF-MW-A) 102714		102	2 .	.
W444068	W444068	(07-EMF-MW-A) 102714MS1	W444068-MS1	WATER	LSF	.	#####	21:28	14808798 SO4	Dissolved	39.5 mg/L		0.3	0.05 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	(07-EMF-MW-A) 102714		101	10 .	.
W444068	W444068	(08-EMF-MW-F) 102714-CMS2	W444068-MS2	WATER	LSF	.	#####	13:15	16887006 CL	Dissolved	47.9 mg/L		2	0.56 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	(08-EMF-MW-F) 102714-C	R>4S		3 .	.
W444068	W444068	(08-EMF-MW-F) 102714-CMS2	W444068-MS2	WATER	LSF	.	#####	23:39	14797558 NO3-N	Dissolved	2.32 mg/L		0.05	0.008 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	(08-EMF-MW-F) 102714-C		102	2 .	.
W444068	W444068	(08-EMF-MW-F) 102714-CMS2	W444068-MS2	WATER	LSF	.	#####	13:15	14808798 SO4	Dissolved	66.1 mg/L		3	0.5 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	(08-EMF-MW-F) 102714-C	R>4S		10 .	.
W444068	W444068	(08-EMF-MW-A) 102714MSD1	W444068-MSD1	WATER	LSFD	.	#####	12:32	16887006 CL	Dissolved	13.9 mg/L		1	0.28 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	(07-EMF-MW-A) 102714		103	3 1.3	.
W444068	W444068	(07-EMF-MW-A) 102714MSD1	W444068-MSD1	WATER	LSFD	.	#####	21:38	14797558 NO3-N	Dissolved	2.06 mg/L		0.05	0.008 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	(07-EMF-MW-A) 102714		103	2 0.4	.
W444068	W444068	(07-EMF-MW-A) 102714MSD1	W444068-MSD1	WATER	LSFD	.	#####	21:38	14808798 SO4	Dissolved	39.8 mg/L		0.3	0.05 .			.	#####	.	#####	#####	LOW		0	5	5 EPA 300.0	(07-EMF-MW-A) 102714		104	10 0.9	.
W444127	W444127	PBW	W444127-BLK1	WATER	LRB	.	#####	12:21	471341 (CO3)	Alkalinity-CO3	Total	1 mg/L as CaCO3	1 .	U			U	#####	.	#####	#####	LOW		0	50	50 SM 2320B	Blank	.	.	.	.
W444127	W444127	PBW	W444127-BLK1	WATER	LRB	.	#####	12:21	471341 (HCO3)	Alkalinity-HCO3	Total	1 mg/L as CaCO3	1 .	U			U	#####	.	#####	#####	LOW		0	50	50 SM 2320B	Blank	.	.	.	.
W444127	W444127	PBW	W444127-BLK1	WATER	LRB	.	#####	12:21	471341 (OH)	Alkalinity-OH	Total	1 mg/L as CaCO3	1 .	U			U	#####	.	#####	#####	LOW		0	50	50 SM 2320B	Blank	.	.	.	.
W444127	W444127	PBW	W444127-BLK1	WATER	LRB	.	#####	12:21	471341 (ALK)	Alkalinity-Total	Total	1 mg/L as CaCO3	1 .	U			U	#####	.	#####	#####	LOW		0	50	50 SM 2320B	Blank	.	.	.	.
W444127	W444127	LCSW	W444127-BS1	WATER	LCM	.	#####	12:24	471341 (HCO3)	Alkalinity-HCO3	Total	102 mg/L as CaCO3	1 .	.			.	#####	.	#####	#####	LOW		0	50	50 SM 2320B	LCS		103	99.3 .	.
W444127	W444127	LCSW	W444127-BS1	WATER	LCM	.	#####	12:24	471341 (ALK)	Alkalinity-Total	Total	102 mg/L as CaCO3	1 .	.			.	#####	.	#####	#####	LOW		0	50	50 SM 2320B	LCS		103	99.3 .	.
W444127	W444127	(07-EMF-MW-A) 102714DUP1	W444127-DUP1	WATER	LD2	.	#####	12:29	471341 (CO3)	Alkalinity-CO3	Total	1 mg/L as CaCO3	1 .	U			U	#####	.	#####	#####	LOW		0	50	50 SM 2320B	(07-EMF-MW-A) 102714		.	.	.
W444127	W444127	(07-EMF-MW-A) 102714DUP1	W444127-DUP1	WATER	LD2	.	#####	12:29	471341 (HCO3)	Alkalinity-HCO3	Total	14.5 mg/L as CaCO3	1 .	.			.	#####	.	#####	#####	LOW		0	50	50 SM 2320B	(07-EMF-MW-A) 102714		.	.	0.3
W444127	W444127	(07-EMF-MW-A) 102714DUP1	W444127-DUP1	WATER	LD2	.	#####	12:29	471341 (OH)	Alkalinity-OH	Total	1 mg/L as CaCO3	1 .	U			U	#####	.	#####	#####	LOW		0	50	50 SM 2320B	(07-EMF-MW-A) 102714		.	.	.
W444127	W444127	(07-EMF-MW-A) 102714DUP1	W444127-DUP1	WATER	LD2	.	#####	12:29	471341 (ALK)	Alkalinity-Total	Total	14.5 mg/L as CaCO3	1 .	.			.	#####	.	#####	#####	LOW		0	50	50 SM 2320B	(07-EMF-MW-A) 102714		.	.	0.3
W444068	W4J0588	(07-EMF-MW-A) 102714	W4J0588-01	WATER	FLD	.	#####	21:17	16887006 CL	Dissolved	10.8 mg/L		0.2	0.06 .			.	#####	.	#####	#####	LOW		0	5	5.05 EPA 300.0	(07-EMF-MW-A) 102714		.	.	.
W444068	W4J0588	(07-EMF-MW-A) 102714	W4J0588-01	WATER	FLD	.	#####	21:17	14797558 NO3-N	Dissolved	0.05 mg/L		0.05	0.008 U			U	#####	.	#####	#####	LOW		0	5	5.05 EPA 300.0	(07-EMF-MW-A) 102714		.	.	.
W444068	W4J0588	(07-EMF-MW-A) 102714	W4J0588-01	WATER	FLD	.	#####	21:17	14808798 SO4	Dissolved	29.4 mg/L		0.3	0.05 .			.	#####	.	#####	#####	LOW		0	5	5.05 EPA 300.0	(07-EMF-MW-A) 102714		.	.	.
W444127	W4J0588	(07-EMF-MW-A) 102714	W4J0588-01	WATER	FLD	.	#####	12:38	471341 (CO3)	Alkalinity-CO3	Total	1 mg/L as CaCO3	1 .	U			U	#####	.	#####	#####	LOW									

Highlighted columns IDEQQAL and COMBQAL entered by TerraGraphics to indicate IDEQ/TG and combined data qualifiers.
Entire electronic data deliverable is available upon request.