

October 18, 2010

Project No. 923-1000-002.R273

Mr. Bill Kombol
Palmer Coking Coal Company
31407 Highway 169
Black Diamond, WA 98010

RE: LANDSBURG MINE SITE INTERIM GROUNDWATER MONITORING RESULTS – JUNE 2010

Dear Bill:

Golder Associates Inc. (Golder) completed an interim groundwater monitoring event at the Landsburg Mine Site during June, 2010. Groundwater samples were collected from monitoring wells LMW-2, LMW-3, LMW-4, LMW-5, LMW-6, LMW-7, LMW-8, LMW-9, LMW-10, and LMW-11 (see Figure 1). Monitoring wells LMW-2, LMW-4 and LMW-10 are completed to monitor shallow and deeper zones within the Rogers coal seam north of the Rogers Coal mine subsidence trench. Monitoring wells LMW-3 and LMW-5 are completed to monitor the shallow (~ 40 feet depth) and deeper zone (~ 250 feet depth), respectively, within the Rogers coal seam at the south end of the mine. See Figure 2 for a cross-section along the strike at the coal seam that also depicts the location of the monitoring wells. Monitoring well LMW-8 is receiving groundwater before discharge from Portal 3 and the mine access incline at the south end on the Rogers Coal Mine. These wells are located along the primary groundwater pathways for detection of a chemical release from the mine. Groundwater samples were also collected from well LMW-9 and the new deep well LMW-11, which monitor groundwater from within the Rogers Coal Mine near its south end. Wells LMW-9 and LMW-11 are receiving groundwater from near the top of the water table and near the bottom of the mine, respectively. Wells LMW-6 and LMW-7 monitor groundwater from the Frasier and Landsburg coal mines to the west and east of the Rogers coal mine, respectively.

Groundwater sampling was conducted in accordance with the *Draft Interim Groundwater Monitoring Plan, Landsburg Mine Site* (Golder 1997), and included the following activities:

- Measurement of static water levels at monitoring wells
- Well purging to insure sample representativeness with the currently installed dedicated pumping systems
- Measurement of field parameters including: pH, specific conductance, temperature, dissolved oxygen, Eh, and turbidity
- Collection of representative samples in appropriate containers; metals samples were not field filtered
- Analyses of groundwater for volatile organic compounds (EPA Method 8260B), priority pollutant metals (EPA Method 6000/7000 Series), and a petroleum hydrocarbon identification scan (HCID)

The attached Appendix A presents the laboratory analytical reports for all analyses. Sampling activities were documented on Sample Integrity Data Sheets (SIDS). Copies of the completed SIDS are provided in Appendix B. Table 1 presents water depth measurements and elevations that were collected from wells prior to sampling activities. Groundwater levels are similar to previous monitoring periods and indicate that groundwater is discharging out both ends of the Rogers Coal mine.

Following sample collection, all bottles were sealed, labeled, and placed in an iced cooler until delivery to the laboratory. All groundwater samples from monitoring wells were transported under chain-of-custody procedures to Test America Corporation, of Tacoma, Washington, for analyses. Screening levels are



based on maximum contaminant levels (MCLs) or State of Washington MTCA Method B groundwater cleanup levels whichever value is less. In cases where an established MCL or Method B Cleanup Level does not exist, a similar (surrogate) compound regulatory screening level is identified for comparison.

The analytical results indicate no significant changes in groundwater conditions from those observed during the remedial investigation (RI) and on-going interim groundwater monitoring. Table 2 presents the field parameter measurements and laboratory analytical results for each groundwater sample. Laboratory analyses did not detect any volatile organic compound (VOC) or petroleum hydrocarbon (HCID) in any of the groundwater samples. The primary parameters detected in groundwater samples were metals that are naturally occurring. The method reporting limits (MRLs) and method detection limits (MDLs) for all analytes were at or below acceptable concentrations under the Model Toxics Control Act (MTCA).

Several groundwater samples from site wells contained iron and manganese concentrations above State of Washington secondary drinking water levels (SMCLs) of 0.3 µg/L and 0.05 µg/L, respectively, which are not health-based standards, but are protective of aesthetic qualities of water. Iron and Manganese are naturally occurring metals that are typically associated with groundwater from coal mines. The concentrations of iron and manganese detected during the June 2010 sampling event are similar to concentrations detected during the RI (Golder 1996)¹ and the Interim Groundwater Sampling events previously conducted at the site.

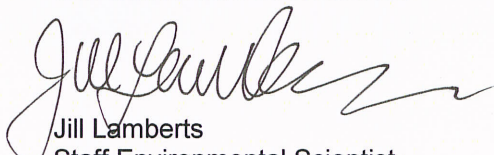
The groundwater sample from the deep well (LMW-11) contained total arsenic at a concentration of 9.7 µg/L, which is less than the Washington State primary drinking water MCL of 10 µg/L, but higher than the MTCA groundwater cleanup level of 5 µg/L. Arsenic is also a naturally occurring metal commonly detectable in groundwater and the unfiltered sample contained suspended solid particles probably from the coal mine residues that add arsenic to the water sample. The MTCA groundwater cleanup level is based on groundwater background levels in the State. It is probable that the arsenic concentrations are naturally occurring deep within the mine where groundwater is more stagnant and its geochemistry may be different than shallow groundwater within the mine.

Methylene chloride was detected in the equipment blank sample. None of these constituents were detected in any groundwater samples. Methylene chloride is a compound used in analytical-laboratories and is a common contaminant during sample analysis. It is suspected that this single detection of methylene chloride in the equipment blank was caused by the laboratory.

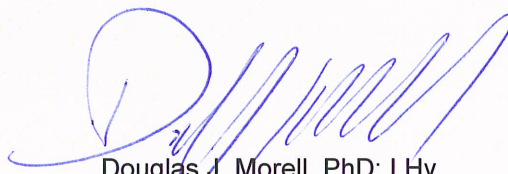
If you have any questions or require any additional information, please contact Douglas Morell at (425) 883-0777.

Sincerely,

GOLDER ASSOCIATES INC.



Jill Lamberts
Staff Environmental Scientist



Douglas J. Morell, PhD; LHy
Principal

Attachments: Tables 1 & 2
Figures 1 & 2
Appendices A & B

JL/DJM/tp

¹ Golder Associates Inc. 1996. *Remedial Investigation and Feasibility Study for the Landsburg Mine Site*. Landsburg PLP Steering Committee.

TABLES

TABLE 1
GROUNDWATER ELEVATION DATA COLLECTION JUNE 9, 2010
LANDSBURG MINE SITE

	UNITS	LMW-1	LMW-1a	LMW-2	LMW-3	LMW-4*	LMW-5	LMW-6	LMW-7*	LMW-8	LMW-9	LMW-10	LMW-11	P-2	Water Drainage	Seam Tunnel
Water Depths																
Time of data collection	ft bgs	11:34 AM	11:50 AM	11:08 AM	1:52 PM	11:14 AM	1:30 PM	12:03 PM	10:42 AM	1:57 PM	12:49 PM	11:17 AM	1:03 PM	1:41 PM	NA	NA
Measured to Top of PVC	ft bgs	132.83	121.71	6.51	11.53	7.99	12.89	21.37	210.95	2.88	98.07	0.00	156.25	5.36	NA	NA
Measured to Top of Monument	ft bgs	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NA	NA
Surveyed Elevation																
Top of PVC	ft asl	765.16	759.51	617.73	656.75	619.26	658.27	632.33	771.51	646.97	743.99	618.87	801.87	651.37	NA	NA
Top of Monument	ft asl	765.89	NC	618.29	657.48	619.85	658.87	633.00	771.88	NC	NC	NC	802.20	NC	NA	NA
Ground Level	ft asl	762.90	756.59	615.35	654.40	617.09	655.63	629.95	768.79	645.25	741.13	615.75	799.50	648.54	551.38	542.15
Corrected Water Elevation																
Using PVC elevation	ft asl	632.33	637.80	611.22	645.22	611.27	645.38	610.96	560.56	644.09	645.92	618.87	645.62	646.01	NA	NA
Using Monument elevation	ft asl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
 * = Data corrected to accommodate well inclination of 20° from vertical
 NA = Not applicable.
 NC = Data not collected.

TABLE 2
JUNE 2010 GROUNDWATER ANALYTICAL RESULTS
LANDSBURG MINE SITE

ANALYTE	UNITS	LMW-2 6/11/2010	LMW-3 6/10/2010	LMW-4 6/11/2010	LMW-5 6/9/2010	LMW-6 6/11/2010	LMW-7 6/14/2010	LMW-7 Duplicate 6/14/2010	LMW-8 6/11/2010	LMW-9 6/10/2010	LMW-10 6/11/2010	LMW-11 6/10/2010	Equipment Blank 6/11/2010	Trip Blank 6/9/2010	Trip Blank 6/14/2010
Field Parameter															
pH	stnd	6.86	7.76	6.87	7.00	6.83	7.12	NA	6.88	7.00	8.61	7.25	NA	NA	NA
Conductivity	uS/cm	949	277.7	957	749	229.2	514	NA	432	675	329	495	NA	NA	NA
Dissolved Oxygen	mg/L	0.01	0.10	3.62	0.01	0.01	0.05	NA	0.21	0.02	2.36	0.24	NA	NA	NA
Temperature	°C	10.7	10.7	10.5	11.0	9.9	12.2	NA	12.1	12.1	10.5	10.9	NA	NA	NA
E _n	Rel mV	116.8	187.3	51.2	132.1	197.1	142.9	NA	117.0	145.8	107.6	148.2	NA	NA	NA
Turbidity	NTU	0.56	0.38	0.42	0.39	1.07	0.97	NA	1.14	0.41	0.48	0.4	NA	NA	NA
Metals (Total)															
Aluminum	mg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA
Antimony	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	NA	NA
Arsenic	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0097	0.0020 U	NA	NA
Barium	mg/L	0.37	0.073	0.38	0.29	0.11	0.56	0.56	0.040	0.32	0.036	0.32	0.0060 U	NA	NA
Beryllium	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	NA	NA
Cadmium	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	NA	NA
Calcium	mg/L	120	36	120	96	26	59	58	51	85	6.6	59	1.1 U	NA	NA
Chromium	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0040	0.0038	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	NA	NA
Cobalt	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	NA	NA
Copper	mg/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	NA	NA
Iron	mg/L	0.20 U	0.20 U	0.72	0.20 U	2.0	1.3	1.3	9.0	1.6	0.20 U	2.5	0.20 U	NA	NA
Lead	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	NA	NA
Magnesium	mg/L	72	12	69	53	10	27	26	27	46	2.5	28	1.1 U	NA	NA
Manganese	mg/L	0.24	0.042	0.20	0.26	0.034	0.20	0.19	0.47	0.19	0.0076	0.16	0.0020 U	NA	NA
Mercury	mg/L	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U	NA	NA
Nickel	mg/L	0.0030	0.0020 U	0.0032	0.0025	0.0020 U	0.0020 U	0.0020 U	0.0041	0.0023	0.0020 U	0.0024	0.0020 U	NA	NA
Potassium	mg/L	3.8	3.3 U	3.8	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	NA	NA
Selenium	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0023	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	NA	NA
Silver	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	NA	NA
Sodium	mg/L	23	10	29	18	7.2	38	38	11	17	80	24	2.0 U	NA	NA
Thallium	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	NA	NA
Vanadium	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	NA	NA
Zinc	mg/L	0.0070 U	0.0070 U	0.0070 U	0.0070 U	0.0070 U	0.0070 U	0.0070 U	0.0070 U	0.0070 U	0.0070 U	0.0070 U	0.0070 U	NA	NA
Volatile Organic Compounds															
1,1,1,2-Tetrachloroethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1,1-Trichloroethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1,2,2-Tetrachloroethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1-Dichloroethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1-Dichloroethene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,1-Dichloropropene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2,3-Trichlorobenzene	µg/L	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
1,2,3-Trichloropropane	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,4-Trichlorobenzene	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,4-Trimethylbenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dibromo-3-Chloropropane	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dibromoethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,2-Dichlorobenzene	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloroethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U

TABLE 2
JUNE 2010 GROUNDWATER ANALYTICAL RESULTS
LANDSBURG MINE SITE

ANALYTE	UNITS	LMW-2	LMW-3	LMW-4	LMW-5	LMW-6	LMW-7	LMW-7	LMW-8	LMW-9	LMW-10	LMW-11	Equipment	Trip	Trip	
		6/11/2010	6/10/2010	6/11/2010	6/9/2010	6/11/2010	6/14/2010	Duplicate	6/11/2010	6/10/2010	6/11/2010	6/10/2010	6/11/2010	Blank	Blank	Blank
1,2-Dichloropropane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,3,5-Trichlorobenzene	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3,5-Trimethylbenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,3-Dichlorobenzene	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3-Dichloropropane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
1,4-Dichlorobenzene	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2,2-Dichloropropane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
2-Butanone	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
2-Chloroethyl vinyl ether	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2-Chlorotoluene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
2-Hexanone	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
4-Isopropyltoluene	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
4-Methyl-2-pentanone	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Acetone	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Acrolein	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Acrylonitrile	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromobenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromochloromethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromodichloromethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromoform	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Bromomethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Carbon disulfide	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Carbon tetrachloride	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chlorobenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chlorodibromomethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chloroethane	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroform	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Chloromethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
cis-1,2-Dichloroethene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
cis-1,3-Dichloropropene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Dibromomethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Ethylbenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Hexachloro-1,3-butadiene	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Iodomethane	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Isopropylbenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Methylene Chloride	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.55	0.10 U	0.10 U
m-Xylene & p-Xylene	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Naphthalene	µg/L	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
n-Butylbenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
N-Propylbenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
o-Xylene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
sec-Butylbenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Styrene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
tert-Butylbenzene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Tetrachloroethene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Toluene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
trans-1,2-Dichloroethene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
trans-1,3-Dichloropropene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U

TABLE 2
JUNE 2010 GROUNDWATER ANALYTICAL RESULTS
LANDSBURG MINE SITE

ANALYTE	UNITS	LMW-2 6/11/2010	LMW-3 6/10/2010	LMW-4 6/11/2010	LMW-5 6/9/2010	LMW-6 6/11/2010	LMW-7 6/14/2010	LMW-7 Duplicate 6/14/2010	LMW-8 6/11/2010	LMW-9 6/10/2010	LMW-10 6/11/2010	LMW-11 6/10/2010	Equipment Blank 6/11/2010	Trip Blank 6/9/2010	Trip Blank 6/14/2010	
trans-1,4-Dichloro-2-butene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Trichloroethene	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Trichlorofluoromethane	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Vinyl acetate	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	
Vinyl chloride	µg/L	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	
Xylenes, Total	µg/L	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Hydrocarbon Identification																
Diesel Range	mg/L	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	NA	NA
Gas Range	mg/L	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.094 U	0.094 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	NA	NA
Heavy Fuel Oil	mg/L	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.47 U	0.47 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	NA	NA

FIGURES

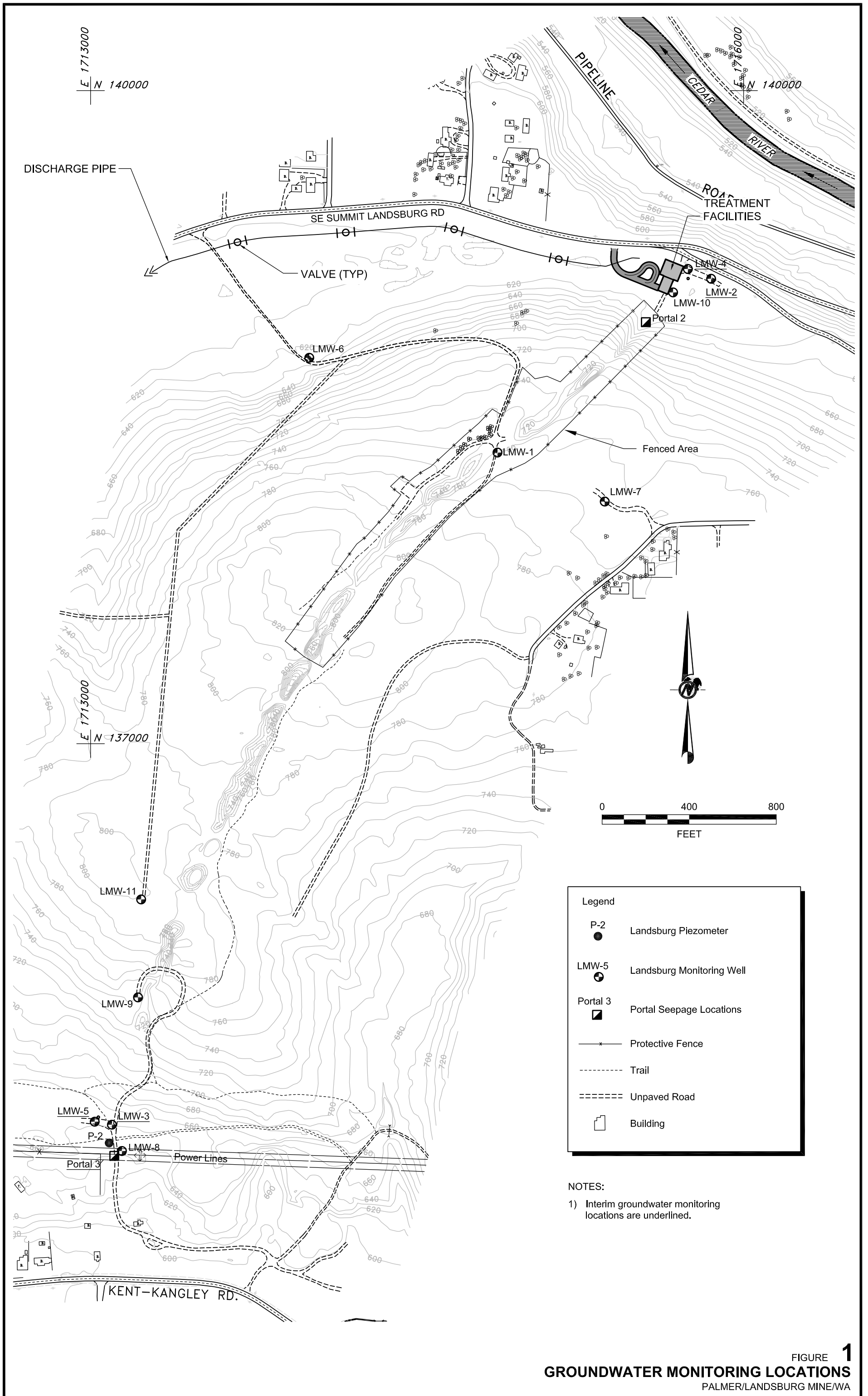
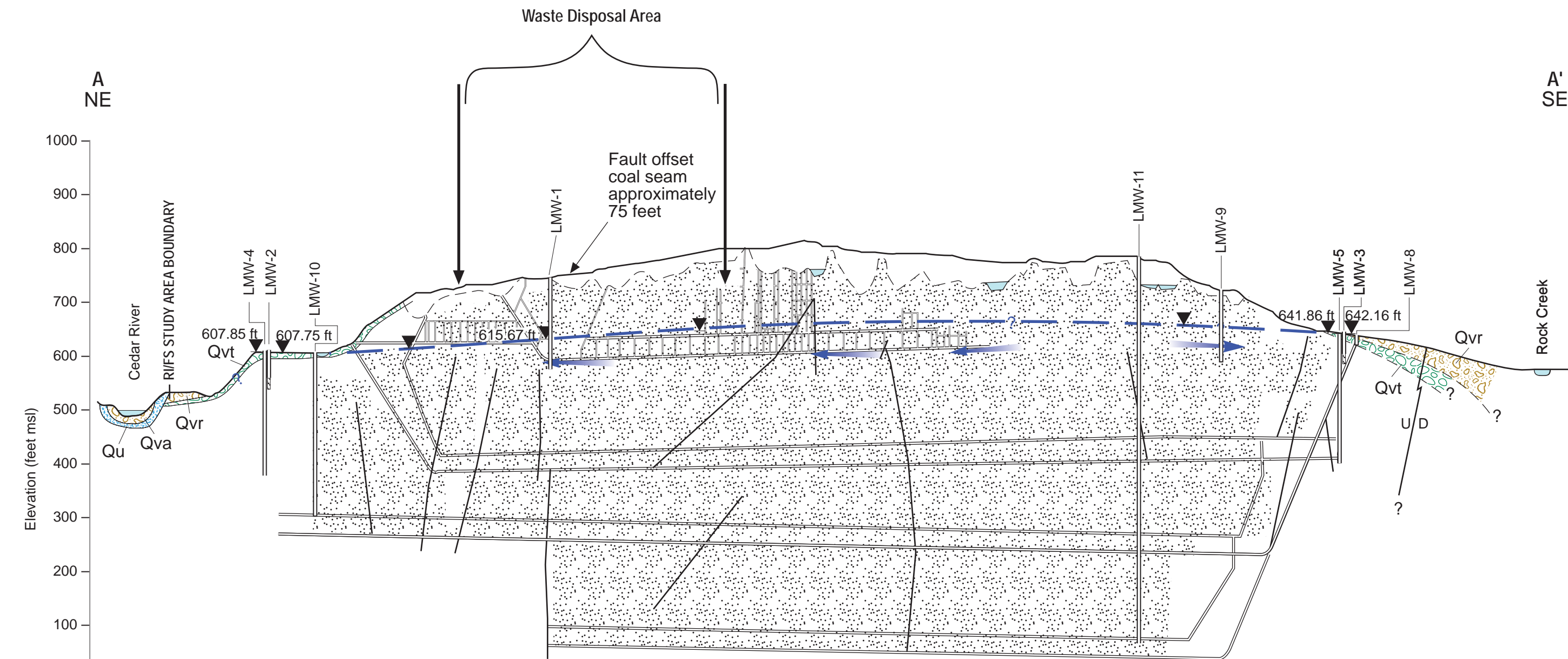


