CDC Mead

Facility:
Year: 17 Left Right

Air	Corr
Water	(Reports)
NPDES	Permit
WET-TOX	Enf
DW/RCRA	Eng
(Cleanup)	Sub
SW	
HWP2	

Groundwater & Surface Water Report

Mead Custodial Trust

606 Columbia St NW
Suite 212
Olympia, WA 98501
(360) 754-9343
danieljsilver@msn.com

RECEIVED
MAY 23 2017
Ecology W2R

May 16, 2017

Guy Barrett
Department of Ecology
P.O. Box 47706
Olympia, WA 98504-7706

SUBJECT: 1st Quarter Surface and Groundwater Monitoring Report

Dear Guy:

Enclosed is the 1st Quarter 2017 surface and groundwater report for Kaiser Mead. This is the first monitoring report since we hired a new contractor earlier this year. However, the report still contains historical one-year groundwater sampling results, as it has previously.

Please let me know if you have any questions about this report.

Sincerely,

Dan Silver
Trustee

Enclosure

Budinger & Associates

Proudly serving the Inland Northwest for since 1976

Geotechnical Engineering
Environmental Engineering
Construction Material Testing
Subsurface Exploration
Special Inspection

Mr. Daniel J. Silver, Custodial Trustee
Mead Custodial Trust
606 Columbia Street NW, Ste. 212
Olympia, WA 98501

April 21, 2017

Project Number X17055

PROJECT: Kaiser Mead NPL Site – Long Term Monitoring
Spokane, WA

SUBJECT: 1st Quarter 2017 Surface & Groundwater Monitoring Results

Dear Mr. Silver:

This letter report documents the monitoring activity as stipulated in the Consent Decree dated October 7, 2004 between Kaiser Aluminum and Chemical Corporation, the U.S. Environmental Protection Agency, the Washington State Department of Ecology, and AIG Insurance Company. The requirement for groundwater monitoring activity is identified in the Remedial Action Plan as Task 2 Groundwater Monitoring Program. Field data forms and laboratory reports with QA/QC data and Chain of Custody forms are attached. Results are presented on the laboratory summaries.

The sampling was conducted by our Environmental Geologist, Derry Callender. The weather during sampling was cool with light precipitation when we obtained samples on March 24, 2017 and was cool and dry on March 28, 2017 (temperatures were in the lower to mid-forties).

Prior to the sampling event, the field equipment was calibrated using standard calibration solutions. The equipment used for measuring field parameters was a YSI ProDSS multi-meter. Most of the monitoring wells sampled are outfitted with dedicated bladder pumps. The pumps are operated with an oil-less air compressor powered by a portable gas-powered generator. Samples were collected using low-flow methods. Monitoring Well KM-4 was sampled with a disposable bailer.

Additionally, we collected water samples from the Dartford Road Bridge, Lake Springs and Rubright Springs. At the time of sampling, the surface water levels were abnormally high in the Little Spokane River. Temperature, pH, conductivity, dissolved oxygen and oxidation-reduction potential were monitored during purging and a sample was collected when parameters appeared to stabilize.

The samples were sealed in pre-cleaned sample bottles were provided from the analytical laboratory, SVL Analytical (SVL). The Total and free Cyanide bottles were 250 milliliter (ml) polyethylene with sodium hydroxide (NaOH) added as a preservative following sample collection. The Fluoride sample bottles were 250 ml and contained no preservative. Following

1101 North Fancher Rd.
Spokane Valley, WA 99212
Tel: 509.535.8841
Fax: 509.535.9589

www.budingerinc.com

sampling, the labels were attached and the bottles were placed into chilled coolers provided by SVL. The samples were delivered by hand, under chain of custody, to the analytical laboratory.

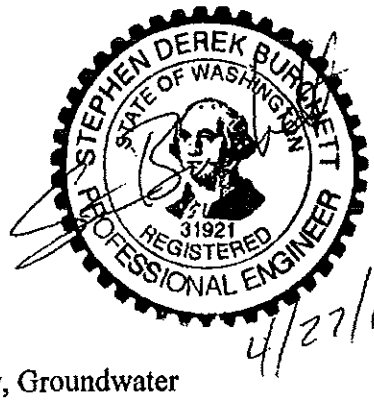
At the time of sampling, the Spokane area had a near record high for precipitation for the month of March and an unusually wet fall and winter; the groundwater table appears to reflect this slightly in the wells. The water in the more contaminated wells had a strong yellowish to yellow-green hue. This was also observable in the Lake Springs water to a lesser degree.

The test result for KM-1 appears to be significantly lower in both total cyanide and free cyanide, and fluoride compared to the same quarter last year. The test result from KMCP-5B for total cyanide concentration was a historic high since monitoring began; free cyanide concentrations were below detection limits. Results reported for the other wells were similar to previous values. QA/QC data were within acceptable guidelines.

Thank you for the opportunity to be of service. Please do not hesitate to call if you have any questions.

