### Golder Associates Inc.



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February 12, 2009

Golder ref: 923-1000-002.R273

Palmer Coking Coal Company 31407 Highway 169 P.O. Box 10 Black Diamond, Washington 98010

Attention: Mr. Bill Kombol

RE: LANDSBURG MINE SITE INTERIM GROUNDWATER MONITORING RESULTS – NOVEMBER, 2008

Dear Mr. Kombol:

Golder Associates Inc. (Golder) completed an interim groundwater monitoring event at the Landsburg Mine Site during November, 2008. 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. 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 lay along the primary pathways for detection of a chemical release from the mine, were one to occur. 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), semi-volatile organic compounds (EPA Method 8270C), priority pollutant metals (EPA Method 6000/7000 Series), poly-chlorinated biphenyls (EPA Method 8082), pesticides (EPA Method 8081A), 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 Bothell, 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), semi-volatile compound (SVOC), poly-chlorinated biphenyl (PCB), pesticide, 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  $0.3\mu g/L$  and  $0.05\mu g/L$ , 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 November 2008 sampling event are similar to concentrations detected during the RI (Golder, 1996)<sup>1</sup> 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  $8.54~\mu g/L$ , which is below the Washington State primary drinking water MCL of 10 ug/L, but higher than the MTCA groundwater cleanup level of  $5~\mu g/L$ . Arsenic is also a naturally occurring metal commonly detectable in groundwater. The geochemical low reduction-oxidation (REDOX) potential of the deep groundwater from LMW-11 would likely result in a higher natural arsenic concentration in this 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 has a lower REDOX potential than shallow groundwater within the mine.

<sup>&</sup>lt;sup>1</sup> Golder Associates Inc., 1996. Remedial Investigation and Feasibility Study for the Landsburg Mine Site. Landsburg PLP Steering Committee.

Several volatile organics compounds associated with fuels had previously been detected from newly installed monitoring wells during previous groundwater monitoring events, but were not detected in this most recent sampling periods, Groundwater monitoring results of LMW-10, after its installation, detected trace concentrations (<1 ug/L) of benzene and toluene (April/May, 2004 data; August, 2004 data; and May 2005 data). Several groundwater samples, obtained from LMW-11 after installation, also contained benzene, toluene, and xylenes at trace concentrations and below drinking water and MTCA levels. The concentrations of the observed compounds showed a definitive decreasing trend in groundwater samples from wells LMW-10 and LMW-11 with time and were not detectable in the latest six sampling periods obtained in February 2006, December 2006, June 2007, November 2007, May 2008, and November 2008. The conclusion is that the drilling locally affected groundwater quality in deeper wells at the site because the compressor air of the air-rotary drill rig used to blow cuttings from the borehole probably had some entrained volatile organics that dissolved within the borehole groundwater. This phenomenon has been observed elsewhere in deep bedrock wells after installation. Since the concentrations of these volatile organics have been steadily declining after well installation and became undetectable for the last two sampling periods, the source could not be from the waste materials disposed at the Landsburg Mine site.

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

Sincerely,

GOLDER ASSOCIATES INC.

Ian Young

Project Hydrogeologist

for the Mit

Douglas J. Morell, Ph.D.; L.Hy.

Principal

IY/DJM

### **TABLES**

### Groundwater Elevation Data Collected November 18, 2008 Landsburg Mine Site

	UNITS	LMW-1	LMW-1 LMW-1a	LMW-2	LMW-3	LMW-4*	LMW-5	9-MW1	LMW-7*	LWW-8	LWW.9	11-MM.1 01-MM.1	I WW-11	P-7	Water	Frazier Seam Tunnel
															9	
Water Depths																
Time of data collection	ft bgs		10:15 AM 10:20 AM 10:40 AM		9:45 AM	10:50 AM	9:20 AM	10:30 AM	10:55 AM	9:40 AM	9:50 AM	10:40 AM	10:00 AM	10:45 AM	NA	NA
Measured to Top of PVC	ft bgs	137.85	130.17	6.21	11.92	7.66	13.45	29.42	213.33	3.65	99.22	0.00	157.07	6.51	NA	NA
Measured to Top of Monument	t 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	l 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	ı ft asl	627.31	629.34	611.52	644.83	611.60	644.82	602.91	558.18	643.32	644.77	618.87	644.80	644.86	NA	NA
Using Monument elevation	ı ft asl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Notes:																

 $^*$  = Data corrected to accomodate well inclination of 20° from vertical NA = Not applicable. NC = Data not collected.

TABLE 2

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Field Parameter pH	UNITS	LMW-2 11/24/2008	LMW-3 11/21/2008	LMW-3 LMW-4 LMW-5 LMW-6 11/21/2008 11/24/2008	LMW-5 11/21/2008	LMW-6 11/24/2008	LMW-7 11/21/2008	LMW-7 LMW-8 11/21/2008 11/21/2008	LMW-9 11/25/2008	LMW-9 Duplicate	LMW-10 11/25/2008	LMW-11 11/25/2008	Equipment Blank 11/24/2008	Trip Blank	rrp   Blank   11/24/2008
Hd													1		
	stnd	6.95		96'9	7.05	6.95	7.14	7.01	7.05		8.90	7.37	NA	NA	NA
Conductivity	nS/cm	363		358	398	0.601	371	346	269		240		NA	NA	NA
Dissolved Oxygen	mg/L	0.00	0.05	80.0	90.0	0.17	0.14	0.10	90.0		80.0	0.52	NA	NA	NA
Temperature	ر د د	- 10.9		10.7	10.8	10.1	13.7				6.6		NA	NA	NA
Turkidite	Kel mv	1.647-	70	-274.6	-195.0	-135.3	-131.4		7		-222.9	7	NA	NA	NA
Lurbianty	NIO	0.24	0.18	0.36	0.75	0.99	0.64	1.95	0.84		0.36	0.71	NA	NA	NA
Metals (Total)															
Aluminum	T/gm	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	NA	NA
Antimony	mg/L	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	NA	NA
Arsenic	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	U 100.0	0.00304	0.00237	0.001 U	0.001 U	0.001 U	0.00854	0.001 U	NA	XX
Barium	mg/L	0.313	0.0737	0.341	0.251	0.104	0.470	0.0499	0.295	0.304	0.0355		0.01 U	NA	NA
Beryllium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	U 1000	0.001 U	0.001 U	0.001 U	0.001 U	NA	NA
Cadmium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	U 1000	NA	NA
Calcium	mg/L	120		116	86.3	26.8	53.4	66.2	82.2	81.3	19.9	0.75 U	0.75 U	NA	NA
Chromium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00126	0.00135	0.001 U	0.001 U	0.001 U	NA	NA
Cobalt	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NA	NA
Copper	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NA	NA
Iron	mg/L	091.0	0.15 U	896.0	0.476	2.28	1.06	9.37	1.70	1.68	0.15 U	0.15 U	0.15 U	NA	NA
Lead	mg/L	0.001 U	0.0	0.001 U	0.001 U	0.001 U	0.00149	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NA	NA
Magnesium	mg/L	71.6		68.2	47.1	10.8	22.3	35.3	44.1	43.6	2.51	0.5 U	0.5 U	NA	NA
Manganese	mg/L	0.220	0.0536	0.179	0.217	0.0313	0.145	0.500	0.172	0.180	0.01 U	0.140	0.01 U	NA	NA
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	NA	NA
Nickel	mg/L	0.001 U	0	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00353	0.00371	0.001 U	0.00136	U 100.0	NA	NA
Potassium	mg/L	3.99		3.83	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U	2.0 U	3.0 U	NA	NA
Selenium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0.001 U	NA	NA
Silver	mg/L	0.001 U	0.001 U	0.00183	0.001 U	0.00132	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00120	NA	NA
Sodium	mg/L	25.7	9.92	29.5	18.3	69.2	43.6	14.9	17.9	17.8	79.0	0.250 U	0.250 U	NA	NA
Thallium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	-50	0.001 U	NA	NA
Vanadium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U		0	0.001 U	0.001 U		0.001 U	NA	NA
ZIIIC	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.0122	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NA	NA
Volatile Organic Compounds	220														
Acetone	1/Sri	10 U		10 U	10 U	10 U	10 U	10 U	10 U	10 U	U01	10 U	10 01	10 U	10 U
Benzene	T/Sri	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromobenzene	T/Sri	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	η/gπ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U
Bromodichloromethane	η/gπ	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Вготобот	η/gπ	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromomethane	hg/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U		2 U	2 U	2 U
2-Butanone	η/gri	2 U		2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U		2 U	2 U	2 U
n-Butylbenzene	ng/L	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U
sec-Butylbenzene	hg/L	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
tert-Butylbenzene	hg/L	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U
Carbon disulfide	ng/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

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										FWM-9			Equipment	Trip	Trip
ANALYTE	UNITS	LMW-2 11/24/2008	LMW-3 11/21/2008	LMW-4 11/24/2008	LMW-5 11/21/2008	LMW-6 11/24/2008	LMW-7 11/21/2008	LMW-8 11/21/2008	LMW-9 11/25/2008	Duplicate 11/25/2008	LMW-10 11/25/2008	LMW-11 11/25/2008	Blank 11/24/2008	<b>Blank</b> 11/21/2008	Blank 11/24/2008
Carbon tetrachloride	η/gri	0.2 U		0.2 U	0.2 U	0.2 U	0.2 L								
Chlorobenzene	μg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 L								
Chloroethane	ng/L	10	10	10	10	10	1 U	1.0	10	10	1.0	10	1 U	1.0	11
Chloroform	ηg/L	0.2 U	0.2 U	0.2 U	0.360	0.2 U	0.2 L								
Chloromethane	ηg/L	10	10	1.0	1.0	10			1.0	10	10	10	UI	10	11
2-Chlorotoluene	µg/L	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U				
4-Chlorotoluene	η/gri	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U								
Dibromochloromethane	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U									
1,2-Dibromo-3-chloropropane	µg/L	10	10	110	UI	10	110	1.0	1.0	10		10	10	1.0	
1,2-Dibromoethane	ηgη.	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 L								
Dibromomethane	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U								
1,2-Dichlorobenzene	µg/L	0.2 U	0.2 U		0.2 U	0.2 U									
1,3-Dichlorobenzene	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U									
1,4-Dichlorobenzene	µg/L	0.2 U		0.2 U	0.2 U	0.2 U							0.2 U	0.2 U	
Dichlorodifluoromethane	ηg/L	0.5 U		0.5 U	0.5 U	0.5 U	120						0.5 U	0.5 U	0.5 L
1,1-Dichloroethane	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U								
1,2-Dichloroethane	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U									
1,1-Dichloroethene	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U								
cis-1,2-Dichloroethene	ηgη.	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 L						
trans-1,2-Dichloroethene	µg/L	0.2 U	4.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 L					
1,2-Dichloropropane	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U								
1,3-Dichloropropane	µg/L	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,2-Dichloropropane	µg/L	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 L						
1,1-Dichloropropene	ng/L	0.2 U			0.2 U	0.2 U	0.2 U						0.2 U	0.2 U	0.2 L
cis-1,3-Dichloropropene	ng/L	0.2 U			0.2 U	0.2 U	0.2 U						0.2 U	0.2 U	0.2 L
trans-1,3-Dichloropropene	µg/L	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U		0.2 U				0.2 U	0.2 U	0.2 U
Ethylbenzene	µg/L	0.2 U			0.2 U	0.2 U	0.2 U						0.2 U	0.2 U	
Hexachlorobutadiene	hg/L	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U								
Methyl tert-butyl ether	µg/L	10	10	1.0	10	10	1 U		10	UI	10	1.0	10	10	110
n-Hexanone	µg/L	10		10	10	10	10		10				10	10	110
2-Hexanone	hg/L	2 U		2 U	2 U	2 U	2 U						2 U	2 U	
Isopropylbenzene	µg/L	0.5 U		0.5 U	0.5 U	0.5 U							0.5 U	0.5 U	
p-Isopropyltoluene	μg/L	0.2 U	0	0.2 U	0.2 U	0.2 U		0	0	0	0	0	0.2 U	0.2 U	0
4-Methyl-2-pentanone	µg/L	2 U		2 U	2 U	2 U	2 U		2 U	13674	2 U		2 U	2 U	2 L
Methylene chloride	ηg/L	2 U		2 U	2 U	2 U							2 U	2 U	2 U
Naphthalene	T/Sri	2.5 U		2.5 U	2.5 U	2.5 U	2.5 U						2.5 U	2.5 U	
n-Propylbenzene	T/Bri	0.5 U		0.5 U	0.5 U	0.5 U							0.5 U	0.5 U	
Styrene	hg/L	0.5 U	0	0.5 U	0.5 U	0.5 U	0	0	0	0	0	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	µg/L	10	10	10	10	10			1 U	10	1.0	1 U	1 U	1 U	11
1,2,4-Trichlorobenzene	µg/L	10		1.0	10	10							10	1.0	110
1,1,1,2-Tetrachloroethane	ηg/L	0.2 U		0.2 U	0.2 U	0.2 U							0.2 U	0.2 U	
1,1,2,2-Tetrachloroethane	ng/L	0.5 U		0.5 U	0.5 U	0.5 U							0.5 U	0.5 U	0.5 U
Tetrachloroethene	ng/L	0.2 U		0.2 U			×.		0.2 U	0.2 U	0.2 U				
Toluene	1/8n	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U			0.520	0.2 U	0.2 L
I, I, I-1rrchloroethane	μg/L	0.2 U	A) d?	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U							

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TABLE 2

										LIM W-7	The second second		Eduipment	du	d
ANALYTE	UNITS	LMW-2 11/24/2008	LMW-3 11/21/2008	LMW-4 11/24/2008	LMW-5 11/21/2008	LMW-6 11/24/2008	LMW-7 11/21/2008	LMW-8 11/21/2008	LMW-9 11/25/2008	Duplicate 11/25/2008	LMW-10 11/25/2008	LMW-11 11/25/2008	Blank 11/24/2008	Blank 11/21/2008	Blank 11/24/2008
1,1,2-Trichloroethane	J/gri	0.2 U		0.2 U					0.2 U						
Trichloroethene	1/8rl	0.2 U		0.2 U						0.2 U					
Trichlorofluoromethane	ng/L	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U						
1,2,3-Trichloropropane	J/gri	0.5 U							0.5 U						
1,2,4-Trimethylbenzene	ηg/L	0.2 U			0.2 U	0.2 U		0.2 U			100				0.2 U
1,3,5-Trimethylbenzene	µg/L	0.5 U			0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U				
Vinyl chloride	µg/L	0.2 U		0.2 U	0.2 U	0.2 U		0.2 U		0.2 U	0.2 U	0.2 U			0.2 L
o-Xylene	ηg/L	0.25 U		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U						
m,p-Xylene	ηg/L	0.5 U		0.5 U			0.5 U	0.5 U	0.5 U						
Total Xylenes	µg/L	0.75 U	0.75 U				0.75 L								
Semivolatile Organic Compounds	spun														
Acenaphthene	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Acenaphthylene	T/8n	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	1000	9.43 U		200		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	30		NA
Aniline	η/gπ	9.43 U	9.43 U		9.43 U	9.52 U	9.43 U	9.43 U		9.43 U	9.43 U	9.43 U	9.52 U		NA
Anthracene	η/gπ	9.43 U	9.43 U		9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	0.00		9.43 U	9.52 U		NA
Benzo(a)anthracene	µg/L	9.43 U		9.52 U	9.43 U	9.52 U	9.43 U	9.43 U							NA
Benzo(a)pyrene	ηg/L	9.43 U			9.43 U	9.52 U	9.43 U	9.43 U	9.43 U		9.43 U	9.43 U	8.4		NA
Benzo(b)fluoranthene	T/Sn	9.43 U			9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U				NA	NA
Benzo(k)fluoranthene	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U							NA
Benzo(ghi)perylene	Hg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U						NA	NA
Benzul Alcohol	HS/L	0 43 11			10.9 U	17:00	10.50	18.9 U	18.9 U	18.9 U	18.9 U				NA .:
Bis(7-chloroethoxy)methane	Hg/L	0.4311	0.4311		0.43.0	0.52.0	0.43.0	0.43.0	9.45 U			9.45 U	0.22.0		NA
Bis(2-chloroethyl)ether	L/on	9.43 []	9.43 []	11 65 6	9 43 11	9 52 11	9 43 11	9 43 11		11.150					NA
Bis(2-chloroisopropyl)ether	T/gn	9.43 U	9.43 U		9.43 U	9.52 U	9.43 U	9.43 U		3 ( b) 25-0-1				AN	NA
Bis(2-ethylhexyl)phthalate	1/gri	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U		ET.				NA
4-Bromophenyl phenyl ether	∏/gri	9.43 U			9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U		9.43 U			NA
Butyl benzyl phthalate	hg/L	9.43 U	9.43 U	0.000	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Carbazole	μg/L	9.43 U		2016	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
4-Chloroaniline	µg/L	9.43 U			9.43 U	9.52 U		9.43 U	9.43 U	7.36	9.43 U	9.43 U	9.52 U		NA
4-Chloro-3-methylphenol	ng/L	9.43 U		000.	9.43 U	9.52 U		9.43 U	9.43 U	9.43 U	9.43 U	9.43 U		NA	NA
2-Chloronaphthalene	µg/L	9.43 U			9.43 U	9.52 U		9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U		NA
2-Chlorophenol	µg/L	9.43 U			9.43 U	9.52 U	200	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
4-Chlorophenyl phenyl ether	ng/L	9.43 U			9.43 U	9.52 U		9.43 U	9.43 U		9.43 U	9.43 U	9.52 U		NA
3 & 4-Methylphenol (m,p-Cresols)	µg/L	9.43 U			9.43 U	9.52 U		9.43 U	9.43 U	0.00		9.43 U	9.52 U	NA	NA
2-Methylphenol (o-Cresol)	ng/L	9.43 U			9.43 U	9.52 U		9.43 U					-50	NA	NA
Chrysene	ng/L	9.43 U	9.43 U		9.43 U	9.52 U	9.43 U	9.43 U				9.43 U		NA	NA
Di-n-butyl phthalate	µg/L	9.43 U		9.52 U	9.43 U	9.52 U	9.43 U	9.43 U							NA
Dibenz(a,h)anthracene	µg/L	9.43 U		9.52 U	9.43 U	9.52 U	9.43 U	9.43 U						NA	NA
Dibenzofuran	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U		12	9.43 U	9.52 U	NA	AN
1,2-Dichlorobenzene	ng/L	9.43 U		9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
1,3-Dichlorobenzene	J/Sri	9.43 U		9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U		NA
1,4-Dichlorobenzene	1/gri	9.43 U	9.43 U		9.43 U	9.52 U	9.43 U	9.43 U	9.43 U		2		9.52 U	NA	NA
3,3'-Dichlorobenzidine	T/gn	9.43 U			9.43 U	52	9.43 U	9.43 U	9.43 U	9.43 U			9.52 U	NA	NA
2 4-Dichlorophonol	1/0/1	0 43 11	9 43 11	0 57 11	9 43 11	11 65 6	0.43.11	0.43.11	0.42 11	0.43 11	0.43 11	11 07 0	11 62 0	****	ATA

February 12, 2009

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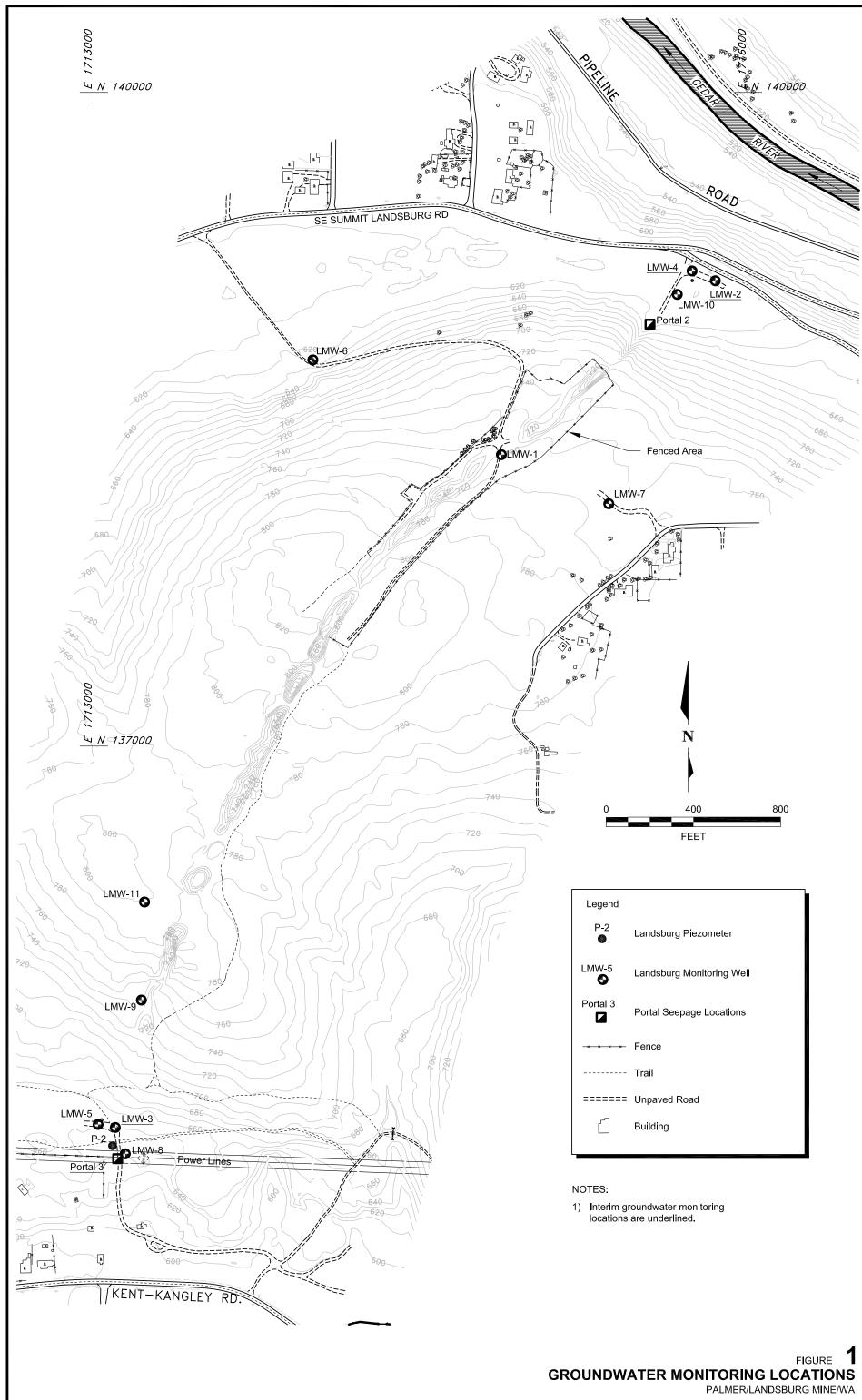
TABLE 2

	0									FWM-9			Equipment	Trip	Trip
ANALYIE	UNITS	LMW-2 11/24/2008	LMW-3 11/21/2008	LMW-4 11/24/2008	LMW-5 11/21/2008	LMW-6 11/24/2008	LMW-7 11/21/2008	LMW-8 11/21/2008	LMW-9 11/25/2008	<b>Duplicate</b> 11/25/2008	LMW-10 11/25/2008	LMW-11 11/25/2008	Blank 11/24/2008	Blank 11/21/2008	Blank 11/24/2008
Diethyl phthalate	T/8ri	9.43 U	9.43 U	9.52 U	9.43 U	and Free		-	-	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
2,4-Dimethylphenol	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	12000	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U		9.52 U	NA	NA
Dimethyl phthalate	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	10m/2	9.43 U	9.43 U	9.43 U	9.43 U		9.43 U	9.52 U	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	0.01.2		9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
2,4-Dinitrophenol	µg/L	18.9 U	18.9 U	19.0 U	18.9 U	19.0 U	18.9 U	U 6.81	18.9 U	18.9 U	U 6.81	U 6.81	U 0.01	NA	NA
2,4-Dinitrotoluene	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
2,6-Dinitrotoluene	µg/L	9.43 U	9.43 U	9.52 U	9.43 U		9.43 U	9.43 U	9.43 U	9.43 U			9.52 U	NA	NA
N-Nitrosodiphenylamine	µg/L	9.43 U	9.43 U	9.52 U	9.43 U		9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Fluoranthene	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U		9.43 U	9.52 U	NA	NA
Fluorene	hg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		0.210	9.43 U		I Car	9.52 U	NA	NA
Hexachlorobenzene	ηg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U		200	9.52 U	NA	NA
Hexachlorobutadine	ηg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U		9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Hexachlorocyclopentadine	ηg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U			9.52 U	NA	NA
Hexachloroethane	µg/L	9.43 U	9.43 U	9.52 U	9.43 U		9.43 U	9.43 U	1000	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Indeno(1,2,3-cd)pyrene	Hg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Isophorene	ηg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
1-Methylnaphthalene	η/g/l	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
2-Methylnaphthalene	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Naphthalene	ng/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
2-Nitroaniline	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		2000	9.43 U		34VI	9.52 U	NA	NA
3-Nitroaniline	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
4-Nitroaniline	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Nitrobenzene	μg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
2-Nitrophenol	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U			9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
4-Nitrophenol	ng/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
N-Nitrosodi-n-propylamine	ng/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U			9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Di-n-octyl phthalate	T/Sri	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U			9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Pentachlorophenol	μg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U			9.43 U		9.43 U	9.52 U	NA	NA
Phenanthrene	ηgη.	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		9791	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
1,3,5-Trimethylbenzene	η/gπ	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U			9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
Phenol	μg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U			9.43 U			9.52 U	NA	NA
Pyrene	μg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U			9.43 U		. 62.0	9.52 U	NA	NA
1,2,4-Trichlorobenzene	ηgη.	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U		A-12.0	9.43 U			9.52 U	NA	NA
2,4,5-Trichlorophenol	T/SH	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U			9.43 U			9.52 U	NA	NA
2,4,6-Trichlorophenol	µg/L	9.43 U	9.43 U	9.52 U	9.43 U	9.52 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.43 U	9.52 U	NA	NA
PCBs														- 1	
Aroclor 1016 (2C)	µg/L	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U		0.472 U	0.472 U	0.476 U	0.000	U 9/476 U	NA	NA
Aroclor 1221	µg/L	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U		0.472 U	0.472 U	0.476 U		0.476 U	NA .	NA
Aroclor 1232	T/Sri	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U	0.472 U	0.472 U	0.472 U	0.476 U		0.476 U	NA	NA
Aroclor 1242	1/Sri	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U	0.472 U	0.472 U	0.472 U	0.476 U	0.476 U	0.476 U	NA	NA
Aroclor 1248	T/Sri	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U		0.472 U	0.472 U	0.476 U	0.476 U	0.476 U	NA	NA
Aroclor 1254	ng/L	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U		0.472 U	0.472 U	0.476 U	0.476 U	0.476 U	NA	NA
Aroclor 1260	J/gri	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U	0.472			0.476 U	0.476 U	0.476 U	NA	NA
Aroclor 1262	η/gri	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U		0.472 U		0.476		0.476 U	NA	NA
Aroclor 1268	µg/L	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U	0.472 U		0.472 U	0.476 U	0.476 U	0.476 U	NA	NA

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										LMW-9			Equipment	Trip	Trip
ANALYTE	UNITS	LMW-2 11/24/2008	LMW-3 11/21/2008	UNITS LMW-2 LMW-3 LMW-4 LMW-5 11/24/2008 11/21/2008 11/24/2008 11/21/2008	LMW-5 11/21/2008	LMW-6 11/24/2008	LMW-7 11/21/2008	LMW-8 11/21/2008	LMW-9 11/25/2008	Duplicate	LMW-10 11/25/2008	LMW-11	Blank 11/24/2008	Blank 11/21/2008	Blank 11/24/2008
Pesticides															
Aldrin (2C)	T/Sri	0.05 U	0.05 U	U 50.0	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	- NA	NA				
alpha-BHC (2C)	T/Sri	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U		0.04 U	AN	NA
beta-BHC (2C)	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U		0.04 U	NA	NA
delta-BHC (2C)	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA	NA
gamma-BHC (2C)	ηg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U		0.04 U	NA	NA
alpha-Chloradine (2C)	hg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NA	NA
gamma-Chloradine (2C)	μg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U		0.04 U	NA	NA
4,4'-DDD (2C)	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U		0.04 U	NA	NA
4,4'-DDE (2C)	µg/L	U 80.0	0.08 U	O 80.0	O 80'0	U 80.0	U 80.0	U 80.0	O 80'0	0.08 U	0.08 U		U 80.0	NA	NA
4,4'-DDT (2C)	µg/L	0.08 U	0.08 U	O 80.0	O 80'0	U 80.0	U 80.0	0.08 U	0.08 U	U 80.0	U 80.0		0.08 U	NA	NA
Dieldrin (2C)	µg/L	O 80.0	0.08 U	O 80.0	O 80'0	U 80.0	U 80.0	0.08 U	U 80.0	U 80.0	0.08 U	0.08 U	0.08 U	NA	NA
Endosulfan I (2C)	ηg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	NA	NA
Endosulfan II (2C)	µg/L	O 80.0	0.08 U	O 80.0	U 80.0	U 80.0	O 80.0	0.08 U	U 80.0	U 80.0	U 80.0		U 80.0	NA	NA
Endosulfan sulfate (2C)	µg/L	0.095 U	0.095 U	0.095 U	0.094 U	U 560'0	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U		0.095 U	NA	NA
Endrin	µg/L	0.08 U	0.08 U	O 80.0	0.08 U	U 80.0	0.08 U	0.08 U	U 80.0	U 80.0	0.08 U	U 80.0	U 80.0	NA	NA
Endrin aldehyde (2C)	η/gri	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	NA	NA
Endrin ketone (2C)	ηgη.	O 80 C	0.08 U	O 80.0	0.08 U	O 80.0	O 80.0	O 80.0	U 80.0	U 80.0	U 80.0	U 80.0	U 80.0	NA	NA
Heptachlor (2C)	ηg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA	N.A.
Heptachlor epoxide (2C)	µg/L	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NA	NA
Methoxychlor (2C)	µg/L	0.476 U	0.472 U	0.476 U	0.472 U	0.476 U	0.472 U	0.472 U	0.472 U	0.472 U	0.476 U	0.476 U	0.476 U	NA	NA
Hydrocarbon Identification															
Diesel Range	T/gm	U 9.0	U 0.6 U	D 9.0	U 9.0	U 0.6 U	D 9.0	D 9.0	U 0.6 U	U 9.0	0.6 U	D90	U9.0	NA	NA
Gas 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	NA	NA
Heavy Fuel Oil	mg/L	D9.0	U 9.0	U 9.0	D 9.0	U 9.0	U 9.0	0.6 U	U 9.0	U 9.0	U 9.0		0.6U	NA	NA

### FIGURE



### APPENDIX A LABORATORY ANALYTICAL REPORTS





December 08, 2008

Douglas Morell Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

RE: Landsburg Mine

Enclosed are the results of analyses for samples received by the laboratory on 11/21/08 15:40. The following list is a summary of the Work Orders contained in this report, generated on 12/08/08 17:35.

If you have any questions concerning this report, please feel free to contact me.

Work Order	<u>Project</u>	<u>ProjectNumber</u>
BRK0270	Landsburg Mine	923-1000-002-R273

TestAmerica Seattle

Kate Haney, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



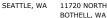
Golder Associates Inc. **Landsburg Mine** Project Name: 18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LMW-5-1108	BRK0270-01	Water	11/21/08 08:55	11/21/08 15:40
LMW-8-1108	BRK0270-02	Water	11/21/08 10:25	11/21/08 15:40
LMW-3-1108	BRK0270-03	Water	11/21/08 11:30	11/21/08 15:40
LMW-7-1108	BRK0270-04	Water	11/21/08 14:00	11/21/08 15:40
Trip Blank	BRK0270-05	Water	11/21/08 15:40	11/21/08 15:40

TestAmerica Seattle





11720 NORTH CREEK PKWY N. SUITE 400 BOTHELL, WA 98011-8244

PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. Landsburg Mine Project Name:

923-1000-002-R273 18300 NE Union Hill Rd, Suite 200 Project Number: Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### **Analytical Case Narrative**

TestAmerica - Seattle, WA

### **BRK0270**

### SAMPLE RECEIPT

The samples were received November 21st, 2008 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 10.8 degrees Celsius which is outside the recommended temperature range of 2-6 Degrees Celsius. The samples are considered acceptable as they were recieved on-ice within four hours of the collection of the last sampled time on the COC.

### PREPARATIONS AND ANALYSIS

8081 Pesticides: The samples were initially extracted in laboratory batch 8K25012. The percent recovery for Endrin was below the established acceptance criteria in the laboratory blank spike and blank spike duplicate. Additionally, the RPD for Endrin was above the established acceptance criteria in the blank spike duplicate. The samples were re-extracted outside the method established hold time in laboratory batch 8L03015 with passing Endrin recoveries. Both sets of results were reported.

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

TestAmerica Seattle





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Hydrocarbon Identification by Washington DOE Method NWTPH-HCID

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-01RE1 (LMW-5-1108)		Wa	ter		Sampl	ed: 11/2	21/08 08:55			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.236	mg/l	1x	8K25014	11/25/08 11:56	11/26/08 16:56	
Diesel Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Surrogate(s): 2-FBP			128%		50 - 150 %	"			"	
Octacosane			97.5%		50 - 150 %	"			"	
BRK0270-02RE1 (LMW-8-1108)		Wa	ter		Sampl	ed: 11/2	21/08 10:25			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.238	mg/l	1x	8K25014	11/25/08 11:56	11/26/08 17:18	
Diesel Range Hydrocarbons	"	ND		0.600	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.600	"	"	"	"	"	
Surrogate(s): 2-FBP			118%		50 - 150 %	"			"	
Octacosane			96.3%		50 - 150 %	"			"	
BRK0270-03RE1 (LMW-3-1108)		Wa	ter		Sampl	ed: 11/2	21/08 11:30			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.238	mg/l	1x	8K25014	11/25/08 11:56	11/26/08 17:40	
Diesel Range Hydrocarbons	"	ND		0.600	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.600	"	"	"	"	"	
Surrogate(s): 2-FBP			121%		50 - 150 %	"			"	
Octacosane			93.7%		50 - 150 %	"			"	
BRK0270-04RE1 (LMW-7-1108)		Wa	ter		Sampl	ed: 11/2	21/08 14:00			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.236	mg/l	1x	8K25014	11/25/08 11:56	11/26/08 18:02	
Diesel Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.594	"	"	"	"	**	
Surrogate(s): 2-FBP			125%		50 - 150 %	"			"	
Octacosane			99.4%		50 - 150 %	"			"	

TestAmerica Seattle





THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

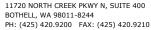
### **Total Metals by EPA 6000/7000 Series Methods**

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-01	(LMW-5-1108)		Wa	iter		Sam	pled: 11/2	21/08 08:55			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K24009	11/24/08 09:24	11/24/08 14:44	
Antimony		EPA 6020	ND		0.00300	"	"	8K24020	11/24/08 11:38	11/28/08 09:43	
Arsenic		"	ND		0.00100	"	"	"	"	"	
Barium		"	0.251		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	86.3		0.750	"	"	8K24009	11/24/08 09:24	11/24/08 14:44	
Chromium		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:43	
Cobalt		"	ND		0.00100	"	"	"	"	"	
Copper		"	ND		0.00100	"	"	"	"	"	
Iron		EPA 6010B	0.476		0.150	"	"	8K24009	11/24/08 09:24	11/24/08 14:44	
Lead		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:43	
Magnesium		EPA 6010B	47.1		0.500	"	"	8K24009	11/24/08 09:24	11/24/08 14:44	
Manganese		EPA 6020	0.217		0.0100	"	"	8K24020	11/24/08 11:38	11/28/08 09:43	
Mercury		EPA 7470A	ND		0.000200	"	"	8K24052	11/24/08 17:09	11/25/08 14:22	
Nickel		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:43	
Potassium		EPA 6010B	ND		3.00	"	"	8K24009	11/24/08 09:24	11/24/08 14:44	
Selenium		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:43	
Silver		"	ND		0.00100	"	"	"	"	12/01/08 11:56	
Sodium		EPA 6010B	18.3		0.250	"	"	8K24009	11/24/08 09:24	11/24/08 14:44	
Thallium		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:43	
Vanadium		"	ND		0.00100	"	"	"	"	"	
Zinc		"	ND		0.0100	"	"	"	"	"	
BRK0270-02	(LMW-8-1108)		Wa	iter		Sam	pled: 11/2	21/08 10:25			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K24009	11/24/08 09:24	11/24/08 15:18	
Antimony		EPA 6020	ND		0.00300	"	"	8K24020	11/24/08 11:38	11/28/08 09:55	
Arsenic		"	0.00237		0.00100	"	"	"	"	"	
Barium		"	0.0499		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	66.2		0.750	"	"	8K24009	11/24/08 09:24	11/24/08 15:18	
Chromium		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:55	
Cobalt		"	ND		0.00100	"	"	"	"	"	
Copper		"	ND		0.00100	"	"	"	"	"	
Iron		EPA 6010B	9.37		0.150	"	"	8K24009	11/24/08 09:24	11/24/08 15:18	
Lead		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:55	
Magnesium		EPA 6010B	35.3		0.500	"	"	8K24009	11/24/08 09:24	11/24/08 15:18	
Mercury		EPA 7470A	ND		0.000200	"	"	8K24052	11/24/08 17:09	11/25/08 14:33	
Nickel		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:55	
Potassium		EPA 6010B	ND		3.00	"	"	8K24009	11/24/08 09:24	11/24/08 15:18	
Selenium		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:55	

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Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

### Total Metals by EPA 6000/7000 Series Methods

TestAmerica Seattle

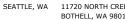
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-02	(LMW-8-1108)		Wa	iter		Sam	pled: 11/2	21/08 10:25			
Silver		EPA 6020	ND		0.00100	mg/l	1x	8K24020	11/24/08 11:38	12/01/08 12:01	
Sodium		EPA 6010B	14.9		0.250	"	"	8K24009	11/24/08 09:24	11/24/08 15:18	
Thallium		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 09:55	
Vanadium		"	ND		0.00100	"	"	"	"	"	
Zinc		"	ND		0.0100	"	"	"	"	"	
BRK0270-02R	E1 (LMW-8-1108)		Wa	iter		Sam	pled: 11/2	21/08 10:25			
Manganese	,	EPA 6020	0.500		0.0200	mg/l	2x	8K24020	11/24/08 11:38	11/28/08 12:44	
BRK0270-03	(LMW-3-1108)		Wa	iter		Sam	pled: 11/2	21/08 11:30			
Aluminum	(22:11: 0-1100)	EPA 6010B	ND		0.200	mg/l	1x	8K24009	11/24/08 09:24	11/24/08 15:22	
		EPA 6020	ND ND		0.00300	IIIg/I	ıx "	8K24009	11/24/08 09:24	11/28/08 10:01	
Antimony Arsenic		EFA 0020	ND ND		0.00300	,,		8K24020	11/24/08 11.38	11/28/08 10.01	
Barium		,,	0.0737		0.0100	,,		,,	"	"	
Beryllium		,,	0.0737 ND		0.0100	,,	.,	,,		,,	
Cadmium		,,	ND ND		0.00100	,,	,,	,,		,,	
Calcium		EPA 6010B	36.5		0.750	,,	,,	8K24009	11/24/08 09:24	11/24/08 15:22	
Chromium		EPA 6020	30.5 ND		0.00100	,,	,,	8K24009	11/24/08 11:38	11/28/08 10:01	
Cobalt		EFA 0020	ND ND		0.00100	,,		8K24020	11/24/08 11.38	11/28/08 10.01	
Copper		,,	ND ND		0.00100	,,	,,	,,	,,	"	
Iron		EPA 6010B	ND ND		0.00100	,,	,,	8K24009	11/24/08 09:24	11/24/08 15:22	
Lead		EPA 6020	0.00116		0.00100	,,		8K24020	11/24/08 11:38	11/28/08 10:01	
		EPA 6010B	13.8		0.500	,,		8K24009	11/24/08 09:24	11/24/08 15:22	
Magnesium		EPA 6020	0.0536		0.0100	,,		8K24020	11/24/08 11:38	11/28/08 10:01	
Manganese		EPA 7470A			0.000200	,,	,,	8K24020	11/24/08 17:09	11/25/08 14:36	
Mercury		EPA 6020	ND		0.000200	,,	,,	8K24032	11/24/08 17:09	11/28/08 10:01	
Nickel			ND			,,	,,				
Potassium		EPA 6010B EPA 6020	ND		3.00 0.00100	,,		8K24009 8K24020	11/24/08 09:24 11/24/08 11:38	11/24/08 15:22 11/28/08 10:01	
Selenium		EPA 6020	ND ND		0.00100	,,	,,	8K24020 "	11/24/08 11:38	12/01/08 12:07	
Silver		EPA 6010B			0.00100	,,	,,	8K24009	11/24/08 09:24	11/24/08 15:22	
Sodium			9.92			,,	,,				
Thallium		EPA 6020	ND		0.00100	,,	,,	8K24020	11/24/08 11:38	11/28/08 10:01	
Vanadium		,,	ND		0.00100	,,		,,		,,	
Zinc		"	ND		0.0100				"	"	

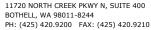
TestAmerica Seattle

Nawynung

Kate Haney, Project Manager









Golder Associates Inc.