FIGURE 1
GROUNDWATER MONITORING LOCATIONS
 PALMER/LANDBURG MINE/WA



EXPLANATION

- Potentiometric surface
- Outline of trench bottom
- Water Level (ft. amsl) 2/23/94
- Qvt Till, compact mixture of gravel occasional boulders in clayey silty sand matrix
- Sandstone
- Surface water feature
- Anticipated collapsed zone within mine
- Qu Drift, till, fluvial sand and gravel, lacustrine sand, silt, clay and peat
- Qvr Recessional outwash, well sorted sand and pebble-cobble
- Qva Advanced outwash pebble-cobble gravel may include very fine sand
- Monitoring Interval

Groundwater Flow Direction

Sources for the Geology and Mine Information:
 J.E. Luzier 1969; surficial geology
 State of Washington, Water Well reports
 Mine Superintendent's Records
 Landsburg Well Logs

NOTE: Vertical to horizontal scale ratio is 2.5:1
 Wells are project normal into the strike of the Cross-Section A-A'
 Assuming groundwater discharge at the north and south end of mine.



FIGURE 2
CROSS-SECTION ALONG STRIKE AT COAL SEAM
 PALMER/LANDBURG MINE/WA

APPENDIX A
LABORATORY ANALYTICAL REPORTS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories Inc.

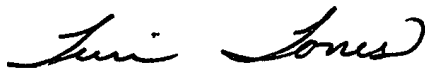
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-19907-1
Client Project/Site: Landsburg Mine

For:

Golder Associates Inc.
18300 NE Union Hill Road
Suite 200
Redmond, Washington 98052-3333

Attn: Douglas Morell



Authorized for release by:
6/25/2010 9:39 AM

Terri Torres
Project Manager II
terri.torres@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



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Job Narrative
580-19907-1

GC/MS VOA - Method(s) 8260B

The following sample(s) was received with headspace in the sample vial: LMW-10-0610 (580-19907-7), LMW-2-0610 (580-19907-6), LMW-4-0610 (580-19907-8), LMW-8-0610 (580-19907-10), LMW-9-0610 (580-19907-4). The bubbles were 3-6 mm in size and have been recorded in the batch.

Sample 580-19907-9 was reanalyzed in analytical batch 580-66078 due to method blank contamination of a detected target analyte in the original analysis.

No other analytical or quality issues were noted.

1

2

3

4

5

6

7

8

9

10

11

Qualifier Definition/Glossary

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: Trip Blank

Date Collected: 06/09/10 00:00

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 01:21	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 01:21	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 01:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 01:21	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 01:21	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 01:21	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 01:21	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 01:21	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 01:21	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 01:21	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 01:21	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 01:21	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 01:21	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 01:21	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 01:21	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 01:21	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 01:21	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 01:21	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 01:21	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 01:21	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 01:21	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 01:21	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 01:21	1
2-Butanone	ND		0.50		ug/L			06/22/10 01:21	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 01:21	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 01:21	1
2-Hexanone	ND		1.0		ug/L			06/22/10 01:21	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 01:21	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 01:21	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: Trip Blank

Lab Sample ID: 580-19907-1

Date Collected: 06/09/10 00:00

Matrix: Water

Date Received: 06/11/10 16:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 01:21	1
Acetone	ND		2.0		ug/L			06/22/10 01:21	1
Acrolein	ND		2.0		ug/L			06/22/10 01:21	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 01:21	1
Benzene	ND		0.10		ug/L			06/22/10 01:21	1
Bromobenzene	ND		0.10		ug/L			06/22/10 01:21	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 01:21	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 01:21	1
Bromoform	ND		0.10		ug/L			06/22/10 01:21	1
Bromomethane	ND		0.10		ug/L			06/22/10 01:21	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 01:21	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 01:21	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 01:21	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 01:21	1
Chloroethane	ND		0.20		ug/L			06/22/10 01:21	1
Chloroform	ND		0.10		ug/L			06/22/10 01:21	1
Chloromethane	ND		0.10		ug/L			06/22/10 01:21	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 01:21	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 01:21	1
Dibromomethane	ND		0.10		ug/L			06/22/10 01:21	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 01:21	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 01:21	1
Iodomethane	ND		0.50		ug/L			06/22/10 01:21	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 01:21	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 01:21	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 01:21	1
Naphthalene	ND		0.40		ug/L			06/22/10 01:21	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 01:21	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 01:21	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: Trip Blank

Date Collected: 06/09/10 00:00

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.10		ug/L			06/22/10 01:21	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 01:21	1
Styrene	ND		0.10		ug/L			06/22/10 01:21	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 01:21	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 01:21	1
Toluene	ND		0.10		ug/L			06/22/10 01:21	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 01:21	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 01:21	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 01:21	1
Trichloroethene	ND		0.10		ug/L			06/22/10 01:21	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 01:21	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 01:21	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 01:21	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 01:21	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		75 - 120					06/22/10 01:21	1
Ethylbenzene-d10	98		75 - 125					06/22/10 01:21	1
Fluorobenzene (Surr)	100		70 - 130					06/22/10 01:21	1
Toluene-d8 (Surr)	91		75 - 125					06/22/10 01:21	1
Trifluorotoluene (Surr)	107		80 - 125					06/22/10 01:21	1

Client Sample ID: LMW-5-0610

Date Collected: 06/09/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 03:03	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 03:03	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 03:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 03:03	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 03:03	1

Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-5-0610

Date Collected: 06/09/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 03:03	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 03:03	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 03:03	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 03:03	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 03:03	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 03:03	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 03:03	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 03:03	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 03:03	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 03:03	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 03:03	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 03:03	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 03:03	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 03:03	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 03:03	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 03:03	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 03:03	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 03:03	1
2-Butanone	ND		0.50		ug/L			06/22/10 03:03	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 03:03	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 03:03	1
2-Hexanone	ND		1.0		ug/L			06/22/10 03:03	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 03:03	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 03:03	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 03:03	1
Acetone	ND		2.0		ug/L			06/22/10 03:03	1
Acrolein	ND		2.0		ug/L			06/22/10 03:03	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 03:03	1
Benzene	ND		0.10		ug/L			06/22/10 03:03	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-5-0610

Date Collected: 06/09/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.10		ug/L			06/22/10 03:03	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 03:03	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 03:03	1
Bromoform	ND		0.10		ug/L			06/22/10 03:03	1
Bromomethane	ND		0.10		ug/L			06/22/10 03:03	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 03:03	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 03:03	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 03:03	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 03:03	1
Chloroethane	ND		0.20		ug/L			06/22/10 03:03	1
Chloroform	ND		0.10		ug/L			06/22/10 03:03	1
Chloromethane	ND		0.10		ug/L			06/22/10 03:03	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 03:03	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 03:03	1
Dibromomethane	ND		0.10		ug/L			06/22/10 03:03	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 03:03	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 03:03	1
Iodomethane	ND		0.50		ug/L			06/22/10 03:03	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 03:03	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 03:03	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 03:03	1
Naphthalene	ND		0.40		ug/L			06/22/10 03:03	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 03:03	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 03:03	1
o-Xylene	ND		0.10		ug/L			06/22/10 03:03	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 03:03	1
Styrene	ND		0.10		ug/L			06/22/10 03:03	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 03:03	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 03:03	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-5-0610

Lab Sample ID: 580-19907-2

Date Collected: 06/09/10 15:30

Matrix: Water

Date Received: 06/11/10 16:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.10		ug/L			06/22/10 03:03	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 03:03	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 03:03	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 03:03	1
Trichloroethene	ND		0.10		ug/L			06/22/10 03:03	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 03:03	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 03:03	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 03:03	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 03:03	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		75 - 120					06/22/10 03:03	1
Ethylbenzene-d10	94		75 - 125					06/22/10 03:03	1
Fluorobenzene (Surr)	98		70 - 130					06/22/10 03:03	1
Toluene-d8 (Surr)	89		75 - 125					06/22/10 03:03	1
Trifluorotoluene (Surr)	115		80 - 125					06/22/10 03:03	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 13:59	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 13:59	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 13:59	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	99						06/15/10 16:54	06/17/10 13:59	1
4-Bromofluorobenzene (Surr)	79						06/15/10 16:54	06/17/10 13:59	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 08:31	1
Calcium	96		1.1		mg/L		06/22/10 11:49	06/23/10 08:31	1
Iron	ND		0.20		mg/L		06/22/10 11:49	06/23/10 08:31	1
Magnesium	53		1.1		mg/L		06/22/10 11:49	06/23/10 08:31	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-5-0610

Date Collected: 06/09/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-2

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		3.3		mg/L		06/22/10 11:49	06/23/10 08:31	1
Sodium	18		2.0		mg/L		06/22/10 11:49	06/23/10 08:31	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Barium	0.29		0.0060		mg/L		06/22/10 11:49	06/22/10 19:17	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 19:17	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Manganese	0.26		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Nickel	0.0025		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Selenium	0.0023		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 19:17	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:17	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 19:17	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 15:47	1

Client Sample ID: LMW-11-0610

Date Collected: 06/10/10 11:55

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 03:28	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 03:28	1

Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-11-0610

Date Collected: 06/10/10 11:55

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 03:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 03:28	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 03:28	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 03:28	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 03:28	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 03:28	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 03:28	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 03:28	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 03:28	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 03:28	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 03:28	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 03:28	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 03:28	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 03:28	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 03:28	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 03:28	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 03:28	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 03:28	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 03:28	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 03:28	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 03:28	1
2-Butanone	ND		0.50		ug/L			06/22/10 03:28	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 03:28	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 03:28	1
2-Hexanone	ND		1.0		ug/L			06/22/10 03:28	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 03:28	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 03:28	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 03:28	1
Acetone	ND		2.0		ug/L			06/22/10 03:28	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-11-0610

Lab Sample ID: 580-19907-3

Date Collected: 06/10/10 11:55

Matrix: Water

Date Received: 06/11/10 16:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		2.0		ug/L			06/22/10 03:28	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 03:28	1
Benzene	ND		0.10		ug/L			06/22/10 03:28	1
Bromobenzene	ND		0.10		ug/L			06/22/10 03:28	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 03:28	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 03:28	1
Bromoform	ND		0.10		ug/L			06/22/10 03:28	1
Bromomethane	ND		0.10		ug/L			06/22/10 03:28	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 03:28	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 03:28	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 03:28	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 03:28	1
Chloroethane	ND		0.20		ug/L			06/22/10 03:28	1
Chloroform	ND		0.10		ug/L			06/22/10 03:28	1
Chloromethane	ND		0.10		ug/L			06/22/10 03:28	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 03:28	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 03:28	1
Dibromomethane	ND		0.10		ug/L			06/22/10 03:28	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 03:28	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 03:28	1
Iodomethane	ND		0.50		ug/L			06/22/10 03:28	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 03:28	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 03:28	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 03:28	1
Naphthalene	ND		0.40		ug/L			06/22/10 03:28	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 03:28	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 03:28	1
o-Xylene	ND		0.10		ug/L			06/22/10 03:28	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 03:28	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-11-0610

Date Collected: 06/10/10 11:55

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.10		ug/L			06/22/10 03:28	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 03:28	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 03:28	1
Toluene	ND		0.10		ug/L			06/22/10 03:28	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 03:28	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 03:28	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 03:28	1
Trichloroethene	ND		0.10		ug/L			06/22/10 03:28	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 03:28	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 03:28	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 03:28	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 03:28	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		75 - 120					06/22/10 03:28	1
Ethylbenzene-d10	96		75 - 125					06/22/10 03:28	1
Fluorobenzene (Surr)	99		70 - 130					06/22/10 03:28	1
Toluene-d8 (Surr)	87		75 - 125					06/22/10 03:28	1
Trifluorotoluene (Surr)	106		80 - 125					06/22/10 03:28	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 14:25	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 14:25	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 14:25	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	99						06/15/10 16:54	06/17/10 14:25	1
4-Bromofluorobenzene (Surr)	82						06/15/10 16:54	06/17/10 14:25	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 08:59	1

Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-11-0610

Lab Sample ID: 580-19907-3

Date Collected: 06/10/10 11:55

Matrix: Water

Date Received: 06/11/10 16:45

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	59		1.1		mg/L		06/22/10 11:49	06/23/10 08:59	1
Iron	2.5		0.20		mg/L		06/22/10 11:49	06/23/10 08:59	1
Magnesium	28		1.1		mg/L		06/22/10 11:49	06/23/10 08:59	1
Potassium	ND		3.3		mg/L		06/22/10 11:49	06/23/10 08:59	1
Sodium	24		2.0		mg/L		06/22/10 11:49	06/23/10 08:59	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0097		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Barium	0.32		0.0060		mg/L		06/22/10 11:49	06/22/10 19:49	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 19:49	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Manganese	0.16		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Nickel	0.0024		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 19:49	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:49	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 19:49	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 15:51	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-9-0610

Date Collected: 06/10/10 14:45

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 03:53	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 03:53	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 03:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 03:53	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 03:53	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 03:53	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 03:53	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 03:53	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 03:53	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 03:53	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 03:53	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 03:53	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 03:53	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 03:53	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 03:53	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 03:53	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 03:53	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 03:53	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 03:53	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 03:53	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 03:53	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 03:53	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 03:53	1
2-Butanone	ND		0.50		ug/L			06/22/10 03:53	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 03:53	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 03:53	1
2-Hexanone	ND		1.0		ug/L			06/22/10 03:53	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 03:53	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 03:53	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-9-0610

Date Collected: 06/10/10 14:45

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 03:53	1
Acetone	ND		2.0		ug/L			06/22/10 03:53	1
Acrolein	ND		2.0		ug/L			06/22/10 03:53	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 03:53	1
Benzene	ND		0.10		ug/L			06/22/10 03:53	1
Bromobenzene	ND		0.10		ug/L			06/22/10 03:53	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 03:53	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 03:53	1
Bromoform	ND		0.10		ug/L			06/22/10 03:53	1
Bromomethane	ND		0.10		ug/L			06/22/10 03:53	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 03:53	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 03:53	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 03:53	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 03:53	1
Chloroethane	ND		0.20		ug/L			06/22/10 03:53	1
Chloroform	ND		0.10		ug/L			06/22/10 03:53	1
Chloromethane	ND		0.10		ug/L			06/22/10 03:53	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 03:53	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 03:53	1
Dibromomethane	ND		0.10		ug/L			06/22/10 03:53	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 03:53	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 03:53	1
Iodomethane	ND		0.50		ug/L			06/22/10 03:53	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 03:53	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 03:53	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 03:53	1
Naphthalene	ND		0.40		ug/L			06/22/10 03:53	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 03:53	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 03:53	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-9-0610

Date Collected: 06/10/10 14:45

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.10		ug/L			06/22/10 03:53	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 03:53	1
Styrene	ND		0.10		ug/L			06/22/10 03:53	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 03:53	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 03:53	1
Toluene	ND		0.10		ug/L			06/22/10 03:53	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 03:53	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 03:53	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 03:53	1
Trichloroethene	ND		0.10		ug/L			06/22/10 03:53	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 03:53	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 03:53	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 03:53	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 03:53	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		75 - 120					06/22/10 03:53	1
Ethylbenzene-d10	93		75 - 125					06/22/10 03:53	1
Fluorobenzene (Surr)	98		70 - 130					06/22/10 03:53	1
Toluene-d8 (Surr)	90		75 - 125					06/22/10 03:53	1
Trifluorotoluene (Surr)	109		80 - 125					06/22/10 03:53	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 14:50	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 14:50	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 14:50	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	100						06/15/10 16:54	06/17/10 14:50	1
4-Bromofluorobenzene (Surr)	74						06/15/10 16:54	06/17/10 14:50	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-9-0610