Respectfully Submitted:
BUDINGER & ASSOCIATES

Derry D. Callender
Environmental Geologist



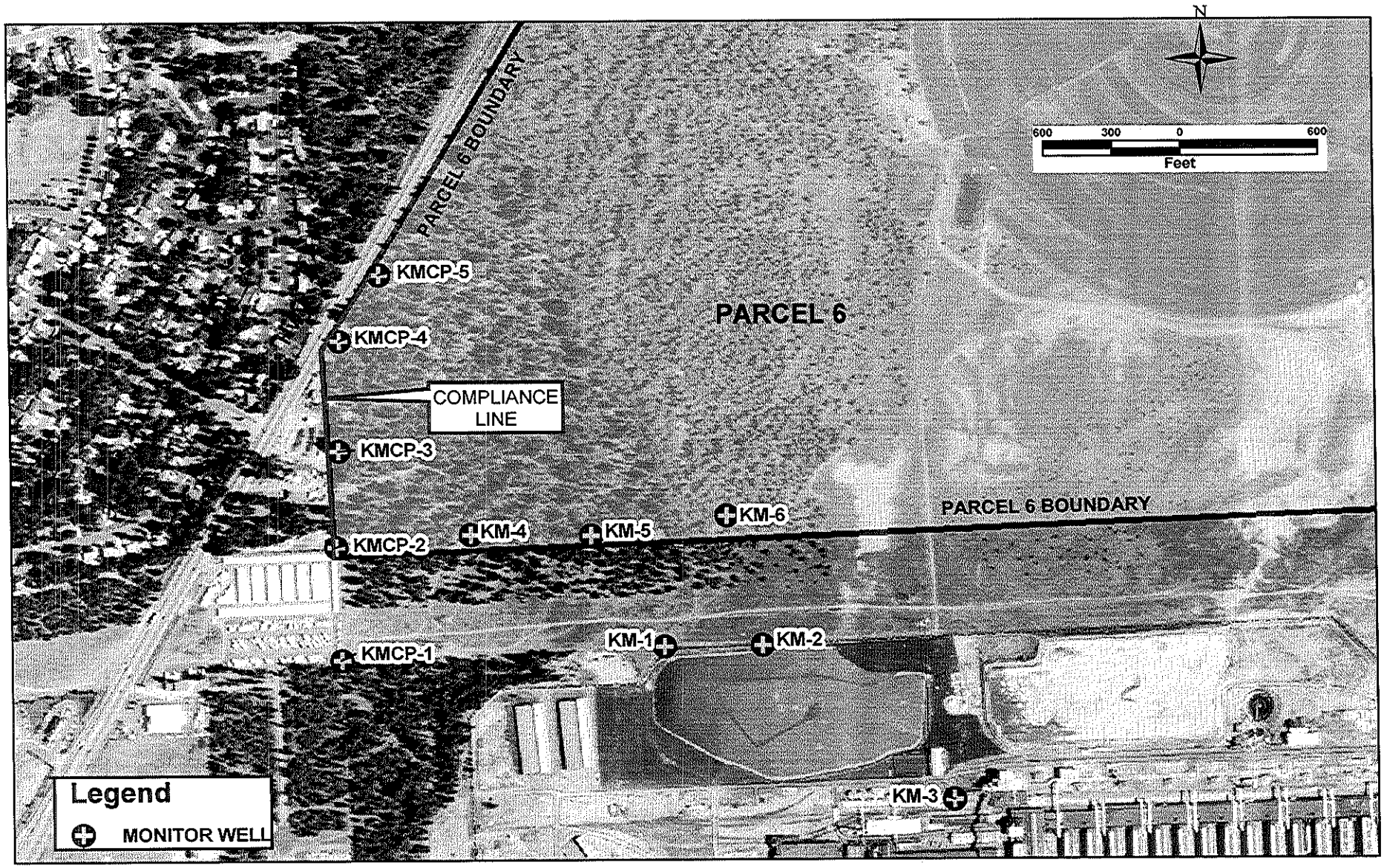
4/27/17

Stephen D. Burchett, PE
Environmental Engineer

Attachments:
Site Plan
Field Data Forms
Laboratory Summaries, Tables
- Table 1: Laboratory Summary, Groundwater
- Table 2: Laboratory Summary, Surface Water

Laboratory Reports with QA/QC data & Chain of Custody Forms

Addressee: Hard copies (2)
Excel Laboratory Summary (via email)



Hydrometrics, Inc.
Consulting Scientists and Engineers

KAISER MEAD NPL MEAD, WASHINGTON	MTCA\CERCLA PERFORMANCE EVALUATION GROUNDWATER MONITORING NETWORK	FIGURE 2-1

LMJ F:\DATA\KAISER\COMPLIANCE WELLS2.MXD 2/21/2012

Kaiser Mead NPL Groundwater Monitoring

Descriptive Name Well ID	Sample Formation	Date Sampled	Depth to Water (feet, btoc)	Top of PVC Casing Elev.	Groundwater Elev.	pH (Std Units)	Conductivity (umhos/cm)	Temperature (Deg. C)	Total CN (mg/L)	WAD CN (mg/L)	Free CN (mg/L)	F (mg/L)
KM-1		2/29/2016	145.81	1930.02	1784.21	10.0	7,500	11.3	45.0	0.956	0.332	73.6
KM-1		6/15/2016	145.25	1930.02	1784.77	9.8	7,250	13.9	42.6	0.770	0.499	65.4
KM-1		8/31/2016	145.42	1930.02	1784.6	9.8	7,260	15.6	37.3	1.360	1.040	67.3
KM-1		10/22/2016	145.77	1930.02	1784.25	9.4	6,480	12.3	33.1	0.880	0.405	61.2
KM-1		4/24/2017	145.43	1930.02	1784.59	9.8	6,372	11.7	27.3	-	0.154	55.1
KM-2		2/29/2016	144.13	1929.23	1785.10	10.1	5,170	11.80	97.1	4.19	1.73	15.5
KM-2		6/15/2016	143.51	1929.23	1785.72	9.9	3,950	14.10	44.2	1.89	1.35	33.6
KM-2		8/31/2016	143.72	1929.23	1785.51	9.9	4,280	14.70	47.4	2.12	1.42	26.9
KM-2		10/22/2016	144.09	1929.23	1785.14	9.4	4,650	11.90	61.7	1.51	0.88	29.8
KM-2		4/24/2017	144.45	1929.23	1784.78	9.88	4,694	11.20	63.6	-	0.489	39.2
KM-3		2/29/2016	155.91	1944.34	1788.43	7.90	702	11.40	< 0.0100	< 0.0100	< 0.0100	< 0.100
KM-3		6/15/2016	154.88	1944.34	1789.46	7.90	759	12.90	< 0.0100	< 0.0100	< 0.0100	0.233
KM-3		10/22/2016	156.14	1944.34	1788.2	7.50	677	11.90	< 0.0100	< 0.0100	< 0.0100	< 0.100
KM-3		4/21/2017	155.23	1944.34	1789.11	7.49	1203	12.30	< 0.0100	-	< 0.0100	0.180
KM-4		3/2/2016	147.21	1925.19	1777.98	8.2	701	11.10	< 0.0100	< 0.0100	< 0.0100	< 0.100
KM-4		6/16/2016	147.09	1925.19	1778.10	8.1	756	11.80	< 0.0100	< 0.0100	< 0.0100	0.268
KM-4		8/29/2016	147.00	1925.19	1778.19	8.0	742	12.20	< 0.0100	< 0.0100	< 0.0100	< 0.100
KM-4		10/21/2016	147.04	1925.19	1778.15	7.6	732	10.90	< 0.0100	< 0.0100	< 0.0100	< 0.100
KM-4		4/28/2017	147.03	1925.19	1778.16	7.7	701	11.10	< 0.0100	-	< 0.0100	< 0.010
KM-5		2/29/2016	145.51	1927.63	1782.12	10.20	6,320	10.6	83.7	1.020	0.490	59.7
KM-5		6/15/2016	145.12	1927.63	1782.51	9.80	5,820	13	59.1	1.620	1.350	55.3
KM-5		8/25/2016	145.18	1927.63	1782.45	10.10	5,440	14	61.5	2.280	1.920	46.5
KM-5		10/22/2016	145.39	1927.63	1782.24	9.50	6,350	11.1	83.3	0.492	0.205	57.1
KM-5		4/24/2017	145.25	1927.63	1782.38	10.16	6,869	10.4	67.3	-	0.164	60.9
KM-6		2/29/2016	139.88	1922.99	1783.11	10.0	5,050	10.7	97.8	1.580	0.565	52.8
KM-6		6/15/2016	139.42	1922.99	1783.57	9.8	5,170	11.9	74.7	1.820	0.866	53.8
KM-6		8/31/2016	139.45	1922.99	1783.54	9.9	4,840	14.0	73.6	3.500	1.490	51.6
KM-6		10/22/2016	139.68	1922.99	1783.31	9.5	4,670	11.4	66.4	1.280	0.318	48.7
KM-6		4/24/2017	139.57	1922.99	1783.42	9.9	4,968	10.5	86.8	-	0.306	41.3
KMCP-1A		2/29/2016	157.02	1934.43	1777.41	--	--	--	--	--		--
KMCP-1A		6/15/2016	156.60	1934.43	1777.83	--	--	--	--	--		--
KMCP-1A		8/31/2016	156.80	1934.43	1777.63	--	--	--	--	--		--
KMCP-1A		10/22/2016	156.98	1934.43	1777.45	--	--	--	--	--		--
KMCP-1A		4/24/2017	156.65	1934.43	1777.78	--	--	--	--	--		--
KMCP-1B		2/29/2016	164.00	1934.43	1770.43	8.10	508	10.70	0.197	0.0210	0.0170	0.670
KMCP-1B		6/15/2016	162.91	1934.43	1771.52	8.20	517	11.80	0.124	0.0200	0.0160	0.739
KMCP-1B		8/31/2016	164.03	1934.43	1770.4	8.20	534	12.50	0.124	0.0160	< 0.0100	0.625
KMCP-1B		10/22/2016	164.51	1934.43	1769.92	7.80	538	10.70	0.149	0.0130	< 0.0100	0.545
KMCP-1B		4/21/2017	163.09	1934.43	1771.34	7.93	495	10.11	0.120	-	< 0.0100	0.868
KMCP-2A		2/29/2016	130.38	1926.70	1796.32	--	--	--	--	--		--
KMCP-2A		6/15/2016	130.29	1926.70	1796.41	--	--	--	--	--		--
KMCP-2A		8/31/2016	130.24	1926.70	1796.46	--	--	--	--	--		--
KMCP-2A		10/22/2016	130.21	1926.70	1796.49	--	--	--	--	--		--
KMCP-2A		4/21/2017	129.92	1926.70	1796.78							