Project Name:

**Landsburg Mine** 

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

923-1000-002-R273 Project Number: Project Manager: Douglas Morell

Report Created: 12/08/08 17:35

### Total Metals by EPA 6000/7000 Series Methods

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-04	(LMW-7-1108)		Wa	iter		Sam	pled: 11/2	21/08 14:00			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K24009	11/24/08 09:24	11/24/08 15:26	
Antimony		EPA 6020	ND		0.00300	"	"	8K24020	11/24/08 11:38	11/28/08 10:06	
Arsenic		"	0.00304		0.00100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	53.4		0.750	"	"	8K24009	11/24/08 09:24	11/24/08 15:26	
Chromium		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 10:06	
Cobalt		"	ND		0.00100	"	"	"	"	"	
Copper		"	ND		0.00100	"	"	"	"	"	
Iron		EPA 6010B	1.06		0.150	"	"	8K24009	11/24/08 09:24	11/24/08 15:26	
Lead		EPA 6020	0.00149		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 10:06	
Magnesium		EPA 6010B	22.3		0.500	"	"	8K24009	11/24/08 09:24	11/24/08 15:26	
Manganese		EPA 6020	0.145		0.0100	"	"	8K24020	11/24/08 11:38	11/28/08 10:06	
Mercury		EPA 7470A	ND		0.000200	"	"	8K24052	11/24/08 17:09	11/25/08 14:38	
Nickel		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 10:06	
Potassium		EPA 6010B	ND		3.00	"	"	8K24009	11/24/08 09:24	11/24/08 15:26	
Selenium		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 10:06	
Silver		"	ND		0.00100	"	"	"	"	12/01/08 12:13	
Sodium		EPA 6010B	43.6		0.250	"	"	8K24009	11/24/08 09:24	11/24/08 15:26	
Thallium		EPA 6020	ND		0.00100	"	"	8K24020	11/24/08 11:38	11/28/08 10:06	
Vanadium		"	ND		0.00100	"	"	"	"	"	
Zinc		"	ND		0.0100	"	"	"	"	"	
BRK0270-04RI	E1 (LMW-7-1108)		Wa	iter		Sam	pled: 11/2	21/08 14:00			
Barium	•	EPA 6020	0.470		0.0500	mg/l	5x	8K24020	11/24/08 11:38	11/28/08 10:12	

TestAmerica Seattle



Prepared

11/25/08 11:55

Analyzed

12/02/08 11:56

Notes



(LMW-5-1108)

Analyte

Aldrin

BRK0270-01

Golder Associates Inc. Project Name:

Method

EPA 8081A

Result

ND

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

**Landsburg Mine** 

Batch

8K25012

Sampled: 11/21/08 08:55

### Organochlorine Pesticides by EPA Method 8081A

TestAmerica Seattle

MRL

0.0472

ug/l

MDL\*

Water

Aluliii	1111 000111	ND		0.0472	ug/i	1.74	01423012	11/25/00 11.55	12/02/00 11.50	
alpha-BHC	"	ND		0.0377	"	"	"	"	"	
beta-BHC	"	ND		0.0377	"	"	"	"	"	
delta-BHC [2C]	"	ND		0.0472	"	"	"	"	"	L
gamma-BHC (Lindane)	"	ND		0.0377	"	"	"	"	"	
alpha-Chlordane	"	ND		0.0377	"	"	"	"	"	
gamma-Chlordane	"	ND		0.0377	"	"	"	"	"	
4,4'-DDD	"	ND		0.0377	"	"	"	"	"	
4,4'-DDE	"	ND		0.0755	"	"	"	"	"	
4,4'-DDT	"	ND		0.0755	"	"	"	"	"	
Dieldrin	"	ND		0.0755	"	"	"	"	"	
Endosulfan I	"	ND		0.0189	"	"	"	"	"	
Endosulfan II	"	ND		0.0755	"	"	"	"	"	
Endosulfan sulfate	"	ND		0.0943	"	"	"	"	"	
Endrin	"	ND		0.0755	"	"	"	"	"	L2
Endrin aldehyde	"	ND		0.151	"	"	"	"	"	L
Endrin ketone	"	ND		0.0755	"	"	"	"	"	L
Heptachlor	"	ND		0.0472	"	"	"	"	"	L
Heptachlor epoxide	"	ND		0.0377	"	"	"	"	"	
Methoxychlor [2C]	"	ND		0.472	"	"	"	"	"	
Surrogate(s): TCX			80.9%		10 - 120 %	"			"	
	biphenyl [2C]		78.8%		10 - 142 %	"			"	
BRK0270-01RE1 (LMW-5	5-1108)	Wa	ter		Sample	ed: 11/2	21/08 08:55			Н8
Endrin [2C]	EPA 8081A	ND		0.0762	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 14:09	
Surrogate(s): TCX [2C]			78.5%		10 - 120 %	"			"	
	biphenyl [2C]		81.4%		10 - 142 %	"			"	
BRK0270-02 (LMW-8-1	108)	Wa	ter		Sample	ed: 11/2	21/08 10:25			
Aldrin	EPA 8081A	ND		0.0472	ug/l	1x	8K25012	11/25/08 11:55	12/02/08 12:15	
alpha-BHC	"	ND		0.0377	"		"	"	"	
beta-BHC	"	ND		0.0377	"		"	"	"	
delta-BHC [2C]	"	ND		0.0472	"		"	"	"	L
gamma-BHC (Lindane)	"	ND		0.0377	"	"	"	"	"	
alpha-Chlordane	"	ND		0.0377	"	"	"	"	"	
gamma-Chlordane	"	ND		0.0377	"	,,	"	"	"	
4,4'-DDD	"	ND		0.0377	"	,,	"	"	"	
4,4'-DDE	"	ND		0.0755	"	,,	"	"	"	
4,4'-DDT	"	ND		0.0755	"	"	"	"	"	
Dieldrin	"	ND		0.0755	"	,,	"	"	"	
Endosulfan I	"	ND		0.0189	"	"	"	"	"	

TestAmerica Seattle

Kata Hanay Project Manager





Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Organochlorine Pesticides by EPA Method 8081A

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-02 (LM	IW-8-1108)	Wa	ater		Sampl	ed: 11/2	21/08 10:25			
Endosulfan II	EPA 8081A	ND		0.0755	ug/l	1x	8K25012	11/25/08 11:55	12/02/08 12:15	
Endosulfan sulfate	"	ND		0.0943	"	"	"	"	"	
Endrin	"	ND		0.0755	"	"	"	"	"	L
Endrin aldehyde	"	ND		0.151	"	"	"	"	"	1
Endrin ketone	"	ND		0.0755	"	"	"	"	"	i
Heptachlor	n	ND		0.0472	"	"	"	"	"	i
Heptachlor epoxide	n	ND		0.0377	"	"	"	"	"	
Methoxychlor [2C]	"	ND		0.472	"	"	"	"	"	
Surrogate(s): TC	·X		75.6%		10 - 120 %	,,			"	
0 ()	cachlorobiphenyl [2C]		58.5%		10 - 142 %	"			"	
		***			6 1	1 11/	31/00 10 25			
,	LMW-8-1108)		ater				21/08 10:25			H
Endrin [2C]	EPA 8081A	ND		0.0762	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 14:27	
Surrogate(s): TC	X [2C]		72.5%		10 - 120 %	"			"	
De	cachlorobiphenyl [2C]		70.1%		10 - 142 %	"			"	
BRK0270-03 (LM	1W-3-1108)	Wa	ater		Sampl	ed: 11/2	21/08 11:30			
Aldrin	EPA 8081A	ND		0.0472	ug/l	1x	8K25012	11/25/08 11:55	12/02/08 12:33	
alpha-BHC	"	ND		0.0377	"	"	"	"	"	
beta-BHC	"	ND		0.0377	"	"	"	"	"	
delta-BHC [2C]	"	ND		0.0472	"	"	"	"	"	I
gamma-BHC (Lindane)	"	ND		0.0377	"	"	"	"	"	
alpha-Chlordane	"	ND		0.0377	"	"	"	"	"	
gamma-Chlordane	n	ND		0.0377	"	"	"	"	"	
4,4'-DDD	n	ND		0.0377	"	"	"	"	"	
4,4'-DDE	"	ND		0.0755	"	"	"	"	"	
4,4'-DDT	"	ND		0.0755	"	"	"	"	"	
Dieldrin	"	ND		0.0755	"	"	"	"	"	
Endosulfan I	"	ND		0.0189	"	"	"	"	"	
Endosulfan II	"	ND		0.0755	"	"	"	"	"	
Endosulfan sulfate	"	ND		0.0943	"	"	"	"	"	
Endrin	"	ND		0.0755	"	"	"	"	"	L
Endrin aldehyde	"	ND		0.151	"	"	"	"	"	I
Endrin ketone	"	ND		0.0755	"	"	"	"	"	I
Heptachlor	"	ND		0.0472	"	"	"	"	"	I
Heptachlor epoxide	"	ND		0.0377	"	"	"	"	"	
Methoxychlor [2C]	n	ND		0.472	"	"	"	"	"	
Surrogate(s): TC			79.0%		10 - 120 %	"			"	
De	cachlorobiphenyl [2C]		81.9%		10 - 142 %	"			"	

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TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc.

Project Name:

**Landsburg Mine** 

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

Project Number: Project Manager:

923-1000-002-R273 Douglas Morell

Report Created: 12/08/08 17:35

### Organochlorine Pesticides by EPA Method 8081A

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-03RE1	(LMW-3-1108)	Wa	iter		Sampl	ed: 11/2	21/08 11:30			н
Endrin [2C]	EPA 8081A	ND		0.0755	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 14:46	
Surrogate(s):	TCX [2C]		73.0%		10 - 120 %	"			"	
0 17	Decachlorobiphenyl [2C]		79.8%		10 - 142 %	"			"	
BRK0270-04 (L	LMW-7-1108)	Wa	iter		Sampl	ed: 11/2	21/08 14:00			
Aldrin	EPA 8081A	ND		0.0472	ug/l	1x	8K25012	11/25/08 11:55	12/02/08 12:50	
alpha-BHC	"	ND		0.0377	"	"	"	"	"	
beta-BHC	"	ND		0.0377	"	"	"	"	"	
delta-BHC [2C]	"	ND		0.0472	"	"	"	"	"	L
gamma-BHC (Lindane	e) "	ND		0.0377	"	"	"	"	"	
alpha-Chlordane	"	ND		0.0377	"	"	"	"	"	
gamma-Chlordane	"	ND		0.0377	"	"	"	"	"	
4,4'-DDD	"	ND		0.0377	"	"	"	"	"	
4,4'-DDE	"	ND		0.0755	"	"	"	"	"	
4,4'-DDT	"	ND		0.0755	"	"	"	"	"	
Dieldrin	"	ND		0.0755	"	"	"	"	"	
Endosulfan I	"	ND		0.0189	"	"	"	"	"	
Endosulfan II	"	ND		0.0755	"	"	"	"	"	
Endosulfan sulfate	"	ND		0.0943	"	"	"	"	"	
Endrin	"	ND		0.0755	"	"	"	"	"	L2
Endrin aldehyde	"	ND		0.151	"	"	"	"	"	L
Endrin ketone	"	ND		0.0755	"	"	"	"	"	L
Heptachlor	n	ND		0.0472	"	"	"	"	"	L
Heptachlor epoxide	n	ND		0.0377	"	"	"	"	"	
Methoxychlor [2C]	"	ND		0.472	"	"	"	"	"	
Surrogate(s):	TCX		72.4%		10 - 120 %	"			"	
1	Decachlorobiphenyl [2C]		83.2%		10 - 142 %	"			"	
BRK0270-04RE1	(LMW-7-1108)	Wa	iter		Sampl	ed: 11/2	21/08 14:00			Н8
Endrin [2C]	EPA 8081A	ND		0.0755	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 15:04	
Surrogate(s):	TCX [2C]		78.1%		10 - 120 %	"			"	
8 . /					10 1120/					

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Decachlorobiphenyl [2C]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full,  $without \ the \ written \ approval \ of \ the \ laboratory.$ 



87.1%

10 - 142 %



**Landsburg Mine** 



Golder Associates Inc. Project Name:

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-01	(LMW-5-1108)		Wa	iter		Sampl	ed: 11/2	21/08 08:55			
Aroclor 1016		EPA 8082	ND		0.472	ug/l	1x	8K25012	11/25/08 11:55	11/27/08 16:56	
Aroclor 1221		"	ND		0.472	"	"	"	"	"	
Aroclor 1232		"	ND		0.472	"	"	"	"	"	
Aroclor 1242		"	ND		0.472	"	"	"	"	"	
Aroclor 1248		"	ND		0.472	"	"	"	"	"	
Aroclor 1254		"	ND		0.472	"	"	"	"	"	
Aroclor 1260		"	ND		0.472	"	"	"	"	"	
Aroclor 1262		"	ND		0.472	"	"	"	"	"	
Aroclor 1268		"	ND		0.472	"	"	"	"	"	
Surrogate(s):	TCX			81.2%		36 - 134 %	"			"	
	Decachlorobiphenyl			74.9%		15 - 124 %	"			"	
BRK0270-02	(LMW-8-1108)		Wa	iter		Sample	ed: 11/2	21/08 10:25			
Aroclor 1016		EPA 8082	ND		0.472	ug/l	1x	8K25012	11/25/08 11:55	11/27/08 17:12	
Aroclor 1221		"	ND		0.472	"	"	"	"	"	
Aroclor 1232		"	ND		0.472	"	"	"	"	"	
Aroclor 1242		"	ND		0.472	"	"	"	"	"	
Aroclor 1248		"	ND		0.472	"	"	"	"	"	
Aroclor 1254		"	ND		0.472	"	"	"	"	"	
Aroclor 1260		"	ND		0.472	"	"	"	"	"	
Aroclor 1262		"	ND		0.472	"	"	"	"	"	
Aroclor 1268		n	ND		0.472	"	"	"	"	"	
Surrogate(s):	TCX			75.2%		36 - 134 %	"			"	
	Decachlorobiphenyl			63.6%		15 - 124 %	"			"	
BRK0270-03	(LMW-3-1108)		Wa	iter		Sample	ed: 11/2	21/08 11:30			
Aroclor 1016		EPA 8082	ND		0.472	ug/l	1x	8K25012	11/25/08 11:55	11/27/08 17:28	
Aroclor 1221		"	ND		0.472	"	"	"	"	"	
Aroclor 1232		"	ND		0.472	"	"	"	"	"	
Aroclor 1242		"	ND		0.472	"	"	"	"	"	
Aroclor 1248		"	ND		0.472	"	"	"	"	"	
Aroclor 1254		"	ND		0.472	"	"	"	"	"	
Aroclor 1260		"	ND		0.472	"	"	"	"	"	
Aroclor 1262		"	ND		0.472	"	"	"	"	"	
Aroclor 1268		"	ND		0.472	"	"	"	"	"	
Surrogate(s):	TCX			80.9%		36 - 134 %	"			"	
	Decachlorobiphenyl			85.8%		15 - 124 %	"			"	

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Mall Dung





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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-04	(LMW-7-1108)		Wa	iter		Sampl	ed: 11/2	21/08 14:00			
Aroclor 1016		EPA 8082	ND		0.472	ug/l	1x	8K25012	11/25/08 11:55	11/27/08 17:44	
Aroclor 1221		"	ND		0.472	"	"	"	"	"	
Aroclor 1232		"	ND		0.472	"	"	"	"	"	
Aroclor 1242		"	ND		0.472	"	"	"	"	"	
Aroclor 1248		"	ND		0.472	"	"	"	"	"	
Aroclor 1254		"	ND		0.472	"	"	"	"	"	
Aroclor 1260		"	ND		0.472	"	"	"	"	"	
Aroclor 1262		"	ND		0.472	"	"	"	"	"	
Aroclor 1268		"	ND		0.472	"	"	"	"	"	
Surrogate(s):	TCX			79.3%		36 - 134 %	"			"	
	Decachlorobiphenyl			87.9%		15 - 124 %	"			"	

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-01 (LMW-5-1108)		Wa	ater		Sam	pled: 11/2	21/08 08:55			
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28016	11/26/08 13:53	11/27/08 00:04	
Benzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"	"	"	"	"	
n-Butylbenzene	"	ND		0.200	"	"	"	"	"	
sec-Butylbenzene	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene	"	ND		0.500	"	,,	"	"	"	
Carbon disulfide	"	ND		0.500	"	,,	"	"	"	
Carbon tetrachloride	"	ND		0.200	"	,,	"	"	"	
Chlorobenzene	"	ND		0.200	"		"	"	"	
Chloroethane	"	ND		1.00	"		"	"	"	
Chloroform	"	ND		0.200	"	,,	"		"	
Chloromethane	"	ND		1.00	"		"	,,	"	
2-Chlorotoluene	"	ND		0.500	"		"	,,	"	
4-Chlorotoluene	,,	ND		0.500	,,	,,	,,		"	
Dibromochloromethane	,,	ND		0.200	,,	.,	,,	,,	"	
1,2-Dibromo-3-chloropropane	"	ND		1.00	,,	,,	,,	"	"	
1,2-Dibromoethane	"	ND		0.200	,,	,,	,,	"	"	
Dibromomethane	"	ND		0.200	,,	,,	,,	"	"	
1,2-Dichlorobenzene	"	ND		0.200	,,	,,	,,	"	"	
1,3-Dichlorobenzene	"	ND		0.200	,,	,,	,,	"	"	
1,4-Dichlorobenzene	"	ND		0.200	,,	,,	,,	"	"	
Dichlorodifluoromethane	"	ND		0.500	,,	,,	,,	"	"	
1,1-Dichloroethane	"	ND ND		0.200	,,	,,	,,	"	"	
1,2-Dichloroethane	,,	ND		0.200	,,	,,	,,	,,	"	
1,1-Dichloroethene	"	ND		0.200	,,	,,	,,	"	"	
cis-1,2-Dichloroethene	"	ND		0.200	,,	,,	,,	"	"	
trans-1,2-Dichloroethene	,,	ND		0.200	,,	,,	,,	,,	"	
1,2-Dichloropropane	"	ND		0.200	,,	,,	,,	"	"	
1,3-Dichloropropane	"	ND ND		0.200	,,	,,	,,	,,	,,	
2,2-Dichloropropane	,,	ND ND		0.500	,,	,,	,,	,,	,,	
	"	ND ND		0.200	,,	,,	,,	,,	"	
1,1-Dichloropropene cis-1,3-Dichloropropene	,	ND ND		0.200	,,	,,	,,	,,	"	
	,	ND ND		0.200	,,	,,	,,	,,	"	
trans-1,3-Dichloropropene	"	ND ND		0.200	,,	,,	,,	,,	"	
Ethylbenzene	,	ND ND		2.50	,,	,,	,,	,,	"	
Hexachlorobutadiene	,,			1.00	,,	,	,,	,,	,,	
Methyl tert-butyl ether	,,	ND		1.00		,,	,,		,,	
n-Hexane	,	ND			,,	,,	,,			
2-Hexanone	"	ND		2.00	"	"	"	"	"	

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-01 (LMW-5-1108)		Wa	ter		Sampl	ed: 11/2	21/08 08:55			
Isopropylbenzene	EPA 8260B	ND		0.500	ug/l	1x	8K28016	11/26/08 13:53	11/27/08 00:04	
p-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
Methylene chloride	"	ND		2.00	"	"	"	"	"	
Naphthalene	"	ND		2.50	"	"	"	"	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
Tetrachloroethene	"	ND		0.200	"	"	"	"	"	
Toluene	"	ND		0.200	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND		0.200	"	"	,,	"	"	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	,,	"	"	
Trichlorofluoromethane	"	ND		0.500	"		,,	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"		"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"		,,		"	
Vinyl chloride	"	ND		0.200	"		,,		"	
o-Xylene	"	ND ND		0.250	,,	,,	,	"	"	
m,p-Xylene	"	ND		0.500	,,	,,	,	"	"	
Total Xylenes	"	ND		0.750	,,	,,	,	"	"	
		ND		0.750		,,			"	
Surrogate(s): 1,2-DCA-d4			108%		76 - 138 %	"			"	
Toluene-d8			97.8%		80 - 120 %				,,	
4-BFB			99.4%		80 - 120 %	"			"	
BRK0270-02 (LMW-8-1108)		Wa	ter		Sampl	ed: 11/2	21/08 10:25			
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28016	11/26/08 13:53	11/27/08 00:32	
Benzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"	"	"	"	"	
n-Butylbenzene	"	ND		0.200	"	"	,	"	"	
sec-Butylbenzene	"	ND		0.200	"	"	,,	"	"	
tert-Butylbenzene	"	ND ND		0.500	"	,,	,,	,,	"	
Carbon disulfide	"	ND ND		0.500	,,	,,	,	"	"	
	"	ND ND		0.200	,,	,,	,	,,	"	
Carbon tetrachloride	<del></del>	ND		0.200			••			

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THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Volatile Organic Compounds by EPA Method 8260B

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Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-02 (LMW-8-1108)		Wa	iter		Sam	pled: 11/2	21/08 10:25			
Chlorobenzene	EPA 8260B	ND		0.200	ug/l	1x	8K28016	11/26/08 13:53	11/27/08 00:32	
Chloroethane	"	ND		1.00	"	"	"	"	"	
Chloroform	"	ND		0.200	"	"	"	"	"	
Chloromethane	"	ND		1.00	"	"	"	"	"	
2-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
4-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
Dibromochloromethane	"	ND		0.200	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND		1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND		0.200	"	"	"	"	"	
Dibromomethane	"	ND		0.200	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
Dichlorodifluoromethane	"	ND		0.500	"	"	"	"	"	
1,1-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,2-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,1-Dichloroethene	"	ND		0.200	"		"	"	"	
cis-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND		0.200	"		"	"	"	
1,2-Dichloropropane	"	ND		0.200	"		"	"	"	
1,3-Dichloropropane	"	ND		0.200	"	"	"	"	"	
2,2-Dichloropropane	"	ND		0.500	"		"	"	"	
1,1-Dichloropropene	"	ND		0.200	"		"	"	"	
cis-1,3-Dichloropropene	"	ND		0.200	"		"	"	"	
trans-1,3-Dichloropropene	"	ND		0.200	,,		"	"	"	
Ethylbenzene	"	ND		0.200	"		"	"	"	
Hexachlorobutadiene	"	ND		2.50	,,		"	"	"	
Methyl tert-butyl ether	"	ND		1.00	"		"	"	"	
n-Hexane	"	ND		1.00	"	,,	"	"	"	
2-Hexanone	"	ND		2.00	"		"	"	"	
Isopropylbenzene	"	ND		0.500	"	,,	"	"	"	
p-Isopropyltoluene	"	ND		0.200	,,	,,	"	,,	"	
4-Methyl-2-pentanone	"	ND		2.00	"	,,	"	"	"	
Methylene chloride	"	ND		2.00	,,		"		,,	
Naphthalene	"	ND		2.50	,,		"	,,	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichlorobenzene		ND		1.00	,,	,,	"		,,	
1,2,4-Trichlorobenzene	"	ND ND		1.00	"	"	"		"	
1,1,1,2-Tetrachloroethane	"	ND ND		0.200	,,	,,	"	,,	"	
1,1,2,2-Tetrachloroethane	"	ND ND		0.500	,,	,,	"	,,	"	
Tetrachloroethene	"	ND ND		0.200	,,	,,	"	"	"	
Toluene	,	ND ND		0.200	,,				,,	

TestAmerica Seattle





BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

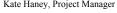
18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-02 (LMW-8-1108)		Wa	iter		Sampl	ed: 11/2	21/08 10:25			
1,1,1-Trichloroethane	EPA 8260B	ND		0.200	ug/l	1x	8K28016	11/26/08 13:53	11/27/08 00:32	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	"	"	"	
Trichlorofluoromethane	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
Vinyl chloride	"	ND		0.200	"	"	"	"	"	
o-Xylene	"	ND		0.250	"	"	"	"	"	
m,p-Xylene	"	ND		0.500	"	"	"	"	"	
Total Xylenes	"	ND		0.750	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			110%		76 - 138 %	"			"	
Toluene-d8			97.0%		80 - 120 %	"			"	
4-BFB			97.5%		80 - 120 %	"			"	
BRK0270-03 (LMW-3-1108)		Wa	iter		Sampl	ed: 11/2	21/08 11:30			
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28016	11/26/08 13:53	11/27/08 01:01	
Benzene	"	ND		0.200	"		,,	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"	"	"	"	"	
n-Butylbenzene	"	ND		0.200	"	"	"	"	"	
sec-Butylbenzene	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene	"	ND		0.500	"	"	"	"	"	
Carbon disulfide	"	ND		0.500	"	"	"	"	"	
Carbon tetrachloride	"	ND		0.200	"	"	,,	"	"	
Chlorobenzene	"	ND		0.200	"	"	,,	"	"	
Chloroethane	"	ND		1.00	"	"	,,	"	"	
Chloroform	"	ND		0.200	"	"	,,	"	"	
Chloromethane	"	ND		1.00	"	"	,,	"	"	
2-Chlorotoluene	"	ND		0.500	"	"	,,	"	"	
4-Chlorotoluene	"	ND		0.500	"	"	,,	"	"	
Dibromochloromethane	,,	ND		0.200	,,	,,	,,	,,	,,	
1,2-Dibromo-3-chloropropane	,,	ND ND		1.00	,,	,,	,,	,,	,,	
1,2-Dibromoethane	"	ND		0.200	,,	,,		"	"	
Dibromomethane	"	ND ND		0.200	,,	,,	,	,,	"	
1,2-Dichlorobenzene	"	ND ND		0.200	,,	,,	,	,,	"	
•	"	ND ND		0.200	"	,,	,,	,,	"	
1,3-Dichlorobenzene	,,				,,	,,		,,	"	
1,4-Dichlorobenzene		ND		0.200			••			

TestAmerica Seattle







11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
BRK0270-03 (LMW-3-1108)		Wa	iter		Sampl	led: 11/2	21/08 11:30			
Dichlorodifluoromethane	EPA 8260B	ND		0.500	ug/l	1x	8K28016	11/26/08 13:53	11/27/08 01:01	
,1-Dichloroethane	"	ND		0.200	"	"	"	"	"	
,2-Dichloroethane	"	ND		0.200	"	"	"	"	"	
,1-Dichloroethene	"	ND		0.200	"	"	"	"	"	
is-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
rans-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
,2-Dichloropropane	"	ND		0.200	"	"	"	"	"	
3-Dichloropropane	"	ND		0.200	"	"	"	"	"	
,2-Dichloropropane	"	ND		0.500	"	"	"	"	"	
1-Dichloropropene	"	ND		0.200	"	"	"	"	"	
s-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
ans-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
thylbenzene	"	ND		0.200	"	"	"	"	"	
exachlorobutadiene	"	ND		2.50	"	"	"	"	"	
1ethyl tert-butyl ether	"	ND		1.00	"	"	"	"	"	
-Hexane	"	ND		1.00	"	"	"	"	"	
-Hexanone	"	ND		2.00	"	"	"	"	"	
opropylbenzene	"	ND		0.500	"	"	"	"	"	
-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
lethylene chloride	"	ND		2.00	"	"	"	"	"	
aphthalene	"	ND		2.50	"	"	"	"	"	
-Propylbenzene	"	ND		0.500	"	"	"	"	"	
tyrene	"	ND		0.500	"	"	"	"	"	
,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"	
1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
etrachloroethene	"	ND		0.200	"	"	"	"	"	
oluene	"	ND		0.200	"	"	"	"	"	
,1,1-Trichloroethane	"	ND		0.200	"	"	"	"	"	
,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
richloroethene	"	ND		0.200	"	"	"	"	"	
richlorofluoromethane	"	ND		0.500	"	"	"	"	"	
2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
inyl chloride	"	ND		0.200	"	"	"	"	"	
-Xylene	"	ND		0.250	"	"	"	"	"	
ı,p-Xylene	"	ND		0.500	"	"	"	"	"	
otal Xylenes	"	ND		0.750	"	"	"	"	"	

TestAmerica Seattle





BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
BRK0270-03	(LMW-3-1108)		Wa	ter		Sampl	led: 11/2	21/08 11:30			
	Toluene-d8			97.4%		80 - 120 %	1x			11/27/08 01:01	
	4-BFB			97.1%		80 - 120 %	"			"	
BRK0270-04	(LMW-7-1108)		Wa	ter		Sampl	led: 11/2	21/08 14:00			
Acetone		EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 15:26	
Benzene		"	ND		0.200	"	"	"	"	"	
Bromobenzene		"	ND		0.500	"	"	"	"	"	
Bromochlorometh	hane	"	ND		0.250	"	"	"	"	"	
Bromodichlorome	ethane	"	ND		0.200	"	"	"	"	"	
Bromoform		"	ND		0.250	"	"	"	"	"	
Bromomethane		"	ND		2.00	"	"	"	"		
2-Butanone		"	ND		2.00	"	"	"	"	"	
n-Butylbenzene		"	ND		0.200	"	"	"	"		
sec-Butylbenzene	<b>;</b>	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene		"	ND		0.500	"	"	"	"	"	
Carbon disulfide	•	"	ND		0.500	,,		"	"	"	
Carbon tetrachlor	ride	"	ND		0.200	"	"	"	"	"	
Chlorobenzene		"	ND		0.200	"	"	"	"	"	
Chloroethane		"	ND		1.00	"	,,	"	,,	"	
Chloroform		"	ND		0.200	"	,,	"	,,	"	
Chloromethane		"	ND		1.00	"	,,	"	,,	"	
2-Chlorotoluene		,,	ND		0.500	,,		,,			
4-Chlorotoluene		,,	ND		0.500	,,		,,			
Dibromochlorome	athana	"	ND		0.200	,,		,,	"	"	
1,2-Dibromo-3-cl		"	ND ND		1.00	,,		,,	"	"	
1,2-Dibromo-5-ci 1,2-Dibromoethar		,,	ND		0.200	,,	,,	,,	,,	"	
Dibromomethane		"	ND ND		0.200	,,	,,	,,	"	"	
1,2-Dichlorobenz		,,	ND ND		0.200	,,	,,	,,	,,	"	
1,2-Dichlorobenz		"	ND ND		0.200	,,	,,	,,	,,	"	
*		"			0.200	"	,,	,,	,,	"	
1,4-Dichlorobenze Dichlorodifluoror		,,	ND ND		0.500	,,		,,	,,	,,	
		,,			0.200	,,	,	,	,,	,,	
1,1-Dichloroethar		"	ND		0.200	,,	,	,	,,	"	
1,2-Dichloroethar		,,	ND		0.200	,,	,,	,,			
1,1-Dichloroether			ND			,,	,				
cis-1,2-Dichloroe			ND		0.200	,	,				
rans-1,2-Dichloro			ND		0.200	"					
,2-Dichloropropa			ND		0.200		"				
,3-Dichloropropa			ND		0.200	"	"	"			
2,2-Dichloropropa		"	ND		0.500		"	"	"	"	
1,1-Dichloroprope		"	ND		0.200	"	"	"	"	"	
cis-1,3-Dichlorop	-	"	ND		0.200	"	"	"	"	"	
trans-1,3-Dichloro	opropene	"	ND		0.200	"	"	"	"	"	

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11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-04 (LMW-7-1108)		Wa	ter		Sampl	ed: 11/2	21/08 14:00			
Ethylbenzene	EPA 8260B	ND		0.200	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 15:26	
Hexachlorobutadiene	"	ND		2.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND		1.00	"	"	"	"	"	
n-Hexane	"	ND		1.00	"	"	"	"	"	
2-Hexanone	"	ND		2.00	"	"	"	"	"	
Isopropylbenzene	"	ND		0.500	"	"	"	"	"	
p-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
Methylene chloride	"	ND		2.00	"	"	"	"	"	
Naphthalene	"	ND		2.50	"	"	"	"	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
Tetrachloroethene	"	ND		0.200	"	"	"	"	"	
Toluene	"	ND		0.200	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	"	"	"	
Trichlorofluoromethane	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
Vinyl chloride	"	ND		0.200	"	"	"	"	"	
o-Xylene	"	ND		0.250	"	"	"	"	"	
m,p-Xylene	"	ND		0.500	"	"	"	"	"	
Total Xylenes	"	ND		0.750	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			110%		76 - 138 %	"			"	
Toluene-d8			105%		80 - 120 %	"			"	
4-BFB			97.2%		80 - 120 %	"			"	

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BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Volatile Organic Compounds by EPA Method 8260B

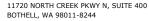
TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-05 (Trip Blank)		Water Sampled: 11/21/08 15:40								
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28016	11/26/08 13:53	11/26/08 21:40	
Benzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"	"	"	"	"	
n-Butylbenzene	"	ND		0.200	"	"	"	"	"	
sec-Butylbenzene	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene	"	ND		0.500	"	"	"	"	"	
Carbon disulfide	"	ND		0.500	"	"	"	"	"	
Carbon tetrachloride	"	ND		0.200	"	"	"	"	"	
Chlorobenzene	"	ND		0.200	"	"	"	"	"	
Chloroethane	"	ND		1.00	"	"	"	"	"	
Chloroform	"	ND		0.200	"	"	"	"	"	
Chloromethane	"	ND		1.00	"	"	"	"	"	
2-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
4-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
Dibromochloromethane	"	ND		0.200	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND		1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND		0.200	"	"	"	"	"	
Dibromomethane	"	ND		0.200	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
Dichlorodifluoromethane	"	ND		0.500	"	"	"	"	"	
1,1-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,2-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,1-Dichloroethene	"	ND		0.200	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
1,2-Dichloropropane	"	ND		0.200	"	"	"	"	"	
1,3-Dichloropropane	"	ND		0.200	"	"	"	"	"	
2,2-Dichloropropane	"	ND		0.500	"	"	"	"	"	
1,1-Dichloropropene	"	ND		0.200	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
Ethylbenzene	"	ND		0.200	"	"	"	"	"	
Hexachlorobutadiene	"	ND		2.50	"	"	"	"	"	
Methyl tert-butyl ether	,,	ND		1.00	"	"	"	"	"	
n-Hexane	"	ND		1.00	"	"	"	"	"	
2-Hexanone	,,	ND ND		2.00	,,	,,	,,			

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BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc.

Project Name:

**Landsburg Mine** 

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

923-1000-002-R273 Project Number: Project Manager: Douglas Morell

Report Created: 12/08/08 17:35

### Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
BRK0270-05 (Trip Blank)		Water Samp				led: 11/21/08 15:40					
Isopropylbenzene	EPA 8260B	ND		0.500	ug/l	1x	8K28016	11/26/08 13:53	11/26/08 21:40		
p-Isopropyltoluene	"	ND		0.200	"	"	"	"	"		
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"		
Methylene chloride	"	ND		2.00	"	"	"	"	"		
Naphthalene	"	ND		2.50	"	"	"	"	"		
n-Propylbenzene	"	ND		0.500	"	"	"	"	"		
Styrene "		ND		0.500	"	"	"	"	"		
1,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"		
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"		
1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"		
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"		
Tetrachloroethene	"	ND		0.200	"	"	"	"	"		
Toluene	"	ND		0.200	"	"	"	"	"		
1,1,1-Trichloroethane	"	ND		0.200	"	"	"	"	•		
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"		
Trichloroethene	"	ND		0.200	"	"	"	"	•		
Trichlorofluoromethane	"	ND		0.500	"	"	"	"	"		
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"		
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	•		
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"		
Vinyl chloride	"	ND		0.200	"	"	"	"	"		
o-Xylene	"	ND		0.250	"	"	"	"	"		
m,p-Xylene	"	ND		0.500	"	"	"	"	"		
Total Xylenes	"	ND		0.750	"	"	"	"	"		
Surrogate(s): 1,2-DCA-d4			101%		76 - 138 %	"			"		
Toluene-d8			93.6%		80 - 120 %	"			"		
4-BFB			98.5%		80 - 120 %	"			"		

TestAmerica Seattle





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-01 (LMW-5-1108)		Water Sampled: 11/21/08 08:55								
Acenaphthene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 13:37	
Acenaphthylene	"	ND		9.43	"	"	"	"	"	
Aniline	"	ND		9.43	"	"	"	"	"	
Anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.43	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.43	"	"	"	"	"	
Benzoic Acid	"	ND		18.9	"	"	"	"	"	
Benzyl alcohol	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.43	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.43	"	"	"	"	"	
Carbazole	"	ND		9.43	"	"	"	"	"	
4-Chloroaniline	"	ND		9.43	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.43	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.43	"	"	"	"	"	
2-Chlorophenol	"	ND		9.43	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.43	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.43	"	"	"	"	"	
Chrysene	"	ND		9.43	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.43	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.43	"	"	"	"	"	
Dibenzofuran	"	ND		9.43	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.43	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.43	"	"	"	"	"	
Diethyl phthalate	"	ND		9.43	"	"	"	"	"	
2,4-Dimethylphenol	"	ND		9.43	"	"	"	"	"	
Dimethyl phthalate	"	ND		9.43	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.43	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		18.9	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND		9.43	"	"	"	"	"	
Fluoranthene	"	ND		9.43	"	"	"	"	"	

TestAmerica Seattle





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-01 (I	LMW-5-1108)		Water Sampl				ed: 11/2	21/08 08:55			
Fluorene		EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 13:37	_
Hexachlorobenzene		"	ND		9.43	"	"	"	"	"	
Hexachlorobutadiene		"	ND		9.43	"	"	"	"	"	
Hexachlorocyclopentadiene		"	ND		9.43	"	"	"	"	"	
Hexachloroethane		"	ND		9.43	"	"	"	"	"	
Indeno (1,2,3-cd) pyre	ene	"	ND		9.43	"	"	"	"	"	
Isophorone		"	ND		9.43	"	"	"	"	"	
1-Methylnaphthalene		"	ND		9.43	"	"	"	"	"	
2-Methylnaphthalene		"	ND		9.43	"	"	"	"	"	
Naphthalene		"	ND		9.43	"	"	"	"	"	
2-Nitroaniline		"	ND		9.43	"	"	"	"	"	
3-Nitroaniline		"	ND		9.43	"	"	"	"	"	
4-Nitroaniline		"	ND		9.43	"	"	"	"	"	
Nitrobenzene		"	ND		9.43	"	"	"	"	"	
2-Nitrophenol		"	ND		9.43	"	"	"	"	"	
4-Nitrophenol	-		ND		9.43	"	"	"	"	"	
N-Nitrosodi-n-propyla	amine	"	ND		9.43	"	"	"	"	"	
Di-n-octyl phthalate		"	ND		9.43	"	"	"	"	"	
Pentachlorophenol		"	ND		9.43	"	"	"	"	"	
Phenanthrene		"	ND		9.43	"	"	"	"	"	
Phenol		"	ND		9.43	"	"	"	"	"	
Pyrene		"	ND		9.43	"	"	"	"	"	
1,2,4-Trichlorobenzer	ne	"	ND		9.43	"	"	"	"	"	
2,4,5-Trichlorophenol	l	"	ND		9.43	"	"	"	"	"	
2,4,6-Trichlorophenol	1	"	ND		9.43	"	"	"	"	"	
Surrogate(s):	2-FBP			79.4%		44 - 120 %	"			"	_
	2-FP			70.3%		16 - 120 %	"			"	
	Nitrobenzene-d5			79.6%		38 - 120 %	"			"	
	Phenol-d6			68.6%		16 - 120 %	"			"	
	p-Terphenyl-d14			66.1%		24 - 146 %	"			"	
	2,4,6-TBP			75.5%		32 - 135 %	"			"	

TestAmerica Seattle





Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-02 (LMW-8-1108)		Wa	ter		Sam	pled: 11/2	21/08 10:25			
Acenaphthene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 14:01	
Acenaphthylene	"	ND		9.43	"	"	"	"	"	
Aniline	"	ND		9.43	"	"	"	"	"	
Anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.43	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.43	"	"	"	"	"	
Benzoic Acid	"	ND		18.9	"	"	"	"	"	
Benzyl alcohol	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.43	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.43	"	"	"	"	"	
Carbazole	"	ND		9.43	"	"	"	"	"	
4-Chloroaniline	"	ND		9.43	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.43	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.43	"	"	"	"	"	
2-Chlorophenol	"	ND		9.43	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.43	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.43	"	"	"	"	"	
Chrysene	"	ND		9.43	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.43	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.43	"	"	"	"	"	
Dibenzofuran	"	ND		9.43	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.43	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.43	"	"	"	"	"	
Diethyl phthalate	"	ND		9.43	"	"	"	"	"	
2,4-Dimethylphenol	"	ND		9.43	"	"	"	"	"	
Dimethyl phthalate	"	ND		9.43	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.43	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		18.9	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND		9.43	"	"	"	"	"	
Fluoranthene		ND		9.43	,,	,,	,,	,,	,,	

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Kate Haney, Project Manager



**Landsburg Mine** 

Report Created:

12/08/08 17:35



Golder Associates Inc. Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273
Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell

Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-02 (LMW-8-1108)		Wa	ter		Sample	ed: 11/2	21/08 10:25			
Fluorene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 14:01	
Hexachlorobenzene	"	ND		9.43	"	"	"	"	"	
Hexachlorobutadiene	"	ND		9.43	"	"	"	"	"	
Hexachlorocyclopentadiene	"	ND		9.43	"	"	"	"	"	
Hexachloroethane	"	ND		9.43	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND		9.43	"	"	"	"	"	
Isophorone	"	ND		9.43	"	"	"	"	"	
1-Methylnaphthalene	"	ND		9.43	"	"	"	"	"	
2-Methylnaphthalene	"	ND		9.43	"	"	"	"	"	
Naphthalene	"	ND		9.43	"	"	"		"	
2-Nitroaniline	"	ND		9.43	"	"	"	"	"	
3-Nitroaniline	"	ND		9.43	"	"	"	"	"	
4-Nitroaniline	"	ND		9.43	"	"	"	"	"	
Nitrobenzene	"	ND		9.43	"	"	"		"	
2-Nitrophenol	"	ND		9.43	"	"	"	"	"	
4-Nitrophenol	"	ND		9.43	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND		9.43	"	"	"	"	"	
Di-n-octyl phthalate	"	ND		9.43	"	"	"	"	"	
Pentachlorophenol	"	ND		9.43	"	"	"	"	"	
Phenanthrene	"	ND		9.43	"	"	"		"	
Phenol	"	ND		9.43	"	"	"	"	"	
Pyrene	"	ND		9.43	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		9.43	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND		9.43	"	"	"	"	"	
2,4,6-Trichlorophenol	**	ND		9.43	"	"	"	"	"	
Surrogate(s): 2-FBP			79.2%		44 - 120 %	"			"	
2-FP			69.8%		16 - 120 %	"			"	
Nitrobenzene-d5			78.6%		38 - 120 %	"			"	
Phenol-d6			68.9%		16 - 120 %	"			"	
p-Terphenyl-d14			67.0%		24 - 146 %	"			"	
2,4,6-TBP			77.7%		32 - 135 %	"			"	

TestAmerica Seattle

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Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-03 (LMW-3-1108)		Wa	iter		Sam	pled: 11/2	21/08 11:30			
Acenaphthene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 14:26	
Acenaphthylene	"	ND		9.43	"	"	"	"	"	
Aniline	"	ND		9.43	"	"	"	"	"	
Anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.43	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.43	"	"	"	"	"	
Benzoic Acid	"	ND		18.9	"	"	"	"	"	
Benzyl alcohol	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.43	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.43	"	"	"	"	"	
Carbazole	"	ND		9.43	"	"	"	"	"	
4-Chloroaniline	"	ND		9.43	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.43	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.43	"	"	"	"	"	
2-Chlorophenol	"	ND		9.43	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.43	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.43	"	"	"	"	"	
Chrysene	"	ND		9.43	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.43	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.43	"	"	"	"	"	
Dibenzofuran	"	ND		9.43	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.43	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.43	"	"	"	"	"	
Diethyl phthalate	"	ND		9.43	"	"	"	"	"	
2,4-Dimethylphenol	"	ND		9.43	"	"	"	"	"	
Dimethyl phthalate	"	ND		9.43	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.43	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		18.9	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND		9.43	"	"	"	"	"	
Fluoranthene	"	ND		9.43	,,	,,			,,	

TestAmerica Seattle

Naw Dhung

Kate Haney, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

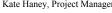
18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-03 (LMW-3-1108)		Wa	ter		Sampl	ed: 11/2	21/08 11:30			
Fluorene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 14:26	
Hexachlorobenzene	"	ND		9.43	"	"	"	"	"	
Hexachlorobutadiene	"	ND		9.43	"	"	"	"	"	
Hexachlorocyclopentadiene	"	ND		9.43	"	"	"	"	"	
Hexachloroethane	"	ND		9.43	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND		9.43	"	"	"	"	"	
Isophorone	"	ND		9.43	"	"	"	"	"	
1-Methylnaphthalene	"	ND		9.43	"	"	"	"	"	
2-Methylnaphthalene	"	ND		9.43	"	"	"	"	"	
Naphthalene	"	ND		9.43	"	"	"	"	"	
2-Nitroaniline	"	ND		9.43	"	"	"	"	"	
3-Nitroaniline	"	ND		9.43	"	"	"	"	"	
4-Nitroaniline	"	ND		9.43	"	"	"	"	"	
Nitrobenzene	"	ND		9.43	"	"	"	"	"	
2-Nitrophenol	"	ND		9.43	"	"	"	"	"	
4-Nitrophenol	"	ND		9.43	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND		9.43	"	"	"	"	"	
Di-n-octyl phthalate	"	ND		9.43	"	"	"	"	"	
Pentachlorophenol	"	ND		9.43	"	"	"	"	"	
Phenanthrene	"	ND		9.43	"	"	"	"	"	
Phenol	"	ND		9.43	"	"	"	"	"	
Pyrene	"	ND		9.43	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		9.43	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND		9.43	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND		9.43	"	"	"	"	"	
Surrogate(s): 2-FBP			77.3%		44 - 120 %	"			"	
2-FP			69.9%		16 - 120 %	"			"	
Nitrobenzene-d5			78.6%		38 - 120 %	"			"	
Phenol-d6			68.5%		16 - 120 %	"			"	
p-Terphenyl-d14			63.7%		24 - 146 %	"			"	
2,4,6-TBP			69.4%		32 - 135 %	"			"	

TestAmerica Seattle









Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-04 (LMW-7-1108)		Wa	iter		Sam	pled: 11/2	21/08 14:00			
Acenaphthene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 14:51	
Acenaphthylene	"	ND		9.43	"	"	"	"	"	
Aniline	"	ND		9.43	"	"	"	"	"	
Anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.43	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.43	"	"	"	"	"	
Benzoic Acid	"	ND		18.9	"	"	"	"	"	
Benzyl alcohol	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.43	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.43	"	"	"	"	"	
Carbazole	"	ND		9.43	"	"	"	"	"	
4-Chloroaniline	"	ND		9.43	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.43	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.43	"	"	"	"	"	
2-Chlorophenol	"	ND		9.43	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.43	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.43	"	"	"	"	"	
Chrysene	"	ND		9.43	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.43	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.43	"	"	"	"	"	
Dibenzofuran	"	ND		9.43	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.43	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.43	"	"	"	"	"	
Diethyl phthalate	"	ND		9.43	"	"	"	"	"	
2,4-Dimethylphenol	"	ND		9.43	"	"	"	"	"	
Dimethyl phthalate	"	ND		9.43	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.43	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		18.9	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND		9.43	"	"	,,	"	"	
N-Nitrosodiphenylamine	"	ND		9.43	"	"	,,	"	"	
Fluoranthene	,,	ND		9.43	,,	,,			,,	

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Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

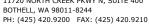
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0270-04 (LMW-7-1108)		Wa	iter		Sampl	ed: 11/2	21/08 14:00			
Fluorene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 14:51	
Hexachlorobenzene	"	ND		9.43	"	"	"	"	"	
Hexachlorobutadiene	"	ND		9.43	"	"	"	"	"	
Hexachlorocyclopentadiene	"	ND		9.43	"	"	"	"	"	
Hexachloroethane	"	ND		9.43	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND		9.43	"	"	"	"	"	
Isophorone	"	ND		9.43	"	"	"	"	"	
1-Methylnaphthalene	"	ND		9.43	"	"	"	"	"	
2-Methylnaphthalene	"	ND		9.43	"	"	"	"	"	
Naphthalene	"	ND		9.43	"	"	"	"	"	
2-Nitroaniline	"	ND		9.43	"	"	"	"	"	
3-Nitroaniline	"	ND		9.43	"	"	"	"	"	
4-Nitroaniline	"	ND		9.43	"	"	"	"	"	
Nitrobenzene	"	ND		9.43	"	"	"	"	"	
2-Nitrophenol	"	ND		9.43	"	"	"	"	"	
4-Nitrophenol	"	ND		9.43	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND		9.43	"	"	"	"	"	
Di-n-octyl phthalate	"	ND		9.43	"	"	"	"	"	
Pentachlorophenol	"	ND		9.43	"	"	"	"	"	
Phenanthrene	"	ND		9.43	"	"	"	"	"	
Phenol	"	ND		9.43	"	"	"	"	"	
Pyrene	"	ND		9.43	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		9.43	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND		9.43	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND		9.43	"	"	"	"	"	
Surrogate(s): 2-FBP			76.8%		44 - 120 %	"			"	
2-FP			68.5%		16 - 120 %	"			"	
Nitrobenzene-d5			77.9%		38 - 120 %	"			"	
Phenol-d6			68.3%		16 - 120 %	"			"	
p-Terphenyl-d14			64.4%		24 - 146 %	"			"	
2,4,6-TBP			71.1%		32 - 135 %	"			"	

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Golder Associates Inc.