Lab Sample ID: 580-19907-4

Date Collected: 06/10/10 14:45

Matrix: Water

Date Received: 06/11/10 16:45

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 09:03	1
Calcium	85		1.1		mg/L		06/22/10 11:49	06/23/10 09:03	1
Iron	1.6		0.20		mg/L		06/22/10 11:49	06/23/10 09:03	1
Magnesium	46		1.1		mg/L		06/22/10 11:49	06/23/10 09:03	1
Potassium	ND		3.3		mg/L		06/22/10 11:49	06/23/10 09:03	1
Sodium	17		2.0		mg/L		06/22/10 11:49	06/23/10 09:03	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Barium	0.32		0.0060		mg/L		06/22/10 11:49	06/22/10 19:53	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 19:53	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Manganese	0.19		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Nickel	0.0023		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 19:53	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:53	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 19:53	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 15:56	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-3-0610

Date Collected: 06/10/10 16:05

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 04:18	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 04:18	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 04:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 04:18	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 04:18	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 04:18	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 04:18	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 04:18	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 04:18	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 04:18	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 04:18	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 04:18	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 04:18	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 04:18	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 04:18	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 04:18	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 04:18	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 04:18	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 04:18	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 04:18	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 04:18	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 04:18	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 04:18	1
2-Butanone	ND		0.50		ug/L			06/22/10 04:18	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 04:18	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 04:18	1
2-Hexanone	ND		1.0		ug/L			06/22/10 04:18	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 04:18	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 04:18	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-3-0610

Date Collected: 06/10/10 16:05

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 04:18	1
Acetone	ND		2.0		ug/L			06/22/10 04:18	1
Acrolein	ND		2.0		ug/L			06/22/10 04:18	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 04:18	1
Benzene	ND		0.10		ug/L			06/22/10 04:18	1
Bromobenzene	ND		0.10		ug/L			06/22/10 04:18	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 04:18	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 04:18	1
Bromoform	ND		0.10		ug/L			06/22/10 04:18	1
Bromomethane	ND		0.10		ug/L			06/22/10 04:18	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 04:18	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 04:18	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 04:18	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 04:18	1
Chloroethane	ND		0.20		ug/L			06/22/10 04:18	1
Chloroform	ND		0.10		ug/L			06/22/10 04:18	1
Chloromethane	ND		0.10		ug/L			06/22/10 04:18	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 04:18	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 04:18	1
Dibromomethane	ND		0.10		ug/L			06/22/10 04:18	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 04:18	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 04:18	1
Iodomethane	ND		0.50		ug/L			06/22/10 04:18	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 04:18	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 04:18	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 04:18	1
Naphthalene	ND		0.40		ug/L			06/22/10 04:18	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 04:18	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 04:18	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-3-0610

Date Collected: 06/10/10 16:05

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.10		ug/L			06/22/10 04:18	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 04:18	1
Styrene	ND		0.10		ug/L			06/22/10 04:18	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 04:18	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 04:18	1
Toluene	ND		0.10		ug/L			06/22/10 04:18	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 04:18	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 04:18	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 04:18	1
Trichloroethene	ND		0.10		ug/L			06/22/10 04:18	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 04:18	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 04:18	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 04:18	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 04:18	1

Surrogate	%	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		75 - 120		06/22/10 04:18	1
Ethylbenzene-d10	96		75 - 125		06/22/10 04:18	1
Fluorobenzene (Surr)	100		70 - 130		06/22/10 04:18	1
Toluene-d8 (Surr)	91		75 - 125		06/22/10 04:18	1
Trifluorotoluene (Surr)	110		80 - 125		06/22/10 04:18	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 15:16	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 15:16	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 15:16	1

Surrogate	%	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	101			06/15/10 16:54	06/17/10 15:16	1
4-Bromofluorobenzene (Surr)	78			06/15/10 16:54	06/17/10 15:16	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-3-0610

Lab Sample ID: 580-19907-5

Date Collected: 06/10/10 16:05

Matrix: Water

Date Received: 06/11/10 16:45

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 09:07	1
Calcium	36		1.1		mg/L		06/22/10 11:49	06/23/10 09:07	1
Iron	ND		0.20		mg/L		06/22/10 11:49	06/23/10 09:07	1
Magnesium	12		1.1		mg/L		06/22/10 11:49	06/23/10 09:07	1
Potassium	ND		3.3		mg/L		06/22/10 11:49	06/23/10 09:07	1
Sodium	10		2.0		mg/L		06/22/10 11:49	06/23/10 09:07	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Barium	0.073		0.0060		mg/L		06/22/10 11:49	06/22/10 19:56	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 19:56	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Manganese	0.042		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Nickel	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 19:56	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:56	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 19:56	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 16:00	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-2-0610

Date Collected: 06/11/10 08:35

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 04:43	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 04:43	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 04:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 04:43	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 04:43	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 04:43	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 04:43	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 04:43	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 04:43	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 04:43	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 04:43	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 04:43	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 04:43	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 04:43	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 04:43	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 04:43	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 04:43	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 04:43	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 04:43	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 04:43	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 04:43	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 04:43	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 04:43	1
2-Butanone	ND		0.50		ug/L			06/22/10 04:43	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 04:43	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 04:43	1
2-Hexanone	ND		1.0		ug/L			06/22/10 04:43	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 04:43	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 04:43	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-2-0610

Lab Sample ID: 580-19907-6

Date Collected: 06/11/10 08:35

Matrix: Water

Date Received: 06/11/10 16:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 04:43	1
Acetone	ND		2.0		ug/L			06/22/10 04:43	1
Acrolein	ND		2.0		ug/L			06/22/10 04:43	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 04:43	1
Benzene	ND		0.10		ug/L			06/22/10 04:43	1
Bromobenzene	ND		0.10		ug/L			06/22/10 04:43	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 04:43	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 04:43	1
Bromoform	ND		0.10		ug/L			06/22/10 04:43	1
Bromomethane	ND		0.10		ug/L			06/22/10 04:43	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 04:43	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 04:43	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 04:43	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 04:43	1
Chloroethane	ND		0.20		ug/L			06/22/10 04:43	1
Chloroform	ND		0.10		ug/L			06/22/10 04:43	1
Chloromethane	ND		0.10		ug/L			06/22/10 04:43	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 04:43	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 04:43	1
Dibromomethane	ND		0.10		ug/L			06/22/10 04:43	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 04:43	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 04:43	1
Iodomethane	ND		0.50		ug/L			06/22/10 04:43	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 04:43	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 04:43	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 04:43	1
Naphthalene	ND		0.40		ug/L			06/22/10 04:43	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 04:43	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 04:43	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-2-0610

Date Collected: 06/11/10 08:35

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.10		ug/L			06/22/10 04:43	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 04:43	1
Styrene	ND		0.10		ug/L			06/22/10 04:43	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 04:43	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 04:43	1
Toluene	ND		0.10		ug/L			06/22/10 04:43	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 04:43	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 04:43	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 04:43	1
Trichloroethene	ND		0.10		ug/L			06/22/10 04:43	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 04:43	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 04:43	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 04:43	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 04:43	1

Surrogate	%	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		75 - 120		06/22/10 04:43	1
Ethylbenzene-d10	93		75 - 125		06/22/10 04:43	1
Fluorobenzene (Surr)	98		70 - 130		06/22/10 04:43	1
Toluene-d8 (Surr)	89		75 - 125		06/22/10 04:43	1
Trifluorotoluene (Surr)	97		80 - 125		06/22/10 04:43	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 15:42	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 15:42	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 15:42	1

Surrogate	%	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	99			06/15/10 16:54	06/17/10 15:42	1
4-Bromofluorobenzene (Surr)	79			06/15/10 16:54	06/17/10 15:42	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-2-0610

Lab Sample ID: 580-19907-6

Date Collected: 06/11/10 08:35

Matrix: Water

Date Received: 06/11/10 16:45

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 09:11	1
Calcium	120		1.1		mg/L		06/22/10 11:49	06/23/10 09:11	1
Iron	ND		0.20		mg/L		06/22/10 11:49	06/23/10 09:11	1
Magnesium	72		1.1		mg/L		06/22/10 11:49	06/23/10 09:11	1
Potassium	3.8		3.3		mg/L		06/22/10 11:49	06/23/10 09:11	1
Sodium	23		2.0		mg/L		06/22/10 11:49	06/23/10 09:11	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Barium	0.37		0.0060		mg/L		06/22/10 11:49	06/22/10 20:00	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 20:00	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Manganese	0.24		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Nickel	0.0030		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 20:00	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:00	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 20:00	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 16:05	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-10-0610

Date Collected: 06/11/10 09:25

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 05:09	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 05:09	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 05:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 05:09	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 05:09	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 05:09	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 05:09	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 05:09	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 05:09	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 05:09	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 05:09	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 05:09	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 05:09	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 05:09	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 05:09	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 05:09	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 05:09	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 05:09	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 05:09	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 05:09	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 05:09	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 05:09	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 05:09	1
2-Butanone	ND		0.50		ug/L			06/22/10 05:09	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 05:09	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 05:09	1
2-Hexanone	ND		1.0		ug/L			06/22/10 05:09	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 05:09	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 05:09	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-10-0610

Lab Sample ID: 580-19907-7

Date Collected: 06/11/10 09:25

Matrix: Water

Date Received: 06/11/10 16:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 05:09	1
Acetone	ND		2.0		ug/L			06/22/10 05:09	1
Acrolein	ND		2.0		ug/L			06/22/10 05:09	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 05:09	1
Benzene	ND		0.10		ug/L			06/22/10 05:09	1
Bromobenzene	ND		0.10		ug/L			06/22/10 05:09	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 05:09	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 05:09	1
Bromoform	ND		0.10		ug/L			06/22/10 05:09	1
Bromomethane	ND		0.10		ug/L			06/22/10 05:09	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 05:09	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 05:09	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 05:09	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 05:09	1
Chloroethane	ND		0.20		ug/L			06/22/10 05:09	1
Chloroform	ND		0.10		ug/L			06/22/10 05:09	1
Chloromethane	ND		0.10		ug/L			06/22/10 05:09	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 05:09	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 05:09	1
Dibromomethane	ND		0.10		ug/L			06/22/10 05:09	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 05:09	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 05:09	1
Iodomethane	ND		0.50		ug/L			06/22/10 05:09	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 05:09	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 05:09	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 05:09	1
Naphthalene	ND		0.40		ug/L			06/22/10 05:09	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 05:09	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 05:09	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-10-0610

Date Collected: 06/11/10 09:25

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.10		ug/L			06/22/10 05:09	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 05:09	1
Styrene	ND		0.10		ug/L			06/22/10 05:09	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 05:09	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 05:09	1
Toluene	ND		0.10		ug/L			06/22/10 05:09	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 05:09	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 05:09	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 05:09	1
Trichloroethene	ND		0.10		ug/L			06/22/10 05:09	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 05:09	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 05:09	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 05:09	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 05:09	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		75 - 120					06/22/10 05:09	1
Ethylbenzene-d10	98		75 - 125					06/22/10 05:09	1
Fluorobenzene (Surr)	98		70 - 130					06/22/10 05:09	1
Toluene-d8 (Surr)	87		75 - 125					06/22/10 05:09	1
Trifluorotoluene (Surr)	100		80 - 125					06/22/10 05:09	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 16:08	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 16:08	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 16:08	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	99						06/15/10 16:54	06/17/10 16:08	1
4-Bromofluorobenzene (Surr)	75						06/15/10 16:54	06/17/10 16:08	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-10-0610

Lab Sample ID: 580-19907-7

Date Collected: 06/11/10 09:25

Matrix: Water

Date Received: 06/11/10 16:45

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 09:16	1
Calcium	6.6		1.1		mg/L		06/22/10 11:49	06/23/10 09:16	1
Iron	ND		0.20		mg/L		06/22/10 11:49	06/23/10 09:16	1
Magnesium	2.5		1.1		mg/L		06/22/10 11:49	06/23/10 09:16	1
Potassium	ND		3.3		mg/L		06/22/10 11:49	06/23/10 09:16	1
Sodium	80		2.0		mg/L		06/22/10 11:49	06/23/10 09:16	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Barium	0.036		0.0060		mg/L		06/22/10 11:49	06/22/10 20:04	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 20:04	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Manganese	0.0076		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Nickel	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 20:04	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:04	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 20:04	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 16:09	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-4-0610

Date Collected: 06/11/10 10:11

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 05:34	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 05:34	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 05:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 05:34	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 05:34	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 05:34	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 05:34	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 05:34	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 05:34	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 05:34	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 05:34	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 05:34	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 05:34	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 05:34	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 05:34	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 05:34	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 05:34	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 05:34	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 05:34	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 05:34	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 05:34	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 05:34	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 05:34	1
2-Butanone	ND		0.50		ug/L			06/22/10 05:34	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 05:34	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 05:34	1
2-Hexanone	ND		1.0		ug/L			06/22/10 05:34	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 05:34	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 05:34	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-4-0610

Date Collected: 06/11/10 10:11

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 05:34	1
Acetone	ND		2.0		ug/L			06/22/10 05:34	1
Acrolein	ND		2.0		ug/L			06/22/10 05:34	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 05:34	1
Benzene	ND		0.10		ug/L			06/22/10 05:34	1
Bromobenzene	ND		0.10		ug/L			06/22/10 05:34	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 05:34	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 05:34	1
Bromoform	ND		0.10		ug/L			06/22/10 05:34	1
Bromomethane	ND		0.10		ug/L			06/22/10 05:34	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 05:34	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 05:34	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 05:34	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 05:34	1
Chloroethane	ND		0.20		ug/L			06/22/10 05:34	1
Chloroform	ND		0.10		ug/L			06/22/10 05:34	1
Chloromethane	ND		0.10		ug/L			06/22/10 05:34	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 05:34	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 05:34	1
Dibromomethane	ND		0.10		ug/L			06/22/10 05:34	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 05:34	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 05:34	1
Iodomethane	ND		0.50		ug/L			06/22/10 05:34	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 05:34	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 05:34	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 05:34	1
Naphthalene	ND		0.40		ug/L			06/22/10 05:34	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 05:34	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 05:34	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-4-0610

Date Collected: 06/11/10 10:11

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.10		ug/L			06/22/10 05:34	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 05:34	1
Styrene	ND		0.10		ug/L			06/22/10 05:34	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 05:34	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 05:34	1
Toluene	ND		0.10		ug/L			06/22/10 05:34	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 05:34	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 05:34	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 05:34	1
Trichloroethene	ND		0.10		ug/L			06/22/10 05:34	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 05:34	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 05:34	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 05:34	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 05:34	1

Surrogate	%	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		75 - 120		06/22/10 05:34	1
Ethylbenzene-d10	96		75 - 125		06/22/10 05:34	1
Fluorobenzene (Surr)	96		70 - 130		06/22/10 05:34	1
Toluene-d8 (Surr)	89		75 - 125		06/22/10 05:34	1
Trifluorotoluene (Surr)	102		80 - 125		06/22/10 05:34	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 16:34	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 16:34	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 16:34	1

Surrogate	%	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	98			06/15/10 16:54	06/17/10 16:34	1
4-Bromofluorobenzene (Surr)	77			06/15/10 16:54	06/17/10 16:34	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-4-0610

Lab Sample ID: 580-19907-8

Date Collected: 06/11/10 10:11

Matrix: Water

Date Received: 06/11/10 16:45

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 09:20	1
Calcium	120		1.1		mg/L		06/22/10 11:49	06/23/10 09:20	1
Iron	0.72		0.20		mg/L		06/22/10 11:49	06/23/10 09:20	1
Magnesium	69		1.1		mg/L		06/22/10 11:49	06/23/10 09:20	1
Potassium	3.8		3.3		mg/L		06/22/10 11:49	06/23/10 09:20	1
Sodium	29		2.0		mg/L		06/22/10 11:49	06/23/10 09:20	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Barium	0.38		0.0060		mg/L		06/22/10 11:49	06/22/10 20:07	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 20:07	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Manganese	0.20		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Nickel	0.0032		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 20:07	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:07	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 20:07	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 16:13	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-EB-0610

Lab Sample ID: 580-19907-9

Date Collected: 06/11/10 11:55

Matrix: Water

Date Received: 06/11/10 16:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 13:54	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 13:54	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 13:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 13:54	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 13:54	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 13:54	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 13:54	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 13:54	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 13:54	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 13:54	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 13:54	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 13:54	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 13:54	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 13:54	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 13:54	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 13:54	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 13:54	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 13:54	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 13:54	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 13:54	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 13:54	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 13:54	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 13:54	1
2-Butanone	ND		0.50		ug/L			06/22/10 13:54	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 13:54	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 13:54	1
2-Hexanone	ND		1.0		ug/L			06/22/10 13:54	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 13:54	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 13:54	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-EB-0610

Lab Sample ID: 580-19907-9

Date Collected: 06/11/10 11:55

Matrix: Water

Date Received: 06/11/10 16:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 13:54	1
Acetone	ND		2.0		ug/L			06/22/10 13:54	1
Acrolein	ND		2.0		ug/L			06/22/10 13:54	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 13:54	1
Benzene	ND		0.10		ug/L			06/22/10 13:54	1
Bromobenzene	ND		0.10		ug/L			06/22/10 13:54	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 13:54	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 13:54	1
Bromoform	ND		0.10		ug/L			06/22/10 13:54	1
Bromomethane	ND		0.10		ug/L			06/22/10 13:54	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 13:54	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 13:54	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 13:54	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 13:54	1
Chloroethane	ND		0.20		ug/L			06/22/10 13:54	1
Chloroform	ND		0.10		ug/L			06/22/10 13:54	1
Chloromethane	ND		0.10		ug/L			06/22/10 13:54	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 13:54	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 13:54	1
Dibromomethane	ND		0.10		ug/L			06/22/10 13:54	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 13:54	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 13:54	1
Iodomethane	ND		0.50		ug/L			06/22/10 13:54	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 13:54	1
Methylene Chloride	0.55		0.10		ug/L			06/22/10 13:54	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 13:54	1
Naphthalene	ND		0.40		ug/L			06/22/10 13:54	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 13:54	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 13:54	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-EB-0610

Lab Sample ID: 580-19907-9

Date Collected: 06/11/10 11:55

Matrix: Water

Date Received: 06/11/10 16:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.10		ug/L			06/22/10 13:54	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 13:54	1
Styrene	ND		0.10		ug/L			06/22/10 13:54	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 13:54	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 13:54	1
Toluene	ND		0.10		ug/L			06/22/10 13:54	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 13:54	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 13:54	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 13:54	1
Trichloroethene	ND		0.10		ug/L			06/22/10 13:54	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 13:54	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 13:54	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 13:54	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 13:54	1

Surrogate	%	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		75 - 120		06/22/10 13:54	1
Ethylbenzene-d10	89		75 - 125		06/22/10 13:54	1
Fluorobenzene (Surr)	100		70 - 130		06/22/10 13:54	1
Toluene-d8 (Surr)	91		75 - 125		06/22/10 13:54	1
Trifluorotoluene (Surr)	106		80 - 125		06/22/10 13:54	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 17:00	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 17:00	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 17:00	1