Kaiser Mead NPL Groundwater Monitoring

0.2 4

Descriptive Name Well ID	Sample Formation	Date Sampled	Depth to Water (feet, btoc)	Top of PVC Casing Elev.	Groundwater Elev.	pH (Std Units)	Conductivity (umhos/cm)	Temperature (Deg. C)	Total CN (mg/L)	WAD CN (mg/L)	Free CN (mg/L)	F (mg/L)
KMCP-2B		2/29/2016	157.92	1926.25	1768.33	8.3	412	9.9	0.0680	0.0120	< 0.0100	0.452
KMCP-2B		6/15/2016	156.86	1926.25	1769.39	8.3	399	11.3	< 0.0100	< 0.0100	< 0.0100	0.214
KMCP-2B		8/31/2016	157.68	1926.25	1768.57	8.2	426	12.6	0.0520	< 0.0100	< 0.0100	0.292
KMCP-2B		10/22/2016	158.22	1926.25	1768.03	7.7	478	10.6	0.1310	0.0110	< 0.0100	0.245
KMCP-2B		4/24/2017	158.00	1926.25	1768.25	7.95	394	10.6	0.0190	-	< 0.0100	0.322
KMCP-3A		2/29/2016	106.48	1918.61	1812.13	--	--	--	--	--		--
KMCP-3A		6/15/2016	106.40	1918.61	1812.21	--	--	--	--	--		--
KMCP-3A		8/31/2016	106.29	1918.61	1812.32	--	--	--	--	--		--
KMCP-3A		10/22/2016	106.33	1918.61	1812.28	--	--	--	--	--		--
KMCP-3A		4/24/2017	106.10	1918.61	1812.51	--	--	--	--	--	--	--
KMCP-3B		2/29/2016	151.61	1919.07	1767.46	10.0	3,590	11.5	60.7	2.05	1.59	30.0
KMCP-3B		6/15/2016	150.54	1919.07	1768.53	10.0	3,500	14.5	44.1	3.16	3.01	27.3
KMCP-3B		8/31/2016	151.30	1919.07	1767.77	10.0	3,570	13.2	48.9	1.02	0.69	26.8
KMCP-3B		10/22/2016	151.85	1919.07	1767.22	9.3	3,450	11.4	49.1	0.875	0.626	26.5
KMCP-3B		4/24/2017	150.71	1919.07	1768.36	9.9	3,405	10.2	42.3	-	0.264	29.0
KMCP-4A		2/29/2016	99.31	1912.51	1813.20	--	--	--	--	--		--
KMCP-4A		6/9/2016	99.24	1912.51	1813.27	--	--	--	--	--		--
KMCP-4A		8/31/2016	99.18	1912.51	1813.33	--	--	--	--	--		--
KMCP-4A		10/22/2016	99.12	1912.51	1813.39	--	--	--	--	--		--
KMCP-4A		4/21/2017	98.92	1912.51	1813.59	--	--	--	--	--		--
KMCP-4B		2/29/2016	146.59	1912.52	1765.93	9.20	1,916	11.3	29.3	1.280	1.150	15.5
KMCP-4B		6/9/2016	145.65	1912.52	1766.87	9.10	1,868	17.1	18.3	0.952	0.926	15.6
KMCP-4B		8/31/2016	146.19	1912.52	1766.33	9.10	1,727	12.7	22.0	0.687	0.488	14.2
KMCP-4B		10/22/2016	146.73	1912.52	1765.79	8.60	1,695	10.9	22.9	0.491	0.277	14.3
KMCP-4B		4/21/2017	145.71	1912.52	1766.81	9.00	1,747	11	18.5	-	0.320	12.6
KMCP-5A		2/29/2016	94.97	1908.89	1813.92	--	--	--	--	--		--
KMCP-5A		6/15/2016	94.90	1908.89	1813.99	--	--	--	--	--		--
KMCP-5A		8/31/2016	94.88	1908.89	1814.01	--	--	--	--	--		--
KMCP-5A		10/22/2016	94.84	1908.89	1814.05	--	--	--	--	--		--
KMCP-5A		4/21/2017	94.64	1908.89	1814.25	--	--	--	--	--		--
KMCP-5B		2/29/2016	143.23	1908.80	1765.57	8.3	446	8.5	0.1320	0.0170	0.0120	0.134
KMCP-5B		6/15/2016	142.26	1908.80	1766.54	8.3	413	12.6	0.0960	0.0200	0.0130	0.114
KMCP-5B		8/31/2016	142.81	1908.80	1765.99	8.2	439	12.3	0.0510	< 0.0100	< 0.0100	< 0.100
KMCP-5B		10/22/2016	143.32	1908.80	1765.48	7.8	406	9.9	0.0830	0.0100	< 0.0100	< 0.100
KMCP-5B		4/21/2017	142.39	1908.80	1766.41	7.95	399	9.56	0.194	-	< 0.01	0.168

Notes:
< = chemical was not detected at or above the method reporting limit
CN = cyanide
WAD = weak acid dissociable
F = fluoride
mg/L = milligrams per liter
All elevations are above mean sea level
btoc = below top of casing
* - Sample was re-analyzed outside of holding time.
J - Analyte concentration detected at a value between the minimum detection limit and the practical quantitation limit.
-- = sample or data not collected

Kaiser Mead NPL Surface Water Monitoring

Descriptive Name	Sample Location	Date Sampled	pH Std Units	Conductivity umhos/cm	Temp. Deg. C	Total CN mg/L	WAD CN mg/L	Free CN mg/L	F mg/L
Little Spokane River Samples									
At Dartford Rd Bridge	W-24	3/28/2017	6.93	116.5	6.9	<0.0100	-	<0.0100	0.112
Springs									
Bill Rubright	W-2326	10/31/2016	7.25	394	10.3	0.256	-	<0.0100	0.148
Dan Lake	W-195	10/31/2016	7.17	588	10.7	1.34	-	0.022	1.46