Project Name:

**Landsburg Mine** 

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

Project Number: 923-1000-002-R273 Project Manager: Douglas Morell

Report Created: 12/08/08 17:35

# Hydrocarbon Identification by Washington DOE Method NWTPH-HCID - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25014	Water P	reparation 1	Method: EP	A 3520C	!									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	) Analyzed	Notes
Blank (8K25014-BLK1)								Exti	acted:	11/25/08 11	:56			
Gx Range Hydrocarbons	NWTPH-HCI D	ND		0.250	mg/l	1x							11/26/08 15:50	
Kerosene Range Hydrocarbons	"	ND		0.630	"	"							"	
Diesel Range Hydrocarbons	"	ND		0.630	"	"							"	
Insulating Oil Range Hydrocarbons	"	ND		0.630	"	"							"	
Heavy Fuel Oil Range Hydrocarbons	"	ND		0.630	"	"							"	
Lube Oil Range Hydrocarbons	"	ND		0.630	"	"							"	
Surrogate(s): 2-FBP		Recovery:	118%	Lin	nits: 50-150%	"							11/26/08 15:50	
Octacosane			92.0%		50-150%	"							"	
LCS (8K25014-BS1)								Exti	acted:	11/25/08 11	:56			
Diesel Range Hydrocarbons	NWTPH-HCI D	DET		0.630	mg/l	1x		2.00	83.8%	(58-125)			11/26/08 16:12	
Lube Oil Range Hydrocarbons	"	DET		0.630	"	"		"	89.7%	(60-140)			"	
Surrogate(s): 2-FBP		Recovery:	116%	Lin	nits: 50-150%	"							11/26/08 16:12	
Octacosane			91.4%		50-150%	"							"	
LCS Dup (8K25014-BSD1)								Exti	acted:	11/25/08 11	:56			
Diesel Range Hydrocarbons	NWTPH-HCI D	DET		0.630	mg/l	1x		2.00	89.2%	(58-125)	6.18%	6 (40)	11/26/08 16:34	
Lube Oil Range Hydrocarbons	,	DET		0.630	"	"		"	92.2%	(60-140)	2.77%	6 "		
Surrogate(s): 2-FBP		Recovery:	131%	Lin	nits: 50-150%	"							11/26/08 16:34	
Octacosane			94.7%		50-150%	"							"	

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Golder Associates Inc. Project Name:

 18300 NE Union Hill Rd, Suite 200
 Project Number:
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 Report Created:

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 Project Manager:
 Douglas Morell
 12/08/08 17:35

**Landsburg Mine** 

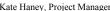
# ${\bf Total\ Metals\ by\ EPA\ 6000/7000\ Series\ Methods\ -\ Laboratory\ Quality\ Control\ Results}$

TestAmerica Seattle

QC Batch: 8K24009	water P	reparation M	ietnoa: El	ra Juiua										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K24009-BLK1)								Ext	racted:	11/24/08 09	:24			
Iron	EPA 6010B	ND		0.150	mg/l	1x							11/24/08 14:24	
Potassium	"	ND		3.00	**	"							"	
Aluminum	"	ND		0.200	"	"							"	
Calcium	"	ND		0.750	**	"							"	
Magnesium	"	ND		0.500	**	"							"	
Sodium	"	ND		0.250	"	"							"	
LCS (8K24009-BS1)								Ext	racted:	11/24/08 09	:24			
Magnesium	EPA 6010B	4.69		0.500	mg/l	1x		5.00	93.9%	(80-120)			11/24/08 14:28	
Calcium	"	4.89		0.750	"	"		"	97.8%	"			"	
Iron	"	5.32		0.150	"	"		"	106%	"			"	
Aluminum	"	5.09		0.250	**			"	102%	"			"	
Potassium	"	9.49		3.00	**			10.0	94.9%	"			"	
Sodium	"	5.01		0.250	"	"		5.00	100%	"			"	
Duplicate (8K24009-DUP1)				QC Source:	BRK0270-	01		Ext	racted:	11/24/08 09	:24			
Aluminum	EPA 6010B	ND		0.250	mg/l	1x	ND				NR	(25)	11/24/08 14:36	
Magnesium	"	48.9		0.500	"		47.1				3.73%	(30)	"	
Sodium	"	19.0		0.250	"		18.3				3.96%	"	"	
Potassium	"	ND		3.00	"		ND				2.48%	"	"	
Iron	"	0.492		0.150	"		0.476				3.31%	"		
Calcium	"	90.3		0.750	"	"	86.3				4.52%	(25)	"	
Matrix Spike (8K24009-MS1)				QC Source:	BRK0270-	01		Ext	racted:	11/24/08 09	:24			
Iron	EPA 6010B	5.95		0.150	mg/l	1x	0.476	5.00	109%	(80-125)			11/24/08 14:32	
Calcium	"	93.4		0.750	**		86.3	"	142%	(70-137)			"	
Potassium	"	13.1		3.00	"		2.63	10.0	105%	(75-127)			"	
Aluminum	"	5.42		0.250	"		ND	5.00	108%	(80-137)			"	
Magnesium	"	53.2		0.500	"		47.1	"	122%	(76-129)			"	
Sodium	"	24.2		0.250	"	"	18.3	"	117%	(74-144)			"	
Post Spike (8K24009-PS1)				QC Source:	BRK0270-	01		Ext	racted:	11/24/08 09	:24			
Iron	EPA 6010B	5.94			ug/ml	1x	0.476	5.00	109%	(75-125)			11/24/08 14:40	
Calcium	"	90.4			"	"	86.3	"	82.0%	"			"	
Potassium	"	13.0			"	"	2.63	10.0	104%	"			"	
Aluminum	"	5.40			"	"	-0.0130	5.00	108%	"			"	
Sodium	"	23.5			"	"	18.3	"	105%				"	

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Golder Associates Inc. Project Name: Landsburg Mine

18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Report Created:Redmond, WA/USA 98052-3333Project Manager:Douglas Morell12/08/08 17:35

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K24020	Water P	reparation N	lethod: E	PA 3020A	•									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K24020-BLK1)								Exti	acted:	11/24/08 11	:38			
Barium	EPA 6020	ND		0.0100	mg/l	1x							11/28/08 08:45	
Selenium	"	ND		0.00100	"	"							"	
Nickel	"	ND		0.00100	"	"							"	
Zinc	"	ND		0.0100	"	"							"	
Thallium	"	ND		0.00100	"	"							"	
Manganese	"	ND		0.0100	"	"							"	
Antimony	"	ND		0.00300	"	"							"	
Lead	"	ND		0.00100	"	"							11/28/08 09:26	
Cadmium	"	ND		0.00100	"	"							11/28/08 08:45	
Silver	"	ND		0.00100	"	"							12/01/08 10:52	
Arsenic	"	ND		0.00100	"	"							11/28/08 08:45	
Beryllium	"	ND		0.00100	"	"							"	
Vanadium	"	ND		0.00100	"	"							"	
Chromium	"	ND		0.00100	"	"							"	
Copper	"	ND		0.00100	"	"							"	
Cobalt	"	ND		0.00100	"	"							"	
LCS (8K24020-BS1)								Ext	acted:	11/24/08 11	:38			
Cadmium	EPA 6020	0.0743		0.00100	mg/l	1x		0.0800	92.8%	(80-120)			11/28/08 08:57	
Copper	" "	0.0773		0.00100	mg/1	"		"	96.6%	(80-120)			"	
Zinc	,,	0.0773		0.0100	,,	,,		,,	97.6%	,,			,,	
Lead	,,	0.0781		0.00100	,,	,,		,,	97.3%	,,	_		,,	
Manganese	,,	0.0778		0.0100	,,	,,		,,	97.8%	,,			,	
Thallium	,,	0.0750		0.00100	,,			,,	93.7%	,,			,,	
	,,	0.0730		0.00100	,,	,,		,,	96.9%	,,	-		,,	
Arsenic Chromium	,,	0.0776			,,	,,		,,	97.0%	,,	-		,,	
				0.00100				,,						
Selenium		0.0770		0.00100				,,	96.2%	,,				
Barium		0.0774		0.0100					96.8%		-			
Antimony		0.0577		0.00300	,,	"		0.0600	96.2%	"			"	
Beryllium		0.0742		0.00100		"		0.0800	92.7%	"			"	
Cobalt	"	0.0770		0.00100					96.2%					
Silver		0.0772		0.00100	"	"		"	96.4%	"			12/01/08 11:04	
Vanadium	"	0.0786		0.00100	"	"		"	98.3%	"			11/28/08 08:57	
Nickel	"	0.0767		0.00100	"	"		"	95.8%	"			"	

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K24020	Water P	reparation M	lethod: E	PA 3020A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (8K24020-DUP1)				QC Source:	BRK0270-	01		Extr	acted:	11/24/08 11	:38			
Manganese	EPA 6020	0.213		0.0100	mg/l	1x	0.217				1.58%	(20)	11/28/08 09:37	
Silver	"	ND		0.00100	"	"	ND				45.2%	"	12/01/08 11:38	R
Arsenic	"	ND		0.00100	**	"	ND				NR	"	11/28/08 09:37	
Barium	"	0.252		0.0100	**	"	0.251				0.437%	, "	"	
Beryllium	"	ND		0.00100	**	"	ND				NR	"	"	
Cadmium	"	ND		0.00100	**	"	ND				NR	"	"	
Cobalt	"	ND		0.00100	"	"	ND					"	"	
Zinc	"	ND		0.0100	"	"	ND				NR	"	"	
Copper	"	ND		0.00100	"	"	ND				14.4%	"	"	
Vanadium	"	ND		0.00100	"	"	ND				18.2%	"	"	
Lead	"	ND		0.00100	"	"	ND				49.0%	"	"	R4
Selenium	"	ND		0.00100	"	"	ND				NR	"	"	
Thallium	"	ND		0.00100	"	"	ND				NR	"	"	
Nickel	"	ND		0.00100	"	"	ND				3.12%	"	"	
Antimony	"	ND		0.00300	"	"	ND					"	"	
Chromium	"	ND		0.00100	"	"	ND				6.32%	"	"	
Matrix Spike (8K24020-MS1)				QC Source:	BRK0270-	01		Extr	acted:	11/24/08 11	:38			
Antimony	EPA 6020	0.0625		0.00300	mg/l	1x	ND	0.0600	104%	(75-125)			11/28/08 09:32	
Beryllium	"	0.0806		0.00100	"	"	ND	0.0800	101%	"			"	
Cobalt	"	0.0766		0.00100	"	"	ND	"	95.7%	"			"	
Vanadium	"	0.0828		0.00100	"	"	0.000250	"	103%	"			"	
Manganese	"	0.316		0.0100	"	"	0.217	"	125%	"			"	
Nickel	"	0.0747		0.00100	"	"	0.000630	"	92.5%	"			"	
Cadmium	"	0.0780		0.00100	"	"	ND	"	97.5%	"			"	
Lead	"	0.0808		0.00100	"	"	0.000540	"	100%	"			"	
Chromium	"	0.0800		0.00100	"	"	0.000460	"	99.5%	"			"	
Selenium	"	0.0806		0.00100	"	"	0.000440	"	100%	"			"	
Copper	"	0.0758		0.00100	"	"	0.000450	"	94.2%	"			"	
Zinc	"	0.0800		0.0100	"	"	ND	"	100%	"			"	
Barium	"	0.340		0.0100	"	"	0.251	"	110%	"			"	
Arsenic	"	0.0814		0.00100	"	"	ND	"	102%	"			"	
Thallium	"	0.0803		0.00100	"	"	ND	"	100%	"				
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Golder Associates Inc. Project Name:

 18300 NE Union Hill Rd, Suite 200
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 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

**Landsburg Mine** 

# Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K24020	Water I	Preparation M	Iethod: EI	PA 3020A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Post Spike (8K24020-PS1)				QC Source:	BRK0270-0	01		Exti	racted:	11/24/08 11	:38			
Barium	EPA 6020	0.353			ug/ml	1x	0.251	0.100	101%	(80-120)			11/28/08 09:03	
Arsenic	"	0.102			"	"	0.000200	0.0995	103%	"			"	
Cadmium	"	0.0990			"	"	-0.0000300	0.100	99.0%	"			"	
Silver	"	0.0914			"	"	0.000240	"	91.2%	"			12/01/08 11:09	
Cobalt	"	0.0934			"	"	0.0000700	"	93.4%	"			11/28/08 09:03	
Beryllium	"	0.0970			"	"	-0.0000300	0.0995	97.5%	"			"	
Zinc	"	0.0981			"	"	0.00171	0.100	95.9%	"			"	
Thallium	"	0.0983			"	"	-0.0000200	"	97.8%	"			"	
Lead	"	0.0986			"	"	0.000540	"	97.5%	"			"	
Chromium	"	0.0984			"	"	0.000460	"	97.5%	"			"	
Vanadium	"	0.100			"	"	0.000250	"	100%	"			"	
Selenium	"	0.0990			"	"	0.000440	"	98.6%	"			"	
Nickel	"	0.0912			"	"	0.000630	0.0995	91.0%	"			"	
Manganese	"	0.328			"	"	0.217	0.100	111%	"			"	
Copper	"	0.0927			"	"	0.000450	"	91.8%	"			"	
Antimony	"	0.0531			"	"	0.0000100	0.0510	104%	"			"	

QC Batch: 8K24052	Water P	reparation M	lethod: E	PA 7470A								
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % Amt REC	(Limits)	% (Limi	its) Analyzed	Notes
Blank (8K24052-BLK1)								Extracted:	11/24/08 17	:09		
Mercury	EPA 7470A	ND		0.000200	mg/l	1x					11/25/08 13:59	
Blank (8K24052-BLK2)								Extracted:	11/24/08 17	:09		
Mercury	EPA 7470A	ND		0.000200	mg/l	1x					11/25/08 14:02	
LCS (8K24052-BS1)								Extracted:	11/24/08 17	:09		
Mercury	EPA 7470A	0.00514		0.000200	mg/l	1x		0.00500 103%	(80-120)		11/25/08 14:04	
LCS Dup (8K24052-BSD1)								Extracted:	11/24/08 17	:09		
Mercury	EPA 7470A	0.00515		0.000200	mg/l	1x		0.00500 103%	(80-120)	0.115% (20)	11/25/08 14:07	
Matrix Spike (8K24052-MS1)				QC Source:	BRK0270	-01		Extracted:	11/24/08 17	:09		
Mercury	EPA 7470A	0.00522		0.000200	mg/l	1x	ND	0.00500 104%	(75-125)		11/25/08 14:09	

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Nawxaug





0.00500 105% (75-125) 0.502% (20)

11/25/08 14:12



EPA 7470A

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

0.00524

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

	Total Metal	s by EPA 60		eries Met TestAmeric			itory Qu	ality Contro	l Results	l			
QC Batch: 8K24052	Water P	reparation N	1ethod: E	PA 7470A									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % Amt REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (8K24052-MS2)				QC Source:	BRK0273-	-01		Extracted:	11/24/08 17	:09			
Mercury	EPA 7470A	0.00511		0.000200	mg/l	1x		0.00500 102%	(75-125)			11/25/08 14:14	
Matrix Spike Dup (8K24052-MS	5D1)			QC Source:	BRK0270-	-01		Extracted:	11/24/08 17	:09			

mg/l

0.000200

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Mercury





Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

### Organochlorine Pesticides by EPA Method 8081A - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25012	Water P	reparation M	ethod: El	PA 3520C										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K25012-BLK1)								Extr	acted:	11/25/08 11	:55			
Aldrin	EPA 8081A	ND		0.0500	ug/l	1x						:	12/02/08 11:02	
alpha-BHC	"	ND		0.0400	"	"							"	
beta-BHC	"	ND		0.0400	"	"							"	
delta-BHC [2C]	"	ND		0.0500	"	"							"	
gamma-BHC (Lindane)	"	ND		0.0400	"	"							"	
alpha-Chlordane	"	ND		0.0400	"	"							"	
gamma-Chlordane	"	ND		0.0400	"	"							"	
4,4'-DDD	"	ND		0.0400	"	"							"	
4,4'-DDE	"	ND		0.0800	"	"							"	
4,4'-DDT	"	ND		0.0800	"	"							"	
Dieldrin	"	ND		0.0800	"	"							"	
Endosulfan I	"	ND		0.0200	"	"							"	
Endosulfan II	"	ND		0.0800	"	"							"	
Endosulfan sulfate	"	ND		0.100	"	"							"	
Endrin	"	ND		0.0800	"	"							"	
Endrin aldehyde	"	ND		0.160	"	"							"	
Endrin ketone	"	ND		0.0800	"	"							"	
Heptachlor	"	ND		0.0500	"	"							"	
Heptachlor epoxide	"	ND		0.0400	"	"							"	
Methoxychlor [2C]	"	ND		0.500	"	"							"	
Surrogate(s): TCX		Recovery: 81	.8%	Lim	its: 10-1209	% "							12/02/08 11:0.	2

10-142% " 93.9% Decachlorobiphenyl [2C]

LCS (8K25012-BS1)						Ext	racted:	11/25/08 11:5	55		
Aldrin	EPA 8081A	0.124	 0.0800	ug/l	1x	 0.125	98.9%	(76-120)		 12/02/08 11:19	
alpha-BHC	"	0.161	 0.0400	"	"	 "	129%	(55-150)		 "	
beta-BHC	"	0.150	 0.0400	"	"	 "	120%	(76-120)		 "	
delta-BHC [2C]	"	0.156	 0.100	"	"	 "	125%	(58-121)		 "	L1
gamma-BHC (Lindane)	"	0.130	 0.0400	"	"	 "	104%	(70-120)		 "	
alpha-Chlordane	"	0.134	 0.0400	"	"	 "	107%	(80-120)		 "	
gamma-Chlordane	"	0.133	 0.0400	"	"	 "	106%	(76-120)		 "	
4,4'-DDD	"	0.268	 0.0400	"	"	 0.250	107%	(75-120)		 "	
4,4'-DDE	"	0.279	 0.0800	"	"	 "	112%	(70-122)		 "	
4,4'-DDT	"	0.311	 0.0800	"	"	 "	124%	(52-130)		 "	
Dieldrin	"	0.290	 0.0800	"	"	 "	116%	(80-120)		 "	
Endosulfan I	"	0.154	 0.0200	"	"	 0.125	123%	(76-126)		 "	
Endosulfan II	"	0.268	 0.0800	"	"	 0.250	107%	(71-126)		 "	
Endosulfan sulfate	"	0.255	 0.100	"	"	 "	102%	(69-120)		 "	
Endrin	"	0.140	 0.0800	"	"	 "	55.9%	(69-126)		 "	L2

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

#### Organochlorine Pesticides by EPA Method 8081A - Laboratory Quality Control Results

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8K25012-BS1)								Exti	racted:	11/25/08 11	:55			
Endrin aldehyde	EPA 8081A	0.492		0.160	ug/l	1x		0.250	197%	(52-128)			12/02/08 11:19	L
Endrin ketone	"	0.367		0.0800	"	"		"	147%	(16-150)			"	
Heptachlor	"	0.180		0.0800	"	"		0.125	144%	(62-141)			"	L
Heptachlor epoxide	"	0.146		0.0400	"	"		"	117%	(80-120)			"	
Methoxychlor [2C]	"	1.24		0.500	"	"		1.25	99.2%	(70-123)			"	
Surrogate(s): TCX  Decachlorobiphenyl [2]	PCJ	Recovery:	80.1% 98.8%	Lin	nits: 10-120% 10-1429								12/02/08 11:19	
LCS Dup (8K25012-BSD1)								Exti	racted:	11/25/08 11	:55			
Aldrin	EPA 8081A	0.112		0.0800	ug/l	1x		0.125	89.7%	(76-120)	9.76%	6 (20)	12/02/08 11:38	
alpha-BHC	"	0.147		0.0400	"	"		"	118%	(55-150)	8.73%	ó "	"	
beta-BHC	"	0.137		0.0400	"	"		"	110%	(76-120)	8.55%	ó "	"	
delta-BHC [2C]	"	0.138		0.100	"	"		"	111%	(58-121)	12.0%	ó "	"	
gamma-BHC (Lindane)	"	0.119		0.0400	"	"		"	95.0%	(70-120)	9.21%	ó "	"	
alpha-Chlordane	"	0.123		0.0400	"	"		"	98.1%	(80-120)	8.85%	ó "	"	
gamma-Chlordane	"	0.113		0.0400	"	"		"	90.5%	(76-120)	16.1%	6 "	"	
4,4'-DDD	"	0.260		0.0400	"	"		0.250	104%	(75-120)	3.33%	ó "	"	
4,4'-DDE	"	0.264		0.0800	"	"		"	106%	(70-122)	5.45%	ó "	"	
4,4'-DDT	"	0.311		0.0800	"	"		"	124%	(52-130)	0.1549	/ <sub>0</sub> "	"	
Dieldrin	"	0.268		0.0800	"	"		"	107%	(80-120)	7.66%	6 "	"	
Endosulfan I	"	0.144		0.0200	"	"		0.125	115%	(76-126)	6.95%	6 "	"	
Endosulfan II	"	0.254		0.0800	"	"		0.250	101%	(71-126)	5.49%	6 "	"	
Endosulfan sulfate	"	0.253		0.100	"	"		"	101%	(69-120)	0.8869	% "	"	
Endrin	"	0.0516		0.0800	"	"		"	20.6%	(69-126)	92.1%	(30)	"	L2, R
Endrin aldehyde	"	0.460		0.160	"	"		"	184%	(52-128)	6.70%	ó "	"	L
Endrin ketone	"	0.430		0.0800	"	"		"	172%	(16-150)	15.8%	6 (20)	"	L
Heptachlor	"	0.159		0.0800	"	"		0.125	127%	(62-141)	12.4%	ó "	"	
Heptachlor epoxide	"	0.130		0.0400	"	"		"	104%	(80-120)	11.3%	ó "	"	
Methoxychlor [2C]	"	1.27		0.500	**			1.25	101%	(70-123)	2.29%	ć "	"	

10-142% "

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Decachlorobiphenyl [2C]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full,  $without \ the \ written \ approval \ of \ the \ laboratory.$ 



90.0%



11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



TCX [2C]

Decachlorobiphenyl [2C]

Surrogate(s):

Golder Associates Inc. Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

**Landsburg Mine** 

	C	Organochlo	rine Pestic	ides by EPA		8081A - I	Labor	atory Qu	ıality (	Contr	ol Result	ts			
QC Bate	h: 8L03015	Water 1	Preparation	Method: E	PA 3520C	2									
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8L030	15-BLK1)								Extr	acted:	12/03/08 12	:34			
Endrin [2C]		EPA 8081A	ND		0.0800	ug/l	1x							12/05/08 13:10	
Surrogate(s):	TCX [2C] Decachlorobiphenyl [2C]		Recovery:	74.7% 87.8%	Lin	mits: 10-120% 10-142%	"							12/05/08 13:10	
LCS (8L0301:	5-BS1)								Extr	acted:	12/03/08 12	:34			
Endrin [2C]	,	EPA 8081A	0.227		0.0800	ug/l	1x		0.250	90.8%	(69-126)			12/05/08 13:29	
Surrogate(s):	TCX [2C] Decachlorobiphenyl [2C]		Recovery:	80.7% 91.8%	Lii	mits: 10-120% 10-142%	"							12/05/08 13:29	
LCS Dup (8L	03015-BSD1)								Extr	acted:	12/03/08 12	:34			
Endrin [2C]	,	EPA 8081A	0.231		0.0800	ug/l	1x		0.250	92.6%	(69-126)	1.96%	(30)	12/05/08 13:47	

Limits: 10-120%

10-142%

78.0%

90.6%

Recovery:

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full,  $without \ the \ written \ approval \ of \ the \ laboratory.$ 



12/05/08 13:47



BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc.

Project Name:

**Landsburg Mine** 

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

Project Number: 923-1000-002-R273 Project Manager: Douglas Morell

Report Created: 12/08/08 17:35

#### Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results

TestAmerica Seattle

QC Batc	h: 8K25012	Water	Preparation	Method: E	PA 3520C	-									
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K250	12-BLK2)								Exti	acted:	11/25/08 11	:55			
Aroclor 1016		EPA 8082	ND		0.500	ug/l	1x							11/27/08 16:07	
Aroclor 1221		"	ND		0.500	"	"							"	
Aroclor 1232		"	ND		0.500	"	"							"	
Aroclor 1242		"	ND		0.500	"	"							"	
Aroclor 1248		"	ND		0.500	"	"							"	
Aroclor 1254		"	ND		0.500	"	"							"	
Aroclor 1260		"	ND		0.500	"	"							"	
Aroclor 1262		"	ND		0.500	"	"							"	
Aroclor 1268		"	ND		0.500	"	"							"	
Surrogate(s):	TCX		Recovery:	89.6%	Lii	nits: 36-134%	, "							11/27/08 16:07	
	Decachlorobiphenyl			98.4%		15-124%	6 "							"	
LCS (8K2501	2-BS2)								Exti	acted:	11/25/08 11	:55			
Aroclor 1016		EPA 8082	3.32		0.500	ug/l	1x		2.50	133%	(42-161)			11/27/08 16:24	
Aroclor 1260		"	2.95		0.500	"	"		"	118%	(68-142)			"	
Surrogate(s):	TCX		Recovery:	76.6%	Lii	nits: 36-134%	, "							11/27/08 16:24	
0 17	Decachlorobiphenyl		Í	89.2%		15-124%	6 "							"	
LCS Dup (8K	25012-BSD2)								Exti	racted:	11/25/08 11	:55			
Aroclor 1016	,	EPA 8082	3.61		0.500	ug/l	1x		2.50	144%	(42-161)	8.14%	(30)	11/27/08 16:40	
Aroclor 1260		"	3.35		0.500	"	"		"	134%	(68-142)	12.8%	"	"	
Surrogate(s):	TCX		Recovery:	75.4%	Lii	nits: 36-134%	, "							11/27/08 16:40	
9 17	Decachlorobiphenyl		ĺ	95.1%		15-1249	6 "							"	

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

Tethod  EPA 8260B  " " " " " "	ND ND ND ND ND ND ND	MDL*	10.0 0.200 0.500	Units ug/l	Dil 1x	Source Result		REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
"	ND ND ND ND		0.200		1x		Extra	acted:	11/28/08 11	:03			
"	ND ND ND ND		0.200		1x								
"	ND ND ND			,,							1	11/28/08 14:46	
	ND ND		0.500		"							"	
" " " " " " " " " " " " " " " " " " " "	ND		0.500	"	"							"	
			0.250	"	"							"	
" "	ND		0.200	"	"							"	
"			0.250	"	"							"	
"	ND		2.00	"	"							"	
	ND		2.00	"	"							"	
"	0.200		0.200	"	"							"	
"	ND		0.200	"	"							"	
"	ND		0.500	"	"							"	
"	ND		0.500	"	"							"	
"	ND		0.200	"	"							"	
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OC D-4-L. 01/20011

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

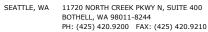
#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K28011	Water P	reparation N	Method: El	PA 5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	No
Blank (8K28011-BLK1)								Extr	acted:	11/28/08 11	:03			
Hexachlorobutadiene	EPA 8260B	ND		2.50	ug/l	1x							11/28/08 14:46	
Methyl tert-butyl ether	"	ND		1.00	"	"						-	"	
n-Hexane	"	ND		1.00	"	"						-	"	
2-Hexanone	"	ND		2.00	"	"						-	"	
sopropylbenzene	"	ND		0.500	**	"							"	
o-Isopropyltoluene	"	ND		0.200	**	"							"	
4-Methyl-2-pentanone	"	ND		2.00	"	"							"	
Methylene chloride	"	ND		2.00	"	"							"	
Naphthalene	"	ND		2.50	"	"							"	
n-Propylbenzene	"	ND		0.500	"	"							"	
Styrene	"	ND		0.500	"	"							"	
,2,3-Trichlorobenzene	"	ND		1.00	"	"							"	
,2,4-Trichlorobenzene	"	ND		1.00	"	"							"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"							"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"							"	
Γetrachloroethene	"	ND		0.200	"	"							"	
Γoluene	"	ND		0.200	"	"							"	
,1,1-Trichloroethane	"	ND		0.200	"	"							"	
1,1,2-Trichloroethane	"	ND		0.200	"	"							"	
Γrichloroethene	"	ND		0.200	"	"							"	
Γrichlorofluoromethane	"	ND		0.500	"	"							"	
,2,3-Trichloropropane	"	ND		0.500	"	"							"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"							"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"							"	
Vinyl chloride	"	ND		0.200	"	"							"	
o-Xylene	"	ND		0.250	"	"							"	
n,p-Xylene	"	ND		0.500	"	"							"	
Total Xylenes	"	ND		0.750	"	"							"	
Surrogate(s): 1,2-DCA-d4		Recovery:	119%	Lin	nits: 76-138%	<u> </u>							11/28/08 14:4	6
Toluene-d8		•	107%		80-120%								"	
4-BFB			104%		80-120%	6 "							"	

TestAmerica Seattle







THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K28011	Water I	Preparation	Method: E	PA 5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	s) Analyzed	Notes
LCS (8K28011-BS1)								Ext	racted:	11/28/08 11	:03			
Benzene	EPA 8260B	40.6		0.200	ug/l	1x		40.0	102%	(80-120)			11/28/08 12:39	
Chlorobenzene	"	36.6		0.200	"	"		"	91.5%	"			"	
1,1-Dichloroethene	"	38.0		0.200	"	"		"	95.1%	"			"	
Methyl tert-butyl ether	"	42.3		1.00	"	"		"	106%	"			"	
Toluene	"	36.3		0.200	"	"		"	90.8%	(75-125)			"	
Trichloroethene	"	38.1		0.200	"	"		"	95.2%	(80-120)			"	
Surrogate(s): 1,2-DCA-d4		Recovery:	107%	Lin	nits: 76-138%	6 "							11/28/08 12:39	
Toluene-d8			98.0%		80-120								"	
4-BFB			97.2%		80-120	% "							"	
LCS Dup (8K28011-BSD1)								Ext	racted:	11/28/08 11	:03			
Benzene	EPA 8260B	40.6		0.200	ug/l	1x		40.0	102%	(80-120)	0.0246	% (20)	11/28/08 13:07	
Chlorobenzene	"	37.4		0.200	"	"		"	93.6%	"	2.27%	ó "	"	
1,1-Dichloroethene	"	36.8		0.200	"	"		"	91.9%	"	3.40%	ó "	"	
Methyl tert-butyl ether	"	42.0		1.00	"	"		"	105%	"	0.5939	% "	"	
Toluene	"	36.4		0.200	"	"		"	91.0%	(75-125)	0.2209	/ <sub>0</sub> "	"	
Trichloroethene	"	37.3		0.200	"	"		"	93.2%	(80-120)	2.12%	ó "	"	
Surrogate(s): 1,2-DCA-d4		Recovery:	108%	Lin	nits: 76-1389	6 "							11/28/08 13:07	
Toluene-d8			99.8%		80-120	% "							"	
4-BFB			97.7%		80-120	% "							"	

TestAmerica Seattle





Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

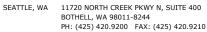
TestAmerica Seattle

QC Batch: 8K28016 Water Preparation Method: EPA 5030B Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed (Limits) Notes RPD REC Result Amt Blank (8K28016-BLK1) Extracted: 11/26/08 13:53 EPA 8260B 10.0 11/26/08 21:11 Acetone ND ug/l 1xND 0.200 ND 0.500 ND 0.250 Bromochloromethane Bromodichloromethane ND 0.200 Bromoform ND 0.250 Bromomethane ND 2.00 2-Butanone ND 2 00 ND 0.200 n-Butylbenzene sec-Butylbenzene ND 0.200 tert-Butylbenzene ND 0.500 Carbon disulfide ND 0.500 Carbon tetrachloride ND 0.200 Chlorobenzene ND 0.200 Chloroethane ND 1.00 Chloroform ND 0.200 Chloromethane 1.00 2-Chlorotoluene ND 0.500 4-Chlorotoluene ND 0.500 Dibromochloromethane ND 0.200 1,2-Dibromo-3-chloropropane ND 1.00 1.2-Dibromoethane ND 0.200 Dibromomethane ND 0.200 1,2-Dichlorobenzene ND 0.200 1,3-Dichlorobenzene ND 0.200 1,4-Dichlorobenzene ND 0.200 Dichlorodifluoromethane ND 0.500 1,1-Dichloroethane ND 0.200 0.200 1,2-Dichloroethane ND 1,1-Dichloroethene ND 0.200 trans-1.2-Dichloroethene ND 0.200 1,2-Dichloropropane ND 0.200 1,3-Dichloropropane ND 0.200 0.500 2,2-Dichloropropane ND ND 0.200 1.1-Dichloropropene cis-1,3-Dichloropropene ND 0.200 0.200 trans-1,3-Dichloropropene Ethylbenzene ND 0.200

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Golder Associates Inc.