Surrogate	%	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	97			06/15/10 16:54	06/17/10 17:00	1
4-Bromofluorobenzene (Surr)	82			06/15/10 16:54	06/17/10 17:00	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-EB-0610

Lab Sample ID: 580-19907-9

Date Collected: 06/11/10 11:55

Matrix: Water

Date Received: 06/11/10 16:45

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 09:24	1
Calcium	ND		1.1		mg/L		06/22/10 11:49	06/23/10 09:24	1
Iron	ND		0.20		mg/L		06/22/10 11:49	06/23/10 09:24	1
Magnesium	ND		1.1		mg/L		06/22/10 11:49	06/23/10 09:24	1
Potassium	ND		3.3		mg/L		06/22/10 11:49	06/23/10 09:24	1
Sodium	ND		2.0		mg/L		06/22/10 11:49	06/23/10 09:24	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Barium	ND		0.0060		mg/L		06/22/10 11:49	06/22/10 20:11	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 20:11	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Manganese	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Nickel	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 20:11	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:11	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 20:11	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 16:27	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-8-0610

Date Collected: 06/11/10 13:10

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 06:25	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 06:25	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 06:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 06:25	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 06:25	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 06:25	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 06:25	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 06:25	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 06:25	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 06:25	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 06:25	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 06:25	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 06:25	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 06:25	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 06:25	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 06:25	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 06:25	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 06:25	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 06:25	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 06:25	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 06:25	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 06:25	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 06:25	1
2-Butanone	ND		0.50		ug/L			06/22/10 06:25	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 06:25	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 06:25	1
2-Hexanone	ND		1.0		ug/L			06/22/10 06:25	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 06:25	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 06:25	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-8-0610

Date Collected: 06/11/10 13:10

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 06:25	1
Acetone	ND		2.0		ug/L			06/22/10 06:25	1
Acrolein	ND		2.0		ug/L			06/22/10 06:25	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 06:25	1
Benzene	ND		0.10		ug/L			06/22/10 06:25	1
Bromobenzene	ND		0.10		ug/L			06/22/10 06:25	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 06:25	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 06:25	1
Bromoform	ND		0.10		ug/L			06/22/10 06:25	1
Bromomethane	ND		0.10		ug/L			06/22/10 06:25	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 06:25	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 06:25	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 06:25	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 06:25	1
Chloroethane	ND		0.20		ug/L			06/22/10 06:25	1
Chloroform	ND		0.10		ug/L			06/22/10 06:25	1
Chloromethane	ND		0.10		ug/L			06/22/10 06:25	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 06:25	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 06:25	1
Dibromomethane	ND		0.10		ug/L			06/22/10 06:25	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 06:25	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 06:25	1
Iodomethane	ND		0.50		ug/L			06/22/10 06:25	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 06:25	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 06:25	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 06:25	1
Naphthalene	ND		0.40		ug/L			06/22/10 06:25	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 06:25	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 06:25	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-8-0610

Date Collected: 06/11/10 13:10

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.10		ug/L			06/22/10 06:25	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 06:25	1
Styrene	ND		0.10		ug/L			06/22/10 06:25	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 06:25	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 06:25	1
Toluene	ND		0.10		ug/L			06/22/10 06:25	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 06:25	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 06:25	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 06:25	1
Trichloroethene	ND		0.10		ug/L			06/22/10 06:25	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 06:25	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 06:25	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 06:25	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 06:25	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		75 - 120					06/22/10 06:25	1
Ethylbenzene-d10	92		75 - 125					06/22/10 06:25	1
Fluorobenzene (Surr)	96		70 - 130					06/22/10 06:25	1
Toluene-d8 (Surr)	90		75 - 125					06/22/10 06:25	1
Trifluorotoluene (Surr)	108		80 - 125					06/22/10 06:25	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 18:17	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 18:17	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 18:17	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	101						06/15/10 16:54	06/17/10 18:17	1
4-Bromofluorobenzene (Surr)	75						06/15/10 16:54	06/17/10 18:17	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-8-0610

Date Collected: 06/11/10 13:10

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-10

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 09:28	1
Calcium	51		1.1		mg/L		06/22/10 11:49	06/23/10 09:28	1
Iron	9.0		0.20		mg/L		06/22/10 11:49	06/23/10 09:28	1
Magnesium	27		1.1		mg/L		06/22/10 11:49	06/23/10 09:28	1
Potassium	ND		3.3		mg/L		06/22/10 11:49	06/23/10 09:28	1
Sodium	11		2.0		mg/L		06/22/10 11:49	06/23/10 09:28	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Barium	0.040		0.0060		mg/L		06/22/10 11:49	06/22/10 20:14	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 20:14	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Manganese	0.47		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Nickel	0.0041		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 20:14	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:14	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 20:14	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 16:32	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-6-0610

Date Collected: 06/11/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 06:50	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 06:50	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 06:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 06:50	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 06:50	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 06:50	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 06:50	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 06:50	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 06:50	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 06:50	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 06:50	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 06:50	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 06:50	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 06:50	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 06:50	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 06:50	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 06:50	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 06:50	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 06:50	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 06:50	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 06:50	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 06:50	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 06:50	1
2-Butanone	ND		0.50		ug/L			06/22/10 06:50	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 06:50	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 06:50	1
2-Hexanone	ND		1.0		ug/L			06/22/10 06:50	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 06:50	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 06:50	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-6-0610

Date Collected: 06/11/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 06:50	1
Acetone	ND		2.0		ug/L			06/22/10 06:50	1
Acrolein	ND		2.0		ug/L			06/22/10 06:50	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 06:50	1
Benzene	ND		0.10		ug/L			06/22/10 06:50	1
Bromobenzene	ND		0.10		ug/L			06/22/10 06:50	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 06:50	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 06:50	1
Bromoform	ND		0.10		ug/L			06/22/10 06:50	1
Bromomethane	ND		0.10		ug/L			06/22/10 06:50	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 06:50	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 06:50	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 06:50	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 06:50	1
Chloroethane	ND		0.20		ug/L			06/22/10 06:50	1
Chloroform	ND		0.10		ug/L			06/22/10 06:50	1
Chloromethane	ND		0.10		ug/L			06/22/10 06:50	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 06:50	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 06:50	1
Dibromomethane	ND		0.10		ug/L			06/22/10 06:50	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 06:50	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 06:50	1
Iodomethane	ND		0.50		ug/L			06/22/10 06:50	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 06:50	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 06:50	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 06:50	1
Naphthalene	ND		0.40		ug/L			06/22/10 06:50	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 06:50	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 06:50	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-6-0610

Date Collected: 06/11/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.10		ug/L			06/22/10 06:50	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 06:50	1
Styrene	ND		0.10		ug/L			06/22/10 06:50	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 06:50	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 06:50	1
Toluene	ND		0.10		ug/L			06/22/10 06:50	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 06:50	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 06:50	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 06:50	1
Trichloroethene	ND		0.10		ug/L			06/22/10 06:50	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 06:50	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 06:50	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 06:50	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 06:50	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		75 - 120					06/22/10 06:50	1
Ethylbenzene-d10	95		75 - 125					06/22/10 06:50	1
Fluorobenzene (Surr)	98		70 - 130					06/22/10 06:50	1
Toluene-d8 (Surr)	89		75 - 125					06/22/10 06:50	1
Trifluorotoluene (Surr)	110		80 - 125					06/22/10 06:50	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.48		mg/L		06/15/10 16:54	06/17/10 18:43	1
Gasoline	ND		0.095		mg/L		06/15/10 16:54	06/17/10 18:43	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/15/10 16:54	06/17/10 18:43	1
Surrogate	%	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	101						06/15/10 16:54	06/17/10 18:43	1
4-Bromofluorobenzene (Surr)	79						06/15/10 16:54	06/17/10 18:43	1



Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-6-0610

Date Collected: 06/11/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-11

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 09:33	1
Calcium	26		1.1		mg/L		06/22/10 11:49	06/23/10 09:33	1
Iron	2.0		0.20		mg/L		06/22/10 11:49	06/23/10 09:33	1
Magnesium	10		1.1		mg/L		06/22/10 11:49	06/23/10 09:33	1
Potassium	ND		3.3		mg/L		06/22/10 11:49	06/23/10 09:33	1
Sodium	7.2		2.0		mg/L		06/22/10 11:49	06/23/10 09:33	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Barium	0.11		0.0060		mg/L		06/22/10 11:49	06/22/10 20:18	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 20:18	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Manganese	0.034		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Nickel	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 20:18	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 20:18	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 20:18	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 16:36	1



Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-65996/5

Matrix: Water

Analysis Batch: 65996

Client Sample ID: MB 580-65996/5

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 00:05	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 00:05	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 00:05	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 00:05	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 00:05	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 00:05	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 00:05	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 00:05	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 00:05	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 00:05	1
2-Butanone	ND		0.50		ug/L			06/22/10 00:05	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 00:05	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 00:05	1
2-Hexanone	ND		1.0		ug/L			06/22/10 00:05	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 00:05	1



Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-65996/5

Matrix: Water

Analysis Batch: 65996

Client Sample ID: MB 580-65996/5

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 00:05	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 00:05	1
Acetone	ND		2.0		ug/L			06/22/10 00:05	1
Acrolein	ND		2.0		ug/L			06/22/10 00:05	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 00:05	1
Benzene	ND		0.10		ug/L			06/22/10 00:05	1
Bromobenzene	ND		0.10		ug/L			06/22/10 00:05	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 00:05	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 00:05	1
Bromoform	ND		0.10		ug/L			06/22/10 00:05	1
Bromomethane	ND		0.10		ug/L			06/22/10 00:05	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 00:05	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 00:05	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 00:05	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 00:05	1
Chloroethane	ND		0.20		ug/L			06/22/10 00:05	1
Chloroform	ND		0.10		ug/L			06/22/10 00:05	1
Chloromethane	ND		0.10		ug/L			06/22/10 00:05	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 00:05	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 00:05	1
Dibromomethane	ND		0.10		ug/L			06/22/10 00:05	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 00:05	1
Iodomethane	ND		0.50		ug/L			06/22/10 00:05	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
Methylene Chloride	1.53		0.10		ug/L			06/22/10 00:05	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 00:05	1
Naphthalene	ND		0.40		ug/L			06/22/10 00:05	1



Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-65996/5

Matrix: Water

Analysis Batch: 65996

Client Sample ID: MB 580-65996/5

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
n-Butylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
o-Xylene	ND		0.10		ug/L			06/22/10 00:05	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
Styrene	ND		0.10		ug/L			06/22/10 00:05	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 00:05	1
Toluene	ND		0.10		ug/L			06/22/10 00:05	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 00:05	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 00:05	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 00:05	1
Trichloroethene	ND		0.10		ug/L			06/22/10 00:05	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 00:05	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 00:05	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 00:05	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 00:05	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%	Qualifier							
4-Bromofluorobenzene (Surr)	102		75 - 120					06/22/10 00:05	1
Ethylbenzene-d10	103		75 - 125					06/22/10 00:05	1
Fluorobenzene (Surr)	97		70 - 130					06/22/10 00:05	1
Toluene-d8 (Surr)	92		75 - 125					06/22/10 00:05	1
Trifluorotoluene (Surr)	118		80 - 125					06/22/10 00:05	1

Lab Sample ID: LCS 580-65996/6

Matrix: Water

Analysis Batch: 65996

Client Sample ID: LCS 580-65996/6

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	% Rec.	% Rec. Limits
Benzene	5.00	5.20		ug/L	104	75 - 142
Chlorobenzene	5.00	5.73		ug/L	115	71 - 140
Toluene	5.00	5.03		ug/L	101	80 - 126
Trichloroethene	5.00	5.03		ug/L	101	79 - 131

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-65996/6

Client Sample ID: LCS 580-65996/6

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 65996

Surrogate	LCS	LCS	Limits
	%	Qualifier	
4-Bromofluorobenzene (Surr)	96		75 - 120
Ethylbenzene-d10	102		75 - 125
Fluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	89		75 - 125
Trifluorotoluene (Surr)	110		80 - 125

Lab Sample ID: 580-19907-11 MS

Client Sample ID: LMW-6-0610

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 65996

Analyte	Sample	Sample	Spike	MS	MS	Unit	% Rec.	% Rec.	Limits
	Result	Qualifier		Result	Qualifier				
1,1-Dichloroethene	ND		5.00	6.26		ug/L	125	78 - 151	
Benzene	ND		5.00	5.22		ug/L	104	75 - 142	
Chlorobenzene	ND		5.00	5.85		ug/L	117	71 - 140	
Toluene	ND		5.00	5.09		ug/L	102	80 - 126	
Trichloroethene	ND		5.00	5.02		ug/L	100	79 - 131	

Surrogate	MS	MS	Limits
	%	Qualifier	
4-Bromofluorobenzene (Surr)	95		75 - 120
Ethylbenzene-d10	99		75 - 125
Fluorobenzene (Surr)	102		70 - 130
Toluene-d8 (Surr)	91		75 - 125
Trifluorotoluene (Surr)	107		80 - 125

Lab Sample ID: 580-19907-11 MSD

Client Sample ID: LMW-6-0610

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 65996

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	% Rec.	% Rec.	Limits	RPD	RPD	Limit
	Result	Qualifier		Result	Qualifier							
1,1-Dichloroethene	ND		5.00	6.22		ug/L	124	78 - 151	1	30		
Benzene	ND		5.00	5.12		ug/L	102	75 - 142	2	30		
Chlorobenzene	ND		5.00	5.66		ug/L	113	71 - 140	3	30		
Toluene	ND		5.00	4.93		ug/L	99	80 - 126	3	30		
Trichloroethene	ND		5.00	4.96		ug/L	99	79 - 131	1	30		

Surrogate	MSD	MSD	Limits
	%	Qualifier	
4-Bromofluorobenzene (Surr)	95		75 - 120
Ethylbenzene-d10	96		75 - 125
Fluorobenzene (Surr)	103		70 - 130
Toluene-d8 (Surr)	89		75 - 125
Trifluorotoluene (Surr)	105		80 - 125

Lab Sample ID: MB 580-66078/6

Client Sample ID: MB 580-66078/6

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 66078

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L		06/22/10	1	

12:38

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-66078/6

Matrix: Water

Analysis Batch: 66078

Client Sample ID: MB 580-66078/6

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 12:38	1
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 12:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 12:38	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 12:38	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 12:38	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 12:38	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 12:38	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 12:38	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 12:38	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 12:38	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 12:38	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 12:38	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 12:38	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 12:38	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 12:38	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 12:38	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 12:38	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 12:38	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 12:38	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 12:38	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 12:38	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 12:38	1
2-Butanone	ND		0.50		ug/L			06/22/10 12:38	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 12:38	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 12:38	1
2-Hexanone	ND		1.0		ug/L			06/22/10 12:38	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 12:38	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 12:38	1



Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-66078/6

Matrix: Water

Analysis Batch: 66078

Client Sample ID: MB 580-66078/6

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 12:38	1
Acetone	ND		2.0		ug/L			06/22/10 12:38	1
Acrolein	ND		2.0		ug/L			06/22/10 12:38	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 12:38	1
Benzene	ND		0.10		ug/L			06/22/10 12:38	1
Bromobenzene	ND		0.10		ug/L			06/22/10 12:38	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 12:38	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 12:38	1
Bromoform	ND		0.10		ug/L			06/22/10 12:38	1
Bromomethane	ND		0.10		ug/L			06/22/10 12:38	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 12:38	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 12:38	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 12:38	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 12:38	1
Chloroethane	ND		0.20		ug/L			06/22/10 12:38	1
Chloroform	ND		0.10		ug/L			06/22/10 12:38	1
Chloromethane	ND		0.10		ug/L			06/22/10 12:38	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 12:38	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 12:38	1
Dibromomethane	ND		0.10		ug/L			06/22/10 12:38	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 12:38	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 12:38	1
Iodomethane	ND		0.50		ug/L			06/22/10 12:38	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 12:38	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 12:38	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 12:38	1
Naphthalene	ND		0.40		ug/L			06/22/10 12:38	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 12:38	1



Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-66078/6

Matrix: Water

Analysis Batch: 66078

Client Sample ID: MB 580-66078/6

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
N-Propylbenzene	ND		0.10		ug/L			06/22/10 12:38	1
o-Xylene	ND		0.10		ug/L			06/22/10 12:38	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 12:38	1
Styrene	ND		0.10		ug/L			06/22/10 12:38	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 12:38	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 12:38	1
Toluene	ND		0.10		ug/L			06/22/10 12:38	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 12:38	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 12:38	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 12:38	1
Trichloroethene	ND		0.10		ug/L			06/22/10 12:38	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 12:38	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 12:38	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 12:38	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 12:38	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		75 - 120					06/22/10 12:38	1
Ethylbenzene-d10	95		75 - 125					06/22/10 12:38	1
Fluorobenzene (Surr)	97		70 - 130					06/22/10 12:38	1
Toluene-d8 (Surr)	87		75 - 125					06/22/10 12:38	1
Trifluorotoluene (Surr)	113		80 - 125					06/22/10 12:38	1

Lab Sample ID: LCS 580-66078/7

Matrix: Water

Analysis Batch: 66078

Client Sample ID: LCS 580-66078/7

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	% Rec.	% Rec. Limits
Benzene	5.00	5.19		ug/L	104	75 - 142
Chlorobenzene	5.00	5.95		ug/L	119	71 - 140
Toluene	5.00	5.06		ug/L	101	80 - 126
Trichloroethene	5.00	5.10		ug/L	102	79 - 131

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-66078/7

Client Sample ID: LCS 580-66078/7

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 66078

Surrogate	LCS	LCS	Limits
	%	Qualifier	
4-Bromofluorobenzene (Surr)	94		75 - 120
Ethylbenzene-d10	102		75 - 125
Fluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	89		75 - 125
Trifluorotoluene (Surr)	108		80 - 125

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 580-65637/1-A

Client Sample ID: MB 580-65637/1-A

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 65761

Prep Batch: 65637

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Motor Oil	ND		0.50		mg/L		06/15/10 16:54	06/17/10 13:07	1
Gasoline	ND		0.10		mg/L		06/15/10 16:54	06/17/10 13:07	1
#2 Diesel (>C12-C24)	ND		0.25		mg/L		06/15/10 16:54	06/17/10 13:07	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac	
	%	Qualifier							
o-Terphenyl	99					06/15/10 16:54	06/17/10 13:07	1	
4-Bromofluorobenzene (Surr)	69					06/15/10 16:54	06/17/10 13:07	1	

