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TECHNICAL MEMORANDUM

To: Don Carpenter, IDEQ, Boise

From: Robin Nimmer, TerraGraphics, Moscow

Date: October 19, 2015

Project Code: IDEQ C985 15019-08-02

Subject: Summary of the April 2015 Semi-Annual and Resampling Water Monitoring Events at the East Mission Flats Repository

The purpose of this memorandum is to summarize the East Mission Flats Repository (EMFR) April 2015 Semi-Annual and Resampling Water Monitoring events and present the data. An evaluation and discussion of the results will be completed in the 2015 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 levellogger sites in the vicinity of EMFR.

A detailed description of the field sampling, handling, documentation, and analytical procedures is provided in the *Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP) for Water Monitoring at the East Mission Flats Repository, Revision No. 2* (TerraGraphics 2014), hereinafter referred to as the EMFR SAP/QAPP, *Sample Plan Alteration Form (SPAF) #1 of the EMFR SAP/QAPP* (TerraGraphics 2015a), hereinafter referred to as SPAF #1, *Resampling Sample Plan Alteration Form April 2015 Event #1* (TerraGraphics 2015b), and *Resampling Sample Plan Alteration Form April 2015 Event #2* (TerraGraphics 2015c). This was the first monitoring event to follow SPAF #1, and the key revisions implemented for this sampling event include the following:

- Quarterly sampling was changed to semi-annual sampling to take place in April and October at all wells.
- A prediction limit (PL) testing approach was used at wells 07-EMF-MW-A, 07-EMF-MW-B, 07-EMF-MW-C, 07-EMF-MW-D, and 08-EMF-MW-F (TerraGraphics 2015d).

Samples were collected from all seven of the groundwater monitoring wells on April 21 and 22, 2015. The PLs for cadmium and zinc at 07-EMF-MW-C were exceeded during the April 2015 sampling event. Therefore, resampling was conducted at 07-EMF-MW-C for cadmium and zinc

on June 18, 2015, and again on August 13, 2015, based on PL exceedances of the June resampling results.

All field and analytical procedures were conducted according to the EMFR SAP/QAPP and subsequent SPAFs (TerraGraphics 2014, 2015a, 2015b, 2015c). Although the PL for cadmium at 08-EMF-MW-F was exceeded during the April 2015 sampling event, a statistically significant increase (SSI) had already been declared at this well for cadmium in 2014; therefore, no resampling occurred (TerraGraphics 2015b).

Attachment A contains the field sheets for each sampled well.

2 Water Levels and Hydrographs

Figure 2 shows hydrographs of the water levels recorded by levelloggers at seven monitoring wells and two floodwater monitoring locations 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 2015) through April 2015.

Since the last monitoring event in January, water was detected at floodwater levellogger sites (LL-1 and LL-2) from February 8, 2015 to February 13, 2015, but no water was detected in piezometers 10-EMF-PZ-A and 10-EMF-PZ-B. The field sampling crew downloaded levelloggers at LL-1, LL-2, and piezometers 10-EMF-PZ-A and 10-EMF-PZ-B.

3 Groundwater Monitoring Results

The hydraulic gradient observed during this April 2015 Sampling Event is toward the southwest, consistent with past gradients (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, including the resampling events for 07-EMF-MW-C. The specific conductance values measured at 08-EMF-MW-E and 07-EMF-MW-C were the highest yet recorded at these sites in April. The meter was calibrated at the start of the day and checked at the end of the day, and the data were considered acceptable.

Table 2 and Figure 5 display the cumulative groundwater sample results for dissolved metals.

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). The dissolved metal regulatory threshold exceedances in groundwater for the April 2015 and resampling events are as follows:

- Dissolved cadmium at 07-EMF-MW-C for the original event and both resampling events

Dissolved cadmium and zinc at 07-EMF-MW-C exceeded the prediction limits of 0.00364 milligrams per liter (mg/L) and 2.03 mg/L, respectively, in the April 2015 semi-annual event and the two subsequent resampling events in June 2015 and August 2015.

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

The data from the April 2015 Semi-Annual and Resampling events were considered acceptable, and no laboratory or field data were rejected. The following data were qualified as estimates (*J*) as discussed in the data quality reviews (TerraGraphics 2015e, 2015f, and 2015g):

- Original April Sampling Event:
 - Dissolved arsenic results at 07-EMF-MW-A, 07-EMF-MW-C, 07-EMF-MW-D, 08-EMF-MW-E (original and duplicate), 08-EMF-MW-F, and 09-EMF-MW-C-Deep because the results were greater than the method detection limit (MDL) but less than the contract required quantitation limit (CRQL)
 - Dissolved zinc results at 07-EMF-MW-B and 08-EMF-MW-E (original and duplicate) due to the field blank results
 - All dissolved calcium, magnesium, sodium, and zinc results due to laboratory serial dilution
- Resampling Event #1:
 - None
- Resampling Event #2:
 - All dissolved zinc results due to laboratory serial dilution

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

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, 2014. Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP) for Water Monitoring at the East Mission Flats Repository, Revision No. 2. December.

TerraGraphics, 2015a. Sample Plan Alteration Form #1 of the Sample and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP) for Water Monitoring at the East Mission Flats Repository, Revision No. 2. June.

TerraGraphics, 2015b. EMFR Resampling Sample Plan Alteration Form April 2015 Event #1. June.

TerraGraphics, 2015c. EMFR Resampling Sample Plan Alteration Form April 2015 Event #2. July.

TerraGraphics, 2015d. Prediction Limit Approach for East Mission Flats Repository – White Paper. June.

Summary of the April 2015 Semi-Annual and Resampling Water Monitoring Events at EMFR

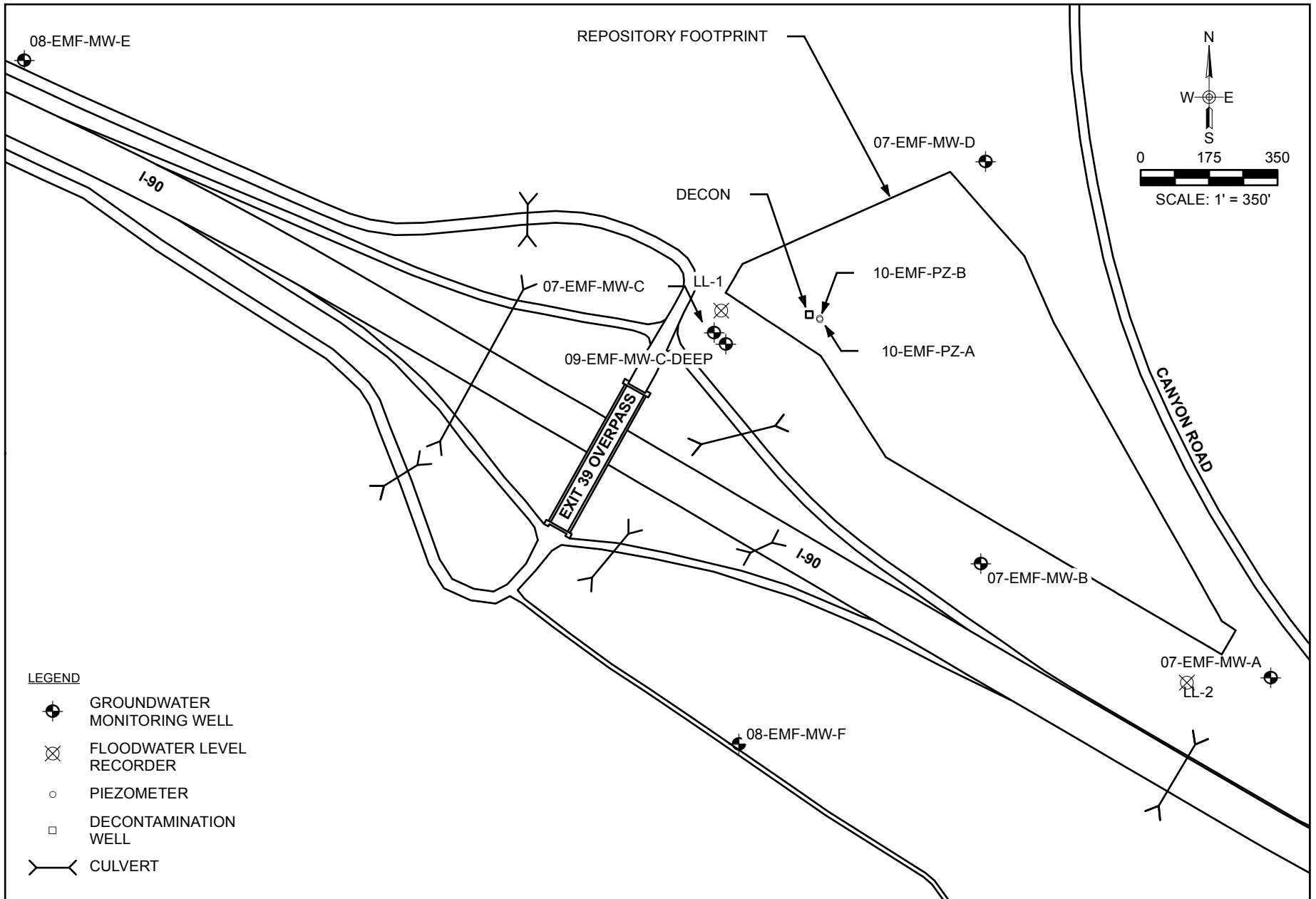
TerraGraphics, 2015e. QA/QC Review of the April 2015 Semi-Annual Water Monitoring Event at the East Mission Flats Repository. Memorandum. August.