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

Project Name:

**Landsburg Mine** 

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

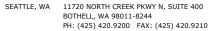
TestAmerica Seattle

QC Batch: 8K28016	Water P	reparation	Method: E	PA 5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	N
Blank (8K28016-BLK1)								Extr	acted:	11/26/08 13	5:53			
Hexachlorobutadiene	EPA 8260B	ND		2.50	ug/l	lx							11/26/08 21:11	
Methyl tert-butyl ether	"	ND		1.00	"	"							"	
n-Hexane	"	ND		1.00	"	"							"	
2-Hexanone	"	ND		2.00	"	"							"	
sopropylbenzene	"	ND		0.500	"	"							"	
o-Isopropyltoluene	"	ND		0.200	"	"							"	
4-Methyl-2-pentanone	"	ND		2.00	"	"							"	
Methylene chloride	"	ND		5.00	"	"							"	
Naphthalene	"	ND		2.50	"	"							"	
n-Propylbenzene	"	ND		0.500	"	"							"	
Styrene	"	ND		0.500	"	"							"	
,2,3-Trichlorobenzene	"	ND		1.00	"	"							"	
,2,4-Trichlorobenzene	"	ND		1.00	"	"							"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"							"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"							"	
Tetrachloroethene	"	ND		0.200	"	"							"	
Γoluene	"	ND		0.200	"	"							"	
1,1,1-Trichloroethane	"	ND		0.200	"	"							"	
1,1,2-Trichloroethane	"	ND		0.200	"	"							"	
Trichloroethene	"	ND		0.200	"	"							"	
Trichlorofluoromethane	"	ND		0.500	"	"							"	
,2,3-Trichloropropane	"	ND		0.500	"	"							"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"							"	
,3,5-Trimethylbenzene	"	ND		0.500	"								"	
Vinyl chloride	"	ND		0.200	"								"	
o-Xylene	"	ND		0.250	"								"	
n,p-Xylene	"	ND		0.500	"								"	
Γotal Xylenes	"	ND		0.750	"	"							"	
Surrogate(s): 1,2-DCA-d4		Recovery:	106%	Lin	nits: 76-138%	"							11/26/08 21:1	1
Toluene-d8			101%		80-120%	ó "							"	
4-BFB			99.2%		80-120%	ó "							"	

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THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

QC Batch: 8K28016	Water I	Preparation	Method: EF	PA 5030B	1									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8K28016-BS1)								Ext	racted:	11/26/08 13	:53			
Benzene	EPA 8260B	38.5		0.200	ug/l	1x		40.0	96.3%	(80-120)			11/26/08 19:13	
Chlorobenzene	"	35.1		0.200	"	"		"	87.8%	"			"	
1,1-Dichloroethene	"	34.4		0.200	"	"		"	85.9%	"			"	
Methyl tert-butyl ether	"	40.6		1.00	"	"		"	101%	"			"	
Toluene	"	35.3		0.200	"	"		"	88.3%	(75-125)			"	
Trichloroethene	"	34.9		0.200	"	"		"	87.3%	(80-120)			"	
Surrogate(s): 1,2-DCA-d4		Recovery:	101%	Lin	nits: 76-138%	"							11/26/08 19:13	
Toluene-d8			99.6%		80-120%	"							"	
4-BFB			99.4%		80-120%	"							"	
LCS Dup (8K28016-BSD1)								Ext	racted:	11/26/08 13	:53			
Benzene	EPA 8260B	40.5		0.200	ug/l	1x		40.0	101%	(80-120)	5.01%	(20)	11/26/08 19:42	
Chlorobenzene	"	35.9		0.200	"	"		"	89.7%	"	2.11%	. "	"	
1,1-Dichloroethene	"	35.2		0.200	"	"		"	87.9%	"	2.30%	. "	"	
Methyl tert-butyl ether	"	40.5		1.00	"	"		"	101%	"	0.2729	6 "	"	
Toluene	"	36.4		0.200	"	"		"	91.0%	(75-125)	3.01%	, "	"	
Trichloroethene	"	37.0		0.200	"	"		"	92.4%	(80-120)	5.65%	. "	"	
Surrogate(s): 1,2-DCA-d4		Recovery:	102%	Lin	nits: 76-138%	"							11/26/08 19:42	
Toluene-d8			98.2%		80-120%	"							"	
4-BFB			101%		80-120%	"							"	

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THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

#### Semivolatile Organic Compounds by EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25013	Water P	reparation M	lethod: EP	A 3520C										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K25013-BLK1)								Extr	acted:	11/25/08 14	:55			
Acenaphthene	EPA 8270C	ND		10.0	ug/l	1x							12/01/08 10:08	
Acenaphthylene	"	ND		10.0	"	"							"	
Aniline	"	ND		10.0	"	"							"	
Anthracene	"	ND		10.0	"	"							"	
Benzo (a) anthracene	"	ND		10.0	"	"							"	
Benzo (a) pyrene	"	ND		10.0	"	"							"	
Benzo (b) fluoranthene	"	ND		10.0	"	"							"	
Benzo (k) fluoranthene	"	ND		10.0	"	"							"	
Benzo (ghi) perylene	"	ND		10.0	"	"							"	
Benzoic Acid	"	ND		20.0	"	"							"	
Benzyl alcohol	"	ND		10.0	"	"							"	
Bis(2-chloroethoxy)methane	"	ND		10.0	"	"							"	
Bis(2-chloroethyl)ether	"	ND		10.0	"	"							"	
Bis(2-chloroisopropyl)ether	"	ND		10.0	"	"							"	
Bis(2-ethylhexyl)phthalate	"	ND		10.0	"	"							"	
4-Bromophenyl phenyl ether	"	ND		10.0	"	"							"	
Butyl benzyl phthalate	"	ND		10.0	"								"	
Carbazole	"	ND		10.0	"	"							"	
4-Chloroaniline	"	ND		10.0	"	"							"	
4-Chloro-3-methylphenol	"	ND		10.0	"	"							"	
2-Chloronaphthalene	"	ND		10.0	"	"							"	
2-Chlorophenol	"	ND		10.0	••	"							"	
4-Chlorophenyl phenyl ether	"	ND		10.0	••	"							"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		10.0	••	"							"	
2-Methylphenol (o-Cresol)	"	ND		10.0	"								"	
Chrysene	,,	ND		10.0	,,	,,							"	
Di-n-butyl phthalate	,,	ND		10.0	,,	,,							"	
Dibenz (a,h) anthracene	"	ND		10.0	"	"							"	
Dibenzofuran	,,	ND		10.0	,,	,,							"	
1,2-Dichlorobenzene	,,	ND		10.0	,,	,,							"	
1,3-Dichlorobenzene	,,	ND		10.0	"	,,							"	
1,4-Dichlorobenzene	,,	ND		10.0	"	,,							"	
3,3'-Dichlorobenzidine	"	ND		10.0	"	,,							"	
2,4-Dichlorophenol	"	ND		10.0	"	,,							"	
Diethyl phthalate	"	ND		10.0	"	,,							"	
2,4-Dimethylphenol	"	ND		10.0	"	,,							"	
Dimethyl phthalate	,,	ND		10.0	"	,,							"	
4,6-Dinitro-2-methylphenol		ND		10.0	"	,,							"	
2,4-Dinitrophenol	,,	ND		20.0	,,	,,			_				"	
2, <del>1-</del> Dimuophenoi		ND		20.0					-					

TestAmerica Seattle





OC D-4-L 91/25012

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/08/08 17:35

#### Semivolatile Organic Compounds by EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source	Spike	% DEC	(Limits)	% RPD	(Limits)	Analyzed	No
N. 1. (01/25012 DV 1/1)							Result		REC					
Blank (8K25013-BLK1)								Extr	acted:	11/25/08 14	:55			
2,4-Dinitrotoluene	EPA 8270C	ND		10.0	ug/l	1x						-	12/01/08 10:08	
2,6-Dinitrotoluene	"	ND		10.0	"	"							"	
N-Nitrosodiphenylamine	"	ND		10.0	"	"							"	
Fluoranthene	"	ND		10.0	"	"							"	
Fluorene	"	ND		10.0	"	"							"	
Hexachlorobenzene	"	ND		10.0	"	"							"	
Hexachlorobutadiene	"	ND		10.0	"	"							"	
Hexachlorocyclopentadiene	"	ND		10.0	"	"							"	
Hexachloroethane	"	ND		10.0	"	"							"	
ndeno (1,2,3-cd) pyrene	"	ND		10.0	"	"							"	
sophorone	"	ND		10.0	"	"							"	
-Methylnaphthalene	"	ND		10.0	"	"							"	
2-Methylnaphthalene	"	ND		10.0	"	"							"	
Naphthalene	"	ND		10.0	"	"							"	
2-Nitroaniline	"	ND		10.0	"	"							"	
3-Nitroaniline	"	ND		10.0	"	"							"	
l-Nitroaniline	"	ND		10.0	"	"							"	
Nitrobenzene	"	ND		10.0	"	"							"	
2-Nitrophenol	"	ND		10.0	"	"							"	
1-Nitrophenol	"	ND		10.0	"	"							,,	
N-Nitrosodi-n-propylamine	"	ND		10.0	"	"							"	
Di-n-octyl phthalate	"	ND		10.0	"	"							"	
Pentachlorophenol	"	ND		10.0	,,		_						,	
Phenanthrene	"	ND		10.0	,,	,,			_				,,	
Phenol	"	ND		10.0	,,	,,			_				,,	
Pyrene	"	ND		10.0	,,	,						-	,,	
,2,4-Trichlorobenzene	"	ND ND		10.0	"								,,	
2,4,5-Trichlorophenol	"	ND ND		10.0	,,				-		-	_	,,	
•		ND ND		10.0	,,	,,							,,	
2,4,6-Trichlorophenol											-			
Surrogate(s): 2-FBP		Recovery:	83.6%	Lin	nits: 44-120%	"							12/01/08 10:08	8
2-FP			74.2%		16-120%								"	
Nitrobenzene-d5			84.6%		38-120%								"	
Phenol-d6			75.0%		16-120%								,,	
p-Terphenyl-d14 2,4,6-TBP			77.6% 77.2%		24-146% 32-135%									

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Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

#### Semivolatile Organic Compounds by EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Source	Spike	% DEC	(Limits)	% RPD	(Limits)	Analyzed	Note
	2 P(1)							Result	Amt	REC	11/05/00 6 3				
LCS (8K2501	3-BS1)								Ext	racted:	11/25/08 14	:55			
Acenaphthene		EPA 8270C	73.0		10.0	ug/l	1x		100	73.0%	(57-120)			12/01/08 10:33	
4-Chloro-3-methylpl	henol	"	88.1		10.0	"	"		"	88.1%	(51-124)			"	
2-Chlorophenol		"	71.2		10.0	"	"		"	71.2%	(40-120)			"	
,4-Dichlorobenzene	e	"	63.1		10.0	"	"		"	63.1%	(50-120)			"	
2,4-Dinitrotoluene		"	88.2		10.0	"	"		"	88.2%	(66-130)			"	
4-Nitrophenol		"	71.5		10.0	"	"		"	71.5%	(42-148)			"	
N-Nitrosodi-n-propy	lamine	"	84.7		10.0	"	"		"	84.7%	(49-120)			"	
Pentachlorophenol		"	109		10.0	"	"		"	109%	(67-151)			"	
Phenol		"	73.1		10.0	"	"		"	73.1%	(28-120)			"	
Pyrene		"	72.0		10.0	"	"		"	72.0%	(54-134)			"	
1,2,4-Trichlorobenze	ene	"	73.9		10.0	"	"		"	73.9%	(52-120)			"	
Surrogate(s):	2-FBP		Recovery:	77.6%	I is	nits: 44-120%	"							12/01/08 10:33	
Surroguic(s).	2-FP		necovery.	70.0%	Lin	16-120%								"	
	Nitrobenzene-d5			81.8%		38-120%								"	
	Phenol-d6			70.1%		16-120%	ó "							"	
	p-Terphenyl-d14			67.3%		24-146%	ó "							"	
	2,4,6-TBP			94.0%		32-135%	ó "							"	
LCS Dup (8K	(25013-BSD1)								Ext	racted:	11/25/08 14	:55			
Acenaphthene	,	EPA 8270C	73.0		10.0	ug/l	1x		100	73.0%	(57-120)	0.0274	% (25)	12/01/08 13:12	
4-Chloro-3-methylpl	henol	"	95.5		10.0	"	"		"	95.5%	(51-124)	8.11%	ó "	"	
2-Chlorophenol		"	74.8		10.0	"	"		"	74.8%	(40-120)	4.96%	6 (37)	"	
.4-Dichlorobenzene	e	"	65.9		10.0	"	"		"	65.9%	(50-120)		6 (32)	,,	
2,4-Dinitrotoluene		"	87.7		10.0	"	,,		"	87.7%	(66-130)	0.5469		,,	
1-Nitrophenol		"	73.1		10.0	"	,,		"	73.1%	(42-148)	2.13%		"	
N-Nitrosodi-n-propy	lamine	,,	89.4		10.0	,,	,,		"	89.4%	(49-120)	5.42%		"	
Pentachlorophenol		,,	110		10.0	,,			"	110%	(67-151)	1.37%		,,	
Phenol		,,	78.3		10.0	,,			,,	78.3%	(28-120)		6 (48)	,,	
Pyrene		,,	74.5		10.0	,,	,,		,,	74.5%	(54-134)		6 (48) 6 (25)	,,	
ryrene 1,2,4-Trichlorobenze	ana	,,	74.5		10.0	,,	,,		,,	77.8%		5.17%		"	
										11.0%	(32-120)	3.1/%	0		
Surrogate(s):	2-FBP		Recovery:	77.6%	Lin	nits: 44-120%								12/01/08 13:12	
	2-FP			76.8%		16-120%								"	
	Nitrobenzene-d5			87.5%		38-120%									
	DI 1.16														
	Phenol-d6 p-Terphenyl-d14			75.7% 70.2%		16-120% 24-146%								,,	

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11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Golder Associates Inc. Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: 12/08/08 17:35 Douglas Morell

#### **CERTIFICATION SUMMARY**

#### **TestAmerica Seattle**

Method	Matrix	Nelac	Washington		
EPA 6010B	Water	X	X		
EPA 6020	Water	X	X		
EPA 7470A	Water	X	X		
EPA 8081A	Water	X	X		
EPA 8082	Water	X	X		
EPA 8260B	Water	X	X		
EPA 8270C	Water	X	X		
NWTPH-HCID	Water		X		

Any abnormalities or departures from sample acceptance policy shall be documented on the 'Sample Receipt and Temperature Log Form'  $and \ 'Sample \ Non-conformance \ Form' \ (if \ applicable) \ included \ with \ this \ report.$ 

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC) .

TestAmerica Seattle







Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/08/08 17:35

#### **Notes and Definitions**

#### Report Specific Notes:

Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.

H8 - The sample was extracted past the holding time.

 Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.

L1 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.

L2 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below acceptance limits.

R2 - The RPD exceeded the acceptance limit.

R3 - The RPD exceeded the acceptance limit due to sample matrix effects.

R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

#### **Laboratory Reporting Conventions:**

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported

on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported

as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution

found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and

percent solids, where applicable.

Electronic - Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Seattle

Limits

Signature

Nawshung

Kate Haney, Project Manager



# **TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244

11922 E. First Ave, Spokane, WA 99206-5302 9405 SW Nimbus Ave, Beaverton, OR 97008-7145 425-420-9200 FAX 420-9210 509-924-9200 FAX 924-9290

2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

503-906-9200 FAX 906-9210 907-563-9200 FAX 563-9210

TAL-1000(0408)

<b>~</b> 1. 1			CHAIN	OF CUSTODY	REPORT	Work Order #:	BRK0270			
CLIENT: Collar A	550 617 46		INVOICE	E TO:			OUND REQUEST			
REPORT TO: Dougles M	lorell was -	L				in I	in Business Days *			
ADDRESS: NO NE	lorell Union Hill 9d, So WA 98052	Ta 200					Organic & Inorganic Analyses			
							4 3 2 1 <1			
PHONE.436.553-077	77AX: 435-582-1	5.498	P.O. NUM		WITT.		Hydrocarbon Analyses  3 2 1 <1			
PROJECT NAME: Ladde	y Mine	HC1 -		PRESERVAT	IAE					
PROJECT NUMBER:	000-002-R273	MCI >		REQUESTED AN	JALYSES	OTHER S	Specify:			
SAMPLED BY: In Y	)vng	4	2 4 5	2 2 2			than standard may incur Rush Charges.			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	12, Pa	VCO CVE	Vis Vis Ve		MATRIX # OF CONT.	LOCATION/ TA WO ID			
LMW-5-1108	14340 0455	XX	XX	$XX\cap$	4113 11 5112	WII	-01			
2 LMW-8-1108	1025				upperson vel samples		-02			
, LMW-3-1108	0 1130				pending initial ampto	<del>d</del>	-03			
4 LMW-7-1108	V @1400	1 1	V V	1 1	y mesults		-04			
5 Trop Blank		1				<b>Y</b> 1	-05			
6										
7										
8										
9										
10										
RELEASED BY:				11/21/08	PRINT NAME: Kake Kaney	FIRM:	DATE: ///2//0 TIME: 1540			
RELEASED BY:	7	<i>-1+</i>	DATE:		RECEIVED BY:		DATE;			
PRINT NAME:	FIRM:		TIME:		PRINT NAME:	FIRM:	TIME:			
ADDITIONAL REMARKS:							TEMP: WO PAGE OF			

TAT:	Paperwor	k to PM – Date: T	ime:	Ion-Conformances?
Page Time & Initials:	·			Circle❤️ or N
<b>u</b>			• (	If Y, see other side)
	TEST AMERICA	SAMPLE RECEIPT	CHECKLIST	
Received By: (applies to temp at receipt)	Logged-in By:	Unpacked/Labeled	By: Cooler ID:	
Date: 11 DILIN	Date: 11.21	Date: 11/22/08	Work Order NoB	2K0270
Time: 1540	Time: <u>1832</u>	Time: 1145	Client:	
Initials: W	Initials: <u>CW</u>	Initials:	Project:	
Container Type:	CO	C Seals:	Packing Material	:
_X_Cooler	Ship Contail	nerSign By	X Bubble Bags	Styrofoam
Box	On Bottles	Date		
None/Other	X	None	_X_None(Other)_V	sa holder
Refrigerant:			Received Via: Bill#	
Gel Ice Pack				
Loose Ice			UPS	
None/Other			DHL !	
			Senvoy	
		O. (5 5)	GS Gedlars and aqueous Metals	
BP, OPLC,ARCO-Te	10.8 °C or NA 10.4 mperature monitoring e	2,8.1.2		yor N or NA
Sample Containers:	<u>!D</u>			<u>ID</u>
Intact?	<pre>Oor N</pre>	Metals Preser	ved? (7) or N or N	IA
Provided by TA?	Ø or N	Client QAPP I	Preserved? Y or N or	<u> </u>
Correct Type?	Y or 🚺	Adequate Vol		
#Containers match C	OC? Or N	(for tests requeste Water VOAs:		IA
IDs/time/date match	101 \	Comments:		
Hold Times in hold?	.,			
PROJECT MANAGE	EMENT			
Is the Chain of Custo	ody complete?		Y or N If N, circle the ite	ems that were incomplete
Comments, Problems	S			
Total access set up?			Y or N	
Has client been contacted	regarding non-conformance	es?	Y or N if Y,/Date	Time
PM Initials:	Date:	Time:	5410	





December 09, 2008

Douglas Morell Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

RE: Landsburg Mine

Enclosed are the results of analyses for samples received by the laboratory on 11/24/08 15:00. The following list is a summary of the Work Orders contained in this report, generated on 12/09/08 09:51.

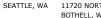
If you have any questions concerning this report, please feel free to contact me.

Work Order	<u>Project</u>	<u>ProjectNumber</u>
BRK0288	Landsburg Mine	923-1000-002-R273

TestAmerica Seattle

Kate Haney, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name: 18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LMW-2-1108	BRK0288-01	Water	11/24/08 09:20	11/24/08 15:00
LMW-4-1108	BRK0288-02	Water	11/24/08 10:30	11/24/08 15:00
LMW-6-1108	BRK0288-03	Water	11/24/08 12:40	11/24/08 15:00
LMW-EB-1108	BRK0288-04	Water	11/24/08 11:00	11/24/08 15:00
Trip Blank	BRK0288-05	Water	11/24/08 15:00	11/24/08 15:00

TestAmerica Seattle







BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. Project Name: Landsburg Mine

18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Report Created:Redmond, WA/USA 98052-3333Project Manager:Douglas Morell12/09/08 09:51

#### **Analytical Case Narrative**

TestAmerica - Seattle, WA

#### **BRK0288**

#### SAMPLE RECEIPT

The samples were received November 21st, 2008 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 10.0 degrees Celsius which is outside the recommended temperature range of 2-6 Degrees Celsius. The samples are considered acceptable as they were received on-ice within four hours of the collection of the last sampled time on the COC.

#### PREPARATIONS AND ANALYSIS

8081 Pesticides: The samples were initially extracted in laboratory batch 8K25012. The percent recovery for Endrin was below the established acceptance criteria in the laboratory blank spike and blank spike duplicate. Additionally, the RPD for Endrin was above the established acceptance criteria in the blank spike duplicate. The samples were re-extracted outside the method established hold time in laboratory batch 8L03015 with passing Endrin recoveries. Both sets of results were reported.

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

TestAmerica Seattle

Kate Haney, Project Manager







Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Hydrocarbon Identification by Washington DOE Method NWTPH-HCID

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-01 (LMW-2-1108)		Wa	ter		Sampl	ed: 11/2	24/08 09:20			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.240	mg/l	1x	8K25014	11/25/08 11:56	11/26/08 18:24	
Diesel Range Hydrocarbons	"	ND		0.606	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.606	"	"	"	"	"	
Surrogate(s): 2-FBP			116%		50 - 150 %	"			"	
Octacosane			93.1%		50 - 150 %	"			"	
BRK0288-02 (LMW-4-1108)		Wa	ter		Sampl	ed: 11/2	24/08 10:30			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.238	mg/l	1x	8K25014	11/25/08 11:56	11/26/08 18:46	
Diesel Range Hydrocarbons	"	ND		0.600	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.600	"	"	"	"	"	
Surrogate(s): 2-FBP			122%		50 - 150 %	"			"	
Octacosane			97.1%		50 - 150 %	"			"	
BRK0288-03 (LMW-6-1108)		Wa	ter		Sampl	ed: 11/2	24/08 12:40			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.236	mg/l	1x	8K25014	11/25/08 11:56	11/26/08 19:07	
Diesel Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Surrogate(s): 2-FBP			117%		50 - 150 %	"			"	
Octacosane			98.4%		50 - 150 %	"			"	
BRK0288-04 (LMW-EB-1108)		Wa	ter		Sampl	ed: 11/2	24/08 11:00			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.236	mg/l	1x	8K25014	11/25/08 11:56	11/26/08 20:14	
Diesel Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Surrogate(s): 2-FBP			120%		50 - 150 %	"			"	
Octacosane			91.4%		50 - 150 %	"			"	

TestAmerica Seattle





Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Total Metals by EPA 6000/7000 Series Methods

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-01	(LMW-2-1108)		Wa	iter		Samı	oled: 11/2	24/08 09:20			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K25034	11/25/08 14:23	11/28/08 16:56	
Antimony		EPA 6020	ND		0.00300	"	"	8K25033	11/25/08 14:20	11/28/08 12:09	
Arsenic		"	ND		0.00100	"	"	"	"	"	
Barium		"	0.313		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	120		0.750	"	"	8K25034	11/25/08 14:23	11/28/08 16:56	
Chromium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:09	
Cobalt		"	ND		0.00100	"	"	"	"	"	
Copper		"	ND		0.00100	"	"	"	"	"	
ron		EPA 6010B	0.160		0.150	"	"	8K25034	11/25/08 14:23	11/28/08 16:56	
ead		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	12/04/08 18:31	
<b>Aagnesium</b>		EPA 6010B	71.6		0.500	"	"	8K25034	11/25/08 14:23	11/26/08 08:47	
<b>Janganese</b>		EPA 6020	0.220		0.0100	"	"	8K25033	11/25/08 14:20	11/28/08 12:09	
Mercury		EPA 7470A	ND		0.000200	"	"	8K25009	11/25/08 11:02	11/26/08 10:01	
Nickel		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:09	
otassium		EPA 6010B	3.99		3.00	"	"	8K25034	11/25/08 14:23	11/26/08 08:47	
elenium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:09	
Silver		"	ND		0.00100	"	"	"	"	12/01/08 12:30	
odium		EPA 6010B	25.7		0.250	"	"	8K25034	11/25/08 14:23	11/26/08 08:47	
Thallium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	12/04/08 18:31	
/anadium		"	ND		0.00100	"	"	"	"	11/28/08 12:09	
Zinc		"	ND		0.0100	"	"	"	"	"	
3RK0288-02	(LMW-4-1108)		Wa	ater		Samı	pled: 11/2	24/08 10:30			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K25034	11/25/08 14:23	11/28/08 17:00	
Antimony		EPA 6020	ND		0.00300	"	"	8K25033	11/25/08 14:20	11/28/08 12:15	
Arsenic		"	ND		0.00100	"	"	"	"	"	
Barium		"	0.341		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	116		0.750	"	"	8K25034	11/25/08 14:23	11/28/08 17:00	
Chromium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:15	
Cobalt		"	ND		0.00100	"	"	"	"	"	
Copper		"	ND		0.00100	"	"	"	"	"	
ron		EPA 6010B	0.968		0.150	"	"	8K25034	11/25/08 14:23	11/28/08 17:00	
Lead		EPA 6020	ND		0.00100		"	8K25033	11/25/08 14:20	12/04/08 18:37	
<b>Aagnesium</b>		EPA 6010B	68.2		0.500	"	"	8K25034	11/25/08 14:23	11/26/08 08:51	
Manganese		EPA 6020	0.179		0.0100	"	"	8K25033	11/25/08 14:20	11/28/08 12:15	
Mercury		EPA 7470A	ND		0.000200		"	8K25009	11/25/08 11:02	11/26/08 10:04	
Nickel		EPA 6020	ND		0.00100		"	8K25033	11/25/08 14:20	11/28/08 12:15	
NICKEI											

TestAmerica Seattle







Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

#### **Total Metals by EPA 6000/7000 Series Methods**

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-02	(LMW-4-1108)		Wa	iter		Sam	pled: 11/2	4/08 10:30			
Selenium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:15	
Silver		"	0.00183		0.00100	"	"	"	"	12/01/08 13:40	
Sodium		EPA 6010B	29.5		0.250	"	"	8K25034	11/25/08 14:23	11/26/08 08:51	
Thallium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	12/04/08 18:37	
Vanadium		"	ND		0.00100	"	"	"	"	11/28/08 12:15	
Zinc		"	ND		0.0100	"	"	"	"	"	
						~					
BRK0288-03	(LMW-6-1108)		Wa	iter		Sam	pled: 11/2	4/08 12:40			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K25034	11/25/08 14:23	11/28/08 17:05	
Antimony		EPA 6020	ND		0.00300	"	"	8K25033	11/25/08 14:20	11/28/08 12:20	
Arsenic		"	ND		0.00100	"	"	"	"	"	
Barium		"	0.104		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	26.8		0.750	"	"	8K25034	11/25/08 14:23	11/28/08 17:05	
Chromium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:20	
Cobalt		"	ND		0.00100	"	"	"	"	"	
Copper		"	ND		0.00100	"	"	"	"	"	
Iron		EPA 6010B	2.28		0.150	"	"	8K25034	11/25/08 14:23	11/28/08 17:05	
Lead		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	12/04/08 18:43	
Magnesium		EPA 6010B	10.8		0.500	"	"	8K25034	11/25/08 14:23	11/26/08 08:55	
Manganese		EPA 6020	0.0313		0.0100	"	"	8K25033	11/25/08 14:20	11/28/08 12:20	
Mercury		EPA 7470A	ND		0.000200	"	"	8K25009	11/25/08 11:02	11/26/08 10:06	
Nickel		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:20	
Potassium		EPA 6010B	ND		3.00	"	"	8K25034	11/25/08 14:23	11/26/08 08:55	
Selenium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:20	
Silver		"	0.00132		0.00100	"	"	"	"	12/01/08 13:46	
Sodium		EPA 6010B	7.69		0.250	"	"	8K25034	11/25/08 14:23	11/26/08 08:55	
Thallium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	12/04/08 18:43	
Vanadium		"	ND		0.00100	"	"	"	"	11/28/08 12:20	
Zinc		"	0.0122		0.0100	"	"	"	"	"	

TestAmerica Seattle







Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 09:51

#### Total Metals by EPA 6000/7000 Series Methods

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-04	(LMW-EB-1108)		Wat	ter		Sam	pled: 11/2	24/08 11:00			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K25034	11/25/08 14:23	11/28/08 17:09	
Antimony		EPA 6020	ND		0.00300	"	"	8K25033	11/25/08 14:20	11/28/08 12:26	
Arsenic		"	ND		0.00100	"	"	"	"	"	
Barium		"	ND		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	ND		0.750	"	"	8K25034	11/25/08 14:23	11/28/08 17:09	
Chromium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:26	
Cobalt		"	ND		0.00100	"	"	"	"	"	
Copper		"	ND		0.00100	"	"	"	"	"	
Iron		EPA 6010B	ND		0.150	"	"	8K25034	11/25/08 14:23	11/28/08 17:09	
Lead		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	12/04/08 18:48	
Magnesium		EPA 6010B	ND		0.500	"	"	8K25034	11/25/08 14:23	11/26/08 09:00	
Manganese		EPA 6020	ND		0.0100	"	"	8K25033	11/25/08 14:20	11/28/08 12:26	
Mercury		EPA 7470A	ND		0.000200	"	"	8K25009	11/25/08 11:02	11/26/08 10:17	
Nickel		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:26	
Potassium		EPA 6010B	ND		3.00	"	"	8K25034	11/25/08 14:23	11/26/08 09:00	
Selenium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	11/28/08 12:26	
Silver		"	0.00120		0.00100	"	"	"	"	12/01/08 14:09	
Sodium		EPA 6010B	ND		0.250	"	"	8K25034	11/25/08 14:23	11/26/08 09:00	
Thallium		EPA 6020	ND		0.00100	"	"	8K25033	11/25/08 14:20	12/04/08 18:48	
Vanadium		"	ND		0.00100	"	"	"	"	11/28/08 12:26	
Zinc		"	ND		0.0100	"	"	"	"	"	

TestAmerica Seattle

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Prepared

Analyzed

Notes

Batch



Analyte

Method

Result

Golder Associates Inc.Project Name:Landsburg Mine18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Report Created:Redmond, WA/USA 98052-3333Project Manager:Douglas Morell12/09/08 09:51

#### Organochlorine Pesticides by EPA Method 8081A

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MRL

Units

MDL\*

BRK0288-01 (LMW-2-11	08)	Wa	ter		Sample	d: 11/2	4/08 09:20			
Aldrin	EPA 8081A	ND		0.0476	ug/l	1x	8K25012	11/25/08 11:55	12/02/08 14:57	
alpha-BHC	"	ND		0.0381	"	"	"	"	"	
beta-BHC	"	ND		0.0381	"	"	"	"	"	
delta-BHC [2C]	"	ND		0.0476	"	"	"	"	"	I
gamma-BHC (Lindane)	"	ND		0.0381	"	"	"	"	"	
alpha-Chlordane	"	ND		0.0381	"	"	"	"	"	
gamma-Chlordane	"	ND		0.0381	"	"	"	"	"	
4,4'-DDD	"	ND		0.0381	"	"	"	"	"	
4,4'-DDE	"	ND		0.0762	"	"	"	"	"	
4,4'-DDT	"	ND		0.0762	"	"	"	"	"	
Dieldrin	"	ND		0.0762	"	"	"	"	"	
Endosulfan I	"	ND		0.0190	"	"	"	"	"	
Endosulfan II	"	ND		0.0762	"	"	"	"	"	
Endosulfan sulfate	"	ND		0.0952	"	"	"	"	"	
Endrin	"	ND		0.0762	"	"	"	"	"	L2
Endrin aldehyde	"	ND		0.152	"	"	"	"	"	I
Endrin ketone	"	ND		0.0762	"	"	"	"	"	I
Heptachlor	"	ND		0.0476	"	"	"	"	"	I
Heptachlor epoxide	"	ND		0.0381	"	"	"	"	"	
Methoxychlor [2C]	"	ND		0.476	"	"	"	"	"	
Surrogate(s): TCX			75.5%	10	0 - 120 %	"			"	
Decachlorob	iphenyl [2C]		76.5%	10	0 - 142 %	"			"	
BRK0288-01RE1 (LMW-2-	-1108)	Wa	ter		Sample	d: 11/2	4/08 09:20			Н8
Endrin [2C]	EPA 8081A	ND		0.0769	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 15:22	
Surrogate(s): TCX [2C]			78.1%	10	0 - 120 %	,,				
Decachlorob	. 1 15201				0 - 120 70	"			"	
Decuentoron	ipnenyi [2C]		81.4%		0 - 120 % 0 - 142 %	"			"	
BRK0288-02 (LMW-4-110		Wa			0 - 142 %	"	4/08 10:30		"	
		Wa:		10	0 - 142 %	"	4/08 10:30 8K25012	11/25/08 11:55	12/02/08 15:16	
BRK0288-02 (LMW-4-11	08)		ter	10	0 - 142 % Sample	" d: 11/2		11/25/08 11:55	n	
BRK0288-02 (LMW-4-110 Aldrin	08)	ND	ter	0.0476	0 - 142 %  Sample  ug/l	" d: 11/2	8K25012		n	
BRK0288-02 (LMW-4-110 Aldrin alpha-BHC	08)	ND ND		0.0476 0.0381	0 - 142 %  Sample  ug/l  "	" d: 11/2	8K25012		n	
BRK0288-02 (LMW-4-110 Aldrin alpha-BHC beta-BHC	08)	ND ND ND	 	0.0476 0.0381 0.0381	0 - 142 %  Sample  ug/l  "	" d: 11/2	8K25012		n	I
BRK0288-02 (LMW-4-110 Aldrin alpha-BHC beta-BHC delta-BHC [2C]	08)	ND ND ND	 	0.0476 0.0381 0.0381 0.0476	0 - 142 %  Sample  ug/l " "	" d: 11/2	8K25012		n	I
Aldrin alpha-BHC beta-BHC delta-BHC [2C] gamma-BHC (Lindane)	08)	ND ND ND ND		0.0476 0.0381 0.0381 0.0476 0.0381	0 - 142 %  Sample  ug/l " "	" d: 11/2	8K25012		n	I
Aldrin alpha-BHC beta-BHC delta-BHC [2C] gamma-BHC (Lindane) alpha-Chlordane	08)	ND ND ND ND ND		0.0476 0.0381 0.0476 0.0381 0.0381	0 - 142 %  Sample  ug/l  " " "	" d: 11/2	8K25012		n	I
Aldrin alpha-BHC beta-BHC delta-BHC [2C] gamma-BHC (Lindane) alpha-Chlordane gamma-Chlordane	08)	ND ND ND ND ND ND ND ND ND		0.0476 0.0381 0.0476 0.0381 0.0381 0.0381	0 - 142 %  Sample  ug/l  " " " "	" d: 11/2	8K25012		n	I
Aldrin alpha-BHC beta-BHC delta-BHC [2C] gamma-BHC (Lindane) alpha-Chlordane gamma-Chlordane 4,4'-DDD	08)	ND		0.0476 0.0381 0.0381 0.0476 0.0381 0.0381 0.0381	0 - 142 %  Sample  ug/l  " " " "	" d: 11/2	8K25012		n	L
Aldrin alpha-BHC beta-BHC delta-BHC [2C] gamma-BHC (Lindane) alpha-Chlordane gamma-Chlordane 4,4'-DDD 4,4'-DDE	08)	ND		0.0476 0.0381 0.0381 0.0476 0.0381 0.0381 0.0381 0.0381	0 - 142 %  Sample  ug/l  " " " " "	" d: 11/2	8K25012		n	L

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**Landsburg Mine** 

11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell

Report Created: 12/09/08 09:51

#### Organochlorine Pesticides by EPA Method 8081A

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
<del>-</del>		Wa		NIKE			24/08 10:30	Trepareu	Anaryzeu	rtotes
`	EPA 8081A	ND		0.0762	ug/l	1x	8K25012	11/25/08 11:55	12/02/08 15:16	
Endosulfan II Endosulfan sulfate	EFA 6061A	ND ND		0.0762	ug/i	1X	8K23U12	"	12/02/08 13.10	
Endrin Endrin	"	ND ND		0.0762	,,		,,	,,	"	I
Endrin aldehyde	"	ND ND		0.152	,,		,,	,,	"	
Endrin aldenyde Endrin ketone	"	ND		0.0762	,,		,,	,,	"	
Heptachlor	"	ND		0.0476	"		,,	,,	"	
Heptachlor epoxide	"	ND ND		0.0381	"		"	,,	,,	
Methoxychlor [2C]	"	ND		0.476	"		"	"	"	
			66.5%		10 - 120 %	,,			"	
Surrogate(s): TCX	biphenyl [2C]		74.9%		10 - 120 %	,,			"	
Decacnioro	огрпенуг [2С]		/4.9/0		10 - 142 /0					
BRK0288-02RE1 (LMW-4	l-1108)	Wa	ter		Sampl	led: 11/2	24/08 10:30			Н
Endrin [2C]	EPA 8081A	ND		0.0762	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 15:40	
Surrogate(s): TCX [2C]			76.8%		10 - 120 %	"			"	
	biphenyl [2C]		45.7%		10 - 142 %	"			"	
	1 , 1 ,									
BRK0288-03 (LMW-6-1	108)	Wa	ter		Sampl	led: 11/2	24/08 12:40			
Aldrin	EPA 8081A	ND		0.0476	ug/l	1x	8K25012	11/25/08 11:55	12/02/08 15:36	
alpha-BHC	"	ND		0.0381	"	"	"	"	"	
beta-BHC	"	ND		0.0381	"	"	"	"	"	
delta-BHC [2C]	"	ND		0.0476	"	"	"	"	"	
gamma-BHC (Lindane)	"	ND		0.0381	"	"	"	"	"	
alpha-Chlordane	"	ND		0.0381	"	"	"	"	"	
gamma-Chlordane	"	ND		0.0381	"	"	"	"	"	
4,4'-DDD	"	ND		0.0381	"	"	"	"	"	
4,4'-DDE	"	ND		0.0762	"	"	"	"	"	
4,4'-DDT	"	ND		0.0762	"	"	"	"	"	
Dieldrin	"	ND		0.0762	"	"	"	"	"	
Endosulfan I	"	ND		0.0190	"	"	"	"	"	
Endosulfan II	"	ND		0.0762	"	"	"	"	"	
Endosulfan sulfate	"	ND		0.0952	"	"	"	"	"	
Endrin	"	ND		0.0762	"	"	"	"	"	I
Endrin aldehyde	"	ND		0.152	"	"	"	"	"	
Endrin ketone	"	ND		0.0762	"	"	"	"	"	
Heptachlor	"	ND		0.0476	"	"	"	"	"	
Heptachlor epoxide	"	ND		0.0381	"	"	"	"	"	
	"	ND		0.476	"	"	"	"	"	
Methoxychlor [2C]  Surrogate(s): TCX		<u> </u>	81.1%		10 - 120 %	"			"	

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Golder Associates Inc.

Project Name:

**Landsburg Mine** 

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

Project Number: Project Manager:

923-1000-002-R273 Douglas Morell

Report Created: 12/09/08 09:51

#### Organochlorine Pesticides by EPA Method 8081A

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-03RE1 (	LMW-6-1108)	Wa	ter		Sampl	ed: 11/2	24/08 12:40			Н8
Endrin [2C]	EPA 8081A	ND		0.0755	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 15:58	
Surrogate(s): TC	X [2C]		80.2%		10 - 120 %	"			"	
0 ()	cachlorobiphenyl [2C]		77.1%		10 - 142 %	"			"	
BRK0288-04 (LM	1W-EB-1108)	Wa	ter		Sampl	ed: 11/2	24/08 11:00			
Aldrin	EPA 8081A	ND		0.0476	ug/l	1x	8K25012	11/25/08 11:55	12/02/08 15:54	
alpha-BHC	"	ND		0.0381	"	"	"	"	"	
beta-BHC	"	ND		0.0381	"		"	"	"	
delta-BHC [2C]	"	ND		0.0476	"	"	"	"	"	L
gamma-BHC (Lindane)	"	ND		0.0381	"	"	"	"	"	
alpha-Chlordane	"	ND		0.0381	"		"	"	"	
gamma-Chlordane	"	ND		0.0381	"	"	"	"	"	
4,4'-DDD	"	ND		0.0381	"	"	"	"	"	
4,4'-DDE	"	ND		0.0762	"		"	"	"	
4,4'-DDT	"	ND		0.0762	"	"	"	"	"	
Dieldrin	"	ND		0.0762	"	"	"	"	"	
Endosulfan I	"	ND		0.0190	"		"	"	"	
Endosulfan II	"	ND		0.0762	"		"	"	"	
Endosulfan sulfate	"	ND		0.0952	"		"	"	"	
Endrin	"	ND		0.0762	"	"	"	"	"	L2
Endrin aldehyde	"	ND		0.152	"		"	"	"	L
Endrin ketone	"	ND		0.0762	"		"	"	"	L
Heptachlor	"	ND		0.0476	"	"	"	"	"	L
Heptachlor epoxide	"	ND		0.0381	"	"	"	"	"	
Methoxychlor [2C]	"	ND		0.476	"	"	"	"	"	
Surrogate(s): TC	X		80.9%		10 - 120 %	"			"	
De	cachlorobiphenyl [2C]		71.9%		10 - 142 %	"			"	
BRK0288-04RE1 (	LMW-EB-1108)	Wa	ter		Sampl	ed: 11/2	24/08 11:00			Н8
Endrin [2C]	EPA 8081A	ND		0.0755	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 16:16	
Surrogate(s): TC	X [2C]		78.2%		10 - 120 %	"			n .	
_			co co /		10 1420/					

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 $Decachlorobiphenyl\ \lceil 2C \rceil$ 

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full,  $without \ the \ written \ approval \ of \ the \ laboratory.$ 



69.6%

10 - 142 %





Golder Associates Inc.

**Landsburg Mine** Project Name: 18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Polychlorinated Biphenyls by EPA Method 8082

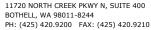
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Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-01	(LMW-2-1108)		Wa	ter		Sampl	ed: 11/2	24/08 09:20			
Aroclor 1016		EPA 8082	ND		0.476	ug/l	1x	8K25012	11/25/08 11:55	11/27/08 18:00	
Aroclor 1221		"	ND		0.476	"	"	"	"	"	
Aroclor 1232		"	ND		0.476	"	"	"	"	"	
Aroclor 1242		"	ND		0.476	"	"	"	"	"	
Aroclor 1248		"	ND		0.476	"	"	"	"	"	
Aroclor 1254		"	ND		0.476	"	"	"	"	"	
Aroclor 1260		"	ND		0.476	"	"	"	"	"	
Aroclor 1262		"	ND		0.476	"	"	"	"	"	
Aroclor 1268		"	ND		0.476	"	"	"	"	"	
Surrogate(s):	TCX			82.7%		36 - 134 %	"			"	
	Decachlorobiphenyl			79.8%		15 - 124 %	"			"	
BRK0288-02	(LMW-4-1108)		Wa	ter		Sample	ed: 11/2	24/08 10:30			
Aroclor 1016		EPA 8082	ND		0.476	ug/l	1x	8K25012	11/25/08 11:55	11/27/08 18:16	
Aroclor 1221		"	ND		0.476	"	"	"	"	"	
Aroclor 1232		"	ND		0.476	"	"	"	"	"	
Aroclor 1242		"	ND		0.476	"	"	"	"	"	
Aroclor 1248		"	ND		0.476	"	"	"	"	"	
Aroclor 1254		"	ND		0.476	"	"	"	"	"	
Aroclor 1260		"	ND		0.476	"	"	"	"	"	
Aroclor 1262		"	ND		0.476	"	"	"	"	"	
Aroclor 1268		"	ND		0.476	"	"	"	"	"	
Surrogate(s):	TCX			95.8%		36 - 134 %	"			"	
3 ()	Decachlorobiphenyl			69.0%		15 - 124 %	"			"	
3RK0288-03	(LMW-6-1108)		Wa	ter		Sample	ed: 11/2	24/08 12:40			
Aroclor 1016		EPA 8082	ND		0.476	ug/l	1x	8K25012	11/25/08 11:55	11/27/08 18:32	
Aroclor 1221		"	ND		0.476	"	"	"	"	"	
Aroclor 1232		"	ND		0.476	"	"	"	"	"	
Aroclor 1242		"	ND		0.476	"	"	"	"	"	
Aroclor 1248		"	ND		0.476	"	"	"	"	"	
Aroclor 1254		"	ND		0.476	"	"	"	"	"	
Aroclor 1260		"	ND		0.476	"	"	"	"	"	
Aroclor 1262		"	ND		0.476	"	"	"	"	"	
Aroclor 1268		"	ND		0.476	"	"	"	"	"	
Surrogate(s):	TCX			83.4%		36 - 134 %	"			"	
	Decachlorobiphenyl			68.1%		15 - 124 %	"			"	

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 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 09:51

# Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-04	(LMW-EB-1108)		Wa	iter		Sampl	led: 11/2	24/08 11:00			
Aroclor 1016		EPA 8082	ND		0.476	ug/l	1x	8K25012	11/25/08 11:55	11/27/08 18:48	
Aroclor 1221		"	ND		0.476	"	"	"	"	"	
Aroclor 1232		"	ND		0.476	"	"	"	"	"	
Aroclor 1242		"	ND		0.476	"	"	"	"	"	
Aroclor 1248		"	ND		0.476	"	"	"	"	"	
Aroclor 1254		"	ND		0.476	"	"	"	"	"	
Aroclor 1260		"	ND		0.476	"	"	"	"	"	
Aroclor 1262		"	ND		0.476	"	"	"	"	"	
Aroclor 1268		"	ND		0.476	"	"	"	"	"	
Surrogate(s):	TCX			81.0%		36 - 134 %	"			"	
	Decachlorobiphenyl			70.2%		15 - 124 %	"			"	

TestAmerica Seattle

Kate Haney, Project Manager





THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

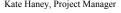
18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-01 (LMW-2-1108)		Wa	iter		Samp	oled: 11/2	24/08 09:20			
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 16:23	
Benzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"		"	"	"	
n-Butylbenzene	"	ND		0.200	"	"	"	"	"	
sec-Butylbenzene	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene	"	ND		0.500	"	"	"	"	"	
Carbon disulfide	"	ND		0.500	"	"	"	"	"	
Carbon tetrachloride	"	ND		0.200			"	"	"	
Chlorobenzene	"	ND		0.200			"	"	"	
Chloroethane	"	ND		1.00			"	"	"	
Chloroform	"	ND		0.200			"		"	
Chloromethane	"	ND		1.00			,,	"	"	
2-Chlorotoluene	"	ND		0.500			,,	"	"	
4-Chlorotoluene	"	ND ND		0.500	,,	,,	,,	,,	"	
Dibromochloromethane	"	ND ND		0.200	,,	,,	,,	,,	"	
	"	ND ND		1.00	,,	,,	,,	,,	"	
1,2-Dibromo-3-chloropropane	,,			0.200			,,	,,	,,	
1,2-Dibromoethane	,,	ND					,,		,,	
Dibromomethane		ND		0.200			,,			
1,2-Dichlorobenzene		ND		0.200			,,			
1,3-Dichlorobenzene		ND		0.200						
1,4-Dichlorobenzene		ND		0.200					"	
Dichlorodifluoromethane		ND		0.500						
1,1-Dichloroethane	"	ND		0.200		"	"	"	"	
1,2-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,1-Dichloroethene	"	ND		0.200	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
1,2-Dichloropropane	"	ND		0.200	"	"	"	"	"	
1,3-Dichloropropane	"	ND		0.200	"	"	"	"	"	
2,2-Dichloropropane	"	ND		0.500	"	"	"	"	"	
1,1-Dichloropropene	"	ND		0.200	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
Ethylbenzene	"	ND		0.200	"	"	"	"	"	
Hexachlorobutadiene	"	ND		2.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND		1.00	"	"	"	"	"	
n-Hexane	"	ND		1.00	"	"	"	"	"	
2-Hexanone	"	ND		2.00	"	"	"	"	"	

TestAmerica Seattle







BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
BRK0288-01 (LMW-2-1108)		Wa	iter		Sampl	ed: 11/2	24/08 09:20			
Isopropylbenzene	EPA 8260B	ND		0.500	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 16:23	
p-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
Methylene chloride	"	ND		2.00	"	"	"	"	"	
Naphthalene	"	ND		2.50	"	"	"	"	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"		"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
Tetrachloroethene	"	ND		0.200	"	"	"	"	"	
Toluene	"	ND		0.200	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND		0.200	"	"	"		"	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"		,,		"	
Trichlorofluoromethane	"	ND		0.500	"	,,	,,		"	
1,2,3-Trichloropropane	"	ND		0.500	,,	,,	,,	,,	"	
	,,	ND ND		0.200	,,		,,	,	"	
1,2,4-Trimethylbenzene	,,	ND ND		0.500	,,	,,	,,		"	
1,3,5-Trimethylbenzene	,,			0.200	,,	,,	,,		"	
Vinyl chloride		ND							,	
o-Xylene		ND		0.250	,,		,,			
m,p-Xylene	,,	ND		0.500	,,				,,	
Total Xylenes		ND		0.750						
Surrogate(s): 1,2-DCA-d4			110%		76 - 138 %	"			"	
Toluene-d8			95.6%		80 - 120 %	"			"	
4-BFB			100%		80 - 120 %	"			"	
BRK0288-02 (LMW-4-1108)		Wa	iter		Sampl	ed: 11/2	24/08 10:30			
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 16:52	
Benzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"		"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"	"	"	,,	"	
n-Butylbenzene	"	ND		0.200	"	,,	,,	"	"	
sec-Butylbenzene	"	ND ND		0.200	,,	,,	,,	"	"	
-	"	ND ND		0.500	,,	,,	,,	,,	"	
tert-Butylbenzene	,,				,,		,,		,	
Carbon disulfide		ND		0.500						
Carbon tetrachloride	"	ND		0.200	"	"	"	"	"	

TestAmerica Seattle







Golder Associates Inc.