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-66088/22-A

Client Sample ID: MB 580-66088/22-A

Matrix: Water

Prep Type: Total Recoverable

Analysis Batch: 66217

Prep Batch: 66088

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	ND		1.0		mg/L		06/22/10 11:49	06/23/10 08:15	1
Calcium	ND		1.1		mg/L		06/22/10 11:49	06/23/10 08:15	1
Iron	ND		0.20		mg/L		06/22/10 11:49	06/23/10 08:15	1
Magnesium	ND		1.1		mg/L		06/22/10 11:49	06/23/10 08:15	1
Potassium	ND		3.3		mg/L		06/22/10 11:49	06/23/10 08:15	1
Sodium	ND		2.0		mg/L		06/22/10 11:49	06/23/10 08:15	1

Lab Sample ID: LCS 580-66088/23-A

Client Sample ID: LCS 580-66088/23-A

Matrix: Water

Prep Type: Total Recoverable

Analysis Batch: 66217

Prep Batch: 66088

Analyte	Spike Added	LCS	LCS	Unit	% Rec.	% Rec.	% Rec.
		Result	Qualifier				
Aluminum	4.00	3.88		mg/L	97		80 - 120

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 580-66088/23-A

Matrix: Water

Analysis Batch: 66217

Client Sample ID: LCS 580-66088/23-A

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Spike Added	LCS		Unit	% Rec.	% Rec. Limits	
		Result	Qualifier				
Calcium	20.0	20.1		mg/L	101	80 - 120	
Iron	22.0	22.2		mg/L	101	80 - 120	
Magnesium	20.0	19.7		mg/L	98	80 - 120	
Potassium	20.0	19.5		mg/L	97	80 - 120	
Sodium	20.0	20.4		mg/L	102	80 - 120	

Lab Sample ID: LCSD 580-66088/24-A

Matrix: Water

Analysis Batch: 66217

Client Sample ID: LCSD 580-66088/24-A

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Spike Added	LCSD		Unit	% Rec.	% Rec. Limits		RPD	
		Result	Qualifier					RPD	Limit
Aluminum	4.00	3.96		mg/L	99	80 - 120	2	20	
Calcium	20.0	20.4		mg/L	102	80 - 120	1	20	
Iron	22.0	22.5		mg/L	102	80 - 120	1	20	
Magnesium	20.0	19.8		mg/L	99	80 - 120	0	20	
Potassium	20.0	19.6		mg/L	98	80 - 120	1	20	
Sodium	20.0	20.7		mg/L	104	80 - 120	2	20	

Lab Sample ID: 580-19907-2 MS

Matrix: Water

Analysis Batch: 66217

Client Sample ID: LMW-5-0610

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	% Rec.	% Rec. Limits	
				Result	Qualifier				
Aluminum	ND		4.00	3.93		mg/L	98	75 - 125	
Calcium	96		20.0	115	4	mg/L	94	75 - 125	
Iron	ND		22.0	22.1		mg/L	100	75 - 125	
Magnesium	53		20.0	72.6		mg/L	97	75 - 125	
Potassium	ND		20.0	22.6		mg/L	99	75 - 125	
Sodium	18		20.0	38.6		mg/L	102	75 - 125	

Lab Sample ID: 580-19907-2 MSD

Matrix: Water

Analysis Batch: 66217

Client Sample ID: LMW-5-0610

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	% Rec.	% Rec. Limits		RPD	
				Result	Qualifier					RPD	Limit
Aluminum	ND		4.00	3.95		mg/L	99	75 - 125	0	20	
Calcium	96		20.0	115	4	mg/L	96	75 - 125	0	20	
Iron	ND		22.0	21.9		mg/L	99	75 - 125	1	20	
Magnesium	53		20.0	72.1		mg/L	95	75 - 125	1	20	
Potassium	ND		20.0	22.5		mg/L	98	75 - 125	0	20	
Sodium	18		20.0	38.6		mg/L	102	75 - 125	0	20	

Lab Sample ID: 580-19907-2 DU

Matrix: Water

Analysis Batch: 66217

Client Sample ID: LMW-5-0610

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Sample Result	Sample Qualifier	DU		Unit	RPD	RPD	
			Result	Qualifier				Limit
Aluminum	ND		ND		mg/L	NC	20	
Calcium	96		95.6		mg/L	0	20	
Iron	ND		ND		mg/L	5	20	

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 580-19907-2 DU

Matrix: Water

Analysis Batch: 66217

Client Sample ID: LMW-5-0610

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Sample	Sample	DU	DU	Unit	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Magnesium	53		52.5		mg/L	1	20	
Potassium	ND		ND		mg/L	2	20	
Sodium	18		18.1		mg/L	1	20	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-66088/22-A

Matrix: Water

Analysis Batch: 66174

Client Sample ID: MB 580-66088/22-A

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Antimony	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Barium	ND		0.0060		mg/L		06/22/10 11:49	06/22/10 19:09	5
Beryllium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Cadmium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Chromium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Cobalt	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Copper	ND		0.0050		mg/L		06/22/10 11:49	06/22/10 19:09	5
Lead	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Manganese	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Nickel	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Selenium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Silver	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Thallium	ND		0.0040		mg/L		06/22/10 11:49	06/22/10 19:09	5
Vanadium	ND		0.0020		mg/L		06/22/10 11:49	06/22/10 19:09	5
Zinc	ND		0.0070		mg/L		06/22/10 11:49	06/22/10 19:09	5

Lab Sample ID: LCS 580-66088/23-A

Matrix: Water

Analysis Batch: 66174

Client Sample ID: LCS 580-66088/23-A

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Spike Added	LCS	LCS	Unit	% Rec.	% Rec.	% Rec. Limits
		Result	Qualifier				
Arsenic	4.00	4.16		mg/L	104	80 - 120	
Antimony	3.00	2.98		mg/L	99	80 - 120	
Barium	4.00	3.87		mg/L	97	80 - 120	
Beryllium	0.100	0.102		mg/L	102	80 - 120	
Cadmium	0.100	0.0970		mg/L	97	80 - 120	

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-66088/23-A

Matrix: Water

Analysis Batch: 66174

Client Sample ID: LCS 580-66088/23-A

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Spike	LCS	LCS	Unit	% Rec.	% Rec. Limits
	Added	Result	Qualifier			
Chromium	0.400	0.400		mg/L	100	80 - 120
Cobalt	1.00	1.02		mg/L	102	80 - 120
Copper	0.500	0.537		mg/L	107	80 - 120
Lead	1.00	1.08		mg/L	108	80 - 120
Manganese	1.00	1.02		mg/L	102	80 - 120
Nickel	1.00	1.02		mg/L	102	80 - 120
Selenium	4.00	4.11		mg/L	103	80 - 120
Silver	0.600	0.623		mg/L	104	80 - 120
Thallium	4.00	4.14		mg/L	103	80 - 120
Vanadium	1.00	1.02		mg/L	102	80 - 120
Zinc	1.00	1.12		mg/L	112	80 - 120

Lab Sample ID: LCSD 580-66088/24-A

Matrix: Water

Analysis Batch: 66174

Client Sample ID: LCSD 580-66088/24-A

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Spike	LCSD	LCSD	Unit	% Rec.	% Rec. Limits	RPD	
	Added	Result	Qualifier				RPD	Limit
Arsenic	4.00	4.18		mg/L	104	80 - 120	1	20
Antimony	3.00	2.94		mg/L	98	80 - 120	1	20
Barium	4.00	3.89		mg/L	97	80 - 120	1	20
Beryllium	0.100	0.102		mg/L	102	80 - 120	0	20
Cadmium	0.100	0.0975		mg/L	98	80 - 120	1	20
Chromium	0.400	0.398		mg/L	100	80 - 120	0	20
Cobalt	1.00	1.01		mg/L	101	80 - 120	2	20
Copper	0.500	0.532		mg/L	106	80 - 120	1	20
Lead	1.00	1.08		mg/L	108	80 - 120	1	20
Manganese	1.00	1.01		mg/L	101	80 - 120	0	20
Nickel	1.00	1.01		mg/L	101	80 - 120	1	20
Selenium	4.00	3.96		mg/L	99	80 - 120	4	20
Silver	0.600	0.624		mg/L	104	80 - 120	0	20
Thallium	4.00	4.23		mg/L	106	80 - 120	2	20
Vanadium	1.00	0.999		mg/L	100	80 - 120	2	20
Zinc	1.00	1.09		mg/L	109	80 - 120	2	20

Lab Sample ID: 580-19907-2 MS

Matrix: Water

Analysis Batch: 66174

Client Sample ID: LMW-5-0610

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Sample	Sample	Spike	MS	MS	Unit	% Rec.	% Rec. Limits
	Result	Qualifier	Added	Result	Qualifier			
Arsenic	ND		4.00	4.13		mg/L	103	75 - 125
Antimony	ND		3.00	2.41		mg/L	80	75 - 125
Barium	0.29		4.00	4.28		mg/L	100	75 - 125
Beryllium	ND		0.100	0.0996		mg/L	100	75 - 125
Cadmium	ND		0.100	0.0988		mg/L	99	75 - 125
Chromium	ND		0.400	0.395		mg/L	98	75 - 125
Cobalt	ND		1.00	1.02		mg/L	102	75 - 125
Copper	ND		0.500	0.535		mg/L	107	75 - 125
Lead	ND		1.00	1.08		mg/L	108	75 - 125
Manganese	0.26		1.00	1.25		mg/L	100	75 - 125

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-19907-2 MS

Matrix: Water

Analysis Batch: 66174

Client Sample ID: LMW-5-0610

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Sample	Sample	Spike	MS	MS	Unit	% Rec.	
	Result	Qualifier	Added	Result	Qualifier		% Rec.	Limits
Nickel	0.0025		1.00	1.03		mg/L	102	75 - 125
Selenium	0.0023		4.00	4.10		mg/L	102	75 - 125
Silver	ND		0.600	0.625		mg/L	104	75 - 125
Thallium	ND		4.00	4.36		mg/L	109	75 - 125
Vanadium	ND		1.00	1.00		mg/L	100	75 - 125
Zinc	ND		1.00	1.06		mg/L	106	75 - 125

Lab Sample ID: 580-19907-2 MSD

Matrix: Water

Analysis Batch: 66174

Client Sample ID: LMW-5-0610

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	% Rec.		RPD	RPD
	Result	Qualifier	Added	Result	Qualifier		% Rec.	Limits	RPD	Limit
Arsenic	ND		4.00	4.17		mg/L	104	75 - 125	1	20
Antimony	ND		3.00	2.54		mg/L	85	75 - 125	5	20
Barium	0.29		4.00	4.28		mg/L	100	75 - 125	0	20
Beryllium	ND		0.100	0.102		mg/L	102	75 - 125	2	20
Cadmium	ND		0.100	0.101		mg/L	101	75 - 125	2	20
Chromium	ND		0.400	0.393		mg/L	98	75 - 125	1	20
Cobalt	ND		1.00	1.02		mg/L	102	75 - 125	0	20
Copper	ND		0.500	0.538		mg/L	107	75 - 125	0	20
Lead	ND		1.00	1.08		mg/L	108	75 - 125	1	20
Manganese	0.26		1.00	1.27		mg/L	101	75 - 125	1	20
Nickel	0.0025		1.00	1.03		mg/L	103	75 - 125	1	20
Selenium	0.0023		4.00	4.17		mg/L	104	75 - 125	2	20
Silver	ND		0.600	0.636		mg/L	106	75 - 125	2	20
Thallium	ND		4.00	4.34		mg/L	109	75 - 125	0	20
Vanadium	ND		1.00	1.01		mg/L	101	75 - 125	1	20
Zinc	ND		1.00	1.04		mg/L	104	75 - 125	1	20

Lab Sample ID: 580-19907-2 DU

Matrix: Water

Analysis Batch: 66174

Client Sample ID: LMW-5-0610

Prep Type: Total Recoverable

Prep Batch: 66088

Analyte	Sample	Sample	DU	DU	Unit	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	ND		ND		mg/L	NC		20
Antimony	ND		ND		mg/L	NC		20
Barium	0.29		0.297		mg/L	4		20
Beryllium	ND		ND		mg/L	NC		20
Cadmium	ND		ND		mg/L	NC		20
Chromium	ND		ND		mg/L	21		20
Cobalt	ND		ND		mg/L	19		20
Copper	ND		ND		mg/L	30		20
Lead	ND		ND		mg/L	NC		20
Manganese	0.26		0.261		mg/L	2		20
Nickel	0.0025		0.00264		mg/L	4		20
Selenium	0.0023		ND		mg/L	37		20
Silver	ND		ND		mg/L	NC		20
Thallium	ND		ND		mg/L	38		20
Vanadium	ND		ND		mg/L	109		20

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-19907-2 DU
Matrix: Water
Analysis Batch: 66174

Client Sample ID: LMW-5-0610
Prep Type: Total Recoverable
Prep Batch: 66088

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	RPD	RPD Limit
Zinc	ND		ND		mg/L	NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-65987/22-A
Matrix: Water
Analysis Batch: 66057

Client Sample ID: MB 580-65987/22-A
Prep Type: Total/NA
Prep Batch: 65987

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 14:54	1

Lab Sample ID: LCS 580-65987/23-A
Matrix: Water
Analysis Batch: 66057

Client Sample ID: LCS 580-65987/23-A
Prep Type: Total/NA
Prep Batch: 65987

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	% Rec.	% Rec. Limits
Mercury	0.00200	0.00199		mg/L	100	75 - 125

Lab Sample ID: LCSD 580-65987/24-A
Matrix: Water
Analysis Batch: 66057

Client Sample ID: LCSD 580-65987/24-A
Prep Type: Total/NA
Prep Batch: 65987

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	% Rec.	% Rec. Limits	RPD	RPD Limit
Mercury	0.00200	0.00207		mg/L	104	75 - 125	4	20



Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: Trip Blank

Date Collected: 06/09/10 00:00

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 01:21	SK	TestAmerica Seattle

Client Sample ID: LMW-5-0610

Date Collected: 06/09/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 03:03	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 13:59	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66217	06/23/10 08:31	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 19:17	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 15:47	FCW	TestAmerica Seattle

Client Sample ID: LMW-11-0610

Date Collected: 06/10/10 11:55

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 03:28	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 14:25	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66217	06/23/10 08:59	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 19:49	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 15:51	FCW	TestAmerica Seattle

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-9-0610

Date Collected: 06/10/10 14:45

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 03:53	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 14:50	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66217	06/23/10 09:03	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 19:53	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 15:56	FCW	TestAmerica Seattle

Client Sample ID: LMW-3-0610

Date Collected: 06/10/10 16:05

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 04:18	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 15:16	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66217	06/23/10 09:07	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 19:56	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 16:00	FCW	TestAmerica Seattle

Client Sample ID: LMW-2-0610

Date Collected: 06/11/10 08:35

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 04:43	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 15:42	EK	TestAmerica Seattle



Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-2-0610

Date Collected: 06/11/10 08:35

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6010B		1	66217	06/23/10 09:11	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 20:00	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 16:05	FCW	TestAmerica Seattle

Client Sample ID: LMW-10-0610

Date Collected: 06/11/10 09:25

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 05:09	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 16:08	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66217	06/23/10 09:16	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 20:04	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 16:09	FCW	TestAmerica Seattle

Client Sample ID: LMW-4-0610

Date Collected: 06/11/10 10:11

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 05:34	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 16:34	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66217	06/23/10 09:20	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 20:07	FCW	TestAmerica Seattle



Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-4-0610

Date Collected: 06/11/10 10:11

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 16:13	FCW	TestAmerica Seattle

Client Sample ID: LMW-EB-0610

Date Collected: 06/11/10 11:55

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	66078	06/22/10 13:54	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 17:00	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66217	06/23/10 09:24	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 20:11	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 16:27	FCW	TestAmerica Seattle

Client Sample ID: LMW-8-0610

Date Collected: 06/11/10 13:10

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 06:25	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 18:17	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66217	06/23/10 09:28	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 20:14	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 16:32	FCW	TestAmerica Seattle

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Client Sample ID: LMW-6-0610

Date Collected: 06/11/10 15:30

Date Received: 06/11/10 16:45

Lab Sample ID: 580-19907-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 06:50	SK	TestAmerica Seattle
Total/NA	Prep	3510C			65637	06/15/10 16:54	SP	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	65761	06/17/10 18:43	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66217	06/23/10 09:33	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66088	06/22/10 11:49	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66174	06/22/10 20:18	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 16:36	FCW	TestAmerica Seattle



Certification Summary

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Laboratory	Program	Authority	EPA Region	Certification ID	Expiration Date
TestAmerica Seattle	DoD ELAP	L-A-B	0	L2236	01/19/13
TestAmerica Seattle	ISO/IEC 17025	L-A-B	0	L2236	01/19/13
TestAmerica Seattle	NELAC Primary AB	Oregon	10	WA100007	11/06/10
TestAmerica Seattle	NELAC Secondary AB	California	9	1115CA	01/31/11
TestAmerica Seattle	State Program	Alaska	10	UST-022	03/04/11
TestAmerica Seattle	State Program	Montana	8		04/30/20
TestAmerica Seattle	State Program	Washington	10	C1226	02/17/11
TestAmerica Seattle	USDA			P330-08-00099	05/22/11

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



Sample Summary

Client: Golder Associates Inc.
Project/Site: Landsburg Mine

TestAmerica Job ID: 580-19907-1

Lab Sample ID	Client Sample ID	Matrix	Sampled	Received
580-19907-1	Trip Blank	Water	06/09/10 00:00	06/11/10 16:45
580-19907-2	LMW-5-0610	Water	06/09/10 15:30	06/11/10 16:45
580-19907-3	LMW-11-0610	Water	06/10/10 11:55	06/11/10 16:45
580-19907-4	LMW-9-0610	Water	06/10/10 14:45	06/11/10 16:45
580-19907-5	LMW-3-0610	Water	06/10/10 16:05	06/11/10 16:45
580-19907-6	LMW-2-0610	Water	06/11/10 08:35	06/11/10 16:45
580-19907-7	LMW-10-0610	Water	06/11/10 09:25	06/11/10 16:45
580-19907-8	LMW-4-0610	Water	06/11/10 10:11	06/11/10 16:45
580-19907-9	LMW-EB-0610	Water	06/11/10 11:55	06/11/10 16:45
580-19907-10	LMW-8-0610	Water	06/11/10 13:10	06/11/10 16:45
580-19907-11	LMW-6-0610	Water	06/11/10 15:30	06/11/10 16:45



Rush
 Short Hold

Chain of Custody Custody Record

19907

Client: **Goldier Associates** Client Contact: **Douglas Morell** Date: **6/9/2010** Chain of Custody Number: **5980**

Address: **18300 NE Union Hill Rd. Suite 200** Telephone Number (Area Code)/Fax Number: **425 883-0777** Lab Number: _____ Page **1** of **1**

City: **Redmond** State: **WA** Zip Code: **98052** Lab Contact: **Kate Haney**

Project Name and Location (State): **Landsburg Mine 923-1000-002-R273**

Contract/Purchase Order/Quote No. _____

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Air	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH				
Trip Blank	6/9/2010	-	✓												
LMW-5-0610	6/9/2010	1530	✓				✓								* HOLD all filtered unpreserved samples pending initial analytical results (preserve upon receipt)
LMW-11-0610	6/10/2010	1155	✓				✓								1
LMW-9-0610	6/10/2010	1445	✓				✓								2
LMW-3-0610	6/10/2010	1605	✓				✓								3
LMW-2-0610	6/11/2010	0835	✓				✓								4
LMW-10-0610	6/11/2010	0925	✓				✓								5
LMW-4-0610	6/11/2010	1011	✓				✓								6
LMW-EB-0610	6/11/2010	1155	✓				✓								7
LMW-8-0610	6/11/2010	1310	✓				✓								8
LMW-6-0610	6/11/2010	1530	✓				✓								9
															10
															11

Cooler: Yes No Cooler Temp: _____

Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown

Sample Disposal: Disposal By Lab Return To Client Archive For _____ Months

QC Requirements (Specify): **Standard.**

Turn Around Time Required (business days)	Date	Time	Date	Time
1. Relinquished By Sign/Print	6/11/2010	1550	6/11/2010	1550
2. Relinquished By Sign/Print				
3. Relinquished By Sign/Print				

Comments: **Pk. cc. jlambers@spolder.com, Klongky@golder.com**

1. Received By Sign/Print: **Jill Lamberts** Date: **6/11/2010** Time: **1550**

2. Received By Sign/Print: **Francisco Luna, Jr.** Date: **6/11/2010** Time: **1550**

3. Received By Sign/Print: _____ Date: _____ Time: _____



w/c/s 16:45
D Lab ~~16:45~~ Temp 2.4°C TB 0.8°C
Cooler Dsc Lg Green/Blue Wet/Packs
Packing Bubble Bag, Plastic Bag

w/c/s
D Lab ~~16:45~~ Temp 1.6°C TB 0.7°C
Cooler Dsc Lg Green/Blue Wet/Packs
Packing Bubble Bag, Plastic Bag

w/c/s
D Lab ~~16:45~~ Temp 3.8°C TB 1.1°C
Cooler Dsc Lg Blue/White Wet/Packs
Packing Bubble Bag, Plastic Bag

w/c/s
D Lab ~~16:45~~ Temp 5.6°C TB 1.0°C
Cooler Dsc Lg Blue/White Wet/Packs
Packing Bubble Bag, Plastic Bag

Arrived @ lab 16:45 - CB 6/15/10

Login Sample Receipt Check List

Client: Golder Associates Inc.