TerraGraphics, 2015f. QA/QC Review of the April 2015 Semi-Annual Water Monitoring Resampling Event #1 at East Mission Flats Repository. Memorandum. August.






TerraGraphics, 2015g. QA/QC Review of the April 2015 Semi-Annual Water Monitoring Resampling Event #2 at East Mission Flats Repository. Memorandum. October.

U.S. Geological Survey (USGS), 2015. 12413500 Coeur d'Alene River NR Cataldo ID, http://waterdata.usgs.gov/id/nwis/uv/?site_no=12413500. April.

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LEGEND

-  GROUNDWATER MONITORING WELL
-  FLOODWATER LEVEL RECORDER
-  PIEZOMETER
-  DECONTAMINATION WELL
-  CULVERT

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

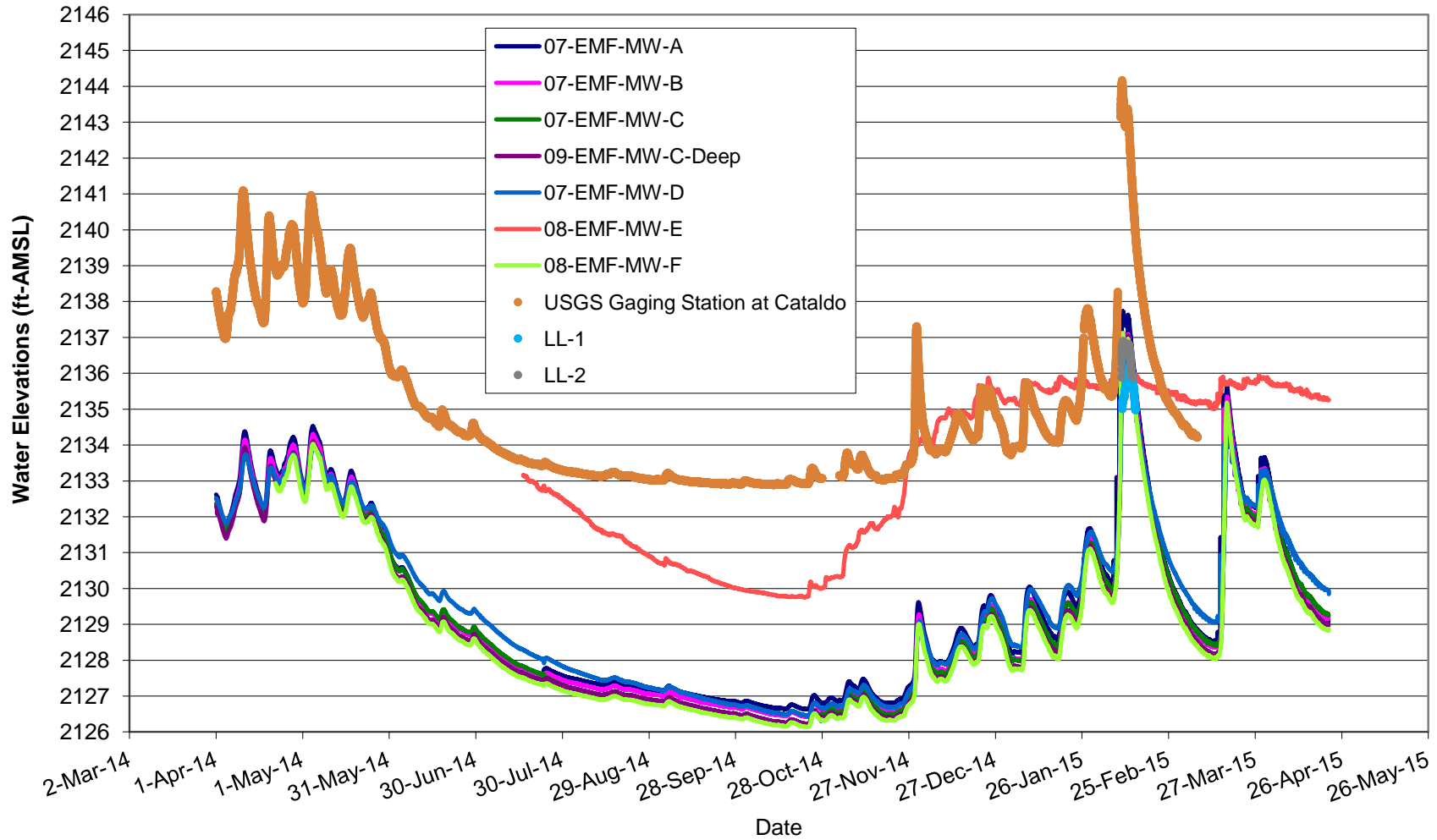


EAST MISSION FLATS
REPOSITORY
CATALDO, IDAHO

FIGURE 1
EMFR SEMI-ANNUAL
MONITORING LOCATIONS

PROJECT NO:	15019-08-02
DATE:	10/14/2015
COORDINATE SYSTEM:	NAD83 ISP, West, US FT, NGVD29

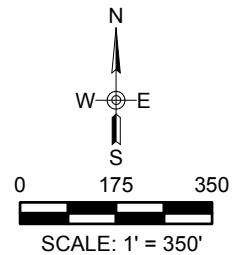
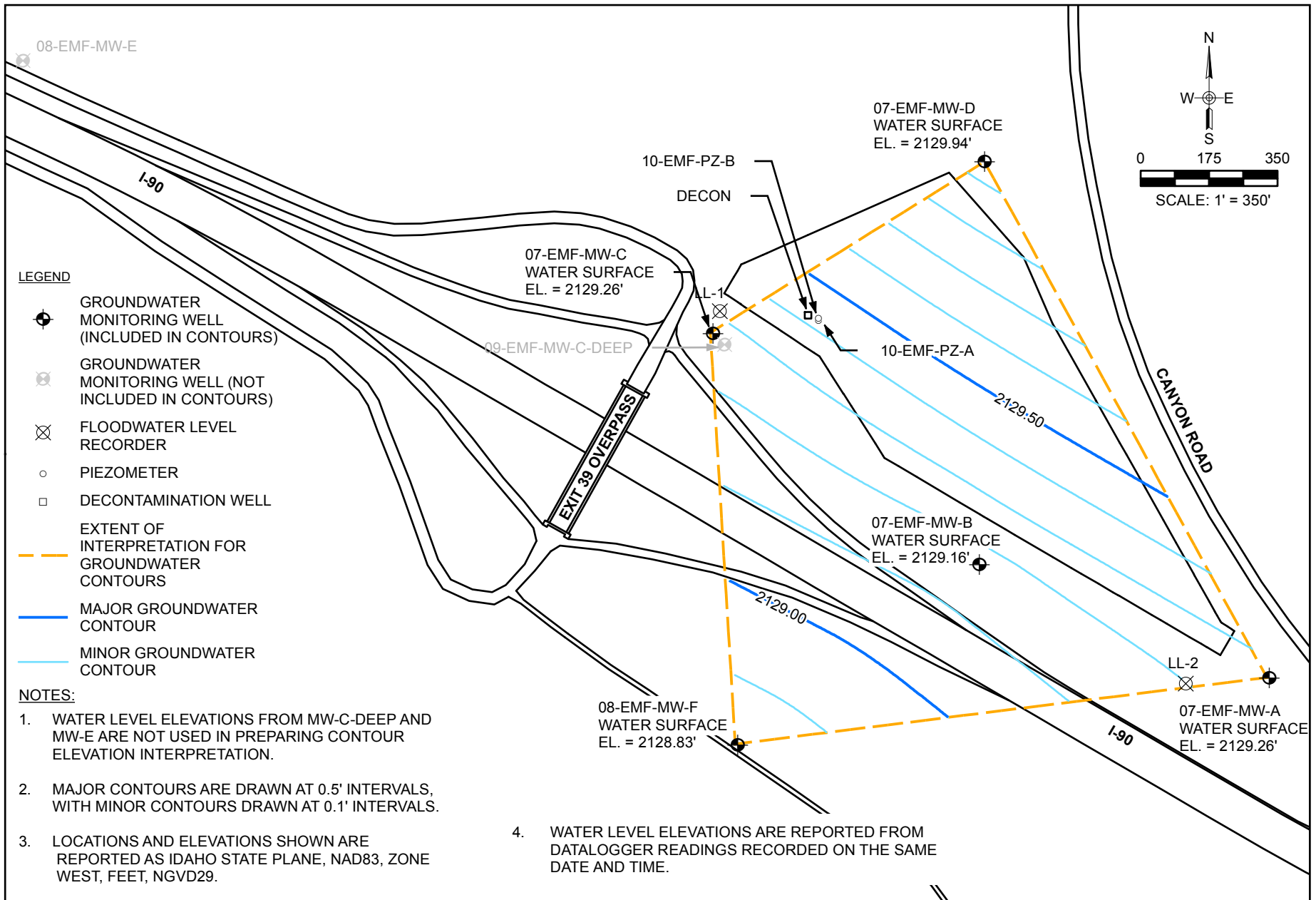
Figure 2. Water Levels at EMFR Monitoring Wells Compared to River Stage at Cataldo



Notes:

- Data not available for the USGS Gaging Station at Cataldo from October 28, 2014 to November 2, 2014, and from 10:00 am February 7, 2015 to 8:15 am February 8, 2015.
- All elevations are based on the NGVD29 datum