Project Name:

**Landsburg Mine** 

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

923-1000-002-R273 Project Number: Project Manager: Douglas Morell

Report Created: 12/09/08 09:51

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-02 (LMW-4-1108)		Wa	nter		Sam	pled: 11/2	24/08 10:30			
Chlorobenzene	EPA 8260B	ND		0.200	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 16:52	
Chloroethane	"	ND		1.00	"	"	"	"	"	
Chloroform	"	ND		0.200	"	"	"	"	"	
Chloromethane	"	ND		1.00	"	"	"	"	"	
2-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
4-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
Dibromochloromethane	"	ND		0.200	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND		1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND		0.200	"	"	"	"	"	
Dibromomethane	"	ND		0.200	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
Dichlorodifluoromethane	"	ND		0.500	"	"	"		"	
1,1-Dichloroethane	"	ND		0.200	"	"	"		"	
1,2-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,1-Dichloroethene	"	ND		0.200	"		"	"	"	
cis-1,2-Dichloroethene	"	ND		0.200	"		"	"	"	
trans-1,2-Dichloroethene	"	ND		0.200	"		"	"	"	
1,2-Dichloropropane	"	ND		0.200	"		,,	"	"	
1,3-Dichloropropane	"	ND		0.200	"		"	"	"	
2,2-Dichloropropane	"	ND		0.500	"		,,	"	"	
1,1-Dichloropropene	"	ND		0.200	"	,,	,,	"	"	
cis-1,3-Dichloropropene	"	ND		0.200	"		,,	"	"	
trans-1,3-Dichloropropene	"	ND		0.200	"	,,	,,	"	"	
Ethylbenzene	"	ND		0.200	,,	,,	,,	,,	"	
Hexachlorobutadiene	"	ND		2.50	"	,,	,,	"	"	
Methyl tert-butyl ether	"	ND		1.00	"	,,	,,		"	
n-Hexane	"	ND		1.00	"		,,		"	
2-Hexanore	"	ND		2.00	"	,,	,,		"	
Isopropylbenzene	"	ND		0.500	"		,,		"	
p-Isopropyltoluene	"	ND		0.200	,,				"	
4-Methyl-2-pentanone	"	ND		2.00	"		,,		"	
Methylene chloride	"	ND		2.00	,,				"	
Naphthalene	"	ND		2.50	,,		,	"	"	
n-Propylbenzene	"	ND ND		0.500	,,	,,		"	"	
Styrene	"	ND ND		0.500	,,	,,		"	"	
1,2,3-Trichlorobenzene	"	ND ND		1.00	,,	,,		"	"	
1,2,4-Trichlorobenzene	"	ND ND		1.00	,,	,,		"	"	
1,1,1,2-Tetrachloroethane	"	ND ND		0.200	,,		,,	,,	"	
	"	ND ND		0.500	,,	,,	,,	,,	"	
1,1,2,2-Tetrachloroethane	"			0.200	,,	,,	,	,,	"	
Tetrachloroethene		ND			,,					
Toluene		ND		0.200	.,	"	"	"	"	

TestAmerica Seattle





BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

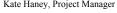
18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-02 (LMW-4-1108)		Wa	iter		Sampl	ed: 11/2	24/08 10:30			
1,1,1-Trichloroethane	EPA 8260B	ND		0.200	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 16:52	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	"	"	"	
Trichlorofluoromethane	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
Vinyl chloride	"	ND		0.200	"	"	"	"	"	
o-Xylene	"	ND		0.250	"	"	"	"	"	
m,p-Xylene	"	ND		0.500	"	"	"	"	"	
Total Xylenes	"	ND		0.750	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			113%		76 - 138 %	"			"	
Toluene-d8			97.4%		80 - 120 %	"			"	
4-BFB			98.0%		80 - 120 %	"			"	
BRK0288-03 (LMW-6-1108)		Wa	iter		Sampl	ed: 11/2	24/08 12:40			
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 17:21	
Benzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"		"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	,,	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"		"	,,	"	
n-Butylbenzene	"	ND		0.200	"	"	"	"	"	
sec-Butylbenzene	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene	"	ND		0.500	"		"	"	"	
Carbon disulfide	"	ND		0.500	"	"	"	"	"	
Carbon tetrachloride	"	ND		0.200	"	"	"	"	"	
Chlorobenzene	"	ND		0.200	"	"	"	"	"	
Chloroethane	"	ND		1.00	"	"	"	"	"	
Chloroform	"	ND		0.200	"	"	"	"	"	
Chloromethane	"	ND		1.00	"	"	"	"	"	
2-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
4-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
Dibromochloromethane	"	ND		0.200	,,	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND		1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND		0.200	,,	"	"	"	"	
Dibromomethane	"	ND		0.200	"	"	"	,,	"	
1,2-Dichlorobenzene	"	ND		0.200	,,	"	"	"	"	
1,3-Dichlorobenzene	"	ND		0.200	"	"	"	,,	"	
1,4-Dichlorobenzene	"	ND ND		0.200	,,	,,	,,	"	"	
1,4-DICHIOLOUGHZCHC		ND		0.200						

TestAmerica Seattle







**Landsburg Mine** 

11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-03 (LMW-6-1108)		Wa	iter		Samp	led: 11/2	4/08 12:40			
Dichlorodifluoromethane	EPA 8260B	ND		0.500	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 17:21	
1,1-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,2-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,1-Dichloroethene	"	ND		0.200	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
1,2-Dichloropropane	"	ND		0.200	"	"	"	"	"	
1,3-Dichloropropane	"	ND		0.200	"	"	"	"	"	
2,2-Dichloropropane	"	ND		0.500	"	"	"	"	"	
1,1-Dichloropropene	"	ND		0.200	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
Ethylbenzene	"	ND		0.200	"	"	"	"	"	
Hexachlorobutadiene	"	ND		2.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND		1.00	"	"	"	"	"	
n-Hexane	"	ND		1.00	"	"	"	"	"	
2-Hexanone	"	ND		2.00	"	"	"	"	"	
Isopropylbenzene	"	ND		0.500	"	"	"	"	"	
p-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
Methylene chloride	"	ND		2.00	"	"	"	"	"	
Naphthalene	"	ND		2.50	"	"	"	"	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
Tetrachloroethene	"	ND		0.200	"	"	"	"	"	
Toluene	"	ND		0.200	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	"	"	"	
Trichlorofluoromethane	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
Vinyl chloride	"	ND		0.200	"	"	"	"	"	
o-Xylene	"	ND		0.250	"	"	"	"	"	
m,p-Xylene	"	ND		0.500	"	"	"	"	"	
Total Xylenes	"	ND		0.750	"	"	"	"	"	

TestAmerica Seattle



Report Created:

12/09/08 09:51



Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell

#### **Volatile Organic Compounds by EPA Method 8260B**

**Landsburg Mine** 

TestAmerica Seattle

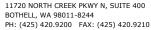
Project Name:

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-03	(LMW-6-1108)		Wa	ter		Sampl	ed: 11/2	24/08 12:40			
	Toluene-d8			95.6%		80 - 120 %	1x			11/28/08 17:21	
	4-BFB			97.8%		80 - 120 %	"			"	
3RK0288-04	(LMW-EB-1108)		Wa	ter		Sampl	ed: 11/2	24/08 11:00			
Acetone		EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 17:50	
Benzene		"	ND		0.200	"	"	"	"	"	
Bromobenzene		"	ND		0.500	"	"	"	"	"	
Bromochlorometh	iane	"	ND		0.250	"	"	"	"	"	
Bromodichlorome	ethane	"	ND		0.200	"	"	"	"	"	
Bromoform		"	ND		0.250	"	"	"	"	"	
Bromomethane		"	ND		2.00	"	"	"	"	"	
2-Butanone		"	ND		2.00	"	"	"	"	"	
-Butylbenzene		"	ND		0.200	"	"	"	"	"	
ec-Butylbenzene		"	ND		0.200	"	"	"	"	"	
ert-Butylbenzene		"	ND		0.500	"		"	"	"	
Carbon disulfide		"	ND		0.500	"		"	"	"	
arbon tetrachlori	ide	"	ND		0.200	"				"	
Chlorobenzene	ido	"	ND		0.200	"				"	
Chloroethane		"	ND		1.00	,,	,,		"	"	
Chloroform		**	0.360		0.200	"		"	"	,,	
Chloromethane		,,	0.300 ND		1.00	,,	.,	,,	,,	,,	
		,,			0.500	,,	.,	,,	,,	,,	
-Chlorotoluene		,,	ND		0.500	,,		,,	,,	,,	
-Chlorotoluene	a		ND								
Dibromochlorome			ND		0.200						
,2-Dibromo-3-ch			ND		1.00	,,					
,2-Dibromoethan	ne	"	ND		0.200	"		"	"	"	
Dibromomethane			ND		0.200						
,2-Dichlorobenze		"	ND		0.200	"	"	"	"	"	
,3-Dichlorobenze	ene	"	ND		0.200	"	"	"	"	"	
,4-Dichlorobenze		"	ND		0.200	"	"	"	"	"	
Dichlorodifluoron		"	ND		0.500	"	"	"	"	"	
,1-Dichloroethan		"	ND		0.200	"	"	"	"	"	
,2-Dichloroethan	ie	"	ND		0.200	"	"	"	"	"	
,1-Dichloroethen	ie	"	ND		0.200	"	"	"	"	"	
is-1,2-Dichloroet	thene	"	ND		0.200	"	"	"	"	"	
ans-1,2-Dichloro	oethene	"	ND		0.200	"	"	"	"	"	
,2-Dichloropropa	ane	"	ND		0.200	"	"	"	"	"	
,3-Dichloropropa	ane	"	ND		0.200	"	"	"	"	"	
,2-Dichloropropa	ane	"	ND		0.500	"	"	"	"	"	
,1-Dichloroprope	ene	"	ND		0.200	"	"	"	"	"	
is-1,3-Dichloropi	ropene	"	ND		0.200	"	"	"	"	"	
rans-1,3-Dichloro		"	ND		0.200	"	"	"		"	

TestAmerica Seattle









Golder Associates Inc.

Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 09:51

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL U	Jnits	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-04 (LMW-EB-1108)		Wa	ter		Sampl	ed: 11/2	4/08 11:00			
Ethylbenzene	EPA 8260B	ND		0.200	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 17:50	
Hexachlorobutadiene	"	ND		2.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND		1.00	"	"	"	"	"	
n-Hexane	"	ND		1.00	"	"	"	"	"	
2-Hexanone	"	ND		2.00	"	"	"	"	"	
Isopropylbenzene	"	ND		0.500	"	"	"	"	"	
p-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
Methylene chloride	"	ND		2.00	"	"	"	"	"	
Naphthalene	"	ND		2.50	"	"	"	"	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
Tetrachloroethene	"	ND		0.200	"	"	"	"	"	
Toluene	"	0.520		0.200	"	"	"	"	m m	
1,1,1-Trichloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	"	"	"	
Trichlorofluoromethane	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
Vinyl chloride	"	ND		0.200	"	"	"	"	"	
o-Xylene	"	ND		0.250	"	"	"	"	"	
m,p-Xylene	"	ND		0.500	"	"	"	"	"	
Total Xylenes	"	ND		0.750	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			114%	7	6 - 138 %	"			"	
Toluene-d8			97.6%	8	0 - 120 %	"			"	
4-BFB			96.4%	8	0 - 120 %	"			"	

TestAmerica Seattle

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**Landsburg Mine** 

11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-05 (Trip Blank)		Wa	iter		Samj	pled: 11/2	24/08 15:00			
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 18:18	
Benzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"	"	"	"	"	
n-Butylbenzene	"	ND		0.200	"	"	"	"	"	
sec-Butylbenzene	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene	"	ND		0.500	"	"	"	"	"	
Carbon disulfide	"	ND		0.500	"	"	"	"	"	
Carbon tetrachloride	"	ND		0.200	"	"	"	"	"	
Chlorobenzene	"	ND		0.200	"	"	"	"	"	
Chloroethane	"	ND		1.00	"	"	"	"	"	
Chloroform	"	ND		0.200	"	"	"	"	"	
Chloromethane	"	ND		1.00	"	"	"	"	"	
2-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
4-Chlorotoluene	"	ND		0.500	"	"	,,	"	"	
Dibromochloromethane	"	ND		0.200	"	"	,,	"	"	
1,2-Dibromo-3-chloropropane	"	ND		1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND		0.200	"	"	"	"	"	
Dibromomethane	"	ND		0.200	"	"	,,	"	"	
1,2-Dichlorobenzene	"	ND		0.200	"	"	,,	"	"	
1,3-Dichlorobenzene	"	ND		0.200		"	,,	"	"	
1,4-Dichlorobenzene	"	ND		0.200	,,	"	"	"	"	
Dichlorodifluoromethane	"	ND		0.500		"	,,	"	"	
1,1-Dichloroethane	"	ND		0.200	,,	"	"	"	"	
1,2-Dichloroethane	"	ND		0.200	,,		"		"	
1,1-Dichloroethene	"	ND		0.200		,,	"	"	"	
cis-1,2-Dichloroethene	"	ND		0.200	,,	,,	"	,,	"	
trans-1,2-Dichloroethene	"	ND		0.200	,,	,,	"	,,	"	
1,2-Dichloropropane	"	ND		0.200	,,	,,	"	,,	"	
1,3-Dichloropropane	"	ND		0.200	,,	,,	"	,,	"	
2,2-Dichloropropane		ND		0.500		,,	,,		"	
1,1-Dichloropropene		ND ND		0.200		,,	,,		"	
cis-1,3-Dichloropropene		ND ND		0.200		,,	,,		"	
trans-1,3-Dichloropropene		ND ND		0.200		,,	,,	"	"	
Ethylbenzene		ND ND		0.200		,,	,,	"	"	
Hexachlorobutadiene		ND ND		2.50		,,	,,	"	"	
Methyl tert-butyl ether		ND ND		1.00		,,	,,	"	"	
n-Hexane		ND ND		1.00		,,	,,	"	"	
п-пехапе		ND		1.00						

TestAmerica Seattle





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc.

Project Name:

**Landsburg Mine** 

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

923-1000-002-R273 Project Number: Project Manager: Douglas Morell

Report Created: 12/09/08 09:51

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-05 (Trip Blank)		Wa	ter		Sampl	ed: 11/2	24/08 15:00			
Isopropylbenzene	EPA 8260B	ND		0.500	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 18:18	
p-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
Methylene chloride	"	ND		2.00	"	"	"	"	"	
Naphthalene	"	ND		2.50	"	"	"	"	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
Tetrachloroethene	"	ND		0.200	"	"	"	"	"	
Toluene	"	ND		0.200	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND		0.200	"	"	"	"	•	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	"	"	•	
Trichlorofluoromethane	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
Vinyl chloride	"	ND		0.200	"	"	"	"	"	
o-Xylene	"	ND		0.250	"	"	"	"	"	
m,p-Xylene	"	ND		0.500	"	"	"	"	"	
Total Xylenes	"	ND		0.750	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			117%		76 - 138 %	"			"	
Toluene-d8			97.2%		80 - 120 %	"			"	
4-BFB			95.6%		80 - 120 %	"			"	

TestAmerica Seattle







Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-01 (LMW-2-1108)		Wa	iter		Sam	pled: 11/2	24/08 09:20			
Acenaphthene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 15:16	
Acenaphthylene	"	ND		9.43	"	"	"	"	"	
Aniline	"	ND		9.43	"	"	"	"	"	
Anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.43	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.43	"	"	"	"	"	
Benzoic Acid	"	ND		18.9	"	"	"	"	"	
Benzyl alcohol	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.43	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.43	"	"	"	"	"	
Carbazole	"	ND		9.43	"	"	"	"	"	
4-Chloroaniline	"	ND		9.43	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.43	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.43	"	"	"	"	"	
2-Chlorophenol	"	ND		9.43	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.43	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.43	"	"	"	"	"	
Chrysene	"	ND		9.43	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.43	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.43	"	"	"	"	"	
Dibenzofuran	"	ND		9.43	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.43	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.43	"	,,	"	"	"	
Diethyl phthalate	"	ND		9.43	"	,,	"	"	"	
2,4-Dimethylphenol	"	ND		9.43	"	,,	"	"	"	
Dimethyl phthalate	"	ND		9.43	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.43	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		18.9	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND		9.43	"	"	"	"	"	
Fluoranthene	,,	ND		9.43	"	"	"	,,	"	
Tuoranulene		ND		7.43						

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-01 (	LMW-2-1108)		Wa	ter		Sampl	ed: 11/2	24/08 09:20			
Fluorene		EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 15:16	
Hexachlorobenzene		"	ND		9.43	"	"	"	"	"	
Hexachlorobutadiene	e	"	ND		9.43	"	"	"	"	"	
Hexachlorocyclopent	tadiene	"	ND		9.43	"	"	"	"	"	
Hexachloroethane		"	ND		9.43	"	"	"	"	"	
Indeno (1,2,3-cd) pyr	rene	"	ND		9.43	"	"	"	"	"	
Isophorone		"	ND		9.43	"	"	"	"	"	
1-Methylnaphthalene	e	"	ND		9.43	"	"	"	"	"	
2-Methylnaphthalene	2	"	ND		9.43	"	"	"	"	"	
Naphthalene		"	ND		9.43	"	"	"	"	"	
2-Nitroaniline		"	ND		9.43	"	"	"	"	"	
3-Nitroaniline		"	ND		9.43	"	"	"	"	"	
4-Nitroaniline		"	ND		9.43	"	"	"	"	"	
Nitrobenzene		"	ND		9.43	"	"	"	"	"	
2-Nitrophenol		"	ND		9.43	"	"	"	"	"	
4-Nitrophenol		"	ND		9.43	"	"	"	"	"	
N-Nitrosodi-n-propyl	lamine	"	ND		9.43	"	"	"	"	"	
Di-n-octyl phthalate		"	ND		9.43	"	"	"	"	"	
Pentachlorophenol		"	ND		9.43	"	"	"	"	"	
Phenanthrene		"	ND		9.43	"	"	"	"	"	
Phenol		"	ND		9.43	"	"	"	"	"	
Pyrene		"	ND		9.43	"	"	"	"	"	
1,2,4-Trichlorobenze	ene	"	ND		9.43	"	"	"	"	"	
2,4,5-Trichloropheno	ol	"	ND		9.43	"	"	"	"	"	
2,4,6-Trichloropheno	ol	"	ND		9.43	"	"	"	"	"	
Surrogate(s):	2-FBP			78.7%		44 - 120 %	"			"	
	2-FP			69.2%		16 - 120 %	"			"	
	Nitrobenzene-d5			78.2%		38 - 120 %	"			"	
	Phenol-d6			68.9%		16 - 120 %	"			"	
	p-Terphenyl-d14			65.3%		24 - 146 %	"			"	
	2,4,6-TBP			73.8%		32 - 135 %	"			"	

TestAmerica Seattle







Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-02 (LMW-4-1108)		Wa	iter		Sam	pled: 11/2	4/08 10:30			
Acenaphthene	EPA 8270C	ND		9.52	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 15:40	
Acenaphthylene	"	ND		9.52	"	"	"	"	"	
Aniline	"	ND		9.52	"	"	"	"	"	
Anthracene	"	ND		9.52	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.52	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.52	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.52	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.52	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.52	"	"	"	"	"	
Benzoic Acid	"	ND		19.0	"	"	"	"	"	
Benzyl alcohol	"	ND		9.52	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.52	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.52	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.52	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.52	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.52	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.52	"	"	"	"	"	
Carbazole	"	ND		9.52	"	"	"	"	"	
4-Chloroaniline	"	ND		9.52	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.52	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.52	"	"	"	"	"	
2-Chlorophenol	"	ND		9.52	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.52	,,	,,	"		"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.52	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.52	"	"	"	,,	"	
Chrysene	"	ND		9.52	,,	,,	"		"	
Di-n-butyl phthalate	"	ND		9.52	"	"	"	,,	"	
Dibenz (a,h) anthracene	"	ND		9.52	"	"	"	,,	"	
Dibenzofuran	"	ND		9.52	"	,,	"	"	,,	
1,2-Dichlorobenzene	"	ND		9.52	,,	,,	"		"	
1,3-Dichlorobenzene	"	ND		9.52	"		"	,,	"	
1,4-Dichlorobenzene	"	ND		9.52	,,	,,	"	"	,,	
3,3'-Dichlorobenzidine	"	ND		9.52	"		"	,,	"	
2,4-Dichlorophenol	"	ND		9.52	,,	,,	"	"	"	
Diethyl phthalate	"	ND		9.52	,,	,,	"	"	"	
2,4-Dimethylphenol	"	ND		9.52	,,	,,	"	"	"	
Dimethyl phthalate	"	ND		9.52	,,	,,	,,	"	"	
4,6-Dinitro-2-methylphenol	"	ND ND		9.52	,,		,,	"	"	
2,4-Dinitrophenol	"	ND		19.0	,,	,,	"		,,	
2,4-Dinitrotoluene	"	ND ND		9.52	,,		,,	"	"	
2,6-Dinitrotoluene	"	ND ND		9.52	,,	,	,,	"	"	
· ·	"	ND ND		9.52	,,	,	,,	"	"	
N-Nitrosodiphenylamine	,,	ND ND		9.52	,,	,,	,,	,,	"	
Fluoranthene		ND		9.32						

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Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 09:51

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-02 (LMW-4-1108)		Wa	iter		Sample	ed: 11/2	24/08 10:30			
Fluorene	EPA 8270C	ND		9.52	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 15:40	
Hexachlorobenzene	"	ND		9.52	"	"	"	"	"	
Hexachlorobutadiene	"	ND		9.52	"	"	"	"	"	
Hexachlorocyclopentadiene	"	ND		9.52	"	"	"	"	"	
Hexachloroethane	"	ND		9.52	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND		9.52	"	"	"	"	"	
Isophorone	"	ND		9.52	"	"	"	"	"	
1-Methylnaphthalene	"	ND		9.52	"	"	"	"	"	
2-Methylnaphthalene	"	ND		9.52	"	"	"	"	"	
Naphthalene	"	ND		9.52	"	"	"	"	"	
2-Nitroaniline	"	ND		9.52	"	"	"	"	"	
3-Nitroaniline	"	ND		9.52	"	"	"	"	"	
4-Nitroaniline	"	ND		9.52	"	"	"	"	"	
Nitrobenzene	"	ND		9.52	"	"	"	"	"	
2-Nitrophenol	"	ND		9.52	"	"	"	"	"	
4-Nitrophenol	"	ND		9.52	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND		9.52	"	"	"	"	"	
Di-n-octyl phthalate	"	ND		9.52	"	"	"	"	"	
Pentachlorophenol	"	ND		9.52	"	"	"	"	"	
Phenanthrene	"	ND		9.52	"	"	"	"	"	
Phenol	"	ND		9.52	"	"	"	"	"	
Pyrene	"	ND		9.52	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		9.52	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND		9.52	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND		9.52	"	"	"	"	"	
Surrogate(s): 2-FBP			74.5%		44 - 120 %	"			"	
2-FP			64.7%		16 - 120 %	"			"	
Nitrobenzene-d5			73.3%		38 - 120 %	"			"	
Phenol-d6			64.1%		16 - 120 %	"			"	
p-Terphenyl-d14			59.1%		24 - 146 %	"			"	
2,4,6-TBP			70.0%		32 - 135 %	"			"	

TestAmerica Seattle

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-03 (LMW-6-1108)		Wa	iter		Sam	pled: 11/2	24/08 12:40			
Acenaphthene	EPA 8270C	ND		9.52	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 16:05	
Acenaphthylene	"	ND		9.52	"	"	"	"	"	
Aniline	"	ND		9.52	"	"	"	"	"	
Anthracene	"	ND		9.52	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.52	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.52	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.52	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.52	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.52	"	"	"	"	"	
Benzoic Acid	"	ND		19.0	"	"	"	"	"	
Benzyl alcohol	"	ND		9.52	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.52	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.52	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.52	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.52	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.52	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.52	"	"	"	"	"	
Carbazole	"	ND		9.52	"	"	"	"	"	
4-Chloroaniline	"	ND		9.52	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.52	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.52	"	"	"	"	"	
2-Chlorophenol	"	ND		9.52	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.52	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.52	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.52	"	"	"	"	"	
Chrysene	"	ND		9.52	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.52	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.52	"	"	"	"	"	
Dibenzofuran	"	ND		9.52	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.52	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.52	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.52	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.52	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.52	"	,,	"	"	"	
Diethyl phthalate	"	ND		9.52	"	,,	"	"	"	
2,4-Dimethylphenol	"	ND		9.52	"	,,	"	"	"	
Dimethyl phthalate	"	ND		9.52	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.52	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		19.0	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND		9.52	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND		9.52	"	"	"	,,	"	
N-Nitrosodiphenylamine	"	ND		9.52	"	"	"	,,	"	
Fluoranthene	,,	ND ND		9.52		"	"		,,	
Tuorandictic		ND		1.52						

TestAmerica Seattle





 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 09:51

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-03 (	LMW-6-1108)		Wa	iter		Sample	ed: 11/2	24/08 12:40			
Fluorene		EPA 8270C	ND		9.52	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 16:05	
Hexachlorobenzene		"	ND		9.52	"	"	"	"	"	
Hexachlorobutadiene	e	"	ND		9.52	"	"	"	"	"	
Hexachlorocyclopent	tadiene	"	ND		9.52	"	"	"	"	"	
Hexachloroethane		"	ND		9.52	"	"	"	"	"	
Indeno (1,2,3-cd) pyr	rene	"	ND		9.52	"	"	"	"	"	
Isophorone		"	ND		9.52	"	"	"	"	"	
1-Methylnaphthalene	e	"	ND		9.52	"	"	"	"	"	
2-Methylnaphthalene	2	"	ND		9.52	"	"	"	"	"	
Naphthalene		"	ND		9.52	"	"	"	"	"	
2-Nitroaniline		"	ND		9.52	"	"	"	"	"	
3-Nitroaniline		"	ND		9.52	"	"	"	"	"	
4-Nitroaniline		"	ND		9.52	"	"	"	"	"	
Nitrobenzene		"	ND		9.52	"	"	"	"	"	
2-Nitrophenol		"	ND		9.52	"	"	"	"	"	
4-Nitrophenol		"	ND		9.52	"	"	"	"	"	
N-Nitrosodi-n-propyl	lamine	"	ND		9.52	"	"	"	"	"	
Di-n-octyl phthalate		"	ND		9.52	"	"	"	"	"	
Pentachlorophenol		"	ND		9.52	"	"	"	"	"	
Phenanthrene		"	ND		9.52	"	"	"	"	"	
Phenol		"	ND		9.52	"	"	"	"	"	
Pyrene		"	ND		9.52	"	"	"	"	"	
1,2,4-Trichlorobenze	ene	"	ND		9.52	"	"	"	"	"	
2,4,5-Trichloropheno	ol	"	ND		9.52	"	"	"	"	"	
2,4,6-Trichloropheno	ol	"	ND		9.52	"	"	"	"	"	
Surrogate(s):	2-FBP			77.0%		44 - 120 %	"			"	
	2-FP			66.3%		16 - 120 %	"			"	
	Nitrobenzene-d5			74.5%		38 - 120 %	"			"	
	Phenol-d6			64.8%		16 - 120 %	"			"	
	p-Terphenyl-d14			64.7%		24 - 146 %	"			"	
	2,4,6-TBP			49.3%		32 - 135 %	"			"	

TestAmerica Seattle

Kate Haney, Project Manager







Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-04 (LMW-EB-1108)		Wa	iter		Sam	pled: 11/2	24/08 11:00			
Acenaphthene	EPA 8270C	ND		9.52	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 16:30	
Acenaphthylene	"	ND		9.52	"	"	"	"	"	
Aniline	"	ND		9.52	"	"	"	"	"	
Anthracene	"	ND		9.52	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.52	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.52	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.52	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.52	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.52	"	"	"	"	"	
Benzoic Acid	"	ND		19.0	"	"	"	"	"	
Benzyl alcohol	"	ND		9.52	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.52	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.52	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.52	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.52	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.52	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.52	"	"	"	"	"	
Carbazole	"	ND		9.52	"	"	"	"	"	
4-Chloroaniline	"	ND		9.52	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.52	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.52	"	"	"	"	"	
2-Chlorophenol	"	ND		9.52	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.52	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.52	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.52	"	"	"	"	"	
Chrysene	"	ND		9.52	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.52	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.52	"	"	"	"	"	
Dibenzofuran	"	ND		9.52	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.52	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.52	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.52	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.52	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.52	"	"	"	"	"	
Diethyl phthalate	"	ND		9.52	"	"	"	"	"	
2,4-Dimethylphenol	"	ND		9.52	"	"	"	"	"	
Dimethyl phthalate	"	ND		9.52	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.52	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		19.0	"	"	"	"	"	
2,4-Dinitrotoluene		ND		9.52	"	"	"	"	"	
2,6-Dinitrotoluene		ND		9.52	"	"	"	"	"	
N-Nitrosodiphenylamine		ND		9.52	"	"	"	"	"	
Fluoranthene	"	ND		9.52	,,		,,			

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Golder Associates Inc. **Landsburg Mine** Project Name:

Report Created: 18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

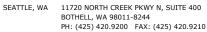
# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0288-04 (LMW-EB-1108)		Wa	ter		Sample	ed: 11/2	24/08 11:00			
Fluorene	EPA 8270C	ND		9.52	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 16:30	
Hexachlorobenzene	"	ND		9.52	"	"	"	"	"	
Hexachlorobutadiene	"	ND		9.52	"	"	"	"	"	
Hexachlorocyclopentadiene	"	ND		9.52	"	"	"	"	"	
Hexachloroethane	"	ND		9.52	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND		9.52	"	"	"	"	"	
Isophorone	"	ND		9.52	"	"	"	"	"	
1-Methylnaphthalene	"	ND		9.52	"	"	"	"	"	
2-Methylnaphthalene	"	ND		9.52	"	"	"	"	"	
Naphthalene	"	ND		9.52	"	"	"	"	"	
2-Nitroaniline	"	ND		9.52	"	"	"	"	"	
3-Nitroaniline	"	ND		9.52	"	"	"	"	"	
4-Nitroaniline	"	ND		9.52	"	"	"	"	"	
Nitrobenzene	"	ND		9.52	"	"	"	"	"	
2-Nitrophenol	"	ND		9.52	"	"	"	"	"	
4-Nitrophenol	"	ND		9.52	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND		9.52	"	"	"	"	"	
Di-n-octyl phthalate	"	ND		9.52	"	"	"	"	"	
Pentachlorophenol	"	ND		9.52	"	"	"	"	"	
Phenanthrene	"	ND		9.52	"	"	"	"	"	
Phenol	"	ND		9.52	"	"	"	"	"	
Pyrene	"	ND		9.52	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		9.52	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND		9.52	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND		9.52	"	"	"	"	"	
Surrogate(s): 2-FBP			71.0%		44 - 120 %	"			"	
2-FP			61.2%		16 - 120 %	"			"	
Nitrobenzene-d5			71.1%		38 - 120 %	"			"	
Phenol-d6			60.7%		16 - 120 %	"			"	
p-Terphenyl-d14			58.7%		24 - 146 %	"			"	
2,4,6-TBP			50.8%		32 - 135 %	"			"	

TestAmerica Seattle







THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

# Hydrocarbon Identification by Washington DOE Method NWTPH-HCID - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25014	Water P	reparation	Method: El	PA 3520C										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K25014-BLK1)								Ext	racted:	11/25/08 11	:56			
Gx Range Hydrocarbons	NWTPH-HCI D	ND		0.250	mg/l	1x							11/26/08 15:50	
Kerosene Range Hydrocarbons	"	ND		0.630	"	"							"	
Diesel Range Hydrocarbons	"	ND		0.630	"	"							"	
Insulating Oil Range Hydrocarbons	"	ND		0.630	"	"							"	
Heavy Fuel Oil Range Hydrocarbons	"	ND		0.630	"	"							"	
Lube Oil Range Hydrocarbons	"	ND		0.630	"	"							"	
Surrogate(s): 2-FBP		Recovery:	118%	Lin	nits: 50-150%	"							11/26/08 15:50	
Octacosane			92.0%		50-150%	"							"	
LCS (8K25014-BS1)								Ext	racted:	11/25/08 11	:56			
Diesel Range Hydrocarbons	NWTPH-HCI D	DET		0.630	mg/l	1x		2.00	83.8%	(58-125)			11/26/08 16:12	
Lube Oil Range Hydrocarbons	,	DET		0.630	"	"		"	89.7%	(60-140)			"	
Surrogate(s): 2-FBP		Recovery:	116%	Lin	nits: 50-150%	"							11/26/08 16:12	
Octacosane			91.4%		50-150%	"							"	
LCS Dup (8K25014-BSD1)								Ext	racted:	11/25/08 11	:56			
Diesel Range Hydrocarbons	NWTPH-HCI D	DET		0.630	mg/l	1x		2.00	89.2%	(58-125)	6.18%	6 (40)	11/26/08 16:34	
Lube Oil Range Hydrocarbons	"	DET		0.630	"	"		"	92.2%	(60-140)	2.77%	ó "	"	
Surrogate(s): 2-FBP		Recovery:	131%	Lin	nits: 50-150%	"							11/26/08 16:34	
Octacosane			94.7%		50-150%	"							"	

TestAmerica Seattle





Golder Associates Inc. Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

**Landsburg Mine** 

	Total Metal	s by EPA 60				Labora	tory Qu	ality Co	ntro	l Results	1			
				TestAmeric	ca Seattle									
QC Batch: 8K25009	Water P	reparation M	lethod: E	CPA 7470A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8K25009-BLK1)								Extra	cted:	11/25/08 11	:02			
Mercury	EPA 7470A	ND		0.000200	mg/l	1x							11/26/08 09:44	
Blank (8K25009-BLK2)								Extra	cted:	11/25/08 11	:02			
Mercury	EPA 7470A	ND		0.000200	mg/l	1x							11/26/08 09:46	
LCS (8K25009-BS1)								Extra	cted:	11/25/08 11	:02			
Mercury	EPA 7470A	0.00492		0.000200	mg/l	1x		0.00500	98.4%	(80-120)			11/26/08 09:49	
LCS Dup (8K25009-BSD1)								Extra	cted:	11/25/08 11	:02			
Mercury	EPA 7470A	0.00501		0.000200	mg/l	1x		0.00500	100%	(80-120)	1.92%	(20)	11/26/08 09:51	
Matrix Spike (8K25009-MS1)				QC Source:	BRK0288-	-01		Extra	cted:	11/25/08 11	:02			
Mercury	EPA 7470A	0.00483		0.000200	mg/l	1x	ND	0.00500	96.6%	(75-125)			11/26/08 09:54	
Matrix Spike (8K25009-MS2)				QC Source:	BRK0273-	01		Extra	cted:	11/25/08 11	:02			
Mercury	EPA 7470A	0.00521		0.000200	mg/l	1x		0.00500	104%	(75-125)			11/26/08 09:59	
Matrix Spike Dup (8K25009-MS	D1)			QC Source:	BRK0288-	-01		Extra	cted:	11/25/08 11	:02			
Mercury	EPA 7470A	0.00500		0.000200	mg/l	1x	ND	0.00500	99.9%	(75-125)	3.43%	(20)	11/26/08 09:56	

QC Batch: 8K25033	Water P	reparation M	ethod: E	PA 3020A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K25033-BLK1)								Extr	acted:	11/25/08 14	:20			
Selenium	EPA 6020	ND		0.00100	mg/l	1x							11/28/08 10:35	
Cadmium	"	ND		0.00100	"	"							"	
Zinc	"	ND		0.0100	"	"							"	
Cobalt	"	ND		0.00100	"	"							"	
Lead	"	ND		0.00100	"	"							12/04/08 17:50	
Vanadium	"	ND		0.00100	"	"							11/28/08 10:35	
Manganese	"	ND		0.0100	"	"							"	
Antimony	"	ND		0.00300	"	"							"	
Silver	"	ND		0.00100	"	"							12/01/08 12:19	
Thallium	"	ND		0.00100	"	"							12/04/08 17:50	
Copper	"	ND		0.00100	"	"							11/28/08 10:35	
Nickel	"	ND		0.00100	"	"							12/01/08 12:19	
Arsenic	"	ND		0.00100	"	"							11/28/08 10:35	
Beryllium	"	ND		0.00100	"	"							"	

TestAmerica Seattle





 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 09:51

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25033	Water P	reparation M	lethod: E	PA 3020A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K25033-BLK1)								Extr	acted:	11/25/08 14	:20			
Chromium	EPA 6020	ND		0.00100	mg/l	1x							11/28/08 10:35	
Barium	"	ND		0.0100	"	"							"	
LCS (8K25033-BS1)								Extr	acted:	11/25/08 14	:20			
Cadmium	EPA 6020	0.0732		0.00100	mg/l	1x		0.0800	91.5%	(80-120)			11/28/08 11:11	
Cobalt	"	0.0754		0.00100	"	"		"	94.3%	"			"	
Zinc	"	0.0781		0.0100	"	"		"	97.6%	"			"	
Silver	"	0.0820		0.00100	"	"		"	102%	"			12/01/08 13:28	
Barium	"	0.0754		0.0100	"	"		"	94.2%	"			11/28/08 11:11	
Arsenic	"	0.0763		0.00100	"	"		"	95.4%	"			"	
Beryllium	"	0.0748		0.00100	"	"		"	93.5%	"			"	
Manganese	"	0.0758		0.0100	"	"		"	94.7%	"			"	
Copper	"	0.0768		0.00100	"	"		"	96.0%	"			"	
Chromium	"	0.0756		0.00100	"	"		"	94.5%	"			"	
Thallium	"	0.0827		0.00100	"	"		"	103%	"			12/04/08 18:14	
Lead	"	0.0813		0.00100	"	"		"	102%	"			"	
Antimony	"	0.0564		0.00300	"	"		0.0600	94.0%	"			11/28/08 11:11	
Selenium	"	0.0761		0.00100	"	"		0.0800	95.2%	"			"	
Vanadium	"	0.0754		0.00100	"	"		"	94.2%	"			"	
Nickel	"	0.0753		0.00100	"	"		"	94.1%	"			"	
Duplicate (8K25033-DUP1)				QC Source:	BRK0288-	01		Extr	acted:	11/25/08 14	:20			
Antimony	EPA 6020	ND		0.00300	mg/l	1x	ND					(20)	11/28/08 11:28	
Thallium	"	ND		0.00100	"	"	ND				NR	"	12/04/08 18:25	
Copper	"	ND		0.00100	"	"	ND				14.4%	"	11/28/08 11:28	
Nickel	"	ND		0.00100	"	"	ND				11.9%	"	"	
Chromium	"	ND		0.00100	"	"	ND				NR	"	"	
Beryllium	"	ND		0.00100	"	"	ND				NR	"	"	
Silver	"	0.00207		0.00100	"	"	ND					"	12/01/08 13:34	
Selenium	"	ND		0.00100	"	"	ND				11.2%	"	11/28/08 11:28	
Manganese	"	0.219		0.0100	"	"	0.220				0.774%		"	
Lead	"	ND		0.00100	"	"	ND				NR		12/04/08 18:25	
Barium	"	0.311		0.0100	"	"	0.313				0.706%	"	11/28/08 11:28	
Zine	"	ND		0.0100	"	"	ND				NR	"	"	
Cadmium	"	ND		0.00100	"	"	ND				NR	"	"	
Vanadium	"	ND		0.00100	"	"	ND					"	"	
Cobalt	"	ND		0.00100	"	"	ND					"	"	