Job Number: 580-19907-1

Login Number: 19907
Creator: Luna, Francisco
List Number: 1

List Source: TestAmerica Seattle

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	False	selected voa vials had headspace, see NCM
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

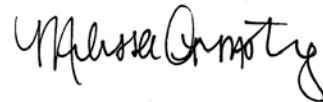
TestAmerica Job ID: 580-19944-1

Client Project/Site: Landsburg Mine 923-1000-002-R273

For:

Golder Associates Inc.
18300 NE Union Hill Road
Suite 200
Redmond, Washington 98052-3333

Attn: Douglas Morell



Authorized for release by:

6/30/2010 3:37 PM

Melissa Armstrong

Project Manager I

melissa.armstrong@testamericainc.com

Designee for

Terri Torres

Project Manager II

terri.torres@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

LINKS

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results through

TotalAccess

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www.testamericainc.com



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Job Narrative
580-19944-1

Comments

No additional comments.

Receipt

LMW-7-0610 & LMW-7-0610-D:

Field Filtered dissolved metals submitted in unpreserved bottles; preserved w/ HNO₃ upon login.

Nitric Acid lot # H14024

All other samples were received in good condition within temperature requirements.

GC/MS VOA

Method(s) 8260B:

The method blank for analytical batch 580-65996 contained Methylene Chloride at a concentration greater than five times the reporting limit (RL). The samples showed no reportable concentration of Methylene Chloride and were uploaded and reported.

Method(s) 8260B:

The following sample(s) was received with headspace in the sample vial: LMW-7-0610 (580-19944-2), LMW-7-0610-D (580-19944-3).

The approximate size of the headspace bubbles have been recorded in the batch record.

No other analytical or quality issues were noted.

GC Semi VOA

No analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

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Qualifier Definition/Glossary

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Glossary

Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

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Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Client Sample ID: Trip Blank

Lab Sample ID: 580-19944-1

Date Collected: 06/14/10 00:00

Matrix: Water

Date Received: 06/15/10 13:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 01:46	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 01:46	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 01:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 01:46	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 01:46	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 01:46	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 01:46	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 01:46	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 01:46	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 01:46	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 01:46	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 01:46	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 01:46	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 01:46	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 01:46	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 01:46	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 01:46	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 01:46	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 01:46	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 01:46	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 01:46	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 01:46	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 01:46	1
2-Butanone	ND		0.50		ug/L			06/22/10 01:46	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 01:46	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 01:46	1
2-Hexanone	ND		1.0		ug/L			06/22/10 01:46	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 01:46	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 01:46	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 01:46	1
Acetone	ND		2.0		ug/L			06/22/10 01:46	1
Acrolein	ND		2.0		ug/L			06/22/10 01:46	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 01:46	1
Benzene	ND		0.10		ug/L			06/22/10 01:46	1
Bromobenzene	ND		0.10		ug/L			06/22/10 01:46	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 01:46	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 01:46	1
Bromoform	ND		0.10		ug/L			06/22/10 01:46	1
Bromomethane	ND		0.10		ug/L			06/22/10 01:46	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 01:46	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 01:46	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 01:46	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 01:46	1
Chloroethane	ND		0.20		ug/L			06/22/10 01:46	1
Chloroform	ND		0.10		ug/L			06/22/10 01:46	1
Chloromethane	ND		0.10		ug/L			06/22/10 01:46	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 01:46	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 01:46	1
Dibromomethane	ND		0.10		ug/L			06/22/10 01:46	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 01:46	1

Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Client Sample ID: Trip Blank

Lab Sample ID: 580-19944-1

Date Collected: 06/14/10 00:00

Matrix: Water

Date Received: 06/15/10 13:00

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 01:46	1
Iodomethane	ND		0.50		ug/L			06/22/10 01:46	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 01:46	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 01:46	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 01:46	1
Naphthalene	ND		0.40		ug/L			06/22/10 01:46	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 01:46	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 01:46	1
o-Xylene	ND		0.10		ug/L			06/22/10 01:46	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 01:46	1
Styrene	ND		0.10		ug/L			06/22/10 01:46	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 01:46	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 01:46	1
Toluene	ND		0.10		ug/L			06/22/10 01:46	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 01:46	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 01:46	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 01:46	1
Trichloroethene	ND		0.10		ug/L			06/22/10 01:46	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 01:46	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 01:46	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 01:46	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 01:46	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		75 - 120		06/22/10 01:46	1
Ethylbenzene-d10	93		75 - 125		06/22/10 01:46	1
Fluorobenzene (Surr)	99		70 - 130		06/22/10 01:46	1
Toluene-d8 (Surr)	89		75 - 125		06/22/10 01:46	1
Trifluorotoluene (Surr)	110		80 - 125		06/22/10 01:46	1

Client Sample ID: LMW-7-0610

Lab Sample ID: 580-19944-2

Date Collected: 06/14/10 09:35

Matrix: Water

Date Received: 06/15/10 13:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 02:12	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 02:12	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 02:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 02:12	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 02:12	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 02:12	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 02:12	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 02:12	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 02:12	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 02:12	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 02:12	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 02:12	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 02:12	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 02:12	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 02:12	1

TestAmerica Seattle

Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Client Sample ID: LMW-7-0610

Lab Sample ID: 580-19944-2

Date Collected: 06/14/10 09:35

Matrix: Water

Date Received: 06/15/10 13:00

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 02:12	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 02:12	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 02:12	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 02:12	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 02:12	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 02:12	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 02:12	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 02:12	1
2-Butanone	ND		0.50		ug/L			06/22/10 02:12	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 02:12	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 02:12	1
2-Hexanone	ND		1.0		ug/L			06/22/10 02:12	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 02:12	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 02:12	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 02:12	1
Acetone	ND		2.0		ug/L			06/22/10 02:12	1
Acrolein	ND		2.0		ug/L			06/22/10 02:12	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 02:12	1
Benzene	ND		0.10		ug/L			06/22/10 02:12	1
Bromobenzene	ND		0.10		ug/L			06/22/10 02:12	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 02:12	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 02:12	1
Bromoform	ND		0.10		ug/L			06/22/10 02:12	1
Bromomethane	ND		0.10		ug/L			06/22/10 02:12	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 02:12	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 02:12	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 02:12	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 02:12	1
Chloroethane	ND		0.20		ug/L			06/22/10 02:12	1
Chloroform	ND		0.10		ug/L			06/22/10 02:12	1
Chloromethane	ND		0.10		ug/L			06/22/10 02:12	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 02:12	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 02:12	1
Dibromomethane	ND		0.10		ug/L			06/22/10 02:12	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 02:12	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 02:12	1
Iodomethane	ND		0.50		ug/L			06/22/10 02:12	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 02:12	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 02:12	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 02:12	1
Naphthalene	ND		0.40		ug/L			06/22/10 02:12	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 02:12	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 02:12	1
o-Xylene	ND		0.10		ug/L			06/22/10 02:12	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 02:12	1
Styrene	ND		0.10		ug/L			06/22/10 02:12	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 02:12	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 02:12	1
Toluene	ND		0.10		ug/L			06/22/10 02:12	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 02:12	1

Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Client Sample ID: LMW-7-0610

Lab Sample ID: 580-19944-2

Date Collected: 06/14/10 09:35

Matrix: Water

Date Received: 06/15/10 13:00

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 02:12	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 02:12	1
Trichloroethene	ND		0.10		ug/L			06/22/10 02:12	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 02:12	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 02:12	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 02:12	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 02:12	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		75 - 120		06/22/10 02:12	1
Ethylbenzene-d10	96		75 - 125		06/22/10 02:12	1
Fluorobenzene (Surr)	98		70 - 130		06/22/10 02:12	1
Toluene-d8 (Surr)	91		75 - 125		06/22/10 02:12	1
Trifluorotoluene (Surr)	100		80 - 125		06/22/10 02:12	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.47		mg/L		06/21/10 10:15	06/23/10 12:13	1
Gasoline	ND		0.094		mg/L		06/21/10 10:15	06/23/10 12:13	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/21/10 10:15	06/23/10 12:13	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	104		50 - 150	06/21/10 10:15	06/23/10 12:13	1
4-Bromofluorobenzene (Surr)	86		50 - 150	06/21/10 10:15	06/23/10 12:13	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/25/10 10:47	06/28/10 17:15	1
Calcium	59		1.1		mg/L		06/25/10 10:47	06/28/10 17:15	1
Iron	1.3		0.20		mg/L		06/25/10 10:47	06/28/10 17:15	1
Magnesium	27		1.1		mg/L		06/25/10 10:47	06/28/10 17:15	1
Potassium	ND		3.3		mg/L		06/25/10 10:47	06/28/10 17:15	1
Sodium	38		2.0		mg/L		06/25/10 10:47	06/28/10 17:15	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Antimony	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Barium	0.56		0.0060		mg/L		06/25/10 10:47	06/25/10 16:07	5
Beryllium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Cadmium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Chromium	0.0040		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Cobalt	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Copper	ND		0.0050		mg/L		06/25/10 10:47	06/25/10 16:07	5
Lead	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Manganese	0.20		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Nickel	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Selenium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Silver	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Thallium	ND		0.0040		mg/L		06/25/10 10:47	06/25/10 16:07	5
Vanadium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:07	5
Zinc	ND		0.0070		mg/L		06/25/10 10:47	06/25/10 16:07	5

Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Client Sample ID: LMW-7-0610

Date Collected: 06/14/10 09:35

Date Received: 06/15/10 13:00

Lab Sample ID: 580-19944-2

Matrix: Water

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 15:38	1

Client Sample ID: LMW-7-0610-D

Date Collected: 06/14/10 09:40

Date Received: 06/15/10 13:00

Lab Sample ID: 580-19944-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 02:37	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 02:37	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 02:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 02:37	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 02:37	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 02:37	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 02:37	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 02:37	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 02:37	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 02:37	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 02:37	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 02:37	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 02:37	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 02:37	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 02:37	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 02:37	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 02:37	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 02:37	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 02:37	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 02:37	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 02:37	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 02:37	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 02:37	1
2-Butanone	ND		0.50		ug/L			06/22/10 02:37	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 02:37	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 02:37	1
2-Hexanone	ND		1.0		ug/L			06/22/10 02:37	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 02:37	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 02:37	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 02:37	1
Acetone	ND		2.0		ug/L			06/22/10 02:37	1
Acrolein	ND		2.0		ug/L			06/22/10 02:37	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 02:37	1
Benzene	ND		0.10		ug/L			06/22/10 02:37	1
Bromobenzene	ND		0.10		ug/L			06/22/10 02:37	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 02:37	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 02:37	1
Bromoform	ND		0.10		ug/L			06/22/10 02:37	1
Bromomethane	ND		0.10		ug/L			06/22/10 02:37	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 02:37	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 02:37	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 02:37	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 02:37	1

Analytical Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Client Sample ID: LMW-7-0610-D

Lab Sample ID: 580-19944-3

Date Collected: 06/14/10 09:40

Matrix: Water

Date Received: 06/15/10 13:00

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		0.20		ug/L			06/22/10 02:37	1
Chloroform	ND		0.10		ug/L			06/22/10 02:37	1
Chloromethane	ND		0.10		ug/L			06/22/10 02:37	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 02:37	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 02:37	1
Dibromomethane	ND		0.10		ug/L			06/22/10 02:37	1
Ethylbenzene	ND		0.10		ug/L			06/22/10 02:37	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 02:37	1
Iodomethane	ND		0.50		ug/L			06/22/10 02:37	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 02:37	1
Methylene Chloride	ND		0.10		ug/L			06/22/10 02:37	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 02:37	1
Naphthalene	ND		0.40		ug/L			06/22/10 02:37	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 02:37	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 02:37	1
o-Xylene	ND		0.10		ug/L			06/22/10 02:37	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 02:37	1
Styrene	ND		0.10		ug/L			06/22/10 02:37	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 02:37	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 02:37	1
Toluene	ND		0.10		ug/L			06/22/10 02:37	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 02:37	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 02:37	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 02:37	1
Trichloroethene	ND		0.10		ug/L			06/22/10 02:37	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 02:37	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 02:37	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 02:37	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 02:37	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		75 - 120		06/22/10 02:37	1
Ethylbenzene-d10	92		75 - 125		06/22/10 02:37	1
Fluorobenzene (Surr)	98		70 - 130		06/22/10 02:37	1
Toluene-d8 (Surr)	89		75 - 125		06/22/10 02:37	1
Trifluorotoluene (Surr)	106		80 - 125		06/22/10 02:37	1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil	ND		0.47		mg/L		06/21/10 10:15	06/23/10 12:39	1
Gasoline	ND		0.094		mg/L		06/21/10 10:15	06/23/10 12:39	1
#2 Diesel (>C12-C24)	ND		0.24		mg/L		06/21/10 10:15	06/23/10 12:39	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	104		50 - 150	06/21/10 10:15	06/23/10 12:39	1
4-Bromofluorobenzene (Surr)	83		50 - 150	06/21/10 10:15	06/23/10 12:39	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		1.0		mg/L		06/25/10 10:47	06/28/10 17:20	1
Calcium	58		1.1		mg/L		06/25/10 10:47	06/28/10 17:20	1
Iron	1.3		0.20		mg/L		06/25/10 10:47	06/28/10 17:20	1

TestAmerica Seattle

Analytical Data

Client: Golder Associates Inc.
 Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Client Sample ID: LMW-7-0610-D

Lab Sample ID: 580-19944-3

Date Collected: 06/14/10 09:40

Matrix: Water

Date Received: 06/15/10 13:00

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	26		1.1		mg/L		06/25/10 10:47	06/28/10 17:20	1
Potassium	ND		3.3		mg/L		06/25/10 10:47	06/28/10 17:20	1
Sodium	38		2.0		mg/L		06/25/10 10:47	06/28/10 17:20	1

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Antimony	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Barium	0.56		0.0060		mg/L		06/25/10 10:47	06/25/10 16:11	5
Beryllium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Cadmium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Chromium	0.0038		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Cobalt	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Copper	ND		0.0050		mg/L		06/25/10 10:47	06/25/10 16:11	5
Lead	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Manganese	0.19		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Nickel	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Selenium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Silver	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Thallium	ND		0.0040		mg/L		06/25/10 10:47	06/25/10 16:11	5
Vanadium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 16:11	5
Zinc	ND		0.0070		mg/L		06/25/10 10:47	06/25/10 16:11	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 15:42	1



Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-65996/5

Matrix: Water

Analysis Batch: 65996

Client Sample ID: MB 580-65996/5

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1,1-Trichloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1,2,2-Tetrachloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ug/L			06/22/10 00:05	1
1,1,2-Trichloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1-Dichloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,1-Dichloroethene	ND		0.10		ug/L			06/22/10 00:05	1
1,1-Dichloropropene	ND		0.10		ug/L			06/22/10 00:05	1
1,2,3-Trichlorobenzene	ND		0.40		ug/L			06/22/10 00:05	1
1,2,3-Trichloropropane	ND		0.20		ug/L			06/22/10 00:05	1
1,2,4-Trichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
1,2,4-Trimethylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
1,2-Dibromo-3-Chloropropane	ND		0.20		ug/L			06/22/10 00:05	1
1,2-Dibromoethane	ND		0.10		ug/L			06/22/10 00:05	1
1,2-Dichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
1,2-Dichloroethane	ND		0.10		ug/L			06/22/10 00:05	1
1,2-Dichloropropane	ND		0.10		ug/L			06/22/10 00:05	1
1,3,5-Trichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
1,3,5-Trimethylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
1,3-Dichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
1,3-Dichloropropane	ND		0.10		ug/L			06/22/10 00:05	1
1,4-Dichlorobenzene	ND		0.20		ug/L			06/22/10 00:05	1
2,2-Dichloropropane	ND		0.10		ug/L			06/22/10 00:05	1
2-Butanone	ND		0.50		ug/L			06/22/10 00:05	1
2-Chloroethyl vinyl ether	ND		2.0		ug/L			06/22/10 00:05	1
2-Chlorotoluene	ND		0.10		ug/L			06/22/10 00:05	1
2-Hexanone	ND		1.0		ug/L			06/22/10 00:05	1
4-Chlorotoluene	ND		0.20		ug/L			06/22/10 00:05	1
4-Isopropyltoluene	ND		0.20		ug/L			06/22/10 00:05	1
4-Methyl-2-pentanone	ND		0.50		ug/L			06/22/10 00:05	1
Acetone	ND		2.0		ug/L			06/22/10 00:05	1
Acrolein	ND		2.0		ug/L			06/22/10 00:05	1
Acrylonitrile	ND		2.0		ug/L			06/22/10 00:05	1
Benzene	ND		0.10		ug/L			06/22/10 00:05	1
Bromobenzene	ND		0.10		ug/L			06/22/10 00:05	1
Bromochloromethane	ND		0.10		ug/L			06/22/10 00:05	1
Bromodichloromethane	ND		0.10		ug/L			06/22/10 00:05	1
Bromoform	ND		0.10		ug/L			06/22/10 00:05	1
Bromomethane	ND		0.10		ug/L			06/22/10 00:05	1
Carbon disulfide	ND		0.10		ug/L			06/22/10 00:05	1
Carbon tetrachloride	ND		0.10		ug/L			06/22/10 00:05	1
Chlorobenzene	ND		0.10		ug/L			06/22/10 00:05	1
Chlorodibromomethane	ND		0.10		ug/L			06/22/10 00:05	1
Chloroethane	ND		0.20		ug/L			06/22/10 00:05	1
Chloroform	ND		0.10		ug/L			06/22/10 00:05	1
Chloromethane	ND		0.10		ug/L			06/22/10 00:05	1
cis-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 00:05	1
cis-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 00:05	1
Dibromomethane	ND		0.10		ug/L			06/22/10 00:05	1