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



EAST MISSION FLATS REPOSITORY
 CATALDO, IDAHO

FIGURE 3
 APRIL 2015 GROUNDWATER LEVEL ELEVATIONS AND CONTOURS

PROJECT NO:	15019-08-02
DATE:	10/14/2015
FILE NAME:	EMF_GW_MAP_APR2015.MXD

Figure 4. Field Parameter Data at EMFR Groundwater Sites

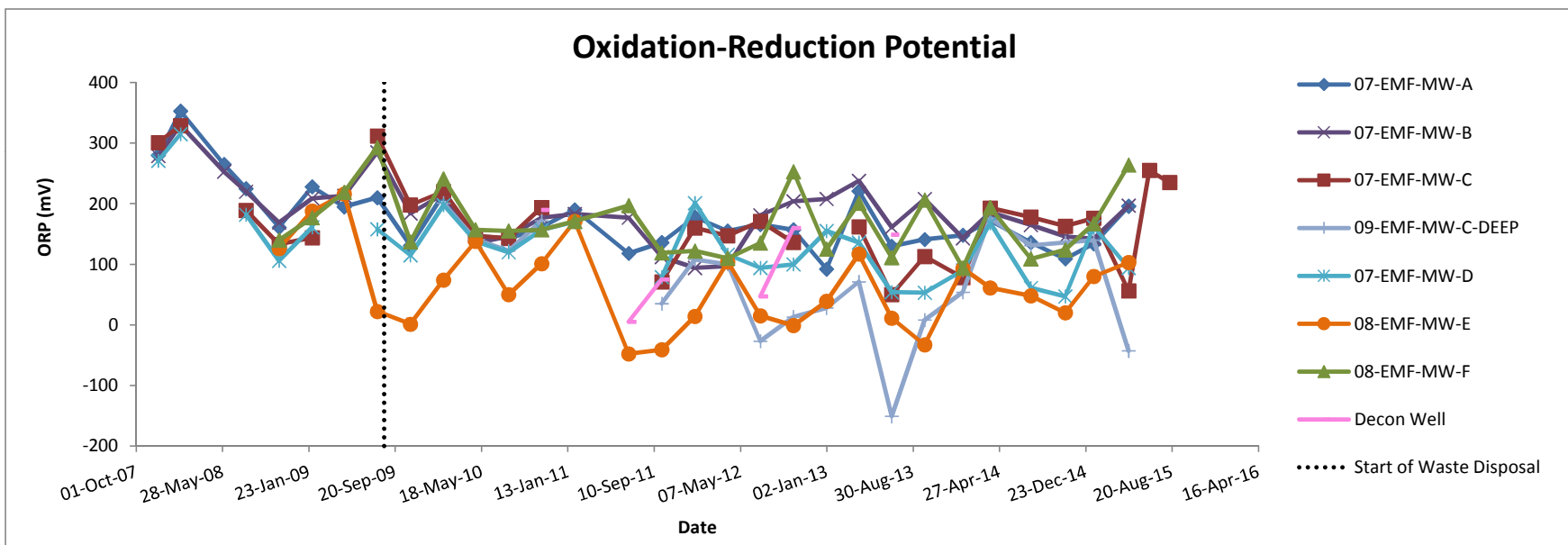
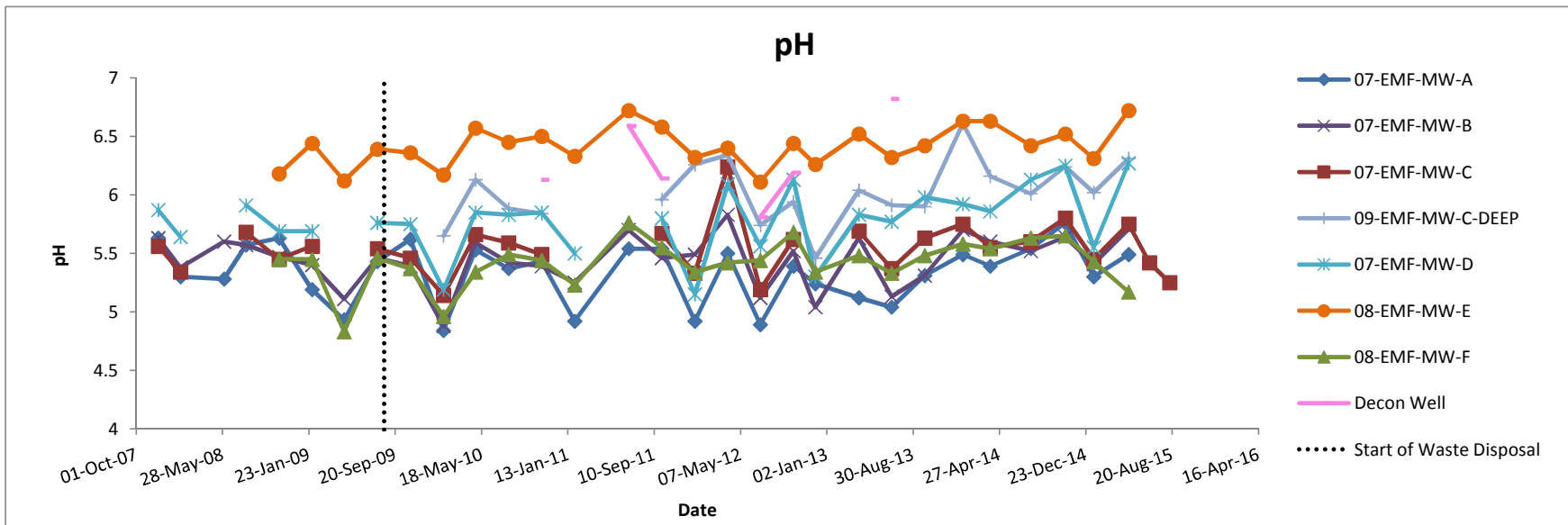