Notes:
< = chemical was not detected at or above the method reporting limit
CN = cyanide
WAD = weak acid dissociable
F = fluoride
mg/L = milligrams per liter
nr - no reading recorded

GROUNDWATER SAMPLING DATA SHEET

Well Number	Rubbertight Spring W-2326	Sample Number	
Well Depth		Project/Task	X17055
Water Depth		Date	28 March 17
Feet of Water		Measuring Point	
Gallons per Foot			
Well Volume			
Actual Purge Volume			
Weather	48° F overcast		
Sampler (s)	DAC		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)	ORP
12:13	50.5	394.4	8.82	7.25	N/A	229.7

GROUNDWATER SAMPLING DATA SHEET

Well Number	LAKE SPRINGS - W-195	Sample Number	
Well Depth		Project/Task	X17055
Water Depth		Date	29 MAR 17
Feet of Water		Measuring Point	
Gallons per Foot			
Well Volume			
Actual Purge Volume			
Weather	45° OVERCAST		
Sampler (s)	DJC		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)	ORP
12:03	51.2	598	4.42	7.17	N/A	263.1

GROUNDWATER SAMPLING DATA SHEET

Well Number	W-24 DARTFORD RD B[illegible]	Sample Number	
Well Depth		Project/Task	X17055
Water Depth		Date	28 MAR 17
Feet of Water		Measuring Point	
Gallons per Foot			
Well Volume			
Actual Purge Volume			
Weather	48°F overcast		
Sampler (s)	DX		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

11th pillar
13.89'
to H_2O

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)	ORP
1140	44.5°F	116.5	11.64	6.97	1.5	177.0

GROUNDWATER SAMPLING DATA SHEET

Well Number	KM-1	Sample Number	
Well Depth	162.94	Project/Task	
Water Depth	145.43	Date	24 MAR 17
Feet of Water		Measuring Point	TOC.
Gallons per Foot			
Well Volume			
Actual Purge Volume			
Weather	41°F - Rain		
Sampler (s)	DOC		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)	ORP
					0.25	
1310	53.0	8444	0.27	9.87	1.00	155.4
1318	53.1	6861	0.04	7.80	2.00	128.2
1325	53.1	6372	0.02	9.75	3.00	130.6

GROUNDWATER SAMPLING DATA SHEET

Well Number	KM-2	Sample Number	
Well Depth	157.13	Project/Task	
Water Depth	144.55	Date	24 MAR 17
Feet of Water		Measuring Point	TOC
Gallons per Foot			
Well Volume			
Actual Purge Volume			
Weather	91°F Rain		
Sampler (s)	DPC		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)	ORP
1343	50.5	4439	8.55	9.63	0.25	208.3
1347	51.6	4527	4.49	9.81	0.50	246.2
1352	52.1	4678	2.17	9.86	0.75	226.6
1356	52.0	4694	1.74	9.88	1.00	207.6

GROUNDWATER SAMPLING DATA SHEET

Well Number	KM-3	Sample Number	
Well Depth	~~162.94~~ 171.06	Project/Task	X170
Water Depth	155.23	Date	21MAR17
Feet of Water		Measuring Point	TOC
Gallons per Foot			
Well Volume			
Actual Purge Volume	1.5		
Weather			
Sampler (s)			

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)
1022	54.9	1349.1	7.11 7.11	7.52	0.25
1025	54.3	1224.8	6.10 5.98	7.56	0.75
1028	54.2	1203.9	5.90	7.49	1.0

GPM
116.1
121.1
121.6

GROUNDWATER SAMPLING DATA SHEET

Well Number [illegible] — Sample Number

Well Depth [illegible] — Project/Task

Water Depth [illegible] — Date [illegible]

Feet of Water — Measuring Point

Gallons per Foot

Well Volume

Actual Purge Volume

Weather [illegible]

Sampler (s) [illegible]

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

GROUNDWATER SAMPLING DATA SHEET

Well Number	KM-5	Sample Number	
Well Depth	153.29	Project/Task	
Water Depth	145.25	Date	24 Mar 07
Feet of Water		Measuring Point	Toc
Gallons per Foot			
Well Volume			
Actual Purge Volume	1.0		
Weather	84°F Rain		
Sampler (s)	DDC		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)	ORP
1154	50.0	6681	4.68	10.17	0.25	246.1
1158	50.6	7101	1.67	10.18	0.50	242.8
1202	50.1	6966	1.34	10.17	0.75	240.6
1207	50.7	6863	1.37	10.16	1.0	237.5

GROUNDWATER SAMPLING DATA SHEET

Well Number	KM-6	Sample Number	
Well Depth	155.4	Project/Task	
Water Depth	139.57	Date	24 March 11
Feet of Water		Measuring Point	TOC
Gallons per Foot			
Well Volume			
Actual Purge Volume	1.25		
Weather	41°F Rain		
Sampler (s)	DBC		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)	ORP
1235	49.5	4903	7.50	9.61	0.25	283.2
1237	50.4	4974	2.72	9.78	0.50	211.0
1239	50.8	5100	1.14	9.84	0.75	180.4
1240	50.9	4968	0.79	9.90	1.0	176.6

KM-7 151.75

GROUNDWATER SAMPLING DATA SHEET

Well Number	KMCP-1B	Sample Number	KMCP-1A
Well Depth	181.55	Project/Task	
Water Depth	163.09	Date	21 MAR 17
Feet of Water		Measuring Point	TOC
Gallons per Foot			
Well Volume			
Actual Purge Volume	1.0 g.		
Weather	48°F - Cloudy		
Sampler (s)	DDC		

156.65

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)	ORP
1234	48.7	508	10.20	7.94	0.25	124.0
1237	49.3	506	9.74	7.91	0.50	131.4
1240	49.8	502	9.26	7.90	0.75	139.0
1244	50.2	495.9	8.73	7.93	1.0	146.3

GROUNDWATER SAMPLING DATA SHEET

Well Number	KMCP. 2B	Sample Number	
Well Depth	171.29	Project/Task	X17
Water Depth	158.0	Date	21 MAR 17
Feet of Water		Measuring Point	TOC
Gallons per Foot			
Well Volume			
Actual Purge Volume	1.0		
Weather	46°F · overcast / [illegible]		
Sampler (s)	DDC		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

KMCP. 2A Depth 139.92

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)
1119	50.4	448.6	9.95	7.61	0.25
1120	50.7	436.0	9.52	7.83	0.50
1124	51.0	397.7	8.03	7.93	0.75
1127	51.0	394.4	7.80	7.95	1.0

GLP
273.3
112.5
113.6
115.6

GROUNDWATER SAMPLING DATA SHEET

Well Number	KMCP-3B	Sample Number	
Well Depth	161.53	Project/Task	
Water Depth	156.71	Date	24 MAR [illegible]
Feet of Water		Measuring Point	TOC
Gallons per Foot			
Well Volume			
Actual Purge Volume			
Weather	59°F Slight rain		
Sampler (s)	DK		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

KMCP-3A

106.10

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)
1046	48.6	3376	7.79	9.84	0.25
1051	49.5	3350	4.10	9.89	0.50
1054	50.0	3391	2.77	9.91	0.75
1058	50.3	3405	1.77	9.92	1.0