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-65996/5

Matrix: Water

Analysis Batch: 65996

Client Sample ID: MB 580-65996/5

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
Hexachloro-1,3-butadiene	ND		0.20		ug/L			06/22/10 00:05	1
Iodomethane	ND		0.50		ug/L			06/22/10 00:05	1
Isopropylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
Methylene Chloride	1.53		0.10		ug/L			06/22/10 00:05	1
m-Xylene & p-Xylene	ND		0.20		ug/L			06/22/10 00:05	1
Naphthalene	ND		0.40		ug/L			06/22/10 00:05	1
n-Butylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
N-Propylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
o-Xylene	ND		0.10		ug/L			06/22/10 00:05	1
sec-Butylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
Styrene	ND		0.10		ug/L			06/22/10 00:05	1
tert-Butylbenzene	ND		0.10		ug/L			06/22/10 00:05	1
Tetrachloroethene	ND		0.10		ug/L			06/22/10 00:05	1
Toluene	ND		0.10		ug/L			06/22/10 00:05	1
trans-1,2-Dichloroethene	ND		0.10		ug/L			06/22/10 00:05	1
trans-1,3-Dichloropropene	ND		0.10		ug/L			06/22/10 00:05	1
trans-1,4-Dichloro-2-butene	ND		1.0		ug/L			06/22/10 00:05	1
Trichloroethene	ND		0.10		ug/L			06/22/10 00:05	1
Trichlorofluoromethane	ND		0.10		ug/L			06/22/10 00:05	1
Vinyl acetate	ND		0.50		ug/L			06/22/10 00:05	1
Vinyl chloride	ND		0.020		ug/L			06/22/10 00:05	1
Xylenes, Total	ND		0.10		ug/L			06/22/10 00:05	1

Surrogate	MB % Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		75 - 120		06/22/10 00:05	1
Ethylbenzene-d10	103		75 - 125		06/22/10 00:05	1
Fluorobenzene (Surr)	97		70 - 130		06/22/10 00:05	1
Toluene-d8 (Surr)	92		75 - 125		06/22/10 00:05	1
Trifluorotoluene (Surr)	118		80 - 125		06/22/10 00:05	1

Lab Sample ID: LCS 580-65996/6

Matrix: Water

Analysis Batch: 65996

Client Sample ID: LCS 580-65996/6

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	% Rec.	% Rec. Limits
1,1-Dichloroethene	5.00	5.54		ug/L	111	78 - 151
Benzene	5.00	5.20		ug/L	104	75 - 142
Chlorobenzene	5.00	5.73		ug/L	115	71 - 140
Toluene	5.00	5.03		ug/L	101	80 - 126
Trichloroethene	5.00	5.03		ug/L	101	79 - 131

Surrogate	LCS % Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		75 - 120
Ethylbenzene-d10	102		75 - 125
Fluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	89		75 - 125
Trifluorotoluene (Surr)	110		80 - 125

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Method: NWTPH-HCID - Northwest - Hydrocarbon Identification (GC)

Lab Sample ID: MB 580-66017/1-A
Matrix: Water
Analysis Batch: 66161

Client Sample ID: MB 580-66017/1-A
Prep Type: Total/NA
Prep Batch: 66017

Analyte	MB MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Motor Oil	ND		0.50		mg/L		06/21/10 10:15	06/23/10 10:28	1
Gasoline	ND		0.10		mg/L		06/21/10 10:15	06/23/10 10:28	1
#2 Diesel (>C12-C24)	ND		0.25		mg/L		06/21/10 10:15	06/23/10 10:28	1
Surrogate	MB MB		Limits			Prepared	Analyzed	Dil Fac	
	% Recovery	Qualifier							
<i>o</i> -Terphenyl	96		50 - 150			06/21/10 10:15	06/23/10 10:28	1	
4-Bromofluorobenzene (Surr)	80		50 - 150			06/21/10 10:15	06/23/10 10:28	1	

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-66439/16-A
Matrix: Water
Analysis Batch: 66669

Client Sample ID: MB 580-66439/16-A
Prep Type: Total Recoverable
Prep Batch: 66439

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	ND		1.0		mg/L		06/25/10 10:47	06/28/10 16:31	1
Calcium	ND		1.1		mg/L		06/25/10 10:47	06/28/10 16:31	1
Iron	ND		0.20		mg/L		06/25/10 10:47	06/28/10 16:31	1
Magnesium	ND		1.1		mg/L		06/25/10 10:47	06/28/10 16:31	1
Potassium	ND		3.3		mg/L		06/25/10 10:47	06/28/10 16:31	1
Sodium	ND		2.0		mg/L		06/25/10 10:47	06/28/10 16:31	1

Lab Sample ID: LCS 580-66439/17-A
Matrix: Water
Analysis Batch: 66669

Client Sample ID: LCS 580-66439/17-A
Prep Type: Total Recoverable
Prep Batch: 66439

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	% Rec.	% Rec.	
						Limits	
Aluminum	4.00	4.47		mg/L	112	80 - 120	
Calcium	20.0	24.0		mg/L	120	80 - 120	
Iron	22.0	25.9		mg/L	118	80 - 120	
Magnesium	20.0	23.7		mg/L	118	80 - 120	
Potassium	20.0	23.9		mg/L	120	80 - 120	
Sodium	20.0	24.1		mg/L	120	80 - 120	

Lab Sample ID: LCSD 580-66439/18-A
Matrix: Water
Analysis Batch: 66669

Client Sample ID: LCSD 580-66439/18-A
Prep Type: Total Recoverable
Prep Batch: 66439

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	% Rec.	% Rec.		RPD	
						Limits		RPD	Limit
Aluminum	4.00	3.96		mg/L	99	80 - 120	12	20	
Calcium	20.0	20.6		mg/L	103	80 - 120	15	20	
Iron	22.0	22.4		mg/L	102	80 - 120	14	20	
Magnesium	20.0	20.4		mg/L	102	80 - 120	15	20	
Potassium	20.0	20.4		mg/L	102	80 - 120	16	20	
Sodium	20.0	20.6		mg/L	103	80 - 120	16	20	

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-66439/16-A
Matrix: Water
Analysis Batch: 66573

Client Sample ID: MB 580-66439/16-A
Prep Type: Total Recoverable
Prep Batch: 66439

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Antimony	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Barium	ND		0.0060		mg/L		06/25/10 10:47	06/25/10 15:13	5
Beryllium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Cadmium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Chromium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Cobalt	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Copper	ND		0.0050		mg/L		06/25/10 10:47	06/25/10 15:13	5
Lead	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Manganese	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Nickel	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Selenium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Silver	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Thallium	ND		0.0040		mg/L		06/25/10 10:47	06/25/10 15:13	5
Vanadium	ND		0.0020		mg/L		06/25/10 10:47	06/25/10 15:13	5
Zinc	ND		0.0070		mg/L		06/25/10 10:47	06/25/10 15:13	5

Lab Sample ID: LCS 580-66439/17-A
Matrix: Water
Analysis Batch: 66573

Client Sample ID: LCS 580-66439/17-A
Prep Type: Total Recoverable
Prep Batch: 66439

Analyte	Spike Added	LCS	LCS	Unit	% Rec.	% Rec.	Limits
		Result	Qualifier				
Arsenic	4.00	3.94		mg/L	98		80 - 120
Antimony	3.00	2.95		mg/L	98		80 - 120
Barium	4.00	4.02		mg/L	101		80 - 120
Beryllium	0.100	0.102		mg/L	102		80 - 120
Cadmium	0.100	0.0998		mg/L	100		80 - 120
Chromium	0.400	0.427		mg/L	107		80 - 120
Cobalt	1.00	1.06		mg/L	106		80 - 120
Copper	0.500	0.524		mg/L	105		80 - 120
Lead	1.00	1.07		mg/L	107		80 - 120
Manganese	1.00	1.08		mg/L	108		80 - 120
Nickel	1.00	1.04		mg/L	104		80 - 120
Selenium	4.00	3.82		mg/L	96		80 - 120
Silver	0.600	0.617		mg/L	103		80 - 120
Thallium	4.00	4.14		mg/L	104		80 - 120
Vanadium	1.00	1.05		mg/L	105		80 - 120
Zinc	1.00	1.08		mg/L	108		80 - 120

Lab Sample ID: LCSD 580-66439/18-A
Matrix: Water
Analysis Batch: 66573

Client Sample ID: LCSD 580-66439/18-A
Prep Type: Total Recoverable
Prep Batch: 66439

Analyte	Spike Added	LCSD	LCSD	Unit	% Rec.	% Rec.	Limits	RPD	Limit
		Result	Qualifier						
Arsenic	4.00	3.91		mg/L	98		80 - 120	1	20
Antimony	3.00	2.84		mg/L	95		80 - 120	4	20
Barium	4.00	3.91		mg/L	98		80 - 120	3	20
Beryllium	0.100	0.0955		mg/L	96		80 - 120	7	20
Cadmium	0.100	0.0982		mg/L	98		80 - 120	2	20
Chromium	0.400	0.429		mg/L	107		80 - 120	0	20

Quality Control Data

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-66439/18-A

Matrix: Water

Analysis Batch: 66573

Client Sample ID: LCSD 580-66439/18-A

Prep Type: Total Recoverable

Prep Batch: 66439

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	% Rec.	% Rec.		RPD
						Limits	RPD	
Cobalt	1.00	1.05		mg/L	105	80 - 120	2	20
Copper	0.500	0.526		mg/L	105	80 - 120	0	20
Lead	1.00	1.07		mg/L	107	80 - 120	0	20
Manganese	1.00	1.06		mg/L	106	80 - 120	2	20
Nickel	1.00	1.02		mg/L	102	80 - 120	2	20
Selenium	4.00	3.82		mg/L	95	80 - 120	0	20
Silver	0.600	0.611		mg/L	102	80 - 120	1	20
Thallium	4.00	4.14		mg/L	103	80 - 120	0	20
Vanadium	1.00	1.06		mg/L	106	80 - 120	1	20
Zinc	1.00	1.09		mg/L	109	80 - 120	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-65987/22-A

Matrix: Water

Analysis Batch: 66057

Client Sample ID: MB 580-65987/22-A

Prep Type: Total/NA

Prep Batch: 65987

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.00020		mg/L		06/21/10 12:26	06/21/10 14:54	1

Lab Sample ID: LCS 580-65987/23-A

Matrix: Water

Analysis Batch: 66057

Client Sample ID: LCS 580-65987/23-A

Prep Type: Total/NA

Prep Batch: 65987

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	% Rec.	% Rec.	
						Limits	RPD
Mercury	0.00200	0.00199		mg/L	100	75 - 125	

Lab Sample ID: LCSD 580-65987/24-A

Matrix: Water

Analysis Batch: 66057

Client Sample ID: LCSD 580-65987/24-A

Prep Type: Total/NA

Prep Batch: 65987

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	% Rec.	% Rec.		RPD
						Limits	RPD	
Mercury	0.00200	0.00207		mg/L	104	75 - 125	4	20

Lab Chronicle

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Client Sample ID: Trip Blank

Date Collected: 06/14/10 00:00

Date Received: 06/15/10 13:00

Lab Sample ID: 580-19944-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 01:46	SK	TestAmerica Seattle

Client Sample ID: LMW-7-0610

Date Collected: 06/14/10 09:35

Date Received: 06/15/10 13:00

Lab Sample ID: 580-19944-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 02:12	SK	TestAmerica Seattle
Total/NA	Prep	3510C			66017	06/21/10 10:15	DB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	66161	06/23/10 12:13	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66669	06/28/10 17:15	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66439	06/25/10 10:47	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66573	06/25/10 16:07	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 15:38	FCW	TestAmerica Seattle

Client Sample ID: LMW-7-0610-D

Date Collected: 06/14/10 09:40

Date Received: 06/15/10 13:00

Lab Sample ID: 580-19944-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	65996	06/22/10 02:37	SK	TestAmerica Seattle
Total/NA	Prep	3510C			66017	06/21/10 10:15	DB	TestAmerica Seattle
Total/NA	Analysis	NWTPH-HCID		1	66161	06/23/10 12:39	EK	TestAmerica Seattle
Total Recoverable	Analysis	6010B		1	66669	06/28/10 17:20	SP	TestAmerica Seattle
Total Recoverable	Prep	3005A			66439	06/25/10 10:47	PAB	TestAmerica Seattle
Total Recoverable	Analysis	6020		5	66573	06/25/10 16:11	FCW	TestAmerica Seattle
Total/NA	Prep	7470A			65987	06/21/10 12:26	PAB	TestAmerica Seattle
Total/NA	Analysis	7470A		1	66057	06/21/10 15:42	FCW	TestAmerica Seattle

Certification Summary

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Laboratory	Program	Authority	EPA Region	Certification ID	Expiration Date
TestAmerica Seattle	DoD ELAP	L-A-B	0	L2236	01/19/13
TestAmerica Seattle	ISO/IEC 17025	L-A-B	0	L2236	01/19/13
TestAmerica Seattle	NELAC Primary AB	Oregon	10	WA100007	11/06/10
TestAmerica Seattle	NELAC Secondary AB	California	9	1115CA	01/31/11
TestAmerica Seattle	State Program	Alaska	10	UST-022	03/04/11
TestAmerica Seattle	State Program	Montana	8		04/30/20
TestAmerica Seattle	State Program	Washington	10	C1226	02/17/11
TestAmerica Seattle	USDA			P330-08-00099	05/22/11

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



Sample Summary

Client: Golder Associates Inc.
Project/Site: Landsburg Mine 923-1000-002-R273

TestAmerica Job ID: 580-19944-1

Lab Sample ID	Client Sample ID	Matrix	Sampled	Received
580-19944-1	Trip Blank	Water	06/14/10 00:00	06/15/10 13:00
580-19944-2	LMW-7-0610	Water	06/14/10 09:35	06/15/10 13:00
580-19944-3	LMW-7-0610-D	Water	06/14/10 09:40	06/15/10 13:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

19944

Rush
 Short Hold

Chain of Custody Record

Client: **Goldes Associates** Client Contact: **Douglas Morell** Date: **6/14/2010** Chain of Custody Number: **5981**
 Address: **18300 NE Union Hill Rd. Suite 200** Telephone Number (Area Code)/Fax Number: **425-883-0777** Lab Number: **6/14/2010**
 City: **Redmond** State: **WA** Zip Code: **98052** Lab Contact: **Kate Haney** Page: **1** of **1**

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Analysis (Attach list if more space is needed)	
			Air	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH			
Trip blank	6/14/2010	-	✓											* Diss. - field filtered @ 0.45um Special Instructions/ Filter Conditions of Receipt → HOLD all filtered, unpreserved samples pending analytical results (preserve upon receipt)
LMW-7-0610	6/14/2010	0935	✓											
LMW-7-0610-D	6/14/2010	0940	✓											

QC Requirements (Specify):
 Cooler: Yes No Cooler Temp.: _____
 Turn Around Time Required (business days):
 24 Hours 48 Hours 5 Days 10 Days 15 Days Other Standard
 Possible Hazard Identification:
 Non-Hazard Flammable Skin Irritant Poison B Unknown Disposal By Lab Archive For _____
 Sample Disposal: Return To Client Months _____
 1. Relinquished By Sign/Print: **J. Lamberts** Date: **6/14/2010** Time: **1100**
 2. Relinquished By Sign/Print: **Francisco Inng, Jr.** Date: **6/15/10** Time: **1030**
 3. Relinquished By Sign/Print: _____ Date: _____ Time: _____

Comments: Please cc. jlamberts@golder.com ; klongley@golder.com

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

Login Sample Receipt Check List

Client: Golder Associates Inc.

Job Number: 580-19944-1

Login Number: 19944
Creator: Luna, Francisco
List Number: 1

List Source: TestAmerica Seattle

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	



APPENDIX B
SAMPLE INTEGRITY DATA SHEETS (SIDS)

SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002

Site Location Ravensdale, WA Sample ID LMW-2-0610

Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler Dedicated Pump Grundfos

Date 6/11/2010 Time 0835

Media Water Station LMW-2

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL -6.51 ft below TOC (bottom at 209.7 ft, 4-in casing) @ 1108 on 6/19/2010

Sand Pack Interval - NA


Packer Depth - 187.3 ft bgs (~16 gal/total well vol)

Sample Description clear sulphurous odor.

Field Measurements on Sample (pH, conductivity, etc.) _____

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation / Amount
3 - 40 mL	VOA	VOA Vial	HCl
1 - 250 ml	Total Metals	HDPE	HNO3 (non)
1 - 250 ml	Dissolved Metals	HDPE	None (filter)
2 - 1 Liter, 3 - 40 ml	TPH-HCID	Glass Amber, VOA Vial	HCl

Sampler (signature)  Date 6/11/2010

Supervisor (signature)  Date 6/14/2010

FIELD PARAMETERS SHEET

Well ID LMW-2
 Date 6/11/2010
 Time Begin Purge 0747
 Time Collect Sample 0835

*from DO
Meter.*

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
	756	11	6.89	947	10.7	0.09	0.43	205.3
	801	16	6.87	948	10.7	0.02	0.46	169.9
	815	32	6.86	948	10.7	0.02	0.43	135.3
	829	48	6.86	949	10.7	0.01	0.56	116.8

Comments:
 0747 Begin purge - Grundfos controller @ 80Hz. Sulphurous odor.
 0 1.17 gal / min 16 gal / 1.17 gal/min = 13.6 min = 14 min
 PID = 0.0 ppm.

Sampler's Initials jl

SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002

Site Location Ravensdale, WA Sample ID LMW-3-0610

Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler Dedicated Pump Grundfos

Date 6/10/10 Time 1605

Media Water Station LMW-3

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL -11.53 ft below TOC (bottom at ft, 4-in casing) @ 1352 on 6/9/2010

Sand Pack Interval – 47.1 to 64.8 ft bgs (8-in hole)

Packer Depth – NA (~18 gal/total well vol)

Sample Description clear. No odor.