Figure 4. Field Parameter Data at EMFR Groundwater Sites

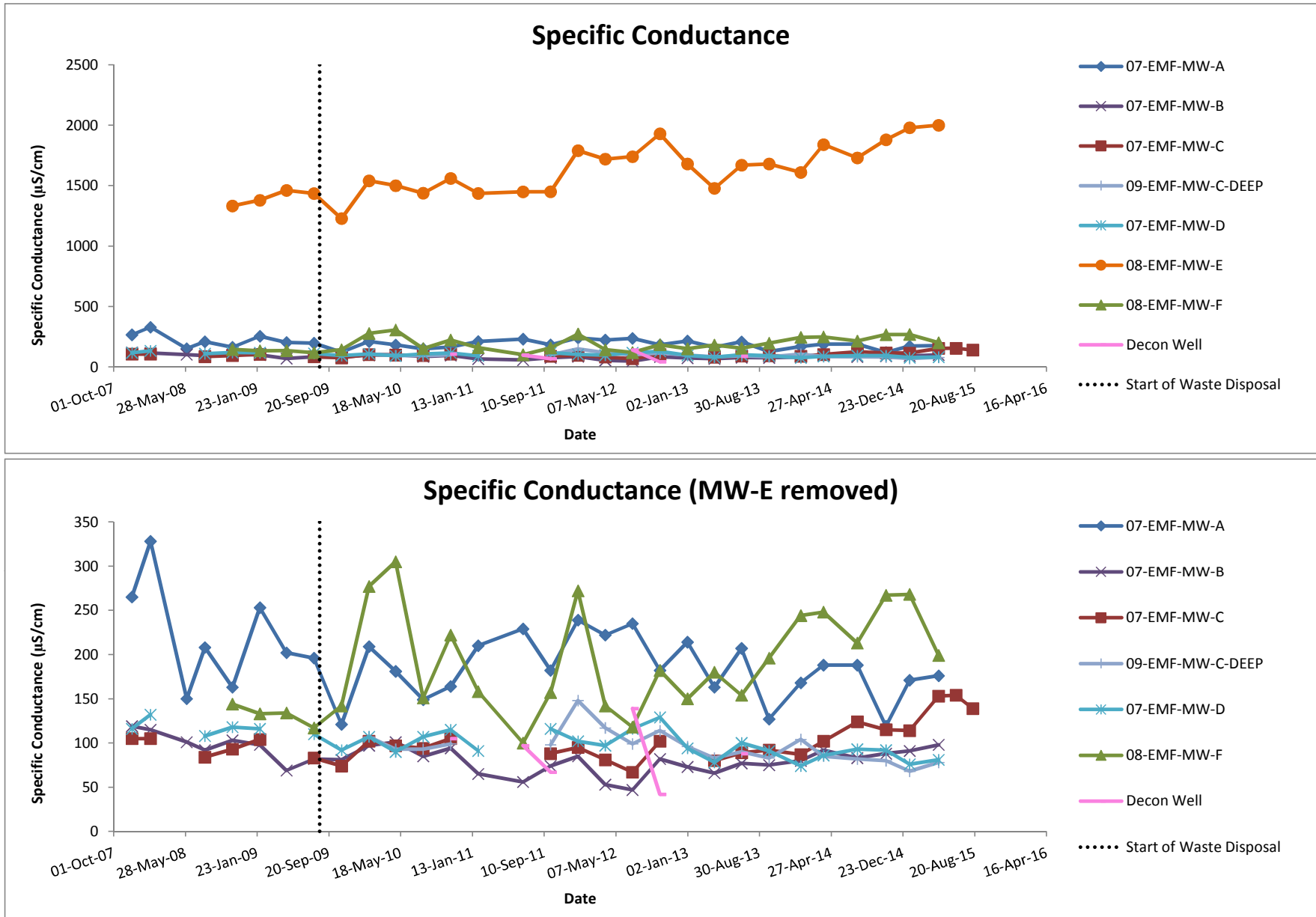


Figure 4. Field Parameter Data at EMFR Groundwater Sites

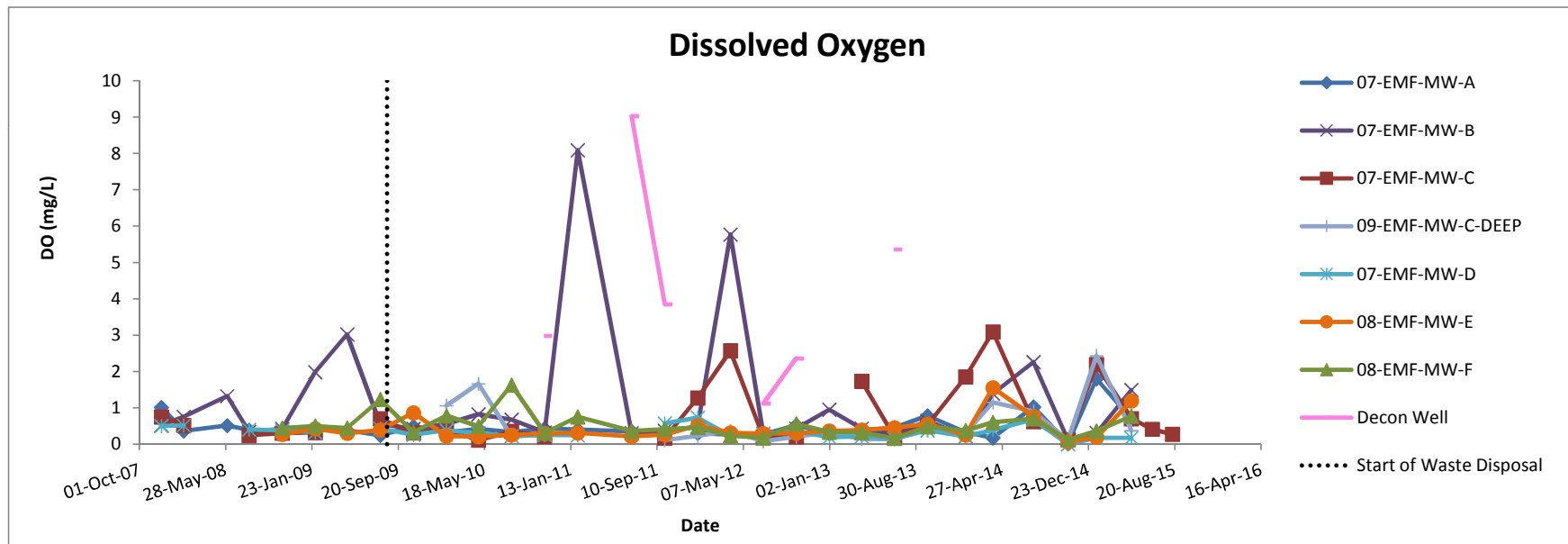
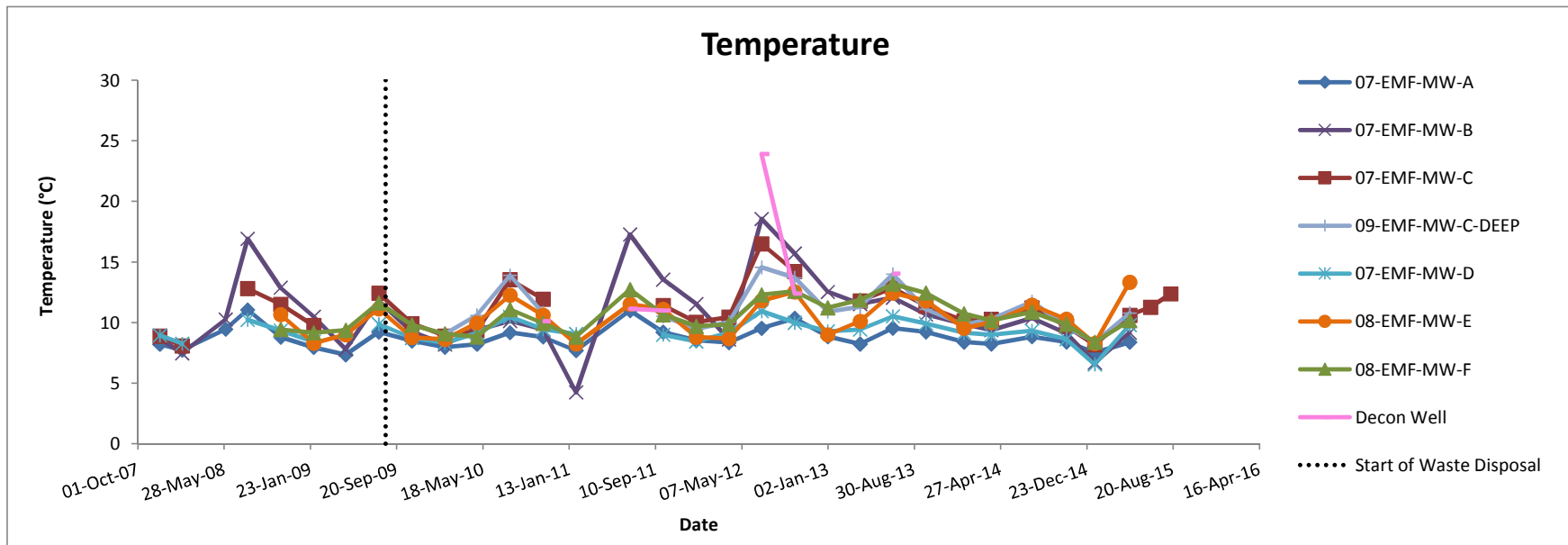