TestAmerica Seattle

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Kate Haney, Project Manager





 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 09:51

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25033	Water P	reparation M	ethod: E	PA 3020A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (8K25033-MS1)				QC Source:	BRK0288-	)1		Extr	acted:	11/25/08 14	:20			
Chromium	EPA 6020	0.0763		0.00100	mg/l	1x	ND	0.0800	95.4%	(75-125)			11/28/08 11:22	
Zinc	"	0.0783		0.0100	"	"	ND	"	97.9%	"			"	
Cobalt	"	0.0738		0.00100	"	"	ND	"	92.3%	"			"	
Vanadium	"	0.0786		0.00100	"	"	ND	"	98.2%	"			"	
Copper	"	0.0735		0.00100	"	"	0.000580	"	91.2%	"			"	
Cadmium	"	0.0768		0.00100	"	"	ND	"	96.0%	"			"	
Nickel	"	0.0728		0.00100	"	"	0.000790	"	90.1%	"			"	
Arsenic	"	0.0783		0.00100	"	"	ND	"	97.9%	"			"	
Antimony	"	0.0606		0.00300	"	"	ND	0.0600	101%	"			"	
Thallium	"	0.0787		0.00100	"	"	ND	0.0800	98.3%	"			12/04/08 18:19	
Lead	"	0.0767		0.00100	"	"	ND	"	95.9%	"			"	
Manganese	"	0.292		0.0100	"	"	0.220	"	89.9%	"			11/28/08 11:22	
Silver	"	0.0747		0.00100	"	"	ND	"	93.4%	"			12/01/08 13:23	
Beryllium	"	0.0762		0.00100	"	"	ND	"	95.3%	"			11/28/08 11:22	
Selenium	"	0.0665		0.00100	"	"	0.000660	"	82.3%	"			"	
Matrix Spike (8K25033-MS2)				QC Source:	BRK0288-	01		Extr	acted:	11/25/08 14	:20			
Barium	EPA 6020	0.388		0.0200	mg/l	2x	0.313	0.0800	93.9%	(75-125)			11/28/08 12:55	
Post Spike (8K25033-PS1)				QC Source:	BRK0288-	01		Extr	acted:	11/25/08 14	:20			
Silver	EPA 6020	0.0902			ug/ml	1x	0.000140	0.100	90.0%	(80-120)			12/01/08 13:17	
Cadmium	"	0.0962			"	"	-0.0000500	"	96.2%	"			11/28/08 11:17	
Lead	"	0.0973			"	"	-0.00106	"	97.9%	"			"	
Manganese	"	0.315			"	,,	0.220	"	94.2%	"			"	
· ·													,,	
Zinc	"	0.0988			,,		0.00299	"	95.4%	"				
Zinc Chromium	"	0.0988 0.0977			"	"	0.00299 0.0000100	"	95.4% 97.2%				"	
Chromium	" "	0.0977			" "		0.0000100	"					"	
	" " " " " " " " " " " " " " " " " " " "				" " "	"		0.0510	97.2%		  		"	
Chromium Antimony	" " " " "	0.0977 0.0523			" " " "	"	0.0000100 0.0000100	0.0510	97.2% 102%	"	   		"	
Chromium Antimony Beryllium Thallium	" " " " "	0.0977 0.0523 0.0949 0.0976	 		" " " " " " " " " " " " " " " " " " " "	"	0.0000100 0.0000100 -0.0000400 -0.0000200	" 0.0510 0.0995 0.100	97.2% 102% 95.5% 97.1%	"	   	  	"	
Chromium Antimony Beryllium Thallium Nickel	" " " " " " " " " " " " " " " " " " " "	0.0977 0.0523 0.0949			" " " " " " " " " " " " " " " " " " " "	" "	0.0000100 0.0000100 -0.0000400	" 0.0510 0.0995 0.100 0.0995	97.2% 102% 95.5%	" " "	    	  	" " "	
Chromium Antimony Beryllium Thallium Nickel Copper	" " " " " " " "	0.0977 0.0523 0.0949 0.0976 0.0915			" " " " " " " " " " " " " " " " " " " "	" " " " "	0.0000100 0.0000100 -0.0000400 -0.0000200 0.000790 0.000580	" 0.0510 0.0995 0.100 0.0995 0.100	97.2% 102% 95.5% 97.1% 91.1% 90.9%	" " "		  	" " "	
Chromium Antimony Beryllium Thallium Nickel Copper Arsenic		0.0977 0.0523 0.0949 0.0976 0.0915 0.0919 0.102	   		" " " " " " " " " " " " " " " " " " " "	" " " " " " " " " " " " " " " " " " " "	0.0000100 0.0000100 -0.0000400 -0.0000200 0.000790 0.000580 0.0000600	" 0.0510 0.0995 0.100 0.0995 0.100 0.0995	97.2% 102% 95.5% 97.1% 91.1% 90.9% 103%	" " "		   	" " "	
Chromium Antimony Beryllium Thallium Nickel Copper		0.0977 0.0523 0.0949 0.0976 0.0915			" " " " " " " " " " " " " " " " " " " "	" " " " " "	0.0000100 0.0000100 -0.0000400 -0.0000200 0.000790 0.000580	" 0.0510 0.0995 0.100 0.0995 0.100	97.2% 102% 95.5% 97.1% 91.1% 90.9%	" " "		   	" " " " " " " " " " " " " " " " " " " "	

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**Landsburg Mine** Project Name:

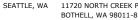
923-1000-002-R273 Report Created: 18300 NE Union Hill Rd, Suite 200 Project Number: Project Manager: Redmond, WA/USA 98052-3333 12/09/08 09:51 Douglas Morell

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8K25033 Water Preparation Method: EPA 3020A Spike % (Limits) % RPD Source Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Post Spike (8K25033-PS2) QC Source: BRK0288-01 Extracted: 11/25/08 14:20 EPA 6020 0.411 0.313 0.100 98.1% (80-120) 11/28/08 12:49 Barium ug/ml 10x

QC Batch: 8K25034	Water P	reparation M	lethod: El	PA 3010A	·									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K25034-BLK1)								Ext	racted:	11/25/08 14	:23			
Calcium	EPA 6010B	ND		0.750	mg/l	1x							11/28/08 16:36	
Aluminum	"	ND		0.200	"								"	
Iron	"	ND		0.150	"	"							"	
Sodium	"	ND		0.250	"	"							11/26/08 08:14	
Potassium	"	ND		3.00	"	"							"	
Magnesium	"	ND		0.500	"	"							"	
LCS (8K25034-BS1)								Ext	racted:	11/25/08 14	:23			
Aluminum	EPA 6010B	5.48		0.250	mg/l	1x		5.00	110%	(80-120)			11/28/08 16:40	
Sodium	"	5.06		0.250	"			"	101%	"			11/26/08 08:19	
Potassium	"	9.44		3.00	"			10.0	94.4%	"			"	
Calcium	"	4.59		0.750	"			5.00	91.7%	"			11/28/08 16:40	
Iron	"	5.37		0.150	"			"	107%	"			"	
Magnesium	"	4.34		0.500	"	"		"	86.8%	"			11/26/08 08:19	
Duplicate (8K25034-DUP1)				QC Source:	BRK0288-	-01		Ext	racted:	11/25/08 14	:23			
Sodium	EPA 6010B	24.6		0.250	mg/l	1x	25.7				4.14%	(30)	11/26/08 08:26	
Aluminum	"	ND		0.250	"		ND				NR	(25)	11/28/08 16:48	
Magnesium	"	75.0		0.500	"	"	71.6				4.69%	(30)	11/26/08 08:26	
Potassium	"	3.90		3.00	"	"	3.99				2.13%	"	"	
Iron	"	0.175		0.150	"	"	0.160				9.43%	"	11/28/08 16:48	
Calcium	"	124		0.750	"	"	120				3.21%	(25)	"	
Matrix Spike (8K25034-MS1)				QC Source:	BRK0288-	-01		Ext	racted:	11/25/08 14	:23			
Aluminum	EPA 6010B	5.60		0.250	mg/l	1x	ND	5.00	112%	(80-137)			11/28/08 16:44	
Potassium	"	13.8		3.00	"		3.99	10.0	98.6%	(75-127)			11/26/08 08:22	
Calcium	"	123		0.750	"		120	5.00	68.0%	(70-137)			11/28/08 16:44	MI
Sodium	"	28.8		0.250	"	"	25.7	"	62.0%	(74-144)			11/26/08 08:22	MI
Iron	"	5.43		0.150	"	"	0.160	"	105%	(80-125)			11/28/08 16:44	
										(				

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25034	Water P	reparation M	lethod: EI	PA 3010A									
Analyte	Method	Result	MDL*	MRL Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Post Spike (8K25034-PS1)				QC Source: BRK0288-	-01		Ext	racted:	11/25/08 14:	:23			
Aluminum	EPA 6010B	5.59		ug/ml	1x	-0.0330	5.00	113%	(75-125)			11/28/08 16:52	
Sodium	"	28.9		"	"	25.7	"	64.4%	"			11/26/08 08:43	S3
Iron	"	5.43		"	"	0.160	"	105%	"			11/28/08 16:52	
Magnesium	"	76.0		"	"	71.6	"	88.0%	"			11/26/08 08:43	
Calcium	"	120		"	"	120	"	8.00%	"			11/28/08 16:52	S3
Potassium	"	14.2		"	"	3 99	10.0	102%	"			11/26/08 08:43	

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Golder Associates Inc.

Report Created: 18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

Project Name:

**Landsburg Mine** 

#### Organochlorine Pesticides by EPA Method 8081A - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25012	Water I	Preparation M	Iethod: El	PA 3520C										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	No
Blank (8K25012-BLK1)								Extr	acted:	11/25/08 11	1:55			
Aldrin	EPA 8081A	ND		0.0500	ug/l	1x							12/02/08 11:02	
alpha-BHC	"	ND		0.0400	"	"							"	
beta-BHC	"	ND		0.0400	"	"							"	
delta-BHC [2C]	"	ND		0.0500	"	"							"	
gamma-BHC (Lindane)	"	ND		0.0400	"	"							"	
alpha-Chlordane	"	ND		0.0400	"	"							"	
gamma-Chlordane	"	ND		0.0400	"	"							"	
4,4'-DDD	"	ND		0.0400	"	"							"	
4,4'-DDE	"	ND		0.0800	"	"							"	
4,4'-DDT	"	ND		0.0800	"	"							"	
Dieldrin	"	ND		0.0800	"	"							"	
Endosulfan I	"	ND		0.0200	"	"							"	
Endosulfan II	"	ND		0.0800	"	"							"	
Endosulfan sulfate	"	ND		0.100	"	"							"	
Endrin	"	ND		0.0800	"	"							"	
Endrin aldehyde	"	ND		0.160	"	"							"	
Endrin ketone	"	ND		0.0800	"	"							"	
Heptachlor	"	ND		0.0500	"	"							"	
Heptachlor epoxide	"	ND		0.0400	"	"							"	
Methoxychlor [2C]	"	ND		0.500	"	"							"	
Surrogate(s): TCX		Recovery: 8	1.8%	Lin	nits: 10-1209	% "							12/02/08 11:02	2
Doogobloughinhoud	[20]	0	2.00/		10 142	0/ "							"	

10-142% " 93.9% Decachlorobiphenyl [2C]

LCS (8K25012-BS1)						Ext	racted:	11/25/08 11:5	55		
Aldrin	EPA 8081A	0.124	 0.0800	ug/l	1x	 0.125	98.9%	(76-120)		 12/02/08 11:19	
alpha-BHC	"	0.161	 0.0400	"	"	 "	129%	(55-150)		 "	
beta-BHC	"	0.150	 0.0400	"	"	 "	120%	(76-120)		 "	
delta-BHC [2C]	"	0.156	 0.100	"	"	 "	125%	(58-121)		 "	L1
gamma-BHC (Lindane)	"	0.130	 0.0400	"	"	 "	104%	(70-120)		 "	
alpha-Chlordane	"	0.134	 0.0400	"	"	 "	107%	(80-120)		 "	
gamma-Chlordane	"	0.133	 0.0400	"	"	 "	106%	(76-120)		 "	
4,4'-DDD	"	0.268	 0.0400	"	"	 0.250	107%	(75-120)		 "	
4,4'-DDE	"	0.279	 0.0800	"	"	 "	112%	(70-122)		 "	
4,4'-DDT	"	0.311	 0.0800	"	"	 "	124%	(52-130)		 "	
Dieldrin	"	0.290	 0.0800	"	"	 "	116%	(80-120)		 "	
Endosulfan I	"	0.154	 0.0200	"	"	 0.125	123%	(76-126)		 "	
Endosulfan II	"	0.268	 0.0800	"	"	 0.250	107%	(71-126)		 "	
Endosulfan sulfate	"	0.255	 0.100	"	"	 "	102%	(69-120)		 "	
Endrin	"	0.140	 0.0800	"	"	 "	55.9%	(69-126)		 "	L2

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 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 09:51

#### Organochlorine Pesticides by EPA Method 8081A - Laboratory Quality Control Results

TestAmerica Seattle

				1.50-	** *		Course	Snilva	0/0	<i>~</i>	0/0			
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	REC	(Limits)	RPD	(Limits)	Analyzed	Notes
LCS (8K25012-BS1)								Exti	acted:	11/25/08 11	:55			
Endrin aldehyde	EPA 8081A	0.492		0.160	ug/l	1x		0.250	197%	(52-128)			12/02/08 11:19	I
Endrin ketone	"	0.367		0.0800	"	"		"	147%	(16-150)			"	
Heptachlor	"	0.180		0.0800	"	"		0.125	144%	(62-141)			"	L
Heptachlor epoxide	"	0.146		0.0400	"	"		"	117%	(80-120)			"	
Methoxychlor [2C]	"	1.24		0.500	"	"		1.25	99.2%	(70-123)			"	
Surrogate(s): TCX		Recovery:	80.1%	Lin	nits: 10-1209	% "							12/02/08 11:19	
Decachlorobiphenyl [2	2CJ		98.8%		10-142	% "							"	
LCS Dup (8K25012-BSD1)								Exti	acted:	11/25/08 11	:55			
Aldrin	EPA 8081A	0.112		0.0800	ug/l	1x		0.125	89.7%	(76-120)	9.76%	(20)	12/02/08 11:38	
alpha-BHC	•	0.147		0.0400	"	"		"	118%	(55-150)	8.73%	. "	"	
beta-BHC	"	0.137		0.0400	"			"	110%	(76-120)	8.55%	. "	"	
delta-BHC [2C]	"	0.138		0.100	"			"	111%	(58-121)	12.0%	. "	"	
gamma-BHC (Lindane)	"	0.119		0.0400	"			"	95.0%	(70-120)	9.21%	, "	"	
alpha-Chlordane	"	0.123		0.0400	"			"	98.1%	(80-120)	8.85%	. "	"	
gamma-Chlordane	"	0.113		0.0400	"			"	90.5%	(76-120)	16.1%	. "	"	
4,4'-DDD	"	0.260		0.0400	"			0.250	104%	(75-120)	3.33%	. "	"	
4,4'-DDE	"	0.264		0.0800	"			"	106%	(70-122)	5.45%	. "	"	
4,4'-DDT	"	0.311		0.0800	"			"	124%	(52-130)	0.154%	6 "	"	
Dieldrin	"	0.268		0.0800	"	"		"	107%	(80-120)	7.66%	, "	"	
Endosulfan I	"	0.144		0.0200	**	"		0.125	115%	(76-126)	6.95%	. "	"	
Endosulfan II	"	0.254		0.0800	**	"		0.250	101%	(71-126)	5.49%	. "	"	
Endosulfan sulfate	"	0.253		0.100	**	"		"	101%	(69-120)	0.886%	6 "	"	
Endrin	"	0.0516		0.0800	"			"	20.6%	(69-126)	92.1%	(30)	"	L2, R
Endrin aldehyde	"	0.460		0.160	"			"	184%	(52-128)	6.70%	. "	"	L
Endrin ketone	"	0.430		0.0800	"	"		"	172%	(16-150)	15.8%	(20)	"	L
Heptachlor	"	0.159		0.0800	"	"		0.125	127%	(62-141)	12.4%	, "	"	
Heptachlor epoxide	"	0.130		0.0400	"	"		"	104%	(80-120)	11.3%	, "	"	
Methoxychlor [2C]	,,	1.27		0.500	,,			1.25	101%	(70-123)	2.29%	"	"	

10-142% "

TestAmerica Seattle

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Decachlorobiphenyl [2C]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



90.0%



BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Report Created:

12/09/08 09:51



Golder Associates Inc.

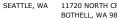
**Landsburg Mine** Project Name: 18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell

# Organochlorine Pesticides by EPA Method 8081A - Laboratory Quality Control Results

					TestAmeric	ca Seattle									
QC Batc	h: 8L03015	Water 1	Preparation	Method:	EPA 3520C										
Analyte		Method	Result	MDL	* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8L030	15-BLK1)								Extr	acted:	12/03/08 1	2:34			
Endrin [2C]		EPA 8081A	ND		0.0800	ug/l	1x							12/05/08 13:10	
Surrogate(s):	TCX [2C] Decachlorobiphenyl [2C]	,	Recovery:	74.7% 87.8%	Lin	nits: 10-120% 10-142%	"							12/05/08 13:10	
LCS (8L0301	5-BS1)								Extr	acted:	12/03/08 1	2:34			
Endrin [2C]		EPA 8081A	0.227		0.0800	ug/l	1x		0.250	90.8%	(69-126)			12/05/08 13:29	
Surrogate(s):	TCX [2C] Decachlorobiphenyl [2C]	,	Recovery:	80.7% 91.8%	Lim	nits: 10-120% 10-142%	"							12/05/08 13:29	
LCS Dup (8L	03015-BSD1)								Extr	acted:	12/03/08 1	2:34			
Endrin [2C]		EPA 8081A	0.231		0.0800	ug/l	1x		0.250	92.6%	(69-126)	1.96%	(30)	12/05/08 13:47	
Surrogate(s):	TCX [2C] Decachlorobiphenyl [2C]	,	Recovery:	78.0% 90.6%	Lim	nits: 10-120% 10-142%	"							12/05/08 13:47	

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Golder Associates Inc.

Project Name:

**Landsburg Mine** 

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

Project Number: 923-1000-002-R273 Project Manager: Douglas Morell

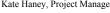
Report Created: 12/09/08 09:51

#### Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results

TestAmerica Seattle

QC Batc	h: 8K25012	Water 1	Preparation	Method: El	PA 3520C	!									
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8K250	012-BLK2)								Exti	racted:	11/25/08 11	:55			
Aroclor 1016		EPA 8082	ND		0.500	ug/l	1x							11/27/08 16:07	
Aroclor 1221		"	ND		0.500	"	"							"	
Aroclor 1232		"	ND		0.500	"	"							"	
Aroclor 1242		"	ND		0.500	"	"							"	
Aroclor 1248		"	ND		0.500	"	"							"	
Aroclor 1254		"	ND		0.500	"	"							"	
Aroclor 1260		"	ND		0.500	"	"							"	
Aroclor 1262		"	ND		0.500	"	"							"	
Aroclor 1268		"	ND		0.500	"	"							"	
Surrogate(s):	TCX		Recovery:	89.6%	Lin	nits: 36-134%	"							11/27/08 16:07	
	Decachlorobiphenyl			98.4%		15-124%	"							"	
LCS (8K2501	2-BS2)								Exti	racted:	11/25/08 11	:55			
Aroclor 1016		EPA 8082	3.32		0.500	ug/l	1x		2.50	133%	(42-161)			11/27/08 16:24	
Aroclor 1260		"	2.95		0.500	"	"		"	118%	(68-142)			"	
Surrogate(s):	TCX		Recovery:	76.6%	Lin	nits: 36-134%	"							11/27/08 16:24	
	Decachlorobiphenyl			89.2%		15-124%	"							"	
LCS Dup (8K	(25012-BSD2)								Exti	racted:	11/25/08 11	:55			
Aroclor 1016	,	EPA 8082	3.61		0.500	ug/l	1x		2.50	144%	(42-161)	8.14%	6 (30)	11/27/08 16:40	
Aroclor 1260		"	3.35		0.500	"	"		"	134%	(68-142)	12.8%	ó "	"	
Surrogate(s):	TCX		Recovery:	75.4%	Lin	nits: 36-134%	"							11/27/08 16:40	
	Decachlorobiphenyl			95.1%		15-124%	"							"	

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#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K28011	Water P	·F ·· · · ·												
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result		% REC	(Limits)	% RPD	(Limits)	Analyzed	Note
Blank (8K28011-BLK1)								Extrac	ted: 1	1/28/08 11	:03			
Acetone	EPA 8260B	ND		10.0	ug/l	1x						1	1/28/08 14:46	
Benzene	"	ND		0.200	"	"							"	
Bromobenzene	"	ND		0.500	"	"							"	
Bromochloromethane	"	ND		0.250	"	"							"	
Bromodichloromethane	"	ND		0.200	"	"							"	
Bromoform	"	ND		0.250	"	"							"	
Bromomethane	"	ND		2.00	"	"							"	
2-Butanone	"	ND		2.00	"	"							"	
n-Butylbenzene	"	0.200		0.200	"	"							"	
sec-Butylbenzene	"	ND		0.200	"	"							"	
tert-Butylbenzene	"	ND		0.500	"	"							"	
Carbon disulfide	"	ND		0.500	"	"							"	
Carbon tetrachloride	"	ND		0.200	"	"							"	
Chlorobenzene	"	ND		0.200	"	"							"	
Chloroethane	"	ND		1.00	"								"	
Chloroform	"	ND		0.200	"	"							"	
Chloromethane	"	ND		1.00	"	"							"	
2-Chlorotoluene	"	ND		0.500	"	"							"	
4-Chlorotoluene	"	ND		0.500	"	"							"	
Dibromochloromethane	"	ND		0.200	"								"	
1,2-Dibromo-3-chloropropane	"	ND		1.00	"	"							"	
1,2-Dibromoethane	"	ND		0.200	"	"							"	
Dibromomethane	"	ND		0.200	"	"							"	
1,2-Dichlorobenzene	"	ND		0.200	"								"	
1,3-Dichlorobenzene	"	ND		0.200	"	"							"	
1,4-Dichlorobenzene	"	ND		0.200	"	"							"	
Dichlorodifluoromethane	"	ND		0.500	"	"							"	
1,1-Dichloroethane	"	ND		0.200	"	"							"	
1,2-Dichloroethane	,,	ND		0.200	"	,,							"	
1,1-Dichloroethene	"	ND		0.200	"	,,							"	
cis-1,2-Dichloroethene	,,	ND		0.200	"	,,							"	
trans-1,2-Dichloroethene	"	ND		0.200	"	,,							"	
1,2-Dichloropropane	"	ND		0.200	"	,,							"	
1,3-Dichloropropane	,,	ND		0.200	"	,,							"	
2,2-Dichloropropane	"	ND		0.500	"	,,							"	
1,1-Dichloropropene	"	ND		0.200	"	,,							,,	
cis-1,3-Dichloropropene	"	ND		0.200	"	,,							,,	
trans-1,3-Dichloropropene	,,	ND		0.200	"	,,							"	
Ethylbenzene		ND ND		0.200	,,	_				_	-			

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 09:51

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K28011	Water P	reparation	Method: E	PA 5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	N
Blank (8K28011-BLK1)								Extr	acted:	11/28/08 11	:03			
Hexachlorobutadiene	EPA 8260B	ND		2.50	ug/l	1x							11/28/08 14:46	
Methyl tert-butyl ether	"	ND		1.00	"	"							"	
n-Hexane	"	ND		1.00	"	"							"	
2-Hexanone	"	ND		2.00	"	"							"	
sopropylbenzene	"	ND		0.500	"	"							"	
o-Isopropyltoluene	"	ND		0.200	"	"							"	
4-Methyl-2-pentanone	"	ND		2.00	"	"							"	
Methylene chloride	"	ND		2.00	"	"							"	
Naphthalene	"	ND		2.50	"	"							"	
n-Propylbenzene	"	ND		0.500	"	"							"	
Styrene	"	ND		0.500	"	"							"	
,2,3-Trichlorobenzene	"	ND		1.00	"	"							"	
,2,4-Trichlorobenzene	"	ND		1.00	"	"							"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"							"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"							"	
Tetrachloroethene	"	ND		0.200	"	"							"	
Γoluene	"	ND		0.200	"	"							"	
,1,1-Trichloroethane	"	ND		0.200	"	"							"	
1,1,2-Trichloroethane	"	ND		0.200	"	"							"	
Trichloroethene	"	ND		0.200	"	"							"	
Trichlorofluoromethane	"	ND		0.500	"	"							"	
,2,3-Trichloropropane	"	ND		0.500	"	"							"	
,2,4-Trimethylbenzene	"	ND		0.200	"	"							"	
,3,5-Trimethylbenzene	"	ND		0.500	"	"							"	
Vinyl chloride	"	ND		0.200	"	"							"	
o-Xylene	"	ND		0.250	"	"							"	
n,p-Xylene	"	ND		0.500	"	"							"	
Γotal Xylenes	"	ND		0.750	"	"							"	
Surrogate(s): 1,2-DCA-d4		Recovery:	119%	Lin	nits: 76-138%	"							11/28/08 14:4	6
Toluene-d8			107%		80-120%	6 "							"	
4-BFB			104%		80-120%	6 "							"	

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#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K28011	Water Preparation Method: EPA 5030B													
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
LCS (8K28011-BS1)								Exti	acted:	11/28/08 11	:03			
Benzene	EPA 8260B	40.6		0.200	ug/l	1x		40.0	102%	(80-120)			11/28/08 12:39	
Chlorobenzene	"	36.6		0.200	"	"		"	91.5%	"			"	
1,1-Dichloroethene	"	38.0		0.200	"	"		"	95.1%	"			"	
Methyl tert-butyl ether	"	42.3		1.00	"	"		"	106%	"			"	
Toluene	"	36.3		0.200	"	"		"	90.8%	(75-125)			"	
Trichloroethene	"	38.1		0.200	"	"		"	95.2%	(80-120)			"	
Surrogate(s): 1,2-DCA-d4 Toluene-d8		-	107% 98.0%	Lin	nits: 76-138% 80-120%	"							11/28/08 12:39	
4-BFB			97.2%		80-120%	"							"	
LCS Dup (8K28011-BSD1)								Exti	acted:	11/28/08 11	:03			
Benzene	EPA 8260B	40.6		0.200	ug/l	1x		40.0	102%	(80-120)	0.0246	% (20)	11/28/08 13:07	
Chlorobenzene	"	37.4		0.200	"	"		"	93.6%	"	2.27%	, "	"	
1,1-Dichloroethene	"	36.8		0.200	"	"		"	91.9%	"	3.40%	, "	"	
Methyl tert-butyl ether	"	42.0		1.00	"	"		"	105%	"	0.593%	o "	"	
Toluene	"	36.4		0.200	"	"		"	91.0%	(75-125)	0.220%	o "	"	
Trichloroethene	"	37.3		0.200	"	"		"	93.2%	(80-120)	2.12%	, "	"	
Surrogate(s): 1,2-DCA-d4		Recovery:	108%	Lin	nits: 76-138%	"							11/28/08 13:07	
Toluene-d8			99.8%		80-120%	"							"	
4-BFB			97.7%		80-120%	"							"	

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Kate Haney, Project Manager





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 923-1000-002-R273
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 Project Manager:
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 12/09/08 09:51

#### Semivolatile Organic Compounds by EPA Method 8270C - Laboratory Quality Control Results

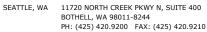
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QC Batch: 8K25013 Water Preparation Method: EPA 3520C Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed (Limits) RPD REC Amt Blank (8K25013-BLK1) Extracted: 11/25/08 14:55 EPA 8270C ND 10.0 12/01/08 10:08 Acenaphthene ug/l 1xAcenaphthylene ND 10.0 Aniline ND 10.0 Anthracene ND 10.0 Benzo (a) anthracene ND 10.0 ND 10.0 Benzo (a) pyrene ND 10.0 Benzo (b) fluoranthene Benzo (k) fluoranthene ND 10.0 Benzo (ghi) perylene ND 10.0 ND 20.0 Benzoic Acid Benzyl alcohol ND 10.0 Bis(2-chloroethoxy)methane ND 10.0 Bis(2-chloroethyl)ether ND 10.0 Bis(2-chloroisopropyl)ether ND 10.0 Bis(2-ethylhexyl)phthalate ND 10.0 4-Bromophenyl phenyl ether ND 10.0 Butyl benzyl phthalate 10.0 ND 10.0 Carbazole 4-Chloroaniline ND 10.0 4-Chloro-3-methylphenol ND 10.0 2-Chloronaphthalene ND 10.0 10.0 2-Chlorophenol ND 4-Chlorophenyl phenyl ether ND 10.0 3 & 4-Methylphenol (m,p-Cresols) ND 10.0 2-Methylphenol (o-Cresol) ND 10.0 Chrysene ND 10.0 Di-n-butyl phthalate ND 10.0 Dibenz (a,h) anthracene ND 10.0 10.0 Dibenzofuran ND 1,2-Dichlorobenzene ND 10.0 1,3-Dichlorobenzene ND 10.0 1.4-Dichlorobenzene ND 10.0 3 3'-Dichlorobenzidine ND 10.0 2,4-Dichlorophenol ND 10.0 Diethyl phthalate ND 10.0 2.4-Dimethylphenol ND 10.0 10.0 Dimethyl phthalate ND 4,6-Dinitro-2-methylphenol ND 10.0 2,4-Dinitrophenol 20.0

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OC D-4-L 91/25012

Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
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 Project Manager:
 Douglas Morell
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#### Semivolatile Organic Compounds by EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K2501	Water 1	Preparation	Method: I	EPA 3520C	•									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	s) Analyzed	Note
Blank (8K25013-BLK1)								Extr	acted:	11/25/08 14	:55			
2,4-Dinitrotoluene	EPA 8270C	ND		10.0	ug/l	1x							12/01/08 10:08	
2,6-Dinitrotoluene	"	ND		10.0	"	"							"	
N-Nitrosodiphenylamine	"	ND		10.0	"	"								
Fluoranthene	"	ND		10.0	"	"								
Fluorene	"	ND		10.0	"	"							"	
Hexachlorobenzene	"	ND		10.0	"	"							"	
Hexachlorobutadiene	"	ND		10.0	"	"							"	
Hexachlorocyclopentadiene	"	ND		10.0	"	"								
Hexachloroethane	"	ND		10.0	"	"								
Indeno (1,2,3-cd) pyrene	"	ND		10.0	"	"								
Isophorone	"	ND		10.0	"	"							"	
l-Methylnaphthalene	"	ND		10.0	"	"							"	
2-Methylnaphthalene	"	ND		10.0	"	"							"	
Naphthalene	"	ND		10.0	"	"							"	
2-Nitroaniline	"	ND		10.0	"	"								
3-Nitroaniline	"	ND		10.0	"	"								
4-Nitroaniline	"	ND		10.0	"	"								
Nitrobenzene	"	ND		10.0	"	"								
2-Nitrophenol	"	ND		10.0	"	"							"	
4-Nitrophenol	"	ND		10.0	"	,,							,,	
N-Nitrosodi-n-propylamine	"	ND		10.0	"	,,							,,	
Di-n-octyl phthalate	"	ND		10.0	"	,,							,,	
Pentachlorophenol	"	ND		10.0	"								,	
Phenanthrene	"	ND		10.0	"								,	
Phenol	"	ND		10.0	"	,,							"	
Pyrene	"	ND		10.0	"	,,							"	
1,2,4-Trichlorobenzene	"	ND		10.0	"	,,							"	
2,4,5-Trichlorophenol	"	ND		10.0	,,	,,						_		
2,4,6-Trichlorophenol	"	ND		10.0	,,	,,								
*					. 44 12004	,,	-					-	12/01/00 10 0	
Surrogate(s): 2-FBP 2-FP		Recovery:	83.6% 74.2%	Lin	nits: 44-120% 16-120%								12/01/08 10:08	y
2-FF Nitrobenzene	2-d5		84.6%		38-120%								"	
Phenol-d6	· <del></del>		75.0%		16-120%								"	
p-Terphenyl-	d14		77.6%		24-146%								"	
2,4,6-TBP			77.2%		32-135%								"	

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OC D-4-L 91/25012

Golder Associates Inc. Project Name:

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 Douglas Morell
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**Landsburg Mine** 

#### Semivolatile Organic Compounds by EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Seattle

	Method	Result	MDI *	MRI	Unite	Dil	Source	Spike	0/0	(Limite)	0/0	(Limite)	Analyzed	Note
	Method	Result	MDL	WIKL	Units	Dii	Result	Amt	REC	(Lillits)	RPD	(Lillits)	Anaiyzeu	NOU
3-BS1)								Extr	acted:	11/25/08 14	:55			
	EPA 8270C	73.0		10.0	ug/l	1x		100	73.0%	(57-120)			12/01/08 10:33	
enol	"	88.1		10.0	"	"		"	88.1%	(51-124)			"	
	"	71.2		10.0	"	"		"	71.2%	(40-120)			"	
	"	63.1		10.0	"	"		"	63.1%	(50-120)			"	
	"	88.2		10.0	"	"		"	88.2%	(66-130)			"	
	"	71.5		10.0	"	"		"	71.5%	(42-148)			"	
amine	"	84.7		10.0	"	"		"	84.7%	(49-120)			"	
	"	109		10.0	"	"		"	109%	(67-151)			"	
	"	73.1		10.0	"	"		"	73.1%	(28-120)			"	
	"	72.0		10.0	"	"		"	72.0%	(54-134)			"	
ne	"	73.9		10.0	"	"		"	73.9%	(52-120)			"	
2-FBP		Recovery:	77.6%	Lin	nits: 44-120%	<u>"</u>							12/01/08 10:33	
2-FP		,-	70.0%										"	
Nitrobenzene-d5			81.8%										"	
Phenol-d6			70.1%		16-1209	6 "							"	
p-Terphenyl-d14			67.3%		24-1469	6 "							"	
2,4,6-TBP			94.0%		32-1359	6 "							"	
25013-BSD1)								Extr	acted:	11/25/08 14	:55			
	EPA 8270C	73.0		10.0	ug/l	1x		100	73.0%	(57-120)	0.0274	% (25)	12/01/08 13:12	
enol	,,				"	,,		••		` ′			"	
	,,				"			"		` ′			,,	
	,,				"			,,						
	"				"	,,	_	.,					"	
	"				"			"		` ′			,	
amine	,,				,,	.,		,,		` ′			,	
	,,				,,	.,		,,		` ′			,	
	,,				"			,,		` ′			,	
	,,				,,	,,		,,		` ′			,	
na	,,				,,	,,				` ′			,	
							-		11.070	(32-120)	3.1/%	0		
		Recovery:		Lin		,							12/01/08 13:12	
						0							"	
						U							"	
Phenol-d6			75.7%		16-1209	6 "							"	
p-Terphenyl-d14			70.2%		24-1469	/ <sub>a</sub> "								
	amine  2-FBP 2-FP Nitrobenzene-d5 Phenol-d6 p-Terphenyl-d14 2,4,6-TBP  25013-BSD1)  enol  damine  2-FBP 2-FP Nitrobenzene-d5	EPA 8270C enol " " " " " " " " " " " " " " " " " " "	### Sample	BEPA 8270C 73.0 enol " 88.1 " 71.2 " 63.1 " 88.2 " 71.5 amine " 84.7 " 109 " 73.1 " 72.0 " 73.9  2-FBP Recovery: 77.6% Phenol-d6 p-Terphenyl-d14 2,4,6-TBP 94.0%  EPA 8270C 73.0 enol " 95.5 " 74.8 " 74.8 " 73.1 " 73.1 " 73.1 " 74.8 " 74.8 " 75.3 " 74.8 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.5 " 75.5 " 75.6 " 75.7 " 75.8 " 77.8 " 77.8 " 77.8 " 77.8 " 76.8% Nitrobenzene-d5 87.5%	B-BS1)  EPA 8270C 73.0 10.0  " 88.1 10.0  " 71.2 10.0  " 63.1 10.0  " 88.2 10.0  " 71.5 10.0  amine " 84.7 10.0  " 109 10.0  " 73.1 10.0  " 73.1 10.0  " 73.9 10.0  " 73.9 10.0  " 70.0%  Bell Strobenzene-d5  Phenol-d6  P-Terphenyl-d14  2,4,6-TBP  25013-BSD1)  EPA 8270C 73.0 10.0  " 74.8 10.0  " 74.8 10.0  " 74.8 10.0  " 74.8 10.0  " 74.8 10.0  " 75.1 10.0  " 75.1 10.0  " 75.1 10.0  " 75.5 10.0  " 75.5 10.0  " 75.5 10.0  " 75.5 10.0  " 75.5 10.0  " 75.5 10.0  " 75.6 10.0  " 75.1 10.0  " 75.2 10.0  " 75.3 10.0  " 75.5 10.0  " 75.6 10.0  " 75.8 10.0  " 75.8 10.0  " 75.8 10.0	B-BS1)  EPA 8270C 73.0 10.0 ug/l  88.1 10.0 "  " 71.2 10.0 "  " 63.1 10.0 "  " 88.2 10.0 "  " 71.5 10.0 "  " 109 10.0 "  " 73.1 10.0 "  " 73.1 10.0 "  " 73.9 10.0 "  " 73.9 10.0 "  Bere " 73.9 10.0 "  " 74.6 10.0 "  Bere " 75.3 10.0 "  " 75.5 10.0 "  " 75.5 10.0 "  " 75.5 10.0 "  " 75.6 " 16-1209  ### 10.0 "  ### 10.0 "  ### 10.0 "  #### 10.0 "  #### 10.0 "  #### 10.0 "  #### 10.0 "  #### 10.0 "  ###################################	B-BS1)  EPA 8270C 73.0 10.0 ug/l 1x enol " 88.1 10.0 " "  " 71.2 10.0 " "  " 88.2 10.0 " "  " 88.2 10.0 " "  " 71.5 10.0 " "  " 109 10.0 " "  " 73.1 10.0 " "  " 73.1 10.0 " "  " 73.1 10.0 " "  " 73.1 10.0 " "  " 73.1 10.0 " "  " 74.8 "  2-FBP Recovery: 77.6% Limits: 44-120% "  Phenol-d6 70.1% 16-120% "  Phenol-d6 70.1% 16-120% "  Phenol-d6 70.1% 16-120% "  Phenol-d6 70.1% 16-120% "  2-S013-BSD1)  EPA 8270C 73.0 10.0 ug/l 1x  enol " 95.5 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 87.7 10.0 " "  1 87.7 10.0 " "  1 88.7 10.0 " "  1 88.7 10.0 " "  1 88.7 10.0 " "  1 88.7 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  2 76.8	Sepant   S	Selection   Sele	SPASTO	SABSI)	Selection   Sele	Series   S	Page   Page

TestAmerica Seattle

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11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Golder Associates Inc. Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: 12/09/08 09:51 Douglas Morell

#### **CERTIFICATION SUMMARY**

#### **TestAmerica Seattle**

Method	Matrix	Nelac	Washington		
EPA 6010B	Water	X	X		
EPA 6020	Water	X	X		
EPA 7470A	Water	X	X		
EPA 8081A	Water	X	X		
EPA 8082	Water	X	X		
EPA 8260B	Water	X	X		
EPA 8270C	Water	X	X		
NWTPH-HCID	Water		X		

Any abnormalities or departures from sample acceptance policy shall be documented on the 'Sample Receipt and Temperature Log Form'  $and \ 'Sample \ Non-conformance \ Form' \ (if \ applicable) \ included \ with \ this \ report.$ 

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC) .

TestAmerica Seattle







Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 09:51

#### **Notes and Definitions**

#### Report Specific Notes:

Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.

H8 - The sample was extracted past the holding time.

 Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.

L1 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.

Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below acceptance limits.

MHA - Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).

R2 - The RPD exceeded the acceptance limit.

S3 - Post digestion spike is out of acceptance limits for this analyte

#### <u>Laboratory Reporting Conventions:</u>

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported

on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.

 Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Seattle

Signature

Mall Dhurg

Kate Haney, Project Manager



# <u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244

11922 E. First Ave, Spokane, WA 99206-5302

509-924-9200 FAX 924-9290 503-906-9200 FAX 906-9210

425-420-9200 FAX 420-9210

9405 SW Nimbus Ave, Beaverton, OR 97008-7145

907-563-9200 FAX 563-9210

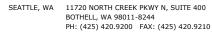
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9

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3 EMW-EB	10									por	ding	init.	,1			/		
1 LMW-6-1108	a	1240								anz	ytica	res	11/5			11		-03
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	TEST AMERICA	SAMPLE RECEIPT	CHECKLIST		
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None/Other	\	None	None	:/Other _	
Refrigerant: Gel Ice Pack			Received \	<u>√ia: Bill#</u> Ex <u></u>	Client
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None/Other			DHL		_ Mid Valley
			Senv	/oy	_ TDP
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IDs/time/date match (	<b>X</b>			_	
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Comments,Problems					
Total access set up? Has client been contacted	regarding non-conformanc	res?	Y or N Y or N	if Y,	/ te Time
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Paperwork to PM – Date:\_\_\_\_\_ Time:\_\_\_\_

Non-Conformances?





December 09, 2008

Douglas Morell Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

RE: Landsburg Mine

Enclosed are the results of analyses for samples received by the laboratory on 11/25/08 17:05. The following list is a summary of the Work Orders contained in this report, generated on 12/09/08 12:29.

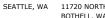
If you have any questions concerning this report, please feel free to contact me.

Work Order	<u>Project</u>	<u>ProjectNumber</u>
BRK0304	Landsburg Mine	923-1000-002-R273

TestAmerica Seattle

Kate Haney, Project Manage





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name: 18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

	ANALYTICAL REPO	ORT FOR SAMI	PLES	
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LMW-11-1108	BRK0304-01	Water	11/25/08 10:15	11/25/08 17:05
LMW-10-1108	BRK0304-02	Water	11/25/08 12:15	11/25/08 17:05
LMW-9-1108	BRK0304-03	Water	11/25/08 14:00	11/25/08 17:05
LMW-9-1108-D	BRK0304-04	Water	11/25/08 14:05	11/25/08 17:05

TestAmerica Seattle





11720 NORTH CREEK PKWY N. SUITE 400 BOTHELL, WA 98011-8244

PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. Landsburg Mine Project Name:

923-1000-002-R273 18300 NE Union Hill Rd, Suite 200 Project Number: Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

#### **Analytical Case Narrative**

TestAmerica - Seattle, WA

#### **BRK0304**

#### SAMPLE RECEIPT

The samples were received November 25th, 2008 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 10.8 degrees Celsius which is outside the recommended temperature range of 2-6 Degrees Celsius. The samples are considered acceptable as they were recieved on-ice within four hours of the collection of the last sampled time on the COC.

#### PREPARATIONS AND ANALYSIS

8081 Pesticides: The samples were initially extracted in laboratory batch 8K25012. The percent recovery for Endrin was below the established acceptance criteria in the laboratory blank spike and blank spike duplicate. Additionally, the RPD for Endrin was above the established acceptance criteria in the blank spike duplicate. The samples were re-extracted outside the method established hold time in laboratory batch 8L03015 with passing Endrin recoveries. Both sets of results were reported.