Field Measurements on Sample (pH, conductivity, etc.) _____

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation / Amount
3 – 40 mL	VOA	VOA Vial	HCl
1 – 250 ml	Total Metals	HDPE	HNO3 (non)
1 – 250 ml	Dissolved Metals	HDPE	None (filter)
2 – 1 Liter, 3 – 40 ml	TPH-HCID	Glass Amber, VOA Vial	HCl

Sampler (signature) Jill Seull Date 6/10/2010

Supervisor (signature) D. Miller Date 6/14/2010

FIELD PARAMETERS SHEET

Well ID LMW-3
 Date 6/10/2010
 Time Begin Purge 1513
 Time Collect Sample 1605

from DO meter

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
	1520	~9	7.75	265.4	10.7	1.58	0.50	295.7
	1528	~18	7.79	268.7	10.8	0.51	0.37	246.6
	1543	~36	7.79	273.9	10.7	0.24	0.58	197.7
	1558	~54	7.76	277.7	10.7	0.10	0.38	187.3

Comments:
 1315 Begin Purge. Granfos set @ 110 Hz
 1513
 1517 $\frac{5 \text{ gal}}{4 \text{ min}} = 1.25 \frac{\text{gal}}{\text{min}}$ $\frac{18 \text{ gal}}{1.25 \frac{\text{gal}}{\text{min}}} = 14.4 = 15 \text{ min/well vol.}$

Sampler's Initials jsl

SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002

Site Location Ravensdale, WA Sample ID LMW-4-0610

Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler Dedicated Pump Grundfos

Date 6/11/2010 Time 1011

Media Water Station LMW-4

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL - 8.50 ft below TOC (bottom at ft, 4-in casing) @ 1114 on 6/9/2010

Sand Pack Interval - 189 to 209 ft bgs (11.7 gal/sandpack vol)

Packer Depth - 187.3 ft bgs (~14 gal/total well vol)

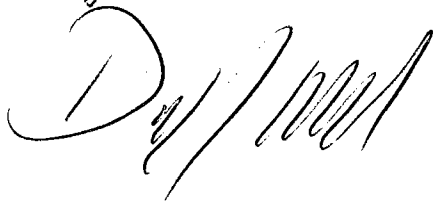
Sample Description clear, sulfur odor

Field Measurements on Sample (pH, conductivity, etc.) _____

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation / Amount
3 - 40 mL	VOA VOCs	VOA Vial	HCl
1 - 250 ml	Total Metals	HDPE	HNO3 (non)
1 - 250 ml	Dissolved Metals	HDPE	None (filter)
2 - 1 Liter, 3 - 40 ml	TPH-HCID	Glass Amber, VOA Vial	HCl

Sampler (signature)  Date 6/11/2010



6/14/2010

FIELD PARAMETERS SHEET

Well ID LMW-4
 Date 6/11/10
 Time Begin Purge 9:10
 Time Collect Sample 10:11

from cond. meter

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
	9:30	~ 25 gal	6.90	956	11.5	1.08	0.58	112.0
	9:42	~ 39	6.88	960	10.6	0.04	0.56	80.6
	9:54	~ 53	6.86	958	10.6	3.63	0.44	64.0
	10:06	~ 67	6.87	957	10.5	3.62	0.42	51.2

Comments:

9:10 Begin purge. Grundfos controller at 118 Hz Sulphurous odor

$$\frac{5 \text{ gal purged}}{4 \text{ min}} = 1.25 \text{ gal/min} ; 11.2 \text{ min well water volume}$$
 14 gal well vol
 9:55 DO meter temperature = 13.1°C, other 2 meters & manual ~ 10°C
 - recalibrated, temperature still off, DO high

Sampler's Initials JL

SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002
 Site Location Ravensdale, WA Sample ID LMW-5-0610
 Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler Dedicated Pump Grundfos

Date 6/9/2010 Time 1530

Media Water Station LMW-5

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL - 12.89 ft below TOC (bottom at 241.8 ft, 4-in casing) @ 1330 6/9/10

Sand Pack Interval - NA

Packer Depth - 222.11 ft bgs (~14 gal/total well vol)

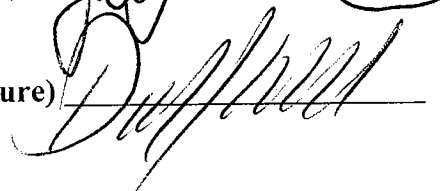
Sample Description clear, sulphurous odor.

Field Measurements on Sample (pH, conductivity, etc.) _____

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation / Amount
3 - 40 mL	VOA	VOA Vial	HCl
1 - 250 ml	Total Metals	HDPE	HNO3 (non)
1 - 250 ml	Dissolved Metals	HDPE	None (filter)
2 - 1 Liter, 3 - 40 ml	TPH-HCID	Glass Amber, VOA Vial	HCl

Sampler (signature)  Date 6/9/2010

Supervisor (signature)  Date 6/14/2010

FIELD PARAMETERS SHEET

Well ID LMW-5
 Date 6/19/2010
 Time Begin Purge 1444
 Time Collect Sample 1520 1530
2e

from Cond.
meter

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
	1448	~5gal.	6.89	747	10.9	0.06	0.70	185.1
	1455	~14gal	6.92	748	11.0	0.03	0.46	164.9
	1506	~28	6.95	747	11.0	0.02	0.35	145.3
	1517	~42	7.20	747	11.0	0.02	0.48	136.3
	1528	~56	7.00	749	11.0	0.01	0.39	132.1

Comments:
 1444 begin purge. Grundfos controller @ 157.08 Hz. Distinct sulphurous odor to water.
 1448 5 gal purged $\frac{5 \text{ gal}}{4 \text{ min}} = 1.25 \frac{\text{gal}}{\text{min}}$
 $\frac{14 \text{ gal}}{1.25 \frac{\text{gal}}{\text{min}}} = 11.2 \text{ min}$
 1506- Seal at tubing/casing loose + water leaking out. Tightened tubing
 1520- Pump turned off (GCEI breaker) Pump off for ~5mins while we fixed it.

Sampler's Initials jsl

$$\frac{5}{4} = 1.25 \frac{\text{gal}}{\text{min}}$$

$$\frac{14 \text{ gal}}{1.25}$$

$$\frac{56}{5} = 11.2$$

SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002

Site Location Ravensdale, WA Sample ID LMW-6-0610

Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler Dedicated Pump Grundfos

Date 6/11/2010 Time 1530

Media Water Station LMW-6

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL -21.37ft below TOC @ 1203 on 6/9/10

(~23.5 gal/total well vol)

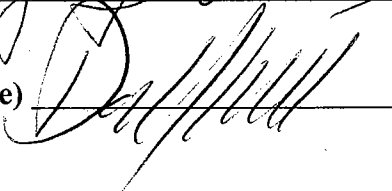
Sample Description clear, no odor

Field Measurements on Sample (pH, conductivity, etc.) _____

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation / Amount
<u>3 - 40 mL</u>	<u>VOA</u>	<u>VOA Vial</u>	<u>HCl</u>
<u>1 - 250 ml</u>	<u>Total Metals</u>	<u>HDPE</u>	<u>HNO3 (non)</u>
<u>1 - 250 ml</u>	<u>Dissolved Metals</u>	<u>HDPE</u>	<u>None (filter)</u>
<u>2 - 1 Liter, 3 - 40 ml</u>	<u>TPH-HCID</u>	<u>Glass Amber, VOA Vial</u>	<u>HCl</u>

Sampler (signature)  Date 6/11/2010

Supervisor (signature)  Date 6/14/2010

FIELD PARAMETERS SHEET

Well ID LMW-6

Date 6-11-2010

Time Begin Purge 1351

Time Collect Sample 1530

from cond. meter

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
21.37	1401	~10 gal	6.76	223.4	9.4	0.02	20.6	225.4
	1422	~23.5	6.78	226.2	9.6	0.02	13.6	205.7
	1453	~47	6.84	227.7	9.8	0.02	2.37	199.7
	1524	~69.5	6.83	229.2	9.9	0.01	1.07	197.1

Comments:

- At 1351 Began purge @ 140 Hz on controller. Water initially very turbid.
 - 1357 5 gal in 6.5 mins - Water much clearer now
 - 0.76 gal/min 23.5 gal well volume - 31 mins. 1 well volume

Sampler's Initials JA

SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002

Site Location Ravensdale, WA Sample ID LMW-7-0610, LMW-7-0610-D

Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler Dedicated Pump Grundfos

Date 6/14/2010 Time 0935, dup = 0940

Media Water Station LMW-7

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL - 224.49 ft below TOC on 6/9/2010 @ 1042

(~23 gal/total well vol)

Sample Description clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation / Amount
3 - 40 mL	VOA	VOA Vial	HCl
1 - 250 ml	Total Metals	HDPE	HNO3 (non)
1 - 250 ml	Dissolved Metals	HDPE	None (filter)
2 - 1 Liter, 3 - 40 ml	TPH-HCID	Glass Amber, VOA Vial	HCl

Sampler (signature) [Signature] Date 6/14/2010

Supervisor (signature) [Signature] Date 6/14/2010

FIELD PARAMETERS SHEET

Well ID LMW-7
 Date 6/14/2010
 Time Begin Purge 752
 Time Collect Sample 930 - 935 (dup) ^{from cond. meter}
935 - 940 (dup)

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
	800	~5 gal	7.21	400	11.8	0.16	9.70	183.5
	829	23 25	7.15	460	12.0	0.16	6.57	159.4
0901	907	~46	7.11	505	12.2	0.07	1.34	148.0
0933	933	~69	7.12	514	12.2	0.05	0.97	142.9

Comments: 336 μ
7:52 Grandfos pump @ 325 Hz
 $759 - 5 \text{ gal purged} = 0.714 \text{ gal/min}$ $23 \text{ gal. well volume} = 32 \text{ min/well volume}$
 • Initially turbid, then cleared
 • Pump cut out 2 times during initial well volume purge

Sampler's Initials JE

SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002

Site Location Ravensdale, WA Sample ID LMW-8-0610 and LMW-EB-0610

Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler Dedicated Tubing and Peristaltic Pump EBQ 1135

Date 6/11/2010 Time 1310

Media Water Station LMW-8

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL - 2.88 ft below TOC (bottom at 13 ft, 2-in casing) (1.7 gal/casing vol) @ 1357 on 6/9/10

Sand Pack Interval - 6 to 13 ft (8-in hole) (4.3 gal/sandpack vol)

Packer Depth - NA (~6 gal/total well vol)

Sample Description clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation / Amount
3 - 40 mL	VOA	VOA Vial	HCl
1 - 250 ml	Total Metals	HDPE	HNO3 (non)
1 - 250 ml	Dissolved Metals	HDPE	None (filter)
2 - 1 Liter, 3 - 40 ml	TPH-HCID	Glass Amber, VOA Vial	HCl

Sampler (signature) *Joe Lemle* Date 6/11/2010

Supervisor (signature) *Don Miller* Date 6/14/2010

FIELD PARAMETERS SHEET

Well ID LMW-8
 Date 6/11/2010
 Time Begin Purge 1155
 Time Collect Sample 1310

Room cond. meter

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
	1205	~1.5 gal	6.87	377	11.3	0.32	9.70	117.4
	1215	~3.0	6.87	400	11.2	0.39	3.61	114.3
	1225	~4.5	6.88	415	11.3	0.31	2.73	113.8
	1235	~6.0	6.87	423	11.4	0.30	2.56	114.9
	1245	~7.5	6.88	429	11.4	0.24	1.60	116.2
	1255	~9.0	6.87	431	11.6	0.22	1.31	117.2
	1305	~10.5	6.88	432	12.1	0.21	1.14	117.0

Comments:
 1135 Collected field blank prior to purge. Through tubing (+filter for Diss. Metals) LMW-EB-0610
 Flow rate = 0.142 gal/min
 PID = 0.0 ppm
 • Samples effervescing in VOC vials
 1200 DO meter temp ~ 1.0°C higher than other meters + the readings are jumping around. Recal'd

Sampler's Initials Jsl

SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002

Site Location Ravensdale, WA Sample ID LMW-9-0610

Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler Pump Grundfos and Dedicated Tubing

Date 6/10/10 Time 1445

Media Water Station LMW-9

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL 98.07 ft below TOC (bottom at 159 ft, 2-in casing) (10.3 gal/casing vol) @ 1249 6/9/10

Sand Pack Interval – 143 to 159 ft (8-in hole) (9.7 gal/sandpack vol)

Packer Depth – NA (~20 gal/total well vol)

Sample Description clear. no odor.

Field Measurements on Sample (pH, conductivity, etc.) _____

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation / Amount
3 – 40 mL	VOAC	VOA Vial	HCl
1 – 250 ml	Total Metals	HDPE	HNO3 (non)
1 – 250 ml	Dissolved Metals	HDPE	None (filter)
2 – 1 Liter, 3 – 40 ml	TPH-HCID	Glass Amber, VOA Vial	HCl

Sampler (signature) Jill Ferrell Date 6/10/10

Supervisor (signature) DJ Miller Date 6/17/2010

FIELD PARAMETERS SHEET

Well ID LMW-9
 Date 6/10/2010
 Time Begin Purge 1339
 Time Collect Sample 1445

from DO meter

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
	1350	~11	6.98	674	11.9	0.09	1.01	180.8
	1359	~20	7.01	674	12.0	0.03	0.52	161.0
	1419	~40	7.01	674	12.0	0.03	0.41	151.0
	1439	~60	7.00	675	12.1	0.02	0.41	145.8

Comments:
 *Gruntos set @ ~230 Hz. $\frac{5 \text{ gal}}{5 \text{ min}} = \frac{1 \text{ gal}}{\text{min}} \div 20 \text{ gal}$
 ~ 20 min / well volume

Sampler's Initials Jst

SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002

Site Location Ravensdale, WA Sample ID LMW-10-0610

Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler QED Bladder

Date 6/11/10 Time 0925

Media Water Station LMW-10

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL - 0.00 ft below TOC (bottom at 286 ft, 4-in casing) at rim on 6/11/10 @ 1117

Sand Pack Interval - 258 to 289 ft bgs

Packer Depth - NA

Sample Description clear, no odor

Field Measurements on Sample (pH, conductivity, etc.) _____

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation / Amount
<u>3 - 40 mL</u>	<u>VOA</u>	<u>VOA Vial</u>	<u>HCl</u>
<u>1 - 250 ml</u>	<u>Total Metals</u>	<u>HDPE</u>	<u>HNO3 (non)</u>
<u>1 - 250 ml</u>	<u>Dissolved Metals</u>	<u>HDPE</u>	<u>None (filter)</u>
<u>2 - 1 Liter, 3 - 40 ml</u>	<u>TPH-HCID</u>	<u>Glass Amber, VOA Vial</u>	<u>HCl</u>

Sampler (signature) Jelly Paul Date 6/11/2010

Supervisor (signature) Duff Date 6/14/2010

FIELD PARAMETERS SHEET

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Well ID LMW-10
 Date 6/11/2010
 Time Begin Purge 0819
 Time Collect Sample 0925
 js1

on
 DO meter
 ↓

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
	0854		8.66	327	10.8	8.98	0.71	177.7
	0859		8.64	328	10.5	6.46	0.44	131.9
	0904		8.63	328	10.5	4.95	0.30	116.8
	0909		8.62	328	10.5	3.35	0.52	108.2
	0914		8.59	329	10.5	2.51	0.43	102.9
	0919		8.61	329	10.5	0.66	0.48	107.6
	0924		-	-	-	0.72	-	-
	0926		-	-	-	2.36	-	-

Comments:

QED: 60psi on throttle, 4cpm.
 purge rate 440 mls/min

- DO meter steadily dropping; readings jumping around.
- Recal'd + took sample
- Noticed effervescence in tubing + flow cell.

Sampler's Initials js1

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SAMPLE INTEGRITY DATA SHEET

Plant/Site Landsburg Mine Site Project No. 923-1000-002

Site Location Ravensdale, WA Sample ID LMW-11-0610

Sampling Location Groundwater Monitoring Well End of dedicated sampling tube

Technical Procedure Reference(s) TP-1.4-6A, TP-1.2-20, TP-1.2-23

Type of Sampler Pump Grundfos and QED Bladder

Date 6/10/2010 @ 1155 Time ~~6/10/2010~~ ^{3:21} 156.25' to top of ~~outer casing~~

Media Water Station LMW-11

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL -156.25' ft below TOC (bottom at 707 ft, 4-in casing) (363 gal/casing vol) on 6/9/10 @ 1303

Sand Pack Interval - 688 to 707 ft (8-in hole) (9.2 gal/sandpack vol)

Packer Depth - NA

Sample Description Clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

SEE FIELD PARAMETERS SHEET

Aliquot Amount	Analysis	Container	Preservation/ Amount
3 - 40 mL	VOA	VOA Vial	HCl
1 - 250 ml	Total Metals	HDPE	HNO3 (non)
1 - 250 ml	Dissolved Metals	HDPE	None (filter)
2 - 1 Liter, 3 - 40 ml	TPH-HCID	Glass Amber, VOA Vial	HCl

Sampler (signature)  Date 6/10/2010

Supervisor (signature)  Date 6/14/2010

FIELD PARAMETERS SHEET

Well ID LMW-11 Grunfos
 Date 6/10/2010 DED
 Time Begin Purge 0847 1047
 Time Collect Sample 1155

from DO meter

Water Level feet bmp	Time	Volume Purged	pH	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	Eh Rel mV
	1047	0.75 gal	7.40	495	11.0	1.21	1.28	198.5
	1102	1.5 gal	7.26	498	10.9	0.50	0.75	167.5
	1117	2.5 gal	7.45	497	11.1	0.35	0.42	152.2
	1132	3.5 gal	7.27	496	11.2	0.28	0.76	148.4
	1147	4.5 gal	7.25	495	10.9	0.24	0.40	148.2

Comments:
 0847 began Grunfos to initialize flow inside well. Pump set @ 170 ft below TOC, pump controller @ 330 Hz. Purge rate ~ 2.5 gpm.
 $\frac{2 \text{ min}}{2.5 \text{ gal/min}} = 5 \text{ min} = 12.5 \text{ gal}$
 $\frac{372 \text{ gal}}{2.5 \text{ gal/min}} = 148.8 \text{ min} = 2 \text{ hr } 28.8 \text{ min}$
 1047 = Started bladder pump @ ~~700~~³⁰⁰ gal purged. Pump @ 90 psi, 2 cpm
 Purge rate of Grunfos = 2.5 gpm
 Purge rate of Bladder Pump = 300 mL/min
 Slight sulphurous odor

Sampler's Initials JSI

60
 32.5
 50
 150 D