Figure 5. Dissolved Metals Data at EMFR Groundwater Sites

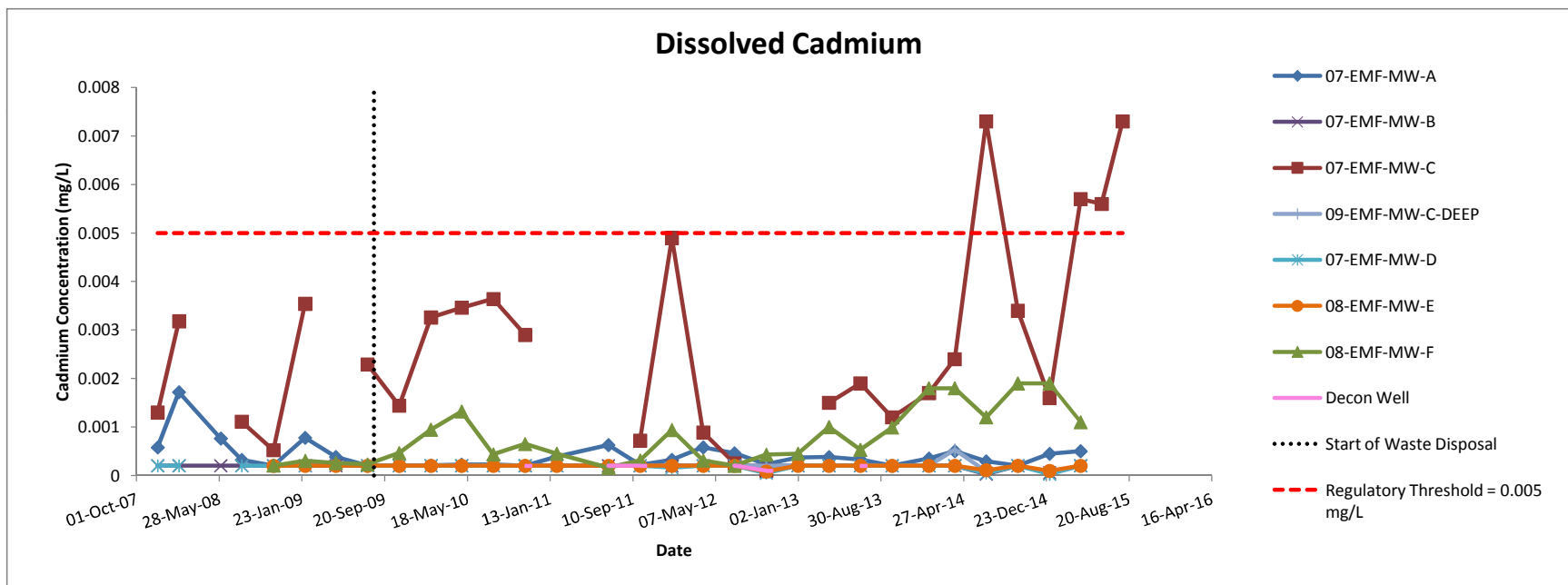
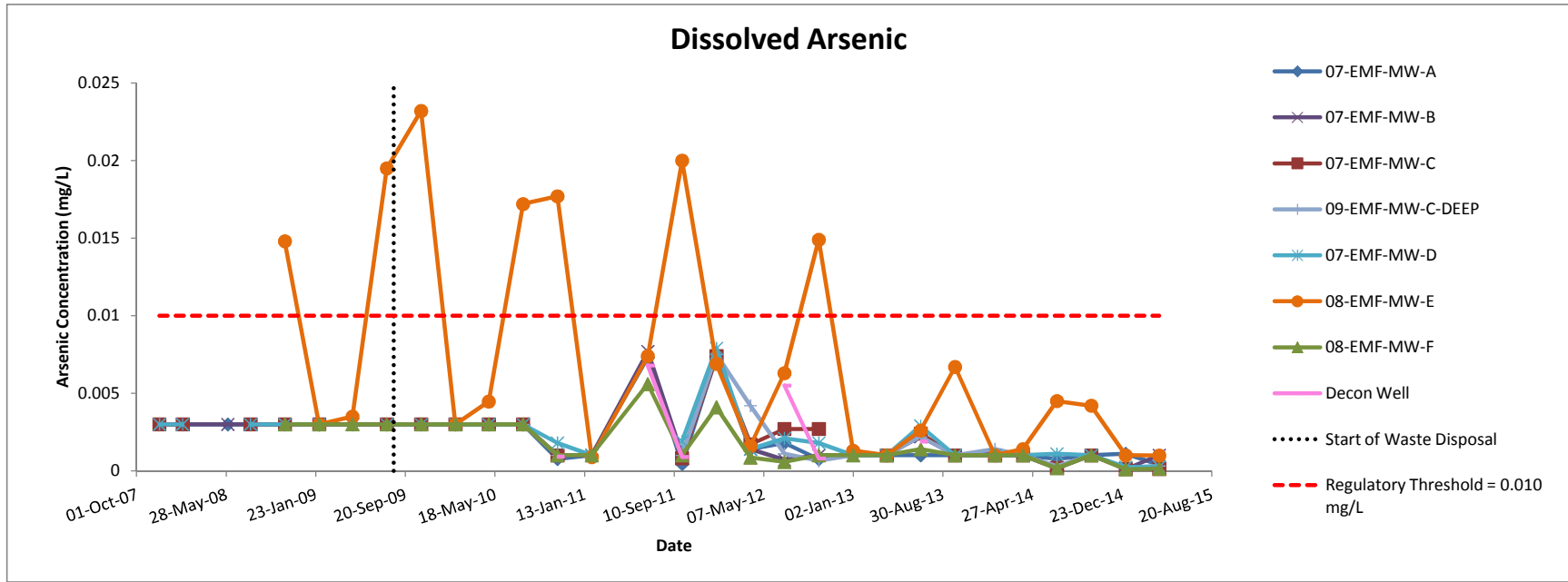
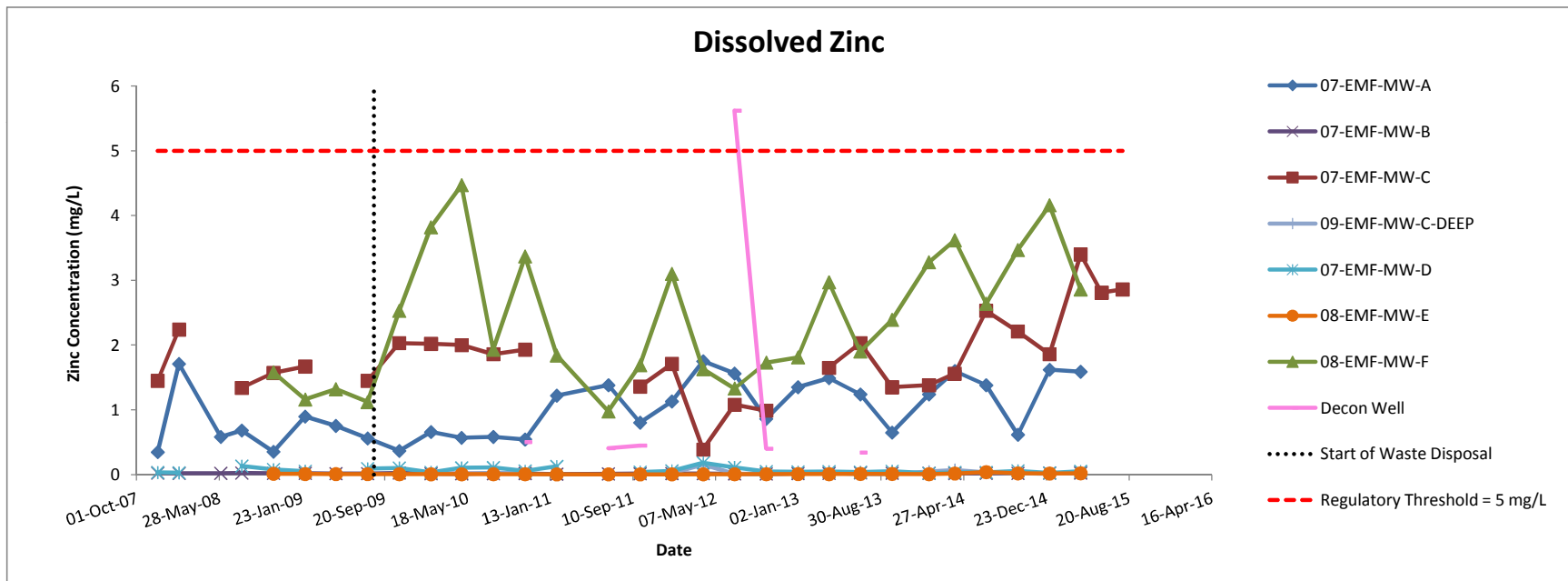
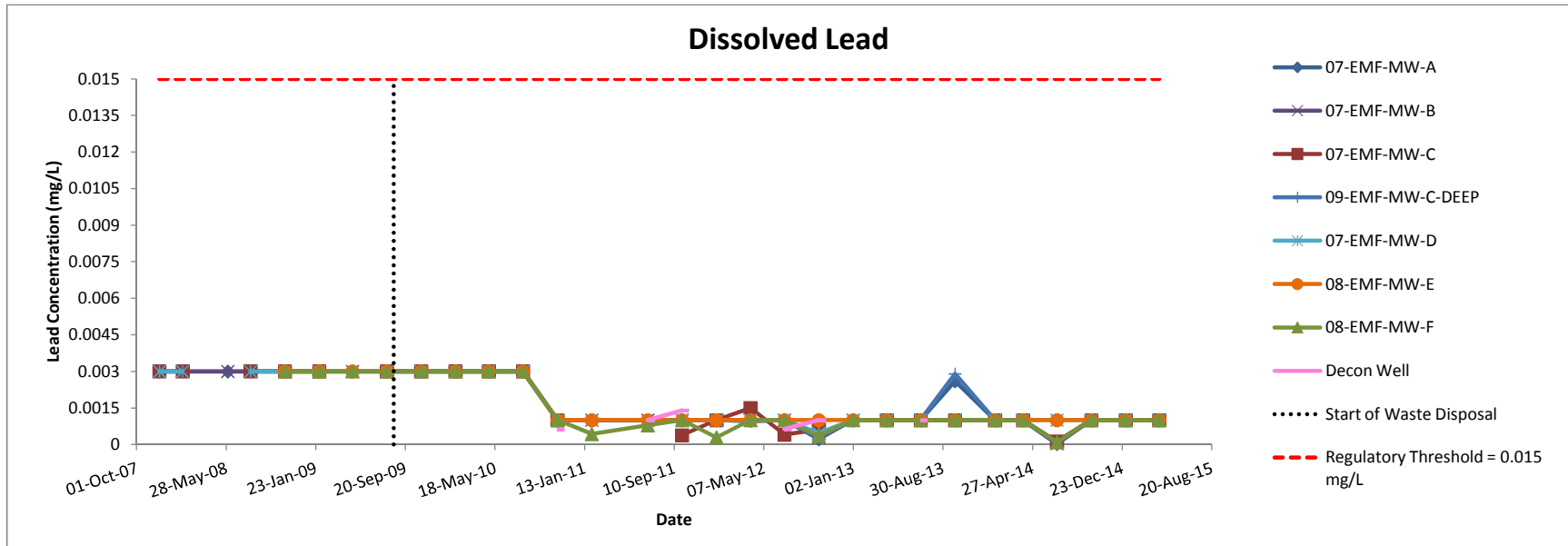


Figure 5. Dissolved Metals Data at EMFR Groundwater Sites



*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	
14-Jan-15	5.30	171	7.51	1.8 J	134	
	21-Apr-15	5.49	176	8.38	0.69	196
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	
14-Jan-15	5.41	91	6.68	0.31	142	
	21-Apr-15	5.71	98	9.17	1.49	197

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
	14-Jan-15	5.45	114	8.16	2.19	176
	21-Apr-15	5.75	153	10.60	0.70	56
	18-Jun-15	5.42	154	11.26	0.41	255
	13-Aug-15	5.25	139	12.37	0.27	235
	09-EMF-MW-C Deep	25-Feb-10	5.65	107	9.07	1.06
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
14-Jan-15		6.02	68	8.36	2.43	140
21-Apr-15		6.31	78	10.78	0.37	-43

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
	14-Jan-15	5.55	76	6.55	0.17	162
	21-Apr-15	6.27	81	9.80	0.17	94
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
	14-Jan-15	6.31	1,980	8.27	0.19	80
	21-Apr-15	6.72	2,000	13.33	1.19	103

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	
14-Jan-15	5.43	268	8.38	0.36	167	
	22-Apr-15	5.17	199	10.16	0.77	264
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
	sampling discontinued after April 2014	1-Apr-14	NS	NS	NS	NS

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 recent sampling events.

**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	0.0020 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	1.600 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	
14-Jan-15	NS	0.0011	0.00045	0.001 U	1.62 J	
21-Apr-15	NS	0.00039 J	0.00050	0.001 U	1.59 J	
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	
14-Jan-15	NS	0.00011 J	0.000058 J	0.001 U	0.0268 J	
21-Apr-15	NS	0.001 U	0.0002 U	0.001 U	0.0254 J*	

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 J*	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
	14-Jan-15	NS	0.00013 J	0.0016	0.001 U	1.86 J
	21-Apr-15	NS	0.00013 J	0.0057	0.001 U	3.4 J
	18-Jun-15	NS	NS	0.0056	NS	2.8
	13-Aug-15	NS	NS	0.0073	NS	2.86 J
	09-EMF-MW-C Deep	25-Feb-10	0.003 U	0.003 U	0.0002 U	0.003 U
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
14-Jan-15		NS	0.0002 J	0.000045 J	0.001 U	0.012 J
21-Apr-15	NS	0.00032 J	0.0002 U	0.001 U	0.0304 J	

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
	14-Jan-15	NS	0.00024 J	0.000028 J	0.001 U	0.0251 J
	21-Apr-15	NS	0.00027 J	0.0002 U	0.001 U	0.0506 J
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
	14-Jan-15	NS	0.001	0.000096 J	0.001 U	0.0175 J
	21-Apr-15	NS	0.00099 J	0.0002 U	0.001 U	0.0218 J*

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	
14-Jan-15	NS	0.0001 J	0.0019	0.001 U	4.16 J	
22-Apr-15	NS	0.00014 J	0.0011	0.001 U	2.86 J	
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
	sampling discontinued after April 2014	15-Jan-14	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

Antimony no longer analyzed for as of December 2014.