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

TestAmerica Seattle







Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Hydrocarbon Identification by Washington DOE Method NWTPH-HCID

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-01 (LMW-11-1108)		Wa	iter		Sampl	ed: 11/2	25/08 10:15			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.236	mg/l	1x	8K25014	11/25/08 14:15	11/26/08 20:36	
Diesel Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Surrogate(s): 2-FBP			117%		50 - 150 %	"			"	
Octacosane			93.8%		50 - 150 %	"			"	
BRK0304-02 (LMW-10-1108)		Wa	iter		Sampl	ed: 11/2	25/08 12:15			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.236	mg/l	1x	8K25014	11/25/08 14:15	11/26/08 20:58	
Diesel Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Surrogate(s): 2-FBP			126%		50 - 150 %	"			"	
Octacosane			98.8%		50 - 150 %	"			"	
BRK0304-03 (LMW-9-1108)		Wa	iter		Sampl	ed: 11/2	25/08 14:00			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.236	mg/l	1x	8K25014	11/25/08 14:15	11/26/08 21:20	
Diesel Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Surrogate(s): 2-FBP			132%		50 - 150 %	"			"	
Octacosane			99.7%		50 - 150 %	"			"	
BRK0304-04 (LMW-9-1108-D)		Wa	iter		Sampl	ed: 11/2	25/08 14:05			
Gx Range Hydrocarbons	NWTPH-HCID	ND		0.236	mg/l	1x	8K25014	11/25/08 14:15	11/26/08 21:41	
Diesel Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Lube Oil Range Hydrocarbons	"	ND		0.594	"	"	"	"	"	
Surrogate(s): 2-FBP			133%		50 - 150 %	"			"	
Octacosane			97.2%		50 - 150 %	"			"	

TestAmerica Seattle





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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Total Metals by EPA 6000/7000 Series Methods

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-01	(LMW-11-1108)		Wa	ater		Samj	pled: 11/2	25/08 10:15			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K26043	11/26/08 17:02	11/28/08 14:53	
Antimony		EPA 6020	ND		0.00300	"	"	8K26042	11/26/08 16:58	12/01/08 17:03	
Arsenic		"	0.00854		0.00100	"	"	"	"	"	
Barium		"	0.254		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	ND		0.750	"	"	8K26043	11/26/08 17:02	11/28/08 14:53	M
Chromium		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/01/08 17:03	
Cobalt		"	ND		0.00100	"	"	"	"	12/04/08 16:35	
Copper		"	ND		0.00100	"	"	"	"	"	
Iron		EPA 6010B	ND		0.150	"	"	8K26043	11/26/08 17:02	11/28/08 14:53	M
Lead		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 16:35	
Magnesium		EPA 6010B	ND		0.500	"	"	8K26043	11/26/08 17:02	11/28/08 14:53	M
Manganese		EPA 6020	0.140		0.0100	"	"	8K26042	11/26/08 16:58	12/04/08 16:35	M
Mercury		EPA 7470A	ND		0.000200	"	"	8L01020	12/01/08 12:36	12/03/08 11:49	
Nickel		EPA 6020	0.00136		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 16:35	
Potassium		EPA 6010B	ND		3.00	"	"	8K26043	11/26/08 17:02	11/28/08 14:53	
Selenium		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/01/08 17:03	
Silver		"	ND		0.00100	"	"	"	"	12/04/08 16:35	
Sodium		EPA 6010B	ND		0.250	"	"	8K26043	11/26/08 17:02	11/28/08 14:53	М
Thallium		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 16:35	
Vanadium		"	ND		0.00100	"	"	"	"	"	
Zinc		"	ND		0.0100	"	"	"	"	"	
	~		***			C	1 1 11/2	NE/00 12 15			
BRK0304-02	(LMW-10-1108)			ater		-		25/08 12:15			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K26043	11/26/08 17:02	11/28/08 16:06	
Antimony		EPA 6020	ND		0.00300	"	"	8K26042	11/26/08 16:58	12/01/08 17:09	
Arsenic		"	ND		0.00100	"	"	"	"	"	
Barium		"	0.0355		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	6.67		0.750	"	"	8K26043	11/26/08 17:02	11/28/08 16:06	
Chromium		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/01/08 17:09	
Cobalt		"	ND		0.00100	"	"	"	"	12/04/08 16:58	
Copper		"	ND		0.00100	"	"	"	"	"	
Iron		EPA 6010B	ND		0.150	"	"	8K26043	11/26/08 17:02	11/28/08 16:06	
Lead		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 16:58	
Magnesium		EPA 6010B	2.51		0.500	"	"	8K26043	11/26/08 17:02	11/28/08 16:06	
Manganese		EPA 6020	ND		0.0100	"	"	8K26042	11/26/08 16:58	12/04/08 16:58	
		EPA 7470A	ND		0.000200	"	"	8L01020	12/01/08 12:36	12/03/08 11:52	
Mercury											
Mercury Nickel		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 16:58	

TestAmerica Seattle





BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

#### **Total Metals by EPA 6000/7000 Series Methods**

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-02	(LMW-10-1108)		Wa	ter		Sam	pled: 11/2	25/08 12:15			
Selenium		EPA 6020	ND		0.00100	mg/l	1x	8K26042	11/26/08 16:58	12/01/08 17:09	
Silver		"	ND		0.00100	"	"	"	"	12/04/08 16:58	
Sodium		EPA 6010B	79.0		0.250	"	"	8K26043	11/26/08 17:02	11/28/08 16:06	
Thallium		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 16:58	
Vanadium		"	ND		0.00100	"	"	"	"	"	
Zinc		"	ND		0.0100	"	"	"	"	"	
BRK0304-03	(LMW-9-1108)		Wa	ter		Sam	pled: 11/2	25/08 14:00			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K26043	11/26/08 17:02	11/28/08 16:10	
Antimony		EPA 6020	ND		0.00300	"	"	8K26042	11/26/08 16:58	12/01/08 17:15	
Arsenic		"	ND		0.00100	"	"	"	"	"	
Barium		"	0.295		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	82.2		0.750	"	"	8K26043	11/26/08 17:02	11/28/08 16:10	
Chromium		EPA 6020	0.00126		0.00100	"	"	8K26042	11/26/08 16:58	12/01/08 17:15	
Cobalt		"	ND		0.00100	"	"	"	"	12/04/08 17:04	
Copper		"	ND		0.00100	"	"	"	"	"	
Iron		EPA 6010B	1.70		0.150	"	"	8K26043	11/26/08 17:02	11/28/08 16:10	
Lead		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 17:04	
Magnesium		EPA 6010B	44.1		0.500	"	"	8K26043	11/26/08 17:02	11/28/08 16:10	
Manganese		EPA 6020	0.172		0.0100	"	"	8K26042	11/26/08 16:58	12/04/08 17:04	
Mercury		EPA 7470A	ND		0.000200	"	"	8L01020	12/01/08 12:36	12/03/08 11:54	
Nickel		EPA 6020	0.00353		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 17:04	
Potassium		EPA 6010B	ND		3.00	"	"	8K26043	11/26/08 17:02	11/28/08 16:10	
Selenium		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/01/08 17:15	
Silver		"	ND		0.00100	"	"	"	"	12/04/08 17:04	
Sodium		EPA 6010B	17.9		0.250	"	"	8K26043	11/26/08 17:02	11/28/08 16:10	
Thallium		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 17:04	
Vanadium		"	ND		0.00100	"	"	"	"	"	
Zinc		"	ND		0.0100	"	"	"	"	"	

TestAmerica Seattle





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

#### **Total Metals by EPA 6000/7000 Series Methods**

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-04	(LMW-9-1108-D)		Wat	ter		Sam	pled: 11/2	5/08 14:05			
Aluminum		EPA 6010B	ND		0.200	mg/l	1x	8K26043	11/26/08 17:02	11/28/08 16:14	
Antimony		EPA 6020	ND		0.00300	"	"	8K26042	11/26/08 16:58	12/01/08 17:21	
Arsenic		"	ND		0.00100	"	"	"	"	"	
Barium		"	0.304		0.0100	"	"	"	"	"	
Beryllium		"	ND		0.00100	"	"	"	"	"	
Cadmium		"	ND		0.00100	"	"	"	"	"	
Calcium		EPA 6010B	81.3		0.750	"	"	8K26043	11/26/08 17:02	11/28/08 16:14	
Chromium		EPA 6020	0.00135		0.00100	"	"	8K26042	11/26/08 16:58	12/01/08 17:21	
Cobalt		"	ND		0.00100	"	"	"	"	12/04/08 17:09	
Copper		"	ND		0.00100	"	"	"	"	"	
Iron		EPA 6010B	1.68		0.150	"	"	8K26043	11/26/08 17:02	11/28/08 16:14	
Lead		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 17:09	
Magnesium		EPA 6010B	43.6		0.500	"	"	8K26043	11/26/08 17:02	11/28/08 16:14	
Manganese		EPA 6020	0.180		0.0100	"	"	8K26042	11/26/08 16:58	12/04/08 17:09	
Mercury		EPA 7470A	ND		0.000200	"	"	8L01020	12/01/08 12:36	12/03/08 11:57	
Nickel		EPA 6020	0.00371		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 17:09	
Potassium		EPA 6010B	ND		3.00	"	"	8K26043	11/26/08 17:02	11/28/08 16:14	
Selenium		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/01/08 17:21	
Silver		"	ND		0.00100	"	"	"	"	12/04/08 17:09	
Sodium		EPA 6010B	17.8		0.250	"	"	8K26043	11/26/08 17:02	11/28/08 16:14	
Thallium		EPA 6020	ND		0.00100	"	"	8K26042	11/26/08 16:58	12/04/08 17:09	
Vanadium		"	ND		0.00100	"	"	"	"	"	
Zinc		"	ND		0.0100	"	"	"	"	"	
Zinc			ND		0.0100		"	"		"	

TestAmerica Seattle



Batch

Prepared



Analyte

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Analyzed

Notes

Golder Associates Inc. **Landsburg Mine** Project Name:

Result

Method

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: 12/09/08 12:29 Douglas Morell

#### Organochlorine Pesticides by EPA Method 8081A

TestAmerica Seattle

MRL

Units

MDL\*

BRK0304-01 (LMW-11-1	108)	Wa	ter		Sampl	ed: 11/2	25/08 10:15			
Aldrin	EPA 8081A	ND		0.0476	ug/l	1x	8K25012	11/25/08 11:55	12/02/08 13:08	
alpha-BHC	"	ND		0.0381	"	"	"	"	"	
beta-BHC	"	ND		0.0381	"	"	"	"	"	
delta-BHC [2C]	"	ND		0.0476	"	"	"	"	"	L
gamma-BHC (Lindane)	"	ND		0.0381	"	"	"	"	"	
alpha-Chlordane	"	ND		0.0381	"	"	"	"	"	
gamma-Chlordane	"	ND		0.0381	"	"	"	"	"	
4,4'-DDD	"	ND		0.0381	"		"	"	"	
4,4'-DDE	"	ND		0.0762	"	"	"	"	"	
4,4'-DDT	"	ND		0.0762	"	"	"	"	"	
Dieldrin	"	ND		0.0762	"	"	"	"	"	
Endosulfan I	"	ND		0.0190	"		"	"	"	
Endosulfan II	"	ND		0.0762	"	"	"	"	"	
Endosulfan sulfate	"	ND		0.0952	"	"	"	"	"	
Endrin	"	ND		0.0762	"		"	"	"	L2
Endrin aldehyde	"	ND		0.152	"	"	"	"	"	L
Endrin ketone	"	ND		0.0762	"	"	"	"	"	L
Heptachlor	"	ND		0.0476	"	"	"	"	"	L
Heptachlor epoxide	"	ND		0.0381	"	"	"	"	"	
Methoxychlor [2C]	"	ND		0.476	"	"	"	"	"	
Surrogate(s): TCX			74.9%		10 - 120 %	"			"	
Decachlorob	iphenyl [2C]		80.6%		10 - 142 %	"			"	
BRK0304-01RE1 (LMW-11	-1108)	Wa	ter		Sampl	ed: 11/2	25/08 10:15			Н8
Endrin [2C]	EPA 8081A	ND		0.0792	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 16:34	
Surrogate(s): TCX [2C]			78.4%		10 - 120 %	"			"	
Decachlorob	iphenyl [2C]		79.3%		10 - 142 %	"			"	
BRK0304-02 (LMW-10-11	108)	Wa	ter		Sampl	ed: 11/2	25/08 12:15			
Aldrin	EPA 8081A	ND		0.0476	ug/l	1x	8K25012	11/25/08 18:00	12/02/08 13:25	
alpha-BHC	"	ND		0.0381	"	"	"	"	"	
beta-BHC	"	ND		0.0381	"	"	"	"	"	

0.0476

0.0381

0.0381

0.0381

0.0381

0.0762

0.0762 0.0762

0.0190

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delta-BHC [2C]

alpha-Chlordane

4,4'-DDD

4,4'-DDE

4,4'-DDT

Dieldrin

Endosulfan I

gamma-Chlordane

gamma-BHC (Lindane)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full,  $without \ the \ written \ approval \ of \ the \ laboratory.$ 



L

ND

ND

ND

ND

ND

ND

ND

ND



PH:

Golder Associates Inc.Project Name:Landsburg Mine18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 12:29

# Organochlorine Pesticides by EPA Method 8081A

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-02 (I	LMW-10-1108)	Wa	iter		Sampl	ed: 11/2	25/08 12:15			
Endosulfan II	EPA 8081A	ND		0.0762	ug/l	1x	8K25012	11/25/08 18:00	12/02/08 13:25	
Endosulfan sulfate	"	ND		0.0952	"	"	"	"	"	
Endrin	"	ND		0.0762	"	"	"	"	"	L
Endrin aldehyde	"	ND		0.152	"	"	"	"	"	I
Endrin ketone	"	ND		0.0762	"		"	"	"	I
Heptachlor	"	ND		0.0476	"		"	"	"	I
Heptachlor epoxide	"	ND		0.0381	"		"	"	"	
Methoxychlor [2C]	"	ND		0.476	"	"	"	"	"	
Surrogate(s):	TCX		85.7%		10 - 120 %	"			"	
	Decachlorobiphenyl [2C]		82.7%		10 - 142 %	"			"	
BRK0304-02RE1	(LMW-10-1108)	Wa	iter		Sampl	ed: 11/2	25/08 12:15			н
Endrin [2C]	EPA 8081A	ND		0.0784	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 16:52	
Surrogate(s):	TCX [2C]		71.4%		10 - 120 %	,,			"	
	Decachlorobiphenyl [2C]		79.8%		10 - 142 %	,,			"	
•	zecuenior ocuprienty. [20]									
BRK0304-03 (I	LMW-9-1108)	Wa	iter		Sampl	ed: 11/2	25/08 14:00			
Aldrin	EPA 8081A	ND		0.0472	ug/l	1x	8K25012	11/25/08 18:00	12/02/08 13:43	
alpha-BHC	"	ND		0.0377	"	"	"	"	"	
beta-BHC	"	ND		0.0377	"	"	"	"	"	
delta-BHC [2C]	"	ND		0.0472	"	"	"	"	"	I
gamma-BHC (Lindan	e) "	ND		0.0377	"	"	"	"	"	
alpha-Chlordane	"	ND		0.0377	"	"	"	"	"	
gamma-Chlordane	"	ND		0.0377	"	"	"	"	"	
4,4'-DDD	"	ND		0.0377	"	"	"	"	"	
4,4'-DDE	"	ND		0.0755	"	"	"	"	"	
4,4'-DDT	"	ND		0.0755	"	"	"	"	"	
Dieldrin	"	ND		0.0755	"	"	"	"	"	
Endosulfan I	"	ND		0.0189	"	"	"	"	"	
Endosulfan II	"	ND		0.0755	"	"	"	"	"	
Endosulfan sulfate	"	ND		0.0943	"	"	"	"	"	
Endrin	"	ND		0.0755	"	"	"	"	"	L
Endrin aldehyde	n	ND		0.151	"	"	"	"	"	I
Endrin ketone	n	ND		0.0755	"	"	"	"	"	I
Heptachlor	n	ND		0.0472	"	"	"	"	"	I
Heptachlor epoxide	n	ND		0.0377	"	"	"	"	"	
Methoxychlor [2C]	п	ND		0.472	"	"	"	"	"	
Surrogate(s):	TCX		86.2%		10 - 120 %	"			"	
	Decachlorobiphenyl [2C]		55.7%		10 - 142 %	"			"	

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Mall Dhurg

Kate Haney, Project Manager





Golder Associates Inc.

**Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

923-1000-002-R273 Project Number: Project Manager: Douglas Morell

Report Created:

12/09/08 12:29

#### Organochlorine Pesticides by EPA Method 8081A

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-03RE1 (LMW-9-	1108)	Wa	iter		Sampl	ed: 11/2	25/08 14:00			н
Endrin [2C]	EPA 8081A	ND		0.0755	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 17:10	
Surrogate(s): TCX [2C]			81.4%		10 - 120 %	"			"	
Decachlorob	iphenyl [2C]		64.5%		10 - 142 %	"			"	
BRK0304-04 (LMW-9-110	08-D)	Wa	iter		Sampl	ed: 11/2	25/08 14:05			
Aldrin	EPA 8081A	ND		0.0472	ug/l	1x	8K25012	11/25/08 18:00	12/02/08 14:00	
alpha-BHC	"	ND		0.0377	"	"	"	"	"	
beta-BHC	"	ND		0.0377	"	"	"	"	"	
delta-BHC [2C]	"	ND		0.0472	"		"	"	"	I
gamma-BHC (Lindane)	"	ND		0.0377	"		"	"	"	
alpha-Chlordane	"	ND		0.0377	"	"	"	"	"	
gamma-Chlordane	"	ND		0.0377	"	"	"	"	"	
4,4'-DDD	"	ND		0.0377	"		"	"	"	
4,4'-DDE	"	ND		0.0755	"	"	"		"	
4,4'-DDT	"	ND		0.0755	"		"	"	"	
Dieldrin	"	ND		0.0755	"		"	"	"	
Endosulfan I	"	ND		0.0189	"	"	"	"	"	
Endosulfan II	"	ND		0.0755	"		"	"	"	
Endosulfan sulfate	"	ND		0.0943	"	"	"	"	"	
Endrin	"	ND		0.0755	"	"	"		"	L2
Endrin aldehyde	"	ND		0.151	"	"	"		"	L
Endrin ketone	"	ND		0.0755	"		"	"	"	L
Heptachlor	"	ND		0.0472	"	"	"	"	"	L
Heptachlor epoxide	"	ND		0.0377	"	"	"		"	
Methoxychlor [2C]	"	ND		0.472	"	"	"	"	"	
Surrogate(s): TCX			77.8%		10 - 120 %	"			"	
Decachlorob	iphenyl [2C]		55.2%		10 - 142 %	"			"	
BRK0304-04RE1 (LMW-9-	1108-D)	Wa	iter		Sampl	ed: 11/2	25/08 14:05			Н8
Endrin [2C]	EPA 8081A	ND		0.0762	ug/l	1x	8L03015	12/03/08 12:34	12/05/08 17:29	
Surrogate(s): TCX [2C]			70.0%		10 - 120 %	"			"	

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Decachlorobiphenyl [2C]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full,  $without \ the \ written \ approval \ of \ the \ laboratory.$ 



75.2%

10 - 142 %

**Landsburg Mine** 

11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Report Created:

12/09/08 12:29



Golder Associates Inc. Project Name:

18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Redmond, WA/USA 98052-3333Project Manager:Douglas Morell

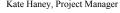
# Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
BRK0304-01	(LMW-11-1108)		Wa	iter		Sampl	ed: 11/2	25/08 10:15			
Aroclor 1016		EPA 8082	ND		0.476	ug/l	1x	8K25012	11/25/08 18:00	11/27/08 19:04	
Aroclor 1221		"	ND		0.476	"	"	"	"	"	
Aroclor 1232		"	ND		0.476	"	"	"	"	"	
Aroclor 1242		"	ND		0.476	"	"	"	"	"	
Aroclor 1248		"	ND		0.476	"	"	"	"	"	
Aroclor 1254		"	ND		0.476	"	"	"	"	"	
Aroclor 1260		"	ND		0.476	"	"	"	"	"	
Aroclor 1262		"	ND		0.476	"	"	"	"	"	
Aroclor 1268		"	ND		0.476	"	"	"	"	"	
Surrogate(s):	TCX			77.6%		36 - 134 %	"			"	
0 ()	Decachlorobiphenyl			80.4%		15 - 124 %	"			"	
BRK0304-02	(LMW-10-1108)		Wa	iter		Sampl	ed: 11/2	25/08 12:15			
Aroclor 1016		EPA 8082	ND		0.476	ug/l	1x	8K25012	11/25/08 18:00	11/27/08 19:20	
Aroclor 1221		"	ND		0.476	"	"	"	"	"	
Aroclor 1232		"	ND		0.476	"	"	"	"	"	
Aroclor 1242		"	ND		0.476	"	"	"	"	"	
Aroclor 1248		"	ND		0.476	"	"	"	"	"	
Aroclor 1254		"	ND		0.476	"	"	"	"	"	
Aroclor 1260		"	ND		0.476	"	"	"	"	"	
Aroclor 1262		"	ND		0.476	"	"	"	"	"	
Aroclor 1268		"	ND		0.476	"	"	"	"	"	
Surrogate(s):	TCX			81.5%		36 - 134 %	"			"	
	Decachlorobiphenyl			80.0%		15 - 124 %	"			"	
BRK0304-03	(LMW-9-1108)		Wa	iter		Sampl	ed: 11/2	25/08 14:00			
Aroclor 1016		EPA 8082	ND		0.472	ug/l	1x	8K25012	11/25/08 18:00	11/27/08 19:36	
Aroclor 1221		"	ND		0.472	"	"	"	"	"	
Aroclor 1232		"	ND		0.472	"	"	"	"	"	
Aroclor 1242		"	ND		0.472	"	"	"	"	"	
Aroclor 1248		"	ND		0.472	"	"	"	"	"	
Aroclor 1254		"	ND		0.472	"	"	"	"	"	
Aroclor 1260		"	ND		0.472	"	"	"	"	"	
Aroclor 1262		"	ND		0.472	"	"	"	"	"	
Aroclor 1268		"	ND		0.472	"	"	"	"	"	
Surrogate(s):	TCX			78.8%		36 - 134 %	"			"	
	Decachlorobiphenyl			54.8%		15 - 124 %	"			"	

TestAmerica Seattle

Mall Duly







11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

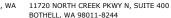
# Polychlorinated Biphenyls by EPA Method 8082

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-04	(LMW-9-1108-D)		Wa	ter		Sampl	ed: 11/2	25/08 14:05			
Aroclor 1016		EPA 8082	ND		0.472	ug/l	1x	8K25012	11/25/08 18:00	11/27/08 19:52	
Aroclor 1221		"	ND		0.472	"	"	"	"	"	
Aroclor 1232		"	ND		0.472	"	"	"	"	"	
Aroclor 1242		"	ND		0.472	"	"	"	"	"	
Aroclor 1248		"	ND		0.472	"	"	"	"	"	
Aroclor 1254		"	ND		0.472	"	"	"	"	"	
Aroclor 1260		"	ND		0.472	"	"	"	"	"	
Aroclor 1262		"	ND		0.472	"	"	"	"	"	
Aroclor 1268		"	ND		0.472	"	"	"	"	"	
Surrogate(s):	TCX			79.6%		36 - 134 %	"			"	
	Decachlorobiphenyl			56.5%		15 - 124 %	"			"	

TestAmerica Seattle





BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333

**Landsburg Mine** Project Name:

923-1000-002-R273 Project Number: Project Manager: Douglas Morell

Report Created: 12/09/08 12:29

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-01 (LMW-11-1108)		Wa	iter		Samı	pled: 11/2	25/08 10:15			
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 19:16	
Benzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"	"	"	"	"	
n-Butylbenzene	"	ND		0.200	"	"	"	"	"	
sec-Butylbenzene	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene	"	ND		0.500	"	"	"	"	"	
Carbon disulfide	"	ND		0.500	"	"	"	"	"	
Carbon tetrachloride	"	ND		0.200	"	"	"	"	"	
Chlorobenzene	"	ND		0.200	"	"	"	"	"	
Chloroethane	"	ND		1.00	"	"	"	"	"	
Chloroform	"	ND		0.200	"	"	"	"	"	
Chloromethane	"	ND		1.00	"	"	"	"	"	
2-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
4-Chlorotoluene	"	ND		0.500	"	"	"	,,	"	
Dibromochloromethane	,,	ND		0.200	,,		"	"	"	
1,2-Dibromo-3-chloropropane	"	ND		1.00	"	"	"	,,	"	
1,2-Dibromoethane	,,	ND		0.200	,,	,,	"	"	"	
Dibromomethane	"	ND		0.200	,,	,,	,,	"	"	
1,2-Dichlorobenzene	"	ND		0.200	,,	,,	,,	"	"	
1,3-Dichlorobenzene	"	ND		0.200	,,	,,	,,	"	"	
1,4-Dichlorobenzene	,,	ND		0.200	,,		,,	"	"	
Dichlorodifluoromethane	"	ND ND		0.500	,,	,,	"	"	"	
1,1-Dichloroethane	,,	ND ND		0.200	,,		,,	"	"	
1,2-Dichloroethane	,,	ND ND		0.200	,,	,,	,,	,,	"	
	,,			0.200	,,	,,	,,	,,	"	
1,1-Dichloroethene	,,	ND ND		0.200	,,	,,	,,	,,	"	
cis-1,2-Dichloroethene	,,	ND ND		0.200	,,	,,	,,	,,	"	
trans-1,2-Dichloroethene	,,			0.200	,,	,	,,	,,	"	
1,2-Dichloropropane	,,	ND ND		0.200	,,	,,	,,	,,	"	
1,3-Dichloropropane	,,	ND		0.200		,,	,,		"	
2,2-Dichloropropane	"	ND		0.500		,,	,,	,,	"	
1,1-Dichloropropene	,	ND		0.200		,,	,,		"	
cis-1,3-Dichloropropene		ND								
trans-1,3-Dichloropropene		ND		0.200						
Ethylbenzene		ND		0.200	"					
Hexachlorobutadiene		ND		2.50	"					
Methyl tert-butyl ether		ND		1.00	"	"	"			
n-Hexane	"	ND		1.00				"	"	
2-Hexanone	"	ND		2.00	"	"	"	"	"	

TestAmerica Seattle





BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Note
BRK0304-01 (LMW-11-1108)		Wa	iter		Sampl	ed: 11/2	25/08 10:15			
sopropylbenzene	EPA 8260B	ND		0.500	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 19:16	
o-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
Methylene chloride	"	ND		2.00	"	"	"	"	"	
Naphthalene	"	ND		2.50	"	"	"	"	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
,1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"	
,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
etrachloroethene	"	ND		0.200	"	"	"	"	"	
oluene	"	ND		0.200	"	"	"	"	"	
,1,1-Trichloroethane	"	ND		0.200	"	"	"	"	"	
1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
richloroethene	"	ND		0.200	"	"	"	"	"	
richlorofluoromethane	"	ND		0.500	"	"	"	"	"	
,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
,2,4-Trimethylbenzene	"	ND		0.200	"		"	"	"	
,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	,,	"	
Vinyl chloride	"	ND		0.200	"		"	"	"	
-Xylene	"	ND		0.250	"	"	"	,,	"	
ı,p-Xylene	"	ND		0.500	"		"		,,	
Total Xylenes	"	ND		0.750	"	"	"	,,	"	
-		TAD	116%		76 - 138 %	,,			,,	
Surrogate(s): 1,2-DCA-d4			100%		70 - 138 % 80 - 120 %	,,			,,	
Toluene-d8						,,			,,	
4-BFB			96.4%		80 - 120 %					
BRK0304-02 (LMW-10-1108)		Wa	iter		Sample	ed: 11/2	25/08 12:15			
cetone	EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 19:44	
enzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
romoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
-Butanone	"	ND		2.00	"	"	"	"	"	
-Butylbenzene	"	ND		0.200	"	"	"	"	"	
ec-Butylbenzene	"	ND		0.200	"	"	"	"	"	
ert-Butylbenzene	"	ND		0.500	"	"	"	"	"	
					,	,,	,,	,		
Carbon disulfide	"	ND		0.500		"				

TestAmerica Seattle





Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 12:29

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-02 (LMW-10-1108)		Wa	iter		Sam	pled: 11/2	25/08 12:15			
Chlorobenzene	EPA 8260B	ND		0.200	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 19:44	
Chloroethane	"	ND		1.00	"	"	"	"	"	
Chloroform	"	ND		0.200	"	"	"	•	"	
Chloromethane	"	ND		1.00	"	"	"	"	"	
2-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
4-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
Dibromochloromethane	"	ND		0.200	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND		1.00	"	"	"	"	"	
1,2-Dibromoethane	"	ND		0.200	"	"	"	"	"	
Dibromomethane	"	ND		0.200	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
Dichlorodifluoromethane	"	ND		0.500	"	"	"	"	"	
1,1-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,2-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,1-Dichloroethene	"	ND		0.200	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND		0.200	"	"	"		"	
trans-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
1,2-Dichloropropane	"	ND		0.200	"	"	"	"	"	
1,3-Dichloropropane	"	ND		0.200	"	"	"	"	"	
2,2-Dichloropropane	"	ND		0.500	"	"	"	"	"	
1,1-Dichloropropene	"	ND		0.200	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
Ethylbenzene	"	ND		0.200	"	"	"	"	"	
Hexachlorobutadiene	"	ND		2.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND		1.00	"	"	"	"	"	
n-Hexane	"	ND		1.00	"		"	"	"	
2-Hexanone	"	ND		2.00	"	"	"	"	"	
Isopropylbenzene	"	ND		0.500	"	,,	"	"	"	
p-Isopropyltoluene	"	ND		0.200	"	,,	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	,,	"	"	"	
Methylene chloride	"	ND		2.00	"	,,		"	"	
Naphthalene	"	ND		2.50	"	"	,,	"	"	
n-Propylbenzene	"	ND		0.500	"	,,		"	"	
Styrene	"	ND		0.500	"	"	,,	"	"	
1,2,3-Trichlorobenzene	"	ND		1.00	,,	"	,,	,,	"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	,,	"	"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	,,	"	,,	,,	"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	,,				"	
Tetrachloroethene	"	ND		0.200	,,	"	,,	,,	"	
Toluene		ND ND		0.200	,,					

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Mall Dhury

Kate Haney, Project Manager



Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 12:29

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-02 (LMW-10-1108)		Wa	ter		Sampl	ed: 11/2	25/08 12:15			
1,1,1-Trichloroethane	EPA 8260B	ND		0.200	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 19:44	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	"	"	"	
Trichlorofluoromethane	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
Vinyl chloride	"	ND		0.200	"	"	"	"	"	
o-Xylene	"	ND		0.250	"	"	"	"	"	
m,p-Xylene	"	ND		0.500	"	"	"	"	"	
Total Xylenes	"	ND		0.750	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			118%		76 - 138 %	"			"	
Toluene-d8			95.2%		80 - 120 %	"			"	
4-BFB			95.6%		80 - 120 %	"			"	
BRK0304-03 (LMW-9-1108)		Wa	ter		Sampl	ed: 11/2	25/08 14:00			
Acetone	EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 20:13	
Benzene	"	ND		0.200	"	"	"	"	"	
Bromobenzene	"	ND		0.500	"	"	"	"	"	
Bromochloromethane	"	ND		0.250	"	"	"	"	"	
Bromodichloromethane	"	ND		0.200	"	"	"	"	"	
Bromoform	"	ND		0.250	"	"	"	"	"	
Bromomethane	"	ND		2.00	"	"	"	"	"	
2-Butanone	"	ND		2.00	"	"	"	"	"	
n-Butylbenzene	"	ND		0.200	"	"	"	"	"	
sec-Butylbenzene	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene	"	ND		0.500	"	"	"	"	"	
Carbon disulfide	"	ND		0.500	"	"	"	"	"	
Carbon tetrachloride	"	ND		0.200	"	"	"	"	"	
Chlorobenzene	"	ND		0.200	"	"	"	"	"	
Chloroethane	"	ND		1.00	"	"	"	"	"	
Chloroform	"	ND		0.200	"	"	"	"	"	
Chloromethane	"	ND		1.00	"	"	"		"	
2-Chlorotoluene	"	ND		0.500	"	"	"	"	"	
4-Chlorotoluene	,,	ND		0.500	"	"	"		"	
Dibromochloromethane	,,	ND		0.200	"	"	"		"	
1,2-Dibromo-3-chloropropane	,,	ND		1.00	"	"	"		"	
1,2-Dibromoethane	"	ND		0.200	"	"	"	"	"	
Dibromomethane	"	ND		0.200	,,	"	"	"	"	
1,2-Dichlorobenzene	"	ND		0.200	,,	"	"	"	"	
1,3-Dichlorobenzene	"	ND		0.200	"	"	"	"	"	
1,4-Dichlorobenzene	,,	ND		0.200	"	,,	"		,,	
1, 1 Diemoroochzene		ND		0.200						

TestAmerica Seattle

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TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

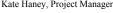
18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-03 (LMW-9-1108)		Wa	iter		Samp	led: 11/2	25/08 14:00			
Dichlorodifluoromethane	EPA 8260B	ND		0.500	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 20:13	
1,1-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,2-Dichloroethane	"	ND		0.200	"	"	"	"	"	
1,1-Dichloroethene	"	ND		0.200	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND		0.200	"	"	"	"	"	
1,2-Dichloropropane	"	ND		0.200	"	"	"	"	"	
1,3-Dichloropropane	"	ND		0.200	"	"	"	"	"	
2,2-Dichloropropane	"	ND		0.500	"	"	"	"	"	•
1,1-Dichloropropene	"	ND		0.200	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND		0.200	"	"	"	"	"	
Ethylbenzene	"	ND		0.200	"	"	"	"	"	
Hexachlorobutadiene	"	ND		2.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND		1.00	"	"	"	"	"	
n-Hexane	"	ND		1.00	"	"	"	"	"	
2-Hexanone	"	ND		2.00	"	"	"	"	"	
Isopropylbenzene	"	ND		0.500	"	"	"	"	"	
p-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
Methylene chloride	"	ND		2.00	"	"	"	"	"	
Naphthalene	"	ND		2.50	"	"	"	"	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
Tetrachloroethene	"	ND		0.200	"	"	"	"	"	
Toluene	"	ND		0.200	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	"	"	"	
Trichlorofluoromethane	"	ND		0.500	"		"	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
Vinyl chloride	"	ND		0.200	"		"	"	"	
o-Xylene	"	ND		0.250	"		"	"	"	
m,p-Xylene	"	ND		0.500	"		"	"	"	
Total Xylenes	"	ND		0.750	"		"	"	"	

TestAmerica Seattle







BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-03	(LMW-9-1108)		Wat	ter		Sampl	ed: 11/2	25/08 14:00			
	Toluene-d8			99.0%		80 - 120 %	1x			11/28/08 20:13	
	4-BFB			94.2%		80 - 120 %	"			"	
BRK0304-04	(LMW-9-1108-D)		Wat	ter		Sampl	ed: 11/2	25/08 14:05			
Acetone		EPA 8260B	ND		10.0	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 20:42	
Benzene		"	ND		0.200	"	"	"	"	"	
Bromobenzene		"	ND		0.500	"	"	"	"	"	
Bromochlorometh	hane	"	ND		0.250	"	"	"	"	"	
Bromodichlorome	ethane	"	ND		0.200	"	"	"	"	"	
Bromoform		"	ND		0.250	"	"	"	"	"	
Bromomethane		"	ND		2.00	"	"	"	"	"	
2-Butanone		"	ND		2.00	"	"	"	"	"	
n-Butylbenzene		"	ND		0.200	"	"	"	"	"	
sec-Butylbenzene	;	"	ND		0.200	"	"	"	"	"	
tert-Butylbenzene		"	ND		0.500	"	"	"	"	"	
Carbon disulfide		"	ND		0.500	"	"	"	"	"	
Carbon tetrachlori	ride	"	ND		0.200	"		"	"	"	
Chlorobenzene		"	ND		0.200	"		"	"	"	
Chloroethane		"	ND		1.00	"		"	"	"	
Chloroform		"	ND		0.200	"		"	,,	"	
Chloromethane		"	ND		1.00	"		"	,,	"	
2-Chlorotoluene		"	ND		0.500	,,		"		"	
4-Chlorotoluene		"	ND		0.500	,,		"	,,	"	
Dibromochlorome	athana	"	ND		0.200	,,		,,	"	"	
1,2-Dibromo-3-ch		"	ND ND		1.00	,,		,,	,,	"	
1,2-Dibromoethar		"	ND ND		0.200	,,		,,	,,	"	
*		"			0.200	,,		,,	,,	"	
Dibromomethane		"	ND ND		0.200	,,	,,	,,	,,	"	
1,2-Dichlorobenze		,,				,	,	,,			
1,3-Dichlorobenze		"	ND		0.200 0.200	,,	,	,,		,,	
1,4-Dichlorobenze		,,	ND			,	,	,,			
Dichlorodifluoron			ND		0.500						
1,1-Dichloroethan			ND		0.200	,					
1,2-Dichloroethan			ND		0.200						
1,1-Dichloroether			ND		0.200	"				"	
cis-1,2-Dichloroet		"	ND		0.200				"	"	
rans-1,2-Dichloro		"	ND		0.200	"	"	"	"	"	
,2-Dichloropropa		"	ND		0.200	"	"	"	"	"	
1,3-Dichloropropa	ane	"	ND		0.200	"	"	"	"	"	
2,2-Dichloropropa	ane	"	ND		0.500	"	"	"	"	"	
1,1-Dichloroprope	ene	"	ND		0.200	"	"	"	"	"	
cis-1,3-Dichlorop	ropene	"	ND		0.200	"	"	"	"	"	
trans-1,3-Dichloro	opropene	"	ND		0.200	"	"	"	"	"	

TestAmerica Seattle







Golder Associates Inc. Project Name:

**Landsburg Mine** 18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Volatile Organic Compounds by EPA Method 8260B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL \	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-04 (LMW-9-1108-D)		Wa	ter		Sampl	ed: 11/2	5/08 14:05			
Ethylbenzene	EPA 8260B	ND		0.200	ug/l	1x	8K28011	11/28/08 10:53	11/28/08 20:42	
Hexachlorobutadiene	"	ND		2.50	"	"	"	"	"	
Methyl tert-butyl ether	"	ND		1.00	"	"	"	"	"	
n-Hexane	"	ND		1.00	"	"	"	"	"	
2-Hexanone	"	ND		2.00	"	"	"	"	"	
Isopropylbenzene	"	ND		0.500	"	"	"	"	"	
p-Isopropyltoluene	"	ND		0.200	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND		2.00	"	"	"	"	"	
Methylene chloride	"	ND		2.00	"	"	"	"	"	
Naphthalene	"	ND		2.50	"	"	"	"	"	
n-Propylbenzene	"	ND		0.500	"	"	"	"	"	
Styrene	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"	"	"	"	
Tetrachloroethene	"	ND		0.200	"	"	"	"	"	
Toluene	"	ND		0.200	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND		0.200	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND		0.200	"	"	"	"	"	
Trichloroethene	"	ND		0.200	"	"	"	"	"	
Trichlorofluoromethane	"	ND		0.500	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND		0.500	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"	"	"	"	
Vinyl chloride	"	ND		0.200	"	"	"	"	"	
o-Xylene	"	ND		0.250	"	"	"	"	"	
m,p-Xylene	"	ND		0.500	"	"	"	"	"	
Total Xylenes	"	ND		0.750	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			119%	7	76 - 138 %	"			"	
Toluene-d8			98.4%	8	80 - 120 %	"			"	
4-BFB			97.0%	8	80 - 120 %	"			"	

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-01 (LMW-11-1108)		Wa	iter		Sam	pled: 11/2	25/08 10:15			
Acenaphthene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 16:55	
Acenaphthylene	"	ND		9.43	"	"	"	"	"	
Aniline	"	ND		9.43	"	"	"	"	"	
Anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.43	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.43	"	"	"	"	"	
Benzoic Acid	"	ND		18.9	"	"	"	"	"	
Benzyl alcohol	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.43	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.43	"	"	"	"	"	
Carbazole	"	ND		9.43	"	"	"	"	"	
4-Chloroaniline	"	ND		9.43	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.43	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.43	"	"	"	"	"	
2-Chlorophenol	"	ND		9.43	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.43	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.43	"	"	"	"	"	
Chrysene	"	ND		9.43	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.43	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.43	"	"	"	"	"	
Dibenzofuran	"	ND		9.43	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.43	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.43	"	"	"	"	"	
Diethyl phthalate	"	ND		9.43	"	"	"	"	"	
2,4-Dimethylphenol	"	ND		9.43	"	"	"	"	"	
Dimethyl phthalate	"	ND		9.43	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.43	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		18.9	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND		9.43	"	"	"	"	"	
Fluoranthene	,,	ND		9.43	,,	,	,,	,,	,,	

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Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 12:29

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-01	(LMW-11-1108)		Wa	iter		Sampl	ed: 11/2	25/08 10:15			
Fluorene		EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 16:55	
Hexachlorobenzene		"	ND		9.43	"	"	"	"	"	
Hexachlorobutadien	ie	"	ND		9.43	"	"	"	"	"	
Hexachlorocycloper	ntadiene	"	ND		9.43	"	"	"	"	"	
Hexachloroethane		"	ND		9.43	"	"	"	"	"	
Indeno (1,2,3-cd) py	rene	"	ND		9.43	"	"	"	"	"	
Isophorone		"	ND		9.43	"	"	"	"	"	
1-Methylnaphthalen	ie	"	ND		9.43	"	"	"	"	"	
2-Methylnaphthalen	ie	"	ND		9.43	"	"	"	"	"	
Naphthalene		"	ND		9.43	"	"	"	"	"	
2-Nitroaniline		"	ND		9.43	"	"	"	"	"	
3-Nitroaniline		"	ND		9.43	"	"	"	"	"	
4-Nitroaniline		"	ND		9.43	"	"	"	"	"	
Nitrobenzene		"	ND		9.43	"	"	"	"	"	
2-Nitrophenol		"	ND		9.43	"	"	"	"	"	
4-Nitrophenol		"	ND		9.43	"	"	"	"	"	
N-Nitrosodi-n-propy	ylamine	"	ND		9.43	"	"	"	"	"	
Di-n-octyl phthalate	;	"	ND		9.43	"	"	"	"	"	
Pentachlorophenol		"	ND		9.43	"	"	"	"	"	
Phenanthrene		"	ND		9.43	"	"	"	"	"	
Phenol		"	ND		9.43	"	"	"	"	"	
Pyrene		"	ND		9.43	"	"	"	"	"	
1,2,4-Trichlorobenz	ene	"	ND		9.43	"	"	"	"	"	
2,4,5-Trichlorophen	ol	"	ND		9.43	"	"	"	"	"	
2,4,6-Trichlorophen	ol	"	ND		9.43	"	"	"	"	"	
Surrogate(s):	2-FBP			70.9%		44 - 120 %	"			"	
	2-FP			60.9%		16 - 120 %	"			"	
	Nitrobenzene-d5			70.0%		38 - 120 %	"			"	
	Phenol-d6			60.5%		16 - 120 %	"			"	
	p-Terphenyl-d14			58.7%		24 - 146 %	"			"	
	2,4,6-TBP			56.3%		32 - 135 %	"			"	

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**Landsburg Mine** 

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Golder Associates Inc. Project Name:

18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Redmond, WA/USA 98052-3333Project Manager:Douglas Morell

Report Created: 12/09/08 12:29

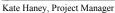
# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-02 (LMW-10-1108)		Wa	iter		Sam	pled: 11/2	25/08 12:15			
Acenaphthene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 17:19	
Acenaphthylene	"	ND		9.43	"	"	"	"	"	
Aniline	"	ND		9.43	"	"	"	"	"	
Anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.43	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.43	"	"	"	"	"	
Benzoic Acid	"	ND		18.9	"	"	"	"	"	
Benzyl alcohol	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.43	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.43	"	"	"	"	"	
Carbazole	"	ND		9.43	"	"	"	"	"	
4-Chloroaniline	"	ND		9.43	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.43	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.43	"	"	"	"	"	
2-Chlorophenol	"	ND		9.43	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.43	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.43	"	"	"	"	"	
Chrysene	"	ND		9.43	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.43	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.43	"	"	"	"	"	
Dibenzofuran	"	ND		9.43	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.43	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.43	"	"	"	"	"	
Diethyl phthalate	"	ND		9.43	"	"	"	"	"	
2,4-Dimethylphenol	"	ND		9.43	"	"	"	"	"	
Dimethyl phthalate	"	ND		9.43	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.43	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		18.9	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND		9.43	"	"	"	"	"	
Fluoranthene	,,	ND		9.43	,,		,,	"	"	

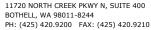
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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-02	(LMW-10-1108)		Wa	iter		Sample	ed: 11/2	25/08 12:15			
Fluorene		EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 17:19	
Hexachlorobenzene	e	"	ND		9.43	"	"	"	"	"	
Hexachlorobutadie	ne	"	ND		9.43	"	"	"	"	"	
Hexachlorocyclope	entadiene	"	ND		9.43	"	"	"	"	"	
Hexachloroethane		"	ND		9.43	"	"	"	"	"	
Indeno (1,2,3-cd) p	yrene	"	ND		9.43	"	"	"	"	"	
Isophorone		"	ND		9.43	"	"	"	"	"	
1-Methylnaphthale	ne	"	ND		9.43	"	"	"	"	"	
2-Methylnaphthale	ne	"	ND		9.43	"	"	"	"	"	
Naphthalene		"	ND		9.43	"	"	"	"	"	
2-Nitroaniline		"	ND		9.43	"	"	"	"	"	
3-Nitroaniline		"	ND		9.43	"	"	"	"	"	
4-Nitroaniline		"	ND		9.43	"	"	"	"	"	
Nitrobenzene		"	ND		9.43	"	"	"	"	"	
2-Nitrophenol		"	ND		9.43	"	"	"	"	"	
4-Nitrophenol		"	ND		9.43	"	"	"	"	"	
N-Nitrosodi-n-prop	ylamine	"	ND		9.43	"	"	"	"	"	
Di-n-octyl phthalat	e	"	ND		9.43	"	"	"	"	"	
Pentachlorophenol		"	ND		9.43	"	"	"	"	"	
Phenanthrene		"	ND		9.43	"	"	"	"	"	
Phenol		"	ND		9.43	"	"	"	"	"	
Pyrene		"	ND		9.43	"	"	"	"	"	
1,2,4-Trichlorobenz	zene	"	ND		9.43	"	"	"	"	"	
2,4,5-Trichloropher	nol	"	ND		9.43	"	"	"	"	"	
2,4,6-Trichloropher	nol	"	ND		9.43	"	"	"	"	"	
Surrogate(s):	2-FBP		·	74.4%		44 - 120 %	"		·	"	
	2-FP			66.6%		16 - 120 %	"			"	
	Nitrobenzene-d5			73.9%		38 - 120 %	"			"	
	Phenol-d6			65.8%		16 - 120 %	"			"	
	p-Terphenyl-d14			61.6%		24 - 146 %	"			"	
	2,4,6-TBP			64.7%		32 - 135 %	"			"	

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-03 (LMW-9-1108)		Wa	iter		Sam	pled: 11/2	25/08 14:00			
Acenaphthene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 17:44	
Acenaphthylene	"	ND		9.43	"	"	"	"	"	
Aniline	"	ND		9.43	"	"	"	"	"	
Anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.43	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.43	"	"	"	"	"	
Benzoic Acid	"	ND		18.9	"	"	"	"	"	
Benzyl alcohol	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.43	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
Butyl benzyl phthalate	"	ND		9.43	"	"	"	"	"	
Carbazole	"	ND		9.43	"	"	"	"	"	
4-Chloroaniline	"	ND		9.43	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND		9.43	"	"	"	"	"	
2-Chloronaphthalene	"	ND		9.43	"	"	"	"	"	
2-Chlorophenol	"	ND		9.43	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.43	"	"	"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.43	"	"	"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.43	"	"	"	"	"	
Chrysene	"	ND		9.43	"	"	"	"	"	
Di-n-butyl phthalate	"	ND		9.43	"	"	"	"	"	
Dibenz (a,h) anthracene	"	ND		9.43	"	"	"	"	"	
Dibenzofuran	"	ND		9.43	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND		9.43	"	"	"	"	"	
2,4-Dichlorophenol	"	ND		9.43	"	"	"	"	"	
Diethyl phthalate	"	ND		9.43	"	"	"	"	"	
2,4-Dimethylphenol	"	ND		9.43	"	"	"	"	"	
Dimethyl phthalate	"	ND		9.43	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND		9.43	"	"	"	"	"	
2,4-Dinitrophenol	"	ND		18.9	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND		9.43	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND		9.43	"	"	"	"	"	
Fluoranthene		ND		9.43	,,		,,			

TestAmerica Seattle







Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-03 (LMW-9-1108)		Wa	iter		Sampl	ed: 11/2	25/08 14:00			
Fluorene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 17:44	
Hexachlorobenzene	"	ND		9.43	"	"	"	"	"	
Hexachlorobutadiene	"	ND		9.43	"	"	"	"	"	
Hexachlorocyclopentadiene	"	ND		9.43	"	"	"	"	"	
Hexachloroethane	"	ND		9.43	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND		9.43	"	"	"	"	"	
Isophorone	"	ND		9.43	"	"	"	"	"	
1-Methylnaphthalene	"	ND		9.43	"	"	"	"	"	
2-Methylnaphthalene	"	ND		9.43	"	"	"	"	"	
Naphthalene	"	ND		9.43	"	"	"	"	"	
2-Nitroaniline	"	ND		9.43	"	"	"	"	"	
3-Nitroaniline	"	ND		9.43	"	"	"	"	"	
4-Nitroaniline	"	ND		9.43	"	"	"	"	"	
Nitrobenzene	"	ND		9.43	"	"	"	"	"	
2-Nitrophenol	"	ND		9.43	"	"	"	"	"	
4-Nitrophenol	"	ND		9.43	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND		9.43	"	"	"	"	"	
Di-n-octyl phthalate	"	ND		9.43	"	"	"	"	"	
Pentachlorophenol	"	ND		9.43	"	"	"	"	"	
Phenanthrene	"	ND		9.43	"	"	"	"	"	
Phenol	"	ND		9.43	"	"	"	"	"	
Pyrene	"	ND		9.43	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND		9.43	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND		9.43	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND		9.43	"	"	"	"	"	
Surrogate(s): 2-FBP			70.5%		44 - 120 %	"			"	
2-FP			59.4%		16 - 120 %	"			"	
Nitrobenzene-d5			69.2%		38 - 120 %	"			"	
Phenol-d6			58.1%		16 - 120 %	"			"	
p-Terphenyl-d14			58.9%		24 - 146 %	"			"	
2,4,6-TBP			53.8%		32 - 135 %	"			"	

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-04 (LMW-9-1108-D)		Wa	iter		Sam	pled: 11/2	25/08 14:05			
Acenaphthene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 18:09	
Acenaphthylene	"	ND		9.43	"	"	"	"	"	
Aniline	"	ND		9.43	"	"	"	"	"	
Anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) anthracene	"	ND		9.43	"	"	"	"	"	
Benzo (a) pyrene	"	ND		9.43	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND		9.43	"	"	"	"	"	
Benzo (ghi) perylene	"	ND		9.43	"	"	"	"	"	
Benzoic Acid	"	ND		18.9	"	"	"	"	"	
Benzyl alcohol	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND		9.43	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND		9.43	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND		9.43	"		"	"	"	
Butyl benzyl phthalate	"	ND		9.43	"		"	"	"	
Carbazole	"	ND		9.43	"		"	"	"	
4-Chloroaniline	"	ND		9.43	"		"	"	"	
4-Chloro-3-methylphenol	"	ND		9.43	"		"	"	"	
2-Chloronaphthalene	"	ND		9.43	"		"	"	"	
2-Chlorophenol	"	ND		9.43	"		"	"	"	
4-Chlorophenyl phenyl ether	"	ND		9.43	"		"	"	"	
3 & 4-Methylphenol (m,p-Cresols)	"	ND		9.43	"		"	"	"	
2-Methylphenol (o-Cresol)	"	ND		9.43	"		"	"	"	
Chrysene	"	ND		9.43	"		"	"	"	
Di-n-butyl phthalate	"	ND		9.43	"		"	"	"	
Dibenz (a,h) anthracene	"	ND		9.43	"		"	"	"	
Dibenzofuran	"	ND		9.43	"	,,	"	,,	"	
1,2-Dichlorobenzene	"	ND		9.43	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND		9.43	"		"	"	"	
1,4-Dichlorobenzene	"	ND		9.43	"		,,		"	
3,3'-Dichlorobenzidine	"	ND		9.43	"		"	"	"	
2,4-Dichlorophenol		ND ND		9.43		"	,,		,,	
Diethyl phthalate	"	ND ND		9.43	,,	,,	,,	"	"	
2,4-Dimethylphenol		ND ND		9.43	"	"	"		"	
Dimethyl phthalate		ND ND		9.43		"	,,		,,	
4,6-Dinitro-2-methylphenol	"	ND ND		9.43	,,	,,	,,	"	"	
2,4-Dinitrophenol		ND ND		18.9		"	,,		,,	
2,4-Dinitrotoluene	"	ND ND		9.43	,,	,,	,,	"	"	
2,6-Dinitrotoluene	"	ND ND		9.43	,,	,,	,,	"	"	
	"	ND ND		9.43	,,	,,	,,	"	"	
N-Nitrosodiphenylamine Fluoranthene		ND ND		9.43						

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Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Semivolatile Organic Compounds by EPA Method 8270C

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRK0304-04 (LMW-9-11	(08-D)	Wa	iter		Sample	ed: 11/2	25/08 14:05			
Fluorene	EPA 8270C	ND		9.43	ug/l	1x	8K25013	11/25/08 14:55	12/01/08 18:09	
Hexachlorobenzene	n .	ND		9.43	"	"	"	"	"	
Hexachlorobutadiene	"	ND		9.43	"	"	"	"	"	
Hexachlorocyclopentadiene	"	ND		9.43	"	"	"	"	"	
Hexachloroethane	"	ND		9.43	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND		9.43	"	"	"	"	"	
Isophorone	"	ND		9.43	"	"	"	"	"	
1-Methylnaphthalene	n .	ND		9.43	"	"	"	"	"	
2-Methylnaphthalene	"	ND		9.43	"	"	"	"	"	
Naphthalene	n .	ND		9.43	"	"	"	"	"	
2-Nitroaniline	n .	ND		9.43	"	"	"	"	"	
3-Nitroaniline	n .	ND		9.43	"	"	"	"	"	
4-Nitroaniline	n .	ND		9.43	"	"	"	"	"	
Nitrobenzene	n .	ND		9.43	"	"	"	"	"	
2-Nitrophenol	"	ND		9.43	"	"	"	"	"	
4-Nitrophenol	"	ND		9.43	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND		9.43	"	"	"	"	"	
Di-n-octyl phthalate	"	ND		9.43	"	"	"	"	"	
Pentachlorophenol	"	ND		9.43	"	"	"	"	"	
Phenanthrene	n .	ND		9.43	"	"	"	"	"	
Phenol	"	ND		9.43	"	"	"	"	"	
Pyrene	"	ND		9.43	"	"	"	"	"	
1,2,4-Trichlorobenzene	n .	ND		9.43	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND		9.43	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND		9.43	"	"	"	"	"	
Surrogate(s): 2-FBP			68.0%		44 - 120 %	"			"	
2-FP			60.8%		16 - 120 %	"			"	
Nitrobenzen	e-d5		68.5%		38 - 120 %	"			"	
Phenol-d6			59.9%		16 - 120 %	"			"	
p-Terphenyl	-d14		55.0%		24 - 146 %	"			"	
2,4,6-TBP			58.3%		32 - 135 %	"			"	

TestAmerica Seattle







THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

# Hydrocarbon Identification by Washington DOE Method NWTPH-HCID - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25014	Water P	reparation	Method: EP	A 3520C										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8K25014-BLK1)								Ext	racted:	11/25/08 11	:56			
Gx Range Hydrocarbons	NWTPH-HCI D	ND		0.250	mg/l	1x							11/26/08 15:50	
Kerosene Range Hydrocarbons	"	ND		0.630	"	"							"	
Diesel Range Hydrocarbons	"	ND		0.630	"	"							"	
Insulating Oil Range Hydrocarbons	"	ND		0.630	"	"							"	
Heavy Fuel Oil Range Hydrocarbons	"	ND		0.630	"	"							"	
Lube Oil Range Hydrocarbons	"	ND		0.630	"	"							"	
Surrogate(s): 2-FBP		Recovery:	118%	Lin	nits: 50-150%	"							11/26/08 15:50	
Octacosane			92.0%		50-150%	"							"	
LCS (8K25014-BS1)								Ext	racted:	11/25/08 11	:56			
Diesel Range Hydrocarbons	NWTPH-HCI D	DET		0.630	mg/l	1x		2.00	83.8%	(58-125)			11/26/08 16:12	
Lube Oil Range Hydrocarbons	"	DET		0.630	"	"		"	89.7%	(60-140)			"	
Surrogate(s): 2-FBP		Recovery:	116%	Lin	nits: 50-150%	"							11/26/08 16:12	
Octacosane			91.4%		50-150%	"							"	
LCS Dup (8K25014-BSD1)								Ext	racted:	11/25/08 11	:56			
Diesel Range Hydrocarbons	NWTPH-HCI D	DET		0.630	mg/l	1x		2.00	89.2%	(58-125)	6.18%	(40)	11/26/08 16:34	
Lube Oil Range Hydrocarbons	,	DET		0.630	"	"		"	92.2%	(60-140)	2.77%	, "	"	
Surrogate(s): 2-FBP		Recovery:	131%	Lin	nits: 50-150%	"							11/26/08 16:34	
Octacosane			94.7%		50-150%	"							"	

TestAmerica Seattle





Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project Name: Landsburg Mine

Project Number: 923-1000-002-R273
Project Manager: Douglas Morell

Report Created: 12/09/08 12:29

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K26042	Water P	reparation M	lethod: E	PA 3020A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K26042-BLK1)								Extr	acted:	11/26/08 16	:58			
Selenium	EPA 6020	ND		0.00100	mg/l	1x							12/01/08 16:11	
Arsenic	"	ND		0.00100	"	"							"	
Barium	"	ND		0.0100	"	"							"	
Beryllium	"	ND		0.00100	"	"							"	
Cadmium	"	ND		0.00100	"	"							"	
Copper	"	ND		0.00100	"	"							12/04/08 16:11	
Silver	"	ND		0.00100	"	"							"	
Antimony	"	ND		0.00300	"	"							12/01/08 16:11	
Zinc	"	ND		0.0100	"	"							12/04/08 16:11	
Cobalt	"	ND		0.00100	"	"							"	
Chromium	"	ND		0.00100	"	"							12/01/08 16:11	
Nickel	"	ND		0.00100	"	"							12/04/08 16:11	
Lead	"	ND		0.00100	"	"							"	
Thallium	"	ND		0.00100	"	"							"	
Vanadium	"	ND		0.00100	"	"								
Manganese	"	ND		0.0100	"	"							"	
Y GG (0Y/2 (0 42 PG4)										44.000.40				
LCS (8K26042-BS1)										11/26/08 16	:58			
Beryllium	EPA 6020	0.0724		0.00100	mg/l	1x		0.0800	90.6%	(80-120)			12/01/08 16:17	
Thallium	"	0.0736		0.00100	"	"		"	92.0%	"			12/04/08 16:17	
Lead	"	0.0743		0.00100	"	"		"	92.9%	"			"	
Nickel	"	0.0736		0.00100	"	"		"	92.0%	"			"	
Chromium	"	0.0757		0.00100	"	"		"	94.6%	"			12/01/08 16:17	
Cobalt	"	0.0723		0.00100	"	"		"	90.3%	"			12/04/08 16:17	
Zinc	"	0.0780		0.0100	"	"		"	97.6%	"			"	
Selenium	"	0.0706		0.00100	"	"		"	88.3%	"			12/01/08 16:17	
Antimony	"	0.0540		0.00300	"	"		0.0600	90.0%	"			"	
Manganese	"	0.0734		0.0100	"	"		0.0800	91.8%	"			12/04/08 16:17	
Copper	"	0.0738		0.00100	"	"		"	92.3%	"			"	
Cadmium	"	0.0703		0.00100	"	"		"	87.9%	"			12/01/08 16:17	
Barium	"	0.0744		0.0100	"	"		"	93.0%	"			"	
Arsenic	"	0.0704		0.00100	"	"		"	88.0%	"			"	
Silver	"	0.0777		0.00100	"	"		"	97.1%				12/04/08 16:17	
Vanadium	"	0.0704		0.00100	"	"		"	88.0%	,,			"	

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Male Lalley







Golder Associates Inc. Project Name: Landsburg Mine

18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Report Created:Redmond, WA/USA 98052-3333Project Manager:Douglas Morell12/09/08 12:29

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K26042	Water F	Preparation M	lethod: E	PA 3020A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (8K26042-DUP1)				QC Source:	BRK0304-	01		Extr	acted:	11/26/08 16	:58			
Thallium	EPA 6020	ND		0.00100	mg/l	1x	ND				NR	(20)	12/04/08 16:29	
Manganese	"	0.142		0.0100	"	"	0.140				0.922%	. "	"	
Nickel	"	0.00137		0.00100	"	"	0.00136				0.733%	, "	"	
Silver	"	ND		0.00100	"	"	ND				24.6%	"	"	R
Lead	"	ND		0.00100	"	"	ND				NR	"	"	
Vanadium	"	ND		0.00100	"	"	ND				40.0%	"	"	R
Selenium	"	ND		0.00100	"	"	ND				NR	"	12/01/08 16:52	
Antimony	"	ND		0.00300	"	"	ND					"	"	
Cobalt	"	ND		0.00100	"	"	ND				6.59%	"	12/04/08 16:29	
Arsenic	"	0.00861		0.00100	"	"	0.00854				0.816%	, "	12/01/08 16:52	
Zinc	"	ND		0.0100	"		ND				NR	"	12/04/08 16:29	
Chromium	"	ND		0.00100	"		ND				NR	"	12/01/08 16:52	
Beryllium	"	ND		0.00100	"	"	ND				NR	"	"	
Copper	"	ND		0.00100	"	"	ND				0.00%	"	12/04/08 16:29	
Barium	"	0.255		0.0100	"	"	0.254				0.511%	, "	12/01/08 16:52	
Cadmium	"	ND		0.00100	"	"	ND				NR	"	"	
Matrix Spike (8K26042-MS1)				QC Source:	BRK0304-	01		Extr	acted:	11/26/08 16	:58			
Copper	EPA 6020	0.0715		0.00100	mg/l	1x	0.000330	0.0800	89.0%	(75-125)			12/04/08 16:23	
Arsenic	"	0.0782		0.00100	"		0.00854	"	87.1%	"			12/01/08 16:46	
Manganese	"	0.198		0.0100	"	"	0.140	"	71.4%	"			12/04/08 16:23	M2
Beryllium	"	0.0719		0.00100	"		ND	"	89.9%	"			12/01/08 16:46	
Nickel	"	0.0751		0.00100	"	"	0.00136	"	92.2%	"			12/04/08 16:23	
Antimony	"	0.0559		0.00300	"	"	ND	0.0600	93.1%	"			12/01/08 16:46	
Selenium	"	0.0710		0.00100	"	"	ND	0.0800	88.8%	"			"	
Lead	"	0.0740		0.00100	"	"	ND	"	92.4%	"			12/04/08 16:23	
Silver	"	0.0713		0.00100	"		0.000250	"	88.9%	"			"	
Cobalt	"	0.0710		0.00100	"	"	0.000440	,,	88.2%	"			"	
Cadmium	"	0.0690		0.00100	"	"	ND	"	86.2%	"			12/01/08 16:46	
Chromium	"	0.0731		0.00100	"	"	ND	"	91.4%	"			"	
Barium	"	0.325		0.0100	"	"	0.254	"	89.5%	"			"	
Vanadium	"	0.0729		0.00100	"	"	0.000300	"	90.7%	,,			12/04/08 16:23	
Zinc	,,	0.0749		0.0100	"	,,	ND	,,	93.7%	"			"	

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Nawknung





QC Batch: 8K26042

Water Preparation Method:

Golder Associates Inc.Project Name:Landsburg Mine18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Report Created:Redmond, WA/USA 98052-3333Project Manager:Douglas Morell12/09/08 12:29

## Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica Seattle

EPA 3020A

 Analyte
 Method
 Result
 MDL\*
 MRL
 Units
 Dil
 Source Result
 Spike REC
 " Limits
 % PD
 (Limits)
 Analyzed
 Notes

 Post Spike
 (8K26042-PS1)
 CSource:
 BRK0304-01
 Extracted:
 11/26/08 16:58
 5
 - 12/01/08 16:40

 Beryllium
 Post Spike
 BPA 6020
 0.0917
 - ug/ml
 1x
 0.0000100
 0.095
 92.1%
 (80-120)
 - - 12/01/08 16:40

 Antimony
 "
 0.0488
 - "
 "
 0.000120
 0.0510
 95.5%
 "
 - - 12/01/08 16:40

Post Spike (8K26042-PS1)			QC Source: BRK0304-	01		Extr	acted:	11/26/08 16:5	8	
Beryllium	EPA 6020	0.0917	 ug/ml	1x	0.0000100	0.0995	92.1%	(80-120)		 12/01/08 16:40
Antimony	"	0.0488	 "	"	0.000120	0.0510	95.5%	"		 "
Silver	"	0.0918	 "	"	0.000250	0.100	91.6%	"		 "
Arsenic	"	0.103	 "	"	0.00854	0.0995	94.5%	"		 "
Barium	"	0.344	 "	"	0.254	0.100	90.1%	"		 "
Lead	"	0.0961	 "	"	-0.00106	"	96.6%	"		 "
Cadmium	"	0.0904	 "	"	0.0000100	"	90.4%	"		 "
Zinc	"	0.0902	 "	"	0.00289	"	86.9%	"		 "
Vanadium	"	0.0858	 "	"	0.000300	"	85.5%	"		 "
Selenium	"	0.0911	 "	"	0.000210	"	90.9%	"		 "
Nickel	"	0.0902	 "	"	0.00136	0.0995	89.3%	"		 "
Chromium	"	0.0968	 "	"	-0.000330	0.100	96.6%	"		 "
Copper	"	0.0884	 "	"	0.000330	"	87.6%	"		 "

QC Batch: 8K26043	Water P	reparation M	ethod: EP	A 3010A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K26043-BLK1)								Ext	acted:	11/26/08 17	7:02			
Potassium	EPA 6010B	ND		3.00	mg/l	1x							11/28/08 14:02	
Calcium	"	ND		0.750	"	"							"	
Magnesium	"	ND		0.500	"	"							"	
Sodium	"	ND		0.250	"	"							"	
Iron	"	ND		0.150	"	"							"	
Aluminum	"	ND		0.250	"	"							"	
LCS (8K26043-BS1)								Ext	racted:	11/26/08 17	7:02			
Magnesium	EPA 6010B	4.01		0.500	mg/l	1x		5.00	80.2%	(80-120)			11/28/08 14:06	
Aluminum	"	5.35		0.250	"	"		"	107%				"	
Sodium	"	4.92		0.250	"	"		"	98.4%	"			"	
Iron	"	5.20		0.150	"	"		"	104%	"			"	
Calcium	"	4.62		0.750	"	"		"	92.4%				"	
Potassium	"	9.26		3.00	"	"		10.0	92.6%	"			"	

TestAmerica Seattle

Vota Hanay Project Managar







BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Golder Associates Inc. **Landsburg Mine** Project Name:

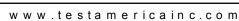
18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

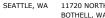
#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K26043	Water P	reparation Me	thod: I	EPA 3010A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (8K26043-DUP1)				QC Source:	BRK0304	-01		Extr	acted:	11/26/08 17	:02			
Iron	EPA 6010B	2.31		0.150	mg/l	1x	ND					(30)	11/28/08 14:14	
Calcium	"	57.1		0.750	"	"	ND					(25)	"	
Aluminum	"	ND		0.250	"	"	ND				NR	"	"	
Magnesium	"	20.8		0.500	"	"	ND					(30)	"	
Sodium	"	29.6		0.250	"	"	ND					"	"	
Potassium	"	ND		3.00	"	"	ND					"	"	
Matrix Spike (8K26043-MS1)				QC Source:	BRK0304	-01		Extr	acted:	11/26/08 17	:02			
Aluminum	EPA 6010B	5.24		0.250	mg/l	1x	ND	5.00	105%	(80-137)			11/28/08 14:10	
Iron	"	7.35		0.150	"	"	ND	"	147%	(80-125)			"	M
Calcium	"	61.7		0.750	"	"	ND	"	1230%	(70-137)			"	N
Magnesium	"	24.8		0.500	"	"	ND	"	496%	(76-129)			"	M
Sodium	"	35.4		0.250	"	"	ND	"	707%	(74-144)			"	M
Potassium	"	11.6		3.00	"	"	ND	10.0	116%	(75-127)			"	
Post Spike (8K26043-PS1)				QC Source:	BRK0304	-01		Extr	acted:	11/26/08 17	:02			
Potassium	EPA 6010B	12.0			ug/ml	1x	0.0299	10.0	120%	(75-125)			11/28/08 14:18	
Magnesium	"	24.4			"	"	-0.0146	5.00	487%	"			"	5
Sodium	"	35.0			"	"	-0.627	"	713%	"			"	5
Aluminum	"	5.54			"	"	-0.133	"	113%	"			"	
Calcium	"	60.7			"	"	-0.0166	"	1210%	"			"	5
Iron	"	7.59			"	,,	-0.0174	"	152%					S

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11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

·													
	Total Metal	s by EPA 60	00/7000 S	Series Me	thods -	Labora	tory Qu	ality Contro	l Results				
				TestAmeri	ca Seattle								
QC Batch: 8L01020	Water P	reparation M	ethod: E	PA 7470A									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % Amt REC	(Limits)	RPD (	(Limits)	Analyzed	Notes
Blank (8L01020-BLK1)								Extracted:	12/01/08 12:	36			
Mercury	EPA 7470A	ND		0.000200	mg/l	1x						12/03/08 11:37	
LCS (8L01020-BS1)								Extracted:	12/01/08 12:	36			
Mercury	EPA 7470A	0.00496		0.000200	mg/l	1x		0.00500 99.2%	(80-120)			12/03/08 11:39	
LCS Dup (8L01020-BSD1)								Extracted:	12/01/08 12:	36			
Mercury	EPA 7470A	0.00503		0.000200	mg/l	1x		0.00500 101%	(80-120)	1.33%	(20)	12/03/08 11:42	
Matrix Spike (8L01020-MS1)				QC Source:	BRK0304	-01		Extracted:	12/01/08 12:	36			
Mercury	EPA 7470A	0.00494		0.000200	mg/l	1x	ND	0.00500 98.8%	(75-125)			12/03/08 11:44	
Matrix Spike Dup (8L01020-MS	D1)			QC Source:	BRK0304	-01		Extracted:	12/01/08 12:	36			
Mercury	EPA 7470A	0.00498		0.000200	mg/l	1x	ND	0.00500 99.6%	(75-125)	0.809%	(20)	12/03/08 11:47	

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OC D-4-b. 91/25012

Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 12:29

#### Organochlorine Pesticides by EPA Method 8081A - Laboratory Quality Control Results

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Not
Blank (8K25012-BLK1)								Extr	acted:	11/25/08 11	1:55			
Aldrin	EPA 8081A	ND		0.0500	ug/l	1x							12/02/08 11:02	
alpha-BHC	"	ND		0.0400	"	"							"	
beta-BHC	"	ND		0.0400	"	"							"	
delta-BHC [2C]	"	ND		0.0500	"	"							"	
gamma-BHC (Lindane)	"	ND		0.0400	"	"							"	
alpha-Chlordane	"	ND		0.0400	"	"							"	
gamma-Chlordane	"	ND		0.0400	"	"							"	
4,4'-DDD	"	ND		0.0400	"	"							"	
4,4'-DDE	"	ND		0.0800	"	"							"	
4,4'-DDT	"	ND		0.0800	"	"							"	
Dieldrin	"	ND		0.0800	"	"							"	
Endosulfan I	"	ND		0.0200	"	"							"	
Endosulfan II	"	ND		0.0800	"	"							"	
Endosulfan sulfate	"	ND		0.100	"	"							"	
Endrin	"	ND		0.0800	"	"							"	
Endrin aldehyde	"	ND		0.160	"	"							"	
Endrin ketone	"	ND		0.0800	"	"							"	
Heptachlor	"	ND		0.0500	"	"							"	
Heptachlor epoxide	"	ND		0.0400	"	"							"	
Methoxychlor [2C]	"	ND		0.500	"	"							"	
Surrogate(s): TCX		Recovery: 81	1.8%	Lin	nits: 10-1209	% "							12/02/08 11:0	2
Decachlorobipheny	1.[2C]	99	3.9%		10-142	% "							"	

Decachlorobiphenyl [2C] 81.8% Limits: 10-120% "

Decachlorobiphenyl [2C] 93.9% 10-142% "

LCS (8K25012-BS1)						Ext	racted:	11/25/08 11:	55		
Aldrin	EPA 8081A	0.124	 0.0800	ug/l	1x	 0.125	98.9%	(76-120)		 12/02/08 11:19	
alpha-BHC	"	0.161	 0.0400	"	"	 "	129%	(55-150)		 "	
beta-BHC	"	0.150	 0.0400	"	"	 "	120%	(76-120)		 "	
delta-BHC [2C]	"	0.156	 0.100	"	"	 "	125%	(58-121)		 "	L1
gamma-BHC (Lindane)	"	0.130	 0.0400	"	"	 "	104%	(70-120)		 "	
alpha-Chlordane	"	0.134	 0.0400	"	"	 "	107%	(80-120)		 "	
gamma-Chlordane	"	0.133	 0.0400	"	"	 "	106%	(76-120)		 "	
4,4'-DDD	"	0.268	 0.0400	"	"	 0.250	107%	(75-120)		 "	
4,4'-DDE	"	0.279	 0.0800	"	"	 "	112%	(70-122)		 "	
4,4'-DDT	"	0.311	 0.0800	"	"	 "	124%	(52-130)		 "	
Dieldrin	"	0.290	 0.0800	"	"	 "	116%	(80-120)		 "	
Endosulfan I	"	0.154	 0.0200	"	"	 0.125	123%	(76-126)		 "	
Endosulfan II	"	0.268	 0.0800	"	"	 0.250	107%	(71-126)		 "	
Endosulfan sulfate	"	0.255	 0.100	"	"	 "	102%	(69-120)		 "	
Endrin	"	0.140	 0.0800	"	"	 "	55.9%	(69-126)		 "	L2

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Mall Dhury





THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

#### Organochlorine Pesticides by EPA Method 8081A - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K25012	water i	reparation	Method: El	PA 3520C										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8K25012-BS1)								Extr	acted:	11/25/08 11	:55			
Endrin aldehyde	EPA 8081A	0.492		0.160	ug/l	1x		0.250	197%	(52-128)			12/02/08 11:19	I
Endrin ketone	"	0.367		0.0800	"	"		"	147%	(16-150)			"	
Heptachlor	"	0.180		0.0800	"	"		0.125	144%	(62-141)			"	L
Heptachlor epoxide	"	0.146		0.0400	"	"		"	117%	(80-120)			"	
Methoxychlor [2C]	"	1.24		0.500	"	"		1.25	99.2%	(70-123)			"	
Surrogate(s): TCX		Recovery:	80.1%	Lin	nits: 10-120%	"							12/02/08 11:19	
Decachlorobiphenyl [20	7)		98.8%		10-142%	"							"	
LCS Dup (8K25012-BSD1)								Extr	acted:	11/25/08 11	:55			
Aldrin	EPA 8081A	0.112		0.0800	ug/l	1x		0.125	89.7%	(76-120)	9.76%	6 (20)	12/02/08 11:38	
alpha-BHC	"	0.147		0.0400	"	"		"	118%	(55-150)	8.73%	ó "	"	
beta-BHC	"	0.137		0.0400	"	"		"	110%	(76-120)	8.55%	ó "	"	
delta-BHC [2C]	"	0.138		0.100	"	"		"	111%	(58-121)	12.0%	ó "	"	
gamma-BHC (Lindane)	"	0.119		0.0400	"	"		"	95.0%	(70-120)	9.21%	ó "	"	
alpha-Chlordane	"	0.123		0.0400	"	"		"	98.1%	(80-120)	8.85%	ó "	"	
gamma-Chlordane	"	0.113		0.0400	"	"		"	90.5%	(76-120)	16.1%	ó "	"	
4,4'-DDD	"	0.260		0.0400	"	"		0.250	104%	(75-120)	3.33%	ó "	"	
4,4'-DDE	"	0.264		0.0800	"	"		"	106%	(70-122)	5.45%	ó "	"	
4,4'-DDT	"	0.311		0.0800	"	"		"	124%	(52-130)	0.1549	% "	"	
Dieldrin	"	0.268		0.0800	"	"		"	107%	(80-120)	7.66%	ó "	"	
Endosulfan I	"	0.144		0.0200	"	"		0.125	115%	(76-126)	6.95%	ó "	"	
Endosulfan II	"	0.254		0.0800	"	"		0.250	101%	(71-126)	5.49%	ó "	"	
Endosulfan sulfate	"	0.253		0.100	"	"		"	101%	(69-120)	0.8869	% "	"	
Endrin	"	0.0516		0.0800	"	"		"	20.6%	(69-126)	92.1%	6 (30)	"	L2, R
Endrin aldehyde	"	0.460		0.160	"	"		"	184%	(52-128)	6.70%	ó "	"	L
Endrin ketone	"	0.430		0.0800	"	"		"	172%	(16-150)	15.8%	6 (20)	"	I
Heptachlor	"	0.159		0.0800	"	"		0.125	127%	(62-141)	12.4%	ó "	"	
Heptachlor epoxide	"	0.130		0.0400	"	"		"	104%	(80-120)	11.3%	ó "	"	
Methoxychlor [2C]	"	1.27		0.500	"	"		1.25	101%	(70-123)	2.29%	ó "		

10-142% "

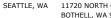
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Decachlorobiphenyl [2C]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full,  $without \ the \ written \ approval \ of \ the \ laboratory.$ 



90.0%



11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

Organochlorine Pesticides by EPA Method 8081A - I	Laboratory Quality Control Results
TestAmerica Seattle	

					TestAmen	a Scattic									
QC Batc	h: 8L03015	Water 1	Preparation	n Method:	EPA 3520C										
Analyte		Method	Result	MDI	* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8L030	15-BLK1)								Extr	acted:	12/03/08 12	2:34			
Endrin [2C]		EPA 8081A	ND		0.0800	ug/l	1x							12/05/08 13:10	
Surrogate(s):	TCX [2C] Decachlorobiphenyl [2C]		Recovery:	74.7% 87.8%	Lin	its: 10-120% 10-142%	"							12/05/08 13:10	
LCS (8L03015	5-BS1)								Extr	acted:	12/03/08 12	2:34			
Endrin [2C]		EPA 8081A	0.227		0.0800	ug/l	1x		0.250	90.8%	(69-126)			12/05/08 13:29	
Surrogate(s):	TCX [2C] Decachlorobiphenyl [2C]		Recovery:	80.7% 91.8%	Lin	its: 10-120% 10-142%	"							12/05/08 13:29	
LCS Dup (8L	03015-BSD1)								Extr	acted:	12/03/08 12	2:34			
Endrin [2C]		EPA 8081A	0.231		0.0800	ug/l	1x		0.250	92.6%	(69-126)	1.96%	(30)	12/05/08 13:47	
Surrogate(s):	TCX [2C] Decachlorobiphenyl [2C]		Recovery:	78.0% 90.6%	Lim	its: 10-120% 10-142%	"							12/05/08 13:47	

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Golder Associates Inc. Project Name: Landsburg Mine

18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Report Created:Redmond, WA/USA 98052-3333Project Manager:Douglas Morell12/09/08 12:29

#### Polychlorinated Biphenyls by EPA Method 8082 - Laboratory Quality Control Results

TestAmerica Seattle

QC Batc	h: 8K25012	Water	Preparation	Method: EF	PA 3520C	7									
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	) Analyzed	Notes
Blank (8K250	12-BLK2)								Exti	racted:	11/25/08 11	:55			
Aroclor 1016		EPA 8082	ND		0.500	ug/l	1x							11/27/08 16:07	
Aroclor 1221		"	ND		0.500	"	"							"	
Aroclor 1232		"	ND		0.500	"	"							"	
Aroclor 1242		"	ND		0.500	"	"							"	
Aroclor 1248		"	ND		0.500	"	"							"	
Aroclor 1254		"	ND		0.500	"	"							"	
Aroclor 1260		"	ND		0.500	"	"							"	
Aroclor 1262		"	ND		0.500	"	"							"	
Aroclor 1268		"	ND		0.500	"	"							"	
Surrogate(s):	TCX		Recovery:	89.6%	Lin	nits: 36-134%	"							11/27/08 16:07	
	Decachlorobiphenyl			98.4%		15-124%	"							"	
LCS (8K2501	2-BS2)								Exti	racted:	11/25/08 11	:55			
Aroclor 1016		EPA 8082	3.32		0.500	ug/l	1x		2.50	133%	(42-161)			11/27/08 16:24	
Aroclor 1260		"	2.95		0.500	"	"		"	118%	(68-142)			"	
Surrogate(s):	TCX		Recovery:	76.6%	Lin	nits: 36-134%	"							11/27/08 16:24	
	Decachlorobiphenyl			89.2%		15-124%	"							"	
LCS Dup (8K	25012-BSD2)								Exti	racted:	11/25/08 11	:55			
Aroclor 1016		EPA 8082	3.61		0.500	ug/l	1x		2.50	144%	(42-161)	8.14%	(30)	11/27/08 16:40	
Aroclor 1260		"	3.35		0.500	"	"		"	134%	(68-142)	12.8%	"	"	
Surrogate(s):	TCX		Recovery:	75.4%	Lin	nits: 36-134%	"							11/27/08 16:40	
	Decachlorobiphenyl			95.1%		15-124%	"							"	

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Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 12:29

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

Tethod  EPA 8260B  " " " " " "	ND ND ND ND ND ND ND	MDL*	10.0 0.200 0.500	Units ug/l	Dil 1x	Source Result		REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
"	ND ND ND ND		0.200		1x		Extra	acted:	11/28/08 11	:03			
"	ND ND ND ND		0.200		1x								
"	ND ND ND			,,							1	11/28/08 14:46	
	ND ND		0.500		"							"	
" " " " " " " " " " " " " " " " " " " "	ND		0.500	"	"							"	
			0.250	"	"							"	
" "	ND		0.200	"	"							"	
"			0.250	"	"							"	
"	ND		2.00	"	"							"	
	ND		2.00	"	"							"	
"	0.200		0.200	"	"							"	
"	ND		0.200	"	"							"	
"	ND		0.500	"	"							"	
"	ND		0.500	"	"							"	
"	ND		0.200	"	"							"	
"	ND		0.200	"	"							"	
"	ND		1.00	"	"							"	
,,	ND		0.200	,,								"	
,,	ND		1.00	,,								"	
,,	ND		0.500	,,								"	
				"								"	
				"								"	
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TestAmerica Seattle

Kato Dung

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Kate Haney, Project Manager





Golder Associates Inc. **Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 Project Number: 923-1000-002-R273 Report Created: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K28011	Water P	Preparation	Method: 1	EPA 5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	s) Analyzed	N
Blank (8K28011-BLK1)								Extr	acted:	11/28/08 11	:03			
Hexachlorobutadiene	EPA 8260B	ND		2.50	ug/l	1x							11/28/08 14:46	
Methyl tert-butyl ether	"	ND		1.00	"	"							"	
n-Hexane	"	ND		1.00	"	"							"	
2-Hexanone	"	ND		2.00	"	"							"	
Isopropylbenzene	"	ND		0.500	"	"							"	
o-Isopropyltoluene	"	ND		0.200	"	"							"	
4-Methyl-2-pentanone	"	ND		2.00	"	"							"	
Methylene chloride	"	ND		2.00	"	"							"	
Naphthalene	"	ND		2.50	"	"							"	
n-Propylbenzene	"	ND		0.500	"	"							"	
Styrene	"	ND		0.500	"	"							"	
1,2,3-Trichlorobenzene	"	ND		1.00	"	"							"	
1,2,4-Trichlorobenzene	"	ND		1.00	"	"							"	
1,1,1,2-Tetrachloroethane	"	ND		0.200	"	"							"	
1,1,2,2-Tetrachloroethane	"	ND		0.500	"	"							"	
Tetrachloroethene	"	ND		0.200	"	"							"	
Γoluene	"	ND		0.200	"	"							"	
1,1,1-Trichloroethane	"	ND		0.200	"	"							"	
1,1,2-Trichloroethane	"	ND		0.200	"	"							"	
Trichloroethene	"	ND		0.200	"	"							"	
Γrichlorofluoromethane	"	ND		0.500	"	"							"	
,2,3-Trichloropropane	"	ND		0.500	"	"							"	
1,2,4-Trimethylbenzene	"	ND		0.200	"	"							"	
1,3,5-Trimethylbenzene	"	ND		0.500	"	"							"	
Vinyl chloride	"	ND		0.200	"	"							"	
o-Xylene	"	ND		0.250	"	"							"	
n,p-Xylene	"	ND		0.500	"	"							"	
Total Xylenes	"	ND		0.750	"	"							"	
Surrogate(s): 1,2-DCA-d4		Recovery:	119%	Lim	its: 76-138%	<i>"</i>							11/28/08 14:4	6
Toluene-d8		ĺ	107%		80-120%								"	
4-BFB			104%		80-120%	6 "							"	

TestAmerica Seattle







THE ELECTRIC HIT ETT HOTTING

Golder Associates Inc. Project Name: Landsburg Mine

18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Report Created:Redmond, WA/USA 98052-3333Project Manager:Douglas Morell12/09/08 12:29

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8K28011	Water I	Preparation	Method: E	PA 5030B	1									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
LCS (8K28011-BS1)								Ext	racted:	11/28/08 11	:03			
Benzene	EPA 8260B	40.6		0.200	ug/l	1x		40.0	102%	(80-120)			11/28/08 12:39	
Chlorobenzene	"	36.6		0.200	"	"		"	91.5%	"			"	
1,1-Dichloroethene	"	38.0		0.200	"	"		"	95.1%	"			"	
Methyl tert-butyl ether	"	42.3		1.00	"	"		"	106%	"			"	
Toluene	"	36.3		0.200	"	"		"	90.8%	(75-125)			"	
Trichloroethene	"	38.1		0.200	"	"		"	95.2%	(80-120)			"	
Surrogate(s): 1,2-DCA-d4 Toluene-d8 4-BFB		Recovery:	107% 98.0% 97.2%	Lin	nits: 76-138% 80-120% 80-120%								11/28/08 12:39	
LCS Dup (8K28011-BSD1)								Ext	racted:	11/28/08 11	:03			
Benzene	EPA 8260B	40.6		0.200	ug/l	1x		40.0	102%	(80-120)	0.0246	% (20)	11/28/08 13:07	
Chlorobenzene	"	37.4		0.200	"			"	93.6%	"	2.27%	ó "	"	
1,1-Dichloroethene	"	36.8		0.200	"	"		"	91.9%	"	3.40%	ó "	"	
Methyl tert-butyl ether	"	42.0		1.00	"			"	105%	"	0.5939	/ <sub>6</sub> "	"	
Toluene	"	36.4		0.200	"	"		"	91.0%	(75-125)	0.2209	/ <sub>0</sub> "	"	
Trichloroethene	"	37.3		0.200	"	"		"	93.2%	(80-120)	2.12%	ó "	"	
Surrogate(s): 1,2-DCA-d4		Recovery:	108%	Lin	nits: 76-138%	"							11/28/08 13:07	
Toluene-d8			99.8%		80-120%	"							"	
4-BFB			97.7%		80-120%	"							"	

TestAmerica Seattle

Kate Haney, Project Manager





THE LEADER IN ENVIRONMENTAL TESTING

Golder Associates Inc. Landsburg Mine Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: Douglas Morell 12/09/08 12:29

#### Semivolatile Organic Compounds by EPA Method 8270C - Laboratory Quality Control Results

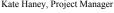
TestAmerica Seattle

QC Batch: 8K25013 Water Preparation Method: EPA 3520C Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed (Limits) RPD REC Amt Blank (8K25013-BLK1