SLV
279.1
249.0
242.7
231.6

GROUNDWATER SAMPLING DATA SHEET

Well Number	KMCP-4B	Sample Number	
Well Depth	160.59	Project/Task	
Water Depth	145.71	Date	21 MAR 17
Feet of Water		Measuring Point	TOC
Gallons per Foot			
Well Volume			
Actual Purge Volume	1.25		
Weather	48° F / drizzle		
Sampler (s)	DDC		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

KMCP 4A

98.92

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)
1313	50.9	1621	3.66	8.60	0.25
1315	51.7	1788	2.69 ~~3.49~~	9.00	0.50
1318	51.8	1762	1.02	9.01	0.75
1320	51.8	1747	0.58	9.00	1.00

ODP

274.5

219.6

235.1

233.8

flow rate

GROUNDWATER SAMPLING DATA SHEET

KMCP 5A was Dup C1

94.64

Well Number	KMCP - 5B	Sample Number	
Well Depth	152.39	Project/Task	
Water Depth	142.39	Date	21 MAR 17
Feet of Water		Measuring Point	TOC
Gallons per Foot			
Well Volume			
Actual Purge Volume	1.25 g		
Weather	46° - Cloudy - SL. Rain		
Sampler (s)	DDC		

Well Diameter	Gallons per casing foot
4"	
6"	
8"	

Field Parameters

Measured with YSI meter, model 556 MPS

Time	Temperature (degrees F)	Conductivity (uS/sm)	Dissolved Oxygen (mg/L)	pH (0-14)	Approximate Volume Purged (gallons)	ORP
1155	46.5	370.7	10.69	8.25	0.25	108.3
1200	48.7	390.7	9.04	8.01	0.50	124.0
1204	49.2	396.1	8.65	7.96	0.75	144.6
1208	49.2	399.8	8.59	7.95	1.0	154.4

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Budinger & Associates
1101 N. Fancher Road
Spokane Valley, WA 99212

Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0557**
Reported: 07-Apr-17 11:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
KMCP - 1B	X7C0557-01	Ground Water	21-Mar-17 12:41	DC	24-Mar-2017	
KMCP - 2B	X7C0557-02	Ground Water	21-Mar-17 11:30	DC	24-Mar-2017	
KM - 3	X7C0557-03	Ground Water	21-Mar-17 10:32	DC	24-Mar-2017	
KMCP - 4B	X7C0557-04	Ground Water	21-Mar-17 13:15	DC	24-Mar-2017	
KMCP - 5B	X7C0557-05	Ground Water	21-Mar-17 12:05	DC	24-Mar-2017	
KMCP - 3B	X7C0557-06	Ground Water	24-Mar-17 10:13	DC	24-Mar-2017	
KM - 1	X7C0557-07	Ground Water	24-Mar-17 13:30	DC	24-Mar-2017	
KM - 2	X7C0557-08	Ground Water	24-Mar-17 13:50	DC	24-Mar-2017	
KM - 5	X7C0557-09	Ground Water	24-Mar-17 12:00	DC	24-Mar-2017	
KM - 6	X7C0557-10	Ground Water	24-Mar-17 12:40	DC	24-Mar-2017	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

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Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0557**
Reported: 07-Apr-17 11:40

Client Sample ID: **KMCP - 1B**
SVL Sample ID: **X7C0557-01 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 21-Mar-17 12:41
Received: 24-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	Cyanide (free) @ pH 6	< 0.0100	mg/L	0.0100	0.0016		X713074	APH	03/28/17 10:41	
EPA 335.4	**Cyanide (total)**	0.120	mg/L	0.0100	0.0014		X713067	APH	03/27/17 17:58	
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	0.868	mg/L	0.100	0.031		X713083	SMB	04/03/17 18:03	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Project Name: Kaiser Mead Waters 2017
Work Order: X7C0557
Reported: 07-Apr-17 11:40

Client Sample ID: **KMCP - 2B**
SVL Sample ID: **X7C0557-02 (Ground Water)**

Sampled: 21-Mar-17 11:30
Received: 24-Mar-17
Sampled By: DC

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	Cyanide (free) @ pH 6	< 0.0100	mg/L	0.0100	0.0016		X713074	APH	03/28/17 10:43	
EPA 335.4	**Cyanide (total)**	0.0190	mg/L	0.0100	0.0014		X713067	APH	03/27/17 18:00	
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	0.322	mg/L	0.100	0.031		X713083	SMB	04/03/17 18:49	

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Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0557**
Reported: 07-Apr-17 11:40

Client Sample ID: **KM - 3**
SVL Sample ID: **X7C0557-03 (Ground Water)**

Sampled: 21-Mar-17 10:32
Received: 24-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	Cyanide (free) @ pH 6	< 0.0100	mg/L	0.0100	0.0016		X713074	APH	03/28/17 10:45	
EPA 335.4	Cyanide (total)	< 0.0100	mg/L	0.0100	0.0014		X713067	APH	03/27/17 18:02	
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	0.180	mg/L	0.100	0.031		X713083	SMB	04/03/17 19:05	

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Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0557**
Reported: 07-Apr-17 11:40

Client Sample ID: **KMCP - 4B**
SVL Sample ID: **X7C0557-04 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 21-Mar-17 13:15
Received: 24-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	**Cyanide (free) @ pH 6**	0.320	mg/L	0.0100	0.0016		X713074	APH	03/28/17 11:15	
EPA 335.4	**Cyanide (total)**	18.5	mg/L	2.00	0.280	200	X713067	APH	03/27/17 18:04	D2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	12.6	mg/L	0.500	0.155	5	X713083	SMB	04/03/17 19:20	D2

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Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0557**
Reported: 07-Apr-17 11:40

Client Sample ID: **KMCP - 5B**
SVL Sample ID: **X7C0557-05 (Ground Water)**

Sampled: 21-Mar-17 12:05
Received: 24-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	Cyanide (free) @ pH 6	< 0.0100	mg/L	0.0100	0.0016		X713074	APH	03/28/17 10:49	
EPA 335.4	**Cyanide (total)**	0.194	mg/L	0.0100	0.0014		X713067	APH	03/27/17 18:06	M2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	0.168	mg/L	0.100	0.031		X713083	SMB	04/03/17 19:35	

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Project Name: Kaiser Mead Waters 2017
Work Order: X7C0557
Reported: 07-Apr-17 11:40

Client Sample ID: **KMCP - 3B**
SVL Sample ID: **X7C0557-06 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 24-Mar-17 10:13
Received: 24-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	**Cyanide (free) @ pH 6**	0.264	mg/L	0.0100	0.0016		X713074	APH	03/28/17 11:17	
EPA 335.4	**Cyanide (total)**	42.3	mg/L	5.00	0.700	500	X713067	APH	03/27/17 18:14	D2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	29.0	mg/L	0.500	0.155	5	X713083	SMB	04/03/17 19:51	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0557**
Reported: 07-Apr-17 11:40

Client Sample ID: **KM - 1**
SVL Sample ID: **X7C0557-07 (Ground Water)**

Sampled: 24-Mar-17 13:30
Received: 24-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	**Cyanide (free) @ pH 6**	0.154	mg/L	0.0100	0.0016		X713074	APH	03/28/17 11:19	
EPA 335.4	**Cyanide (total)**	27.3	mg/L	5.00	0.700	500	X713067	APH	03/27/17 18:16	D2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	55.1	mg/L	1.00	0.310	10	X713083	SMB	04/04/17 09:08	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0557**
Reported: 07-Apr-17 11:40