	= Value exceeds the regulatory threshold
	= Data from the recent sampling events.

Attachment A
Field Sheets



TerraGraphics
Environmental Engineering, Inc.

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 67-EMF-MW-A			
Project Number: 14005-08-02-01				Sample Number: (67-EMF-MW-A)042115			
Location: EMF				Weather: Sunny 52°			
Date: 04/21/2015				Sampler(s): GM/RJK			
De-Ionized Water Date: 4/22/15							
Depth to Bottom (ft): 29.60 29.59				Purge Time: 20 min			
Depth to Water (ft): 12.43				Purge Method: Low Flow			
DTB-DTW (ft): 17.16				Volume Measurement Method:			
1 Well Volume (gal): 11.19				Purge Volume (Volume x 3) (gal): 33.57			
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 [1 L = 0.2642 gal • 1 gal = 3.7854 L]

Purged Volume (gal)	Time	pH ±0.1	Spec. Cond. (mS/cm) ±3%	Temp (°C)	Dissolved Oxygen		ORP (mV) ±10
					mg/L ±10%	%	
	00:00	5.94	0.170	8.75	8.32	77.8	205
	16:00	5.76	0.178	8.39	0.76	7.1	198
	18:00	5.48	0.177	8.38	0.72	6.6	197
	20:00	5.49	0.176	8.38	0.69	6.4	196

Sampling Date: 04/21/2015 Sampling Method: Low Flow Time Sampled: 09:36

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
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 H: Cap



TerraGraphics
Environmental Engineering, Inc.

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: 07-EMF-MW-B				
Project Number: EMF ←				Sample Number: (07-EMF-MW-B)042115				
Location: 14005-08-02-01R				Weather: Sunny 54°				
Date: 04/21/2015				Sampler(s): GM/RJK				
[De-Ionized Water Date:]								
Depth to Bottom (ft): 30.34 30.27				Purge Time: 16 min				
Depth to Water (ft): 10.04				Purge Method: Low Flow				
DTB-DTW (ft): 20.30 20.23				Volume Measurement Method:				
1 Well Volume (gal): 13.24 13.19				Purge Volume (Volume x 3) (gal): 39.57				
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

[1 L = 0.2642 gal • 1 gal = 3.7854 L]

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	7.40	0.094	9.68	6.16	58.7	181
	12:00	5.75	0.098	9.17	1.57	14.8	194
	14:00	5.73	0.099	9.10	1.53	14.3	196
	16:00	5.71	0.098	9.17	1.49	14.1	197

Sampling Date: 04/21/2015		Sampling Method: Low Flow		Time Sampled: 10:06		
Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
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.

Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: <i>07-EMF-MW-C</i>			
Project Number: <i>14005-08-02-01</i>				Sample Number: <i>07-EMF-MW-004215</i>			
Location: <i>EMF</i>				Weather: <i>Sunny 62°</i>			
Date: <i>04/21/2015</i>				Sampler(s): <i>GM/RJK</i>			
[De-Ionized Water Date:]							
Depth to Bottom (ft): 30.35 <i>30.32</i>				Purge Time: <i>12 min</i>			
Depth to Water (ft): <i>7.32</i>				Purge Method: Low Flow			
DTB-DTW (ft): <i>23.03</i> <i>(Rund)</i> <i>4-22-15</i>				Volume Measurement Method:			
1 Well Volume (gal): <i>15.02</i>				Purge Volume (Volume x 3) (gal): <i>45.06</i> <i>Rund</i>			
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 [1 L = 0.2642 gal • 1 gal = 3.7854 L]

Purged Volume (gal)	Time	pH	Spec. Cond. (m S/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	<i>6.74</i>	<i>0.118</i>	<i>12.96</i>	<i>5.70</i>	<i>58.5</i>	<i>19</i>
	08:00	<i>5.74</i>	<i>0.155</i>	<i>10.81</i>	<i>0.76</i>	<i>7.4</i>	<i>53</i>
	10:00	<i>5.74</i>	<i>0.154</i>	<i>10.70</i>	<i>0.74</i>	<i>7.2</i>	<i>54</i>
	12:00	<i>5.75</i>	<i>0.153</i>	<i>10.60</i>	<i>0.70</i>	<i>6.8</i>	<i>56</i>

Sampling Date: *04/21/2015* Sampling Method: Low Flow Time Sampled: *11:50*

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
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*



Groundwater Sampling Record

Project: East Mission Flats Repository				Well Number: <u>09-EMF-MW-CDEEP</u>			
Project Number: <u>14005-08-02-01</u>				Sample Number: <u>(09-EMF-MW-CDEEP)042115</u>			
Location: <u>EMF</u>				Weather: <u>SUNNY 57°</u>			
Date: <u>04/21/2015</u>				Sampler(s): <u>GM/RJK</u>			
[De-Ionized Water Date: _____]							
Depth to Bottom (ft): 98.15 <u>98.17</u>				Purge Time: <u>28 mins (12+16)</u>			
Depth to Water (ft): <u>7.47</u>				Purge Method: Low Flow			
DTB-DTW (ft): 98.68 <u>90.7</u>				Volume Measurement Method: _____			
1 Well Volume (gal): 59.14 <u>59.14</u>				Purge Volume (Volume x 3) (gal): <u>177.37</u>			
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

[1 L = 0.2642 gal • 1 gal = 3.7854 L]

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	6.51	0.074	16.13	1.10	12.1	-26
	08:00	6.27	0.078	10.89	0.45	4.4	-36
	10:00	6.31	0.078	10.82	0.42	4.1	-41
	12:00	6.31	0.078	10.78	0.37	3.7	-43

Sampling Date: <u>04/21/2015</u>			Sampling Method: Low Flow		Time Sampled: <u>11:29</u>	
Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
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: <u>RJK</u>

Notes: Compressor motor failed at 10:40 after 16 minutes of purging - returned to office for another compressor. Restarted purging at 11:15.

Deviations/Observations: Water inside monument over the top of ^{RJK} plastic rubber well cap. ~~Dug~~ Bailed water to below top of well casing. Extreme vacuum inside well. Allowed water level to stabilize before taking DTW.

Picture Log:

Expendable Supplies Used: 1 standard filter



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)042115			
Location: EMF				Weather: Sunny 68			
Date: 04/21/2015				Sampler(s): GM/RJK			
[De-Ionized Water Date:]							
Depth to Bottom (ft): 30.38 30.34				Purge Time: 16 min			
Depth to Water (ft): 7.70 (Amid) 4.2215				Purge Method: Low Flow			
DTB-DTW (ft): 22.684				Volume Measurement Method:			
1 Well Volume (gal): 14.78				Purge Volume (Volume x 3) (gal): 44.28			
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

[1 L = 0.2642 gal • 1 gal = 3.7854 L]

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	7.78	0.112	12.61	6.89	70.2	73
	12:00	6.27	0.081	9.80	0.17	1.7	94
	14:00	6.28	0.081	9.66	0.17	1.6	91
	16:00	6.27	0.081	9.80	0.17	1.7	94

Sampling Date: 04/21/2015 Sampling Method: Low Flow Time Sampled: 13:15

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
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



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)042115			
Location: EMF				Weather: Sunny 65°			
Date: 04/21/15				Sampler(s): G4/2JK			
[De-Ionized Water Date: 4-22-15]							
Depth to Bottom (ft): 27.43 27.45				Purge Time: 16 mins			
Depth to Water (ft): 5.42				Purge Method: Low Flow			
DTB-DTW (ft): 22.03				Volume Measurement Method:			
1 Well Volume (gal): 14.35				Purge Volume (Volume x 3) (gal): 43.08			
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

[1 L = 0.2642 gal • 1 gal = 3.7854 L]

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	6.70	1.96	12.26	6.21	62.6	104
	12:00	6.73	2.00	13.27	1.29	13.5	103
	14:00	6.72	2.00	13.23	1.24	12.9	103
	16:00	6.72	2.00	13.33	1.99	12.5	103

Sampling Date: 04/21/2015 Sampling Method: Low Flow Time Sampled: 12:34

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
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-E)042115-C

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

Notes: Compressor quit at 12:13. Connected to truck battery and cooled compressor motor with DeI water. Resumed purging at 12:18

Deviations/Observations:

Picture Log:

Expendable Supplies Used: 1 Hi-Cap



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)042215			
Location: EMF ATK				Weather: Cloudy 52°			
Date: 04/22/2015				Sampler(s): GM/ATK			
[De-Ionized Water Date:]							
Depth to Bottom (ft): 31.66				Purge Time: 24 mins			
Depth to Water (ft): 10.07				Purge Method: Low Flow			
DTB-DTW (ft): 21.59				Volume Measurement Method:			
1 Well Volume (gal): 14.08				Purge Volume (Volume x 3) (gal): 42.24			
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 0.632	6" diameter 1.469	8" diameter 2.611

GROUNDWATER DATA [1 L = 0.2642 gal • 1 gal = 3.7854 L]

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	6.00	0.200	11.04	7.45	73.3	289
	20:00	5.15	0.200	9.91	0.81	7.7	266
	22:00	5.18	0.200	10.09	0.77	7.4	265
	24:00	5.17	0.199	10.16	0.77	7.5	264

Sampling Date: **04/22/2015** | Sampling Method: **Low Flow** | Time Sampled: **12:15**

Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab
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: **(08-EMF-MW-F)042215-E** Time: **12:23**

Notes: **Resampled due to D.O. not stabilized on 04/21/2015**

Deviations/Observations:

Picture Log:

Expendable Supplies Used: **6 f + Masterflex 2 standard filters**



Groundwater Sampling Record

Project: East Mission Flats Repository - <i>Resample</i>				Well Number: MW-C			
Project Number: <i>15019-08-02-03</i>				Sample Number: (07-EMF-MW-C)061815			
Location:				Weather: <i>cloudy 72°</i>			
Date: 06/18/2015				Sampler(s): GM/RJK			
[De-Ionized Water Date: <i>5/21/15</i>]							
Depth to Bottom (ft):				Purge Time: <i>18 min</i>			
Depth to Water (ft): <i>9.30</i>				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

[1 L = 0.2642 gal • 1 gal = 3.7854 L]

Purged Volume (gal)	Time	pH	Spec. Cond. (mS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)
					mg/L	%	
	00:00	<i>4.99</i>	<i>0.244</i>	<i>13.95</i>	<i>6.06</i>	<i>63.6</i>	<i>235</i>
	<i>14:00</i>	<i>5.40</i>	<i>0.153</i>	<i>11.00</i>	<i>0.49</i>	<i>4.9</i>	<i>251</i>
	<i>16:00</i>	<i>5.40</i>	<i>0.153</i>	<i>11.14</i>	<i>0.45</i>	<i>4.5</i>	<i>253</i>
	<i>18:00</i>	<i>5.42</i>	<i>0.154</i>	<i>11.26</i>	<i>0.41</i>	<i>4.1</i>	<i>255</i>

Sampling Date: <i>06/18/2015</i>		Sampling Method: Low Flow			Time Sampled: <i>10:50</i>		
Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab	
Poly	1L	HNO3	Y	Y	DM (Cd, Zn)	CLP	

Chain-of-Custody: Yes/No	Duplicate Sample Number: (07-EMF-MW-C)061815-C
Chain-of-Custody Number:	QC Sample Number: (07-EMF-MW-C)061815-E Time: <i>10:35</i>

Notes:

Deviations/Observations:

Picture Log:

Expendable Supplies Used: *1 H₂O Cap 1 Nalgene*



Groundwater Sampling Record

Project: East Mission Flats Repository - Resample		Well Number: MW-C					
Project Number: 15019-08-02-03		Sample Number: (07-EMF-MW-C)081315					
Location:		Weather: Sunny 82°					
Date: 08/13/2015		Sampler(s): GM/RJK					
[De-Ionized Water Date:]							
Depth to Bottom (ft):		Purge Time: 10 min					
Depth to Water (ft): 10.20		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								[1 L = 0.2642 gal • 1 gal = 3.7854 L]
Purged Volume (gal)	Time	pH	Spec. Cond. (µS/cm)	Temp (°C)	Dissolved Oxygen		ORP (mV)	
					mg/L	%		
	00:00	6.04	0.146	16.45	5.13	56.8	251	
	06:00	5.27	0.140	12.08	0.33	3.8	238	
	08:00	5.26	0.141	12.20	0.29	3.0	236	
	10:00	5.25	0.139	12.37	0.27	2.8	235	

Sampling Date: 08/13/2015		Sampling Method: Low Flow			Time Sampled: 10:42		
Container	Volume	Preservative	Cooled	Filtered	Analyte	Lab	
Poly	1L	HNO3	Y	Y	Cd, Zn	CLP	

Chain-of-Custody: Yes/No	Duplicate Sample Number: (07-EMF-MW-C)081315-C
Chain-of-Custody Number:	QC Sample Number: (07-EMF-MW-C)081315-E Time: 10:36

Notes:

Deviations/Observations:

Picture Log:

Expendable Supplies Used: 2 standard filters

Attachment B
CLP Analytical Results

CLP Data

CASE NUMBER	SAMPLE 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	UNITS	SAMPLE DATE TIME											
45237	MJG5A0	LCS01	7439-95-4	Magnesium	119	ug/L				S4VEM	60.0	9.0	119		60	60.0	ug/L	9.0	9.0	ug/L			Laboratory_Con 120									
45237	MJG5A0	LCS01	7440-09-7	Potassium	952	ug/L				S4VEM	500	16.5	952		500	500	ug/L	16.5	16.5	ug/L			Laboratory_Con 1000									
45237	MJG5A0	LCS01	7440-23-5	Sodium	1050	ug/L				S4VEM	500	7.0	1050		500	500	ug/L	7.0	7.0	ug/L			Laboratory_Con 1000									
45237	MJG5A0	LCS02	7440-43-9	Cadmium	0.43	ug/L	J-		J-	S4VEM	0.20	0.023	0.43		0.2	0.20	ug/L	0.023	0.023	ug/L			Laboratory_Con 0.40									
45237	MJG5A0	PBW01	7440-38-2	Arsenic	1.0	ug/L	U		U	S4VEM	1.0	0.093	1.0	U	1	1.0	ug/L	0.093	0.093	ug/L			Method_Blank									
45237	MJG5A0	PBW01	7440-43-9	Cadmium	0.20	ug/L	UJ		UJ	S4VEM	0.20	0.023	0.20	U	0.2	0.20	ug/L	0.023	0.023	ug/L			Method_Blank									
45237	MJG5A0	PBW01	7439-92-1	Lead	1.0	ug/L	U		U	S4VEM	1.0	0.017	1.0	U	1	1.0	ug/L	0.017	0.017	ug/L			Method_Blank									
45237	MJG5A0	PBW01	7440-66-6	Zinc	2.0	ug/L	U		U	S4VEM	2.0	0.33	0.64	J	2	2.0	ug/L	0.33	0.33	ug/L			Method_Blank									
45237	MJG5A0	PBW01	7440-70-2	Calcium	31.4	ug/L	J		J	S4VEM	40.0	25.1	31.4	J	40	40.0	ug/L	25.1	25.1	ug/L			Method_Blank									
45237	MJG5A0	PBW01	7439-95-4	Magnesium	60.0	ug/L	U		U	S4VEM	60.0	9.0	60.0	U	60	60.0	ug/L	9.0	9.0	ug/L			Method_Blank									
45237	MJG5A0	PBW01	7440-09-7	Potassium	500	ug/L	J		J	S4VEM	500	16.5	-30	J	500	500	ug/L	16.5	16.5	ug/L			Method_Blank									
45237	MJG5A0	PBW01	7440-23-5	Sodium	500	ug/L	U		U	S4VEM	500	7.0	14.1	J	500	500	ug/L	7.0	7.0	ug/L			Method_Blank									

Highlighted columns IDEQ QUALIFIER and COMB QUALIFIER entered by TerraGraphics to show all data qualifiers.
 Entire electronic data deliverable is available upon request.

CLP Data

CASE NUMBER	SAMPLE 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	METHOD CRQL	NONMOISTURE SAMPLE			SAMPLE DATE TIME	LAB SAMPLE TYPE	SPIKE ADDED	STATION LOCATION	SCRIBE SAMPLE NUMBER	PARENT SAMPLE NAME	PARENT SAMPLE LOCATION	LAB REPLICATE TYPE	SAMPLE SOURCE			
																ADJUSTED	CRQL	MDL												
45370	MJG5L0	MJG5L0D	7440-43-9	Cadmium	5.2	ug/L				S4VEM	0.20	0.021	5.2		0.2	.2	ug/L	0.021	.021	ug/L		Duplicate								
45370	MJG5L0	MJG5L0D	7440-66-6	Zinc	2710	ug/L				S4VEM	2.0	0.23	2710		2	2	ug/L	0.23	.23	ug/L		Duplicate					D		FIELD	
45370	MJG5L0	MJG5L0	7440-43-9	Cadmium	5.6	ug/L				S4VEM	0.20	0.021	5.6		0.2	.2	ug/L	0.021	.021	ug/L	06/18/2015 10:50 AM	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 061815 DM				FIELD		
45370	MJG5L0	MJG5L0	7440-66-6	Zinc	2810	ug/L				S4VEM	2.0	0.23	2810		2	2	ug/L	0.23	.23	ug/L	06/18/2015 10:50 AM	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 061815 DM				FIELD		
45370	MJG5L0	MJG5L1	7440-43-9	Cadmium	5.2	ug/L				S4VEM	0.20	0.021	5.2		0.2	.2	ug/L	0.021	.021	ug/L	06/18/2015 10:50 AM	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 061815-C DM				FIELD		
45370	MJG5L0	MJG5L1	7440-66-6	Zinc	2750	ug/L				S4VEM	2.0	0.23	2750		2	2	ug/L	0.23	.23	ug/L	06/18/2015 10:50 AM	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 061815-C DM				FIELD		
45370	MJG5L0	MJG5L2	7440-43-9	Cadmium	0.20	ug/L	U		U	S4VEM	0.20	0.021	0.20	U	0.2	.2	ug/L	0.021	.021	ug/L	06/18/2015 10:35 AM	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 061815-E DM				FIELD		
45370	MJG5L0	MJG5L2	7440-66-6	Zinc	2.0	ug/L	U		U	S4VEM	2.0	0.23	1.1	J	2	2	ug/L	0.23	.23	ug/L	06/18/2015 10:35 AM	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 061815-E DM				FIELD		
45370	MJG5L0	LCS01	7440-66-6	Zinc	4.8	ug/L				S4VEM	2.0	0.23	4.8		2	2	ug/L	0.23	.23	ug/L		Laboratory_Con 4							LAB	
45370	MJG5L0	LCS02	7440-43-9	Cadmium	0.46	ug/L				S4VEM	0.20	0.021	0.46		0.2	.2	ug/L	0.021	.021	ug/L		Laboratory_Con 0.4							LAB	
45370	MJG5L0	MJG5L0S	7440-43-9	Cadmium	55.8	ug/L				S4VEM	0.20	0.021	55.8		0.2	.2	ug/L	0.021	.021	ug/L		Matrix_Spike 50							FIELD	
45370	MJG5L0	MJG5L0S	7440-66-6	Zinc	3250	ug/L				S4VEM	2.0	0.23	3250		2	2	ug/L	0.23	.23	ug/L		Matrix_Spike 500							FIELD	
45370	MJG5L0	PBW01	7440-43-9	Cadmium	0.20	ug/L	U		U	S4VEM	0.20	0.021	0.20	U	0.2	.2	ug/L	0.021	.021	ug/L		Method_Blank							LAB	
45370	MJG5L0	PBW01	7440-66-6	Zinc	2.0	ug/L	U		U	S4VEM	2.0	0.23	0.74	J	2	2	ug/L	0.23	.23	ug/L		Method_Blank							LAB	