Client Sample ID: **KM - 2**
SVL Sample ID: **X7C0557-08 (Ground Water)**

Sampled: 24-Mar-17 13:50
Received: 24-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	**Cyanide (free) @ pH 6**	0.489	mg/L	0.0100	0.0016		X713074	APH	03/28/17 11:13	
EPA 335.4	**Cyanide (total)**	63.6	mg/L	5.00	0.700	500	X713067	APH	03/27/17 19:13	D2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	39.2	mg/L	1.00	0.310	10	X713083	SMB	04/04/17 09:39	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0557**
Reported: 07-Apr-17 11:40

Client Sample ID: **KM - 5**
SVL Sample ID: **X7C0557-09 (Ground Water)**

Sampled: 24-Mar-17 12:00
Received: 24-Mar-17
Sampled By: DC

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	**Cyanide (free) @ pH 6**	0.164	mg/L	0.0100	0.0016		X713074	APH	03/28/17 11:21	
EPA 335.4	**Cyanide (total)**	67.3	mg/L	10.0	1.40	1000	X713067	APH	03/27/17 19:15	D2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	60.9	mg/L	1.00	0.310	10	X713083	SMB	04/04/17 09:54	D2

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Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0557**
Reported: 07-Apr-17 11:40

Client Sample ID: **KM - 6**
SVL Sample ID: **X7C0557-10 (Ground Water)**

Sampled: 24-Mar-17 12:40
Received: 24-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	**Cyanide (free) @ pH 6**	0.306	mg/L	0.0100	0.0016		X713074	APH	03/28/17 11:23	
EPA 335.4	**Cyanide (total)**	86.8	mg/L	5.00	0.700	500	X713067	APH	03/27/17 19:17	D2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	41.3	mg/L	1.00	0.310	10	X713083	SMB	04/04/17 10:10	D2

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Sample Receipt Confirmation

Work Order
X7C0557

Date Due: 7-Apr-17 (10 day TAT)
Received: 24-Mar-17 15:40

Client: **Budinger & Associates**
Project: **Kaiser Mead Waters 2017**
Project Manager: **Christine Meyer**

Report To:
Budinger & Associates
Steve Burchett
1101 N. Fancher Road
Spokane Valley, WA 99212
Phone: (509) 535-8841
Fax: (509) 535-9589

Invoice To:
Budinger & Associates
Steve Burchett
1101 N. Fancher Road
Spokane Valley, WA 99212
Phone: (509) 535-8841
Fax: (509) 535-9589

Cooler information for **Default Cooler** Temp: 3.0°C Q6: Cooler temp outside 0-6°C **No**
Custody Seals **No** Containers Intact **Yes** COC/Labels Agree **Yes** Preservation Confirmed **No** Received On Ice **Yes**

Sample information and analyses assigned	Comments	Removed Analyte
X7C0557-01 **KMCP - 1B [Ground Water] 21-Mar-17 12:41 Pacific** Budinger - Kaiser 2017		
X7C0557-02 **KMCP - 2B [Ground Water] 21-Mar-17 11:30 Pacific** Budinger - Kaiser 2017		
X7C0557-03 **KM - 3 [Ground Water] 21-Mar-17 10:32 Pacific** Budinger - Kaiser 2017		
X7C0557-04 **KMCP - 4B [Ground Water] 21-Mar-17 13:15 Pacific** Budinger - Kaiser 2017		
X7C0557-05 **KMCP - 5B [Ground Water] 21-Mar-17 12:06 Pacific** Budinger - Kaiser 2017		
X7C0557-06 **KMCP - 3B [Ground Water] 24-Mar-17 10:13 Pacific** Budinger - Kaiser 2017	RAW ID READS KCCP-3B	
X7C0557-07 **KM - 1 [Ground Water] 24-Mar-17 13:30 Pacific** Budinger - Kaiser 2017		
X7C0557-08 **KM - 2 [Ground Water] 24-Mar-17 13:50 Pacific** Budinger - Kaiser 2017		
X7C0557-09 **KM - 5 [Ground Water] 24-Mar-17 12:00 Pacific** Budinger - Kaiser 2017		
X7C0557-10 **KM - 6 [Ground Water] 24-Mar-17 12:40 Pacific** Budinger - Kaiser 2017		

Analysis groups included in this work order

Budinger - Kaiser 2017

300.0 F CN Free ASTM D7237 CN T 335.4

Solid samples will be analyzed on an as-received, wet-weight basis unless otherwise instructed.
Work Order Comments:

Reviewed By Date

Samples will be disposed 30 days from report date (45 for soils). Longer archiving must be requested.
Please contact Crystal Sevy (208-784-1258) if you have questions regarding the receipt of these samples.

Printed: 3/27/2017 12:03 PM

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

Sample Receipt Confirmation

Work Order
X7C0557

Date Due: 7-Apr-17 (10 day TAT)
Received: 24-Mar-17 15:40

Client: **Budinger & Associates**
Project: **Kaiser Mead Waters 2017**

Project Manager: **Christine Meyer**

	X7C0557-01 KMCP - 1B Water	X7C0557-02 KMCP - 2B Water	X7C0557-03 KM - 3 Water	X7C0557-04 KMCP - 4B Water	X7C0557-05 KMCP - 5B Water	X7C0557-06 KMCP - 3B Water	X7C0557-07 KM - 1 Water	X7C0557-08 KM - 2 Water
CN Free ASTM D7237	X	X	X	X	X	X	X	X
300.0 F	X	X	X	X	X	X	X	X
CN T 335.4	X	X	X	X	X	X	X	X

	X7C0557-09 KM - 5 Water	X7C0557-10 KM - 6 Water
CN Free ASTM D7237	X	X
300.0 F	X	X
CN T 335.4	X	X

Samples will be disposed 30 days from report date (45 for soils). Longer archiving must be requested.
Please contact Crystal Sevy (208-784-1258) if you have questions regarding the receipt of these samples.

Printed: 3/27/2017 12:03 PM

Work Order: X7C0557
Budinger & Associates

X7C0557

Page 1 of 1

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SVL JOB #

TEMP on Receipt: 3°C

SVL Analytical, Inc. • [illegible] FAX: (208) 783-0891

Report to Company: Budinger & Associates
Contact: Steve Burchett
Address: 1101 N. Fancher
Spokane Valley, WA 99212
Phone Number: 509-535-8841
FAX Number:
E-mail: sburchett@budingerinc.com

Invoice Sent To: SAME
Contact:
Address:
Phone Number:
FAX Number:
PO#:

Table 1. -- Matrix Type
1 = Surface Water, (2) = Ground Water
3 = Soil, 4 = Sediment, 5 = Rock, 6 = Rinsate, 7 = Oil
8 = Waste, 9 = Other:

Project Name: Kaiser Mead
Sampler's Signature:

Indicate State of sample origination: WA

	Sample ID	Collection Date	Collection Time	Collected by: (Init.)	Misc. Matrix Type (From Table 1)	Misc. No. of Containers	Preservative(s) Unpreserved	HNO_3 Filtered	HNO_3 Unfiltered	HCl	H_2SO_4	NaOH	Other (Specify)	Analyses Required F	Analyses Required CN- (Total & Free)	Rush Instructions (Days)	Comments
	Please take care to distinguish between: 1 and I, 2 and Z, 5 and S, Ø and O. Thanks!																
1	KMCP-1B	3-21-17	1241	DC	2	2	X					X		X	X		
2	KMCP-2B	3-21-17	1130	DC	2	2											
3	KM-3	3-21-17	1032	DC	2	2											
4	KMCP-4B	3-21-17	1315	DC	2	2											
5	KMCP-5B	3-21-17	1205	DC	2	2											
* 6	KMCP-3B	3-24-17	1013	DC	2	2											
7	KM-1	3-24-17	1330	DC	2	2											
8	KM-2	3-24-17	1350	DC	2	2											
9	KM-5	3-24-17	1200	DC	2	2											
10	KM-6	3-24-17	1240	DC	2	2											

Derry

Relinquished by:	Date: 03/24/17	Time: 1540	Received by:	Date: 03/24/17	Time: 1540
Relinquished by:	Date: 03/27/17	Time: 0840	Received by:	Date: 3/27/17	Time: 8:40
				Date: 3/27/17	Time: 09:50

* Sample Reject ☐ Return ☐ Dispose ☐ Store (30 Days)

White: LAB COPY Yellow: CUSTOMER COPY

SVL-COC 01/14

* SAMPLE ID FOR RAW READS KCCP-3B 3/27/17

SAMPLE RECEIPT/CHAIN-OF -CUSTODY CHECKLIST

The following items were checked for completeness, correctness, and compliance to project specifications using the Chain-of-Custody (COC) and other supporting information.

Date of acceptance: 03/24/17 By: Yohann

SVL Work No: XTC0557 GW Kaiser Mead

Item	Description	V	VC	NV	NA	Comments
1	Client or project name					Budinger & Associates
2	Date and time of receipt at lab					03-24-17 1540
3	Received by					BJ
4	Temperature blank or cooler temperature					Temp. 3 °C.
5	Were the sample(s) received on ice					Yes
6	Custody tape/bottle seals					
7	Condition of samples upon receipt (leaking; bubbles in VOA vials					
8	Sample numbers/IDs agree with COC					
9	Sample date & time agree with COC					
10	Number of containers for each sample					
11	The correct preservative for the analysis requested					Cool NaOH HDPE pres by client
12	Did an SVL employee preserve sample(s) upon receipt					
12	Type of container for each sample / volume received					
13	Analysis requested for each sample					
14	Sample matrix description					
15	COC properly completed & legible					
16	Corrections properly made (initials & date)					
17	Additional comments or records of sample condition or treatment (unlisted or missing samples at laboratory, aliquot taken, sample hold, samples subcontracted, communications between client and laboratory)					F (Fluoride) KLG- CN (Total & Free) (10)
18	Shipper's air bill					

V- Verified VC- Verified Corrections Made NV-Not Verified NA- Not Applicable

Additional Comments: _____

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Budinger & Associates
1101 N. Fancher Road
Spokane Valley, WA 99212

Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0595**
Reported: 10-Apr-17 09:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
KM - 4	X7C0595-01	Ground Water	28-Mar-17 10:45	DC	28-Mar-2017	
W-195 Lake Spring	X7C0595-02	Ground Water	28-Mar-17 12:01	DC	28-Mar-2017	
W-2326 Rubright Spring	X7C0595-03	Ground Water	28-Mar-17 11:50	DC	28-Mar-2017	
W-24 Dartford Rd Bridge	X7C0595-04	Ground Water	28-Mar-17 11:30	DC	28-Mar-2017	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

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1101 N. Fancher Road
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Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0595**
Reported: 10-Apr-17 09:07

Client Sample ID: **KM - 4**
SVL Sample ID: **X7C0595-01 (Ground Water)**

Sampled: 28-Mar-17 10:45
Received: 28-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	Cyanide (free) @ pH 6	< 0.0100	mg/L	0.0100	0.0016		X714055	APH	04/04/17 14:33	
EPA 335.4	Cyanide (total)	< 0.0100	mg/L	0.0100	0.0014		X713167	APH	03/30/17 12:27	
Anions by Ion Chromatography										
EPA 300.0	Fluoride	< 0.100	mg/L	0.100	0.031		X713146	SMB	04/03/17 23:52	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Budinger & Associates
1101 N. Fancher Road
Spokane Valley, WA 99212

Project Name: Kaiser Mead Waters 2017
Work Order: X7C0595
Reported: 10-Apr-17 09:07

Client Sample ID: **W-195 Lake Spring**
SVL Sample ID: **X7C0595-02 (Ground Water)**

Sampled: 28-Mar-17 12:01
Received: 28-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	**Cyanide (free) @ pH 6**	0.0220	mg/L	0.0100	0.0016		X714055	APH	04/04/17 14:35	
EPA 335.4	**Cyanide (total)**	1.34	mg/L	0.100	0.0140	10	X713167	APH	03/30/17 12:29	D2
Anions by Ion Chromatography										
EPA 300.0	**Fluoride**	1.46	mg/L	0.100	0.031		X713146	SMB	04/04/17 00:36	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Budinger & Associates
1101 N. Fancher Road
Spokane Valley, WA 99212

Project Name: Kaiser Mead Waters 2017
Work Order: X7C0595
Reported: 10-Apr-17 09:07

Client Sample ID: **W-2326 Rubright Spring**
SVL Sample ID: **X7C0595-03 (Ground Water)**

Sampled: 28-Mar-17 11:50
Received: 28-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	Cyanide (free) @ pH 6	< 0.0100	mg/L	0.0100	0.0016		X714055	APH	04/04/17 14:37	
EPA 335.4	Cyanide (total)	0.256	mg/L	0.0500	0.0070	5	X713167	APH	03/30/17 12:30	D2
Anions by Ion Chromatography										
EPA 300.0	Fluoride	0.148	mg/L	0.100	0.031		X713146	SMB	04/04/17 00:51	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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Spokane Valley, WA 99212

Project Name: Kaiser Mead Waters 2017
Work Order: **X7C0595**
Reported: 10-Apr-17 09:07

Client Sample ID: **W-24 Dartford Rd Bridge**
SVL Sample ID: **X7C0595-04 (Ground Water)**

Sample Report Page 1 of 1

Sampled: 28-Mar-17 11:30
Received: 28-Mar-17
Sampled By: DC

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	Cyanide (free) @ pH 6	< 0.0100	mg/L	0.0100	0.0016		X714055	APH	04/04/17 14:45	
EPA 335.4	Cyanide (total)	< 0.0100	mg/L	0.0100	0.0014		X713167	APH	03/30/17 12:33	
Anions by Ion Chromatography										
EPA 300.0	Fluoride	0.112	mg/L	0.100	0.031		X713146	SMB	04/04/17 01:06	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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1101 N. Fancher Road
Spokane Valley, WA 99212

Project Name: Kaiser Mead Waters 2017
Work Order: X7C0595
Reported: 10-Apr-17 09:07