Highlighted columns IDEQ QUALIFIER and COMB QUALIFIER entered by TerraGraphics to show all data qualifiers.
Entire electronic data deliverable is available upon request.

CLP Data

CASE NUMBER	SAMPLE DELIVERY		CAS NUMBER	ANALYTE	FINAL RESULT	RESULT UNITS	FINAL VALIDATION QUALIFIER	IDEQ QUALIFIER	COMB QUALIFIER	DATA VAL LABEL	SAMPLE		LAB RESULT	LAB QUALIFIERS	NONMOISTURE SAMPLE		CRQL	INSTRUMENT	NONMOISTURE SAMPLE		SAMPLE DATE TIME	LAB SAMPLE TYPE	SPIKE ADDED	STATION LOCATION	SCRIBE SAMPLE NUMBER	PARENT SAMPLE NAME	PARENT SAMPLE LOCATION	LAB REPLICATE	SAMPLE SOURCE
	GROUP	ID									ADJUSTED CRQL	ADJUSTED MDL			ADJUSTED CRQL	ADJUSTED MDL			UNITS	UNITS									
45521	MJG950	MJG950D	7440-43-9	Cadmium	7.5	ug/L			S4VEM	0.20	0.021	7.5			2	0.20	ug/L	0.021	0.021	ug/L	08/13/2015 10:42:00	Duplicate		(07-EMF-MW-C) 081315 DM	MJG950	07-EMF-MWD		FIELD	
45521	MJG950	MJG950D	7440-66-6	Zinc	2720	ug/L			S4VEM	2.0	0.23	2720			2	2.0	ug/L	0.23	0.23	ug/L	08/13/2015 10:42:00	Duplicate		(07-EMF-MW-C) 081315 DM	MJG950	07-EMF-MWD		FIELD	
45521	MJG950	MJG950	7440-43-9	Cadmium	7.3	ug/L		J	S4VEM	0.20	0.021	7.3	*		2	0.20	ug/L	0.021	0.021	ug/L	08/13/2015 10:42:00	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 081315 DM	MJG950	07-EMF-MW-C		FIELD	
45521	MJG950	MJG950	7440-66-6	Zinc	2860	ug/L			S4VEM	2.0	0.23	2860			2	2.0	ug/L	0.23	0.23	ug/L	08/13/2015 10:42:00	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 081315 DM	MJG950	07-EMF-MW-C		FIELD	
45521	MJG950	MJG951	7440-43-9	Cadmium	7.1	ug/L			S4VEM	0.20	0.021	7.1			2	0.20	ug/L	0.021	0.021	ug/L	08/13/2015 10:42:00	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 081315-C DM	MJG950	07-EMF-MW-C		FIELD	
45521	MJG950	MJG951	7440-66-6	Zinc	2730	ug/L	J		S4VEM	2.0	0.23	2730	*		2	2.0	ug/L	0.23	0.23	ug/L	08/13/2015 10:42:00	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 081315-C DM	MJG950	07-EMF-MW-C		FIELD	
45521	MJG950	MJG952	7440-43-9	Cadmium	0.20	ug/L	U		S4VEM	0.20	0.021	0.20	U		2	0.20	ug/L	0.021	0.021	ug/L	08/13/2015 10:36:00	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 081315-E DM	MJG950	07-EMF-MW-C		FIELD	
45521	MJG950	MJG952	7440-66-6	Zinc	2.0	ug/L	UJ		S4VEM	2.0	0.23	1.1	J*		2	2.0	ug/L	0.23	0.23	ug/L	08/13/2015 10:36:00	Field_Sample	07-EMF-MW-C	(07-EMF-MW-C) 081315-E DM	MJG950	07-EMF-MW-C		FIELD	
45521	MJG950	LCS01	7440-43-9	Cadmium	0.45	ug/L			S4VEM	0.20	0.021	0.45			2	0.20	ug/L	0.021	0.021	ug/L		Laboratory_Cont0.4						LAB	
45521	MJG950	LCS01	7440-66-6	Zinc	4.8	ug/L			S4VEM	2.0	0.23	4.8			2	2.0	ug/L	0.23	0.23	ug/L		Laboratory_Cont4						LAB	
45521	MJG950	MJG950S	7440-43-9	Cadmium	57.5	ug/L			S4VEM	0.20	0.021	57.5			2	0.20	ug/L	0.021	0.021	ug/L	08/13/2015 10:42:00	Matrix_Spike	50	(07-EMF-MW-C) 081315 DM	MJG950	07-EMF-MW-C		FIELD	
45521	MJG950	MJG950S	7440-66-6	Zinc	3180	ug/L			S4VEM	2.0	0.23	3180			2	2.0	ug/L	0.23	0.23	ug/L	08/13/2015 10:42:00	Matrix_Spike	500	(07-EMF-MW-C) 081315 DM	MJG950	07-EMF-MW-C		FIELD	
45521	MJG950	PBW01	7440-43-9	Cadmium	0.20	ug/L	U		S4VEM	0.20	0.021	0.20	U		2	0.20	ug/L	0.021	0.021	ug/L		Method_Blank						LAB	
45521	MJG950	PBW01	7440-66-6	Zinc	0.59	ug/L	J		S4VEM	2.0	0.23	0.59	J		2	2.0	ug/L	0.23	0.23	ug/L		Method_Blank						LAB	

Highlighted columns IDEQ QUALIFIER and COMB QUALIFIER entered by TerraGraphics to show all data qualifiers.
 Entire electronic data deliverable is available upon request.

Attachment C
SVL Analytical Results

Table with columns: CASE, SDG, EPASAMP, LABID, MATRIX, QCCODE, SMPQUAL, ANDATE, ANTIME, CASNUM, ANALYTE, STATE, CONC UNITS, RLIMIT, MDL, LABQUAL, IDEQ, COMB, QUAL, SMPDATE, VALDQAL, PRPDATE, LRDATE, LEVEL, PERSOLD, SMPTWTWL, FINLVOL, METHOD, STATLOC, PERCENT_RECOVERY, TRUE_VALUE, RPD. Contains multiple rows of data for various cases and samples.

SVL Data

CASE	SDG	EPASAMP	LABID	MATRIX	QCCODE	SMPQUAL	ANDATE	ANTIME	CASNUM	ANALYTE	STATE	CONC	UNITS	RLIMIT	MDL	LABQUAL	IDEQ	COMB	SMPDATE	VALDQAL	PRPDATE	LRDATE	LEVEL	PERSOLD	SMPTWTVL	FINLVOL	METHOD	STATLOC	PERCENT_RECOVERY	TRUE_VALUE	RPD
W517113	W5D0430	(08-EMF-MW-F) 042215-E	W5D0430-02	WATER	FLD	.	#####	11:32	471341 (CO3)	Alkalinity-CO3	Total	1	mg/L as CaCO3	1	.	U		U	4/22/2015	.	4/24/2015	5/5/2015	LOW	0	50	50 SM 2320B	(08-EMF-MW-F) 042215-E	.	.	.	
W517113	W5D0430	(08-EMF-MW-F) 042215-E	W5D0430-02	WATER	FLD	.	#####	11:32	471341 (HCO3)	Alkalinity-HCO3	Total	1	mg/L as CaCO3	1	.	U		U	4/22/2015	.	4/24/2015	5/5/2015	LOW	0	50	50 SM 2320B	(08-EMF-MW-F) 042215-E	.	.	.	
W517113	W5D0430	(08-EMF-MW-F) 042215-E	W5D0430-02	WATER	FLD	.	#####	11:32	471341 (OH)	Alkalinity-OH	Total	1	mg/L as CaCO3	1	.	U		U	4/22/2015	.	4/24/2015	5/5/2015	LOW	0	50	50 SM 2320B	(08-EMF-MW-F) 042215-E	.	.	.	
W517113	W5D0430	(08-EMF-MW-F) 042215-E	W5D0430-02	WATER	FLD	.	#####	11:32	471341 (ALK)	Alkalinity-Total	Total	1	mg/L as CaCO3	1	.	U		U	4/22/2015	.	4/24/2015	5/5/2015	LOW	0	50	50 SM 2320B	(08-EMF-MW-F) 042215-E	.	.	.	

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