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Classical Chemistry Parameters								
ASTM D7237	Cyanide (free) @ pH 6	mg/L	<0.0100	0.0016	0.0100	X714055	04-Apr-17	
EPA 335.4	Cyanide (total)	mg/L	<0.0100	0.0014	0.0100	X713167	30-Mar-17	
Anions by Ion Chromatography								
EPA 300.0	Fluoride	mg/L	<0.100	0.031	0.100	X713146	03-Apr-17	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Classical Chemistry Parameters									
ASTM D7237	Cyanide (free) @ pH 6	mg/L	0.148	0.150	98.7	90 - 110	X714055	04-Apr-17	
EPA 335.4	Cyanide (total)	mg/L	0.153	0.150	102	90 - 110	X713167	30-Mar-17	
Anions by Ion Chromatography									
EPA 300.0	Fluoride	mg/L	2.01	2.00	100	90 - 110	X713146	03-Apr-17	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Classical Chemistry Parameters										
ASTM D7237	Cyanide (free) @ pH 6	mg/L	0.101	<0.0100	0.100	101	79 - 121	X714055	04-Apr-17	
EPA 335.4	Cyanide (total)	mg/L	0.106	<0.0100	0.100	103	90 - 110	X713167	30-Mar-17	
EPA 335.4	Cyanide (total)	mg/L	0.107	0.0300	0.100	77.0	90 - 110	X713167	30-Mar-17	M2
Anions by Ion Chromatography										
EPA 300.0	Fluoride	mg/L	1.95	<0.100	2.00	95.1	90 - 110	X713146	04-Apr-17	

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	%R	RPD	RPD Limit	Batch ID	Analyzed	Notes
Classical Chemistry Parameters											
ASTM D7237	Cyanide (free) @ pH 6	mg/L	0.101	0.101	0.100	101	0.0	11	X714055	04-Apr-17	
EPA 335.4	Cyanide (total)	mg/L	0.104	0.106	0.100	101	1.9	20	X713167	30-Mar-17	
Anions by Ion Chromatography											
EPA 300.0	Fluoride	mg/L	1.94	1.95	2.00	94.3	0.9	20	X713146	04-Apr-17	

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Budinger & Associates
1101 N. Fancher Road
Spokane Valley, WA 99212

Project Name: Kaiser Mead Waters 2017
Work Order: X7C0595
Reported: 10-Apr-17 09:07

Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
M2	Matrix spike recovery was low, but the LCS recovery was acceptable.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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X7C0595

INVOICE

ATTN : Steve Burchett
Budinger & Associates
1101 N. Fancher Road
Spokane Valley, WA 99212

P.O. Number :
Invoice No. : X7C0595
Date : 10-Apr-17
Comment :

Remit To: SVL Analytical, Inc.
One Government Gulch
PO BOX 929
Kellogg, ID 83837-0929

SVL Sample ID	Customer Sample ID	Date Sampled	Analysis Requested	Cost	Rush	Total
Project: Kaiser Mead Waters 2017						
X7C0595-01	KM - 4	03/28/2017	Budinger - Kaiser 2017	$66.00	$0.00	$66.00
X7C0595-02	W-195 Lake Spring	03/28/2017	Budinger - Kaiser 2017	$66.00	$0.00	$66.00
X7C0595-03	W-2326 Rubright Spring	03/28/2017	Budinger - Kaiser 2017	$66.00	$0.00	$66.00
X7C0595-04	W-24 Dartford Rd Bridge	03/28/2017	Budinger - Kaiser 2017	$66.00	$0.00	$66.00

The Rush column indicates extra charges for rush analysis or other additional charges.

TOTAL: $264.00

Posted: 4/10/17 10:01 AM

Work Order: **X7C0595**
Budinger & Associates

C

SVL Analytical, Inc. — FAX: (208) 783-0891

Page 1 of 1

X7C0595

FOR SVL USE ONLY
SVL JOB #

TEMP on Receipt: 5°C

Report to Company:	Budinger & Associates
Contact:	Steve Burchett
Address:	1101 N. Fraser
	Spokane Valley WA
Phone Number:	509-535-8841
FAX Number:	
E-mail:	sburchett@budingerinc.com

Invoice Sent To:	SA
Contact:	
Address:	
Phone Number:	
FAX Number:	
PO#:	

Table 1. -- Matrix Type
1 = Surface Water, 2 = Ground Water
3 = Soil, 4 = Sediment, 5 = Rock, 6 = Rinsate, 7 = Oil
8 = Waste, 9 = Other: ____

Project Name: X17055 Kaiser Mead

Sampler's Signature:

Indicate State of sample origination: GW

	Sample ID	Collection Date	Collection Time	Collected by: (Init.)	Misc. Matrix Type (From Table 1)	Misc. No. of Containers	Preservative(s) Unpreserved	HNO_3 Filtered	HNO_3 Unfiltered	HCl	H_2SO_4	NaOH	Other (Specify)	Analyses Required: Fluoride	Analyses Required: Cyanide (Total & Free)	Rush Instructions (Days)	Comments
	Please take care to distinguish between: 1 and I, 2 and Z, 5 and S, Ø and O. Thanks!																
1	KM-4	3-28-17	1045	DC	2	2	1					1		X	X		
2	W-195 Lake Spring	3-28-17	1201	DC	2	2	1					1		X	X		
3	W-2326 Rubright Spring	3-28-17	1150	DC	2	2	1					1		X	X		
4	W-24 Dartford Rd. Both	3-28-17	1130	DC	2	2	1					1		X	X		
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished by:	Date: 3/28/17	Time: 1600	Received by:	Date: 3/28/17	Time: 1600
Relinquished by:	Date: 3/29/17	Time: 0900	Received by:	Date: 3/29/17	Time: 09:25

* Sample Reject ☐ Return ☐ Dispose ☐ Store (30 Days)

White: LAB COPY Yellow: CUSTOMER COPY

SVL-COC 01/14

SAMPLE RECEIPT/CHAIN-OF -CUSTODY CHECKLIST

The following items were checked for completeness, correctness, and compliance to project specifications using the Chain-of-Custody (COC) and other supporting information.

Date of acceptance: 03/28/17 By: Johann

SVL Work No: X7C0595

GW Kaiser Mead Waters 2017

Item	Description	V	VC	NV	NA	Comments
1	Client or project name					Budinger & Associates
2	Date and time of receipt at lab					03-28-17 1600
3	Received by					BP PJ
4	Temperature blank or cooler temperature					Temp. 5 °C.
5	Were the sample(s) received on ice					Yes
6	Custody tape/bottle seals					
7	Condition of samples upon receipt (leaking; bubbles in VOA vials					
8	Sample numbers/IDs agree with COC					
9	Sample date & time agree with COC					
10	Number of containers for each sample					
11	The correct preservative for the analysis requested					Cool NaOH pres. by client
12	Did an SVL employee preserve sample(s) upon receipt					
12	Type of container for each sample / volume received					
13	Analysis requested for each sample					
14	Sample matrix description					
15	COC properly completed & legible					
16	Corrections properly made (initials & date)					
17	Additional comments or records of sample condition or treatment (unlisted or missing samples at laboratory, aliquot taken, sample hold, samples subcontracted, communications between client and laboratory)					KLG- Fluoride Cyanide Total & Free (4)
18	Shipper's air bill					

V- Verified VC- Verified Corrections Made NV-Not Verified NA- Not Applicable

Additional Comments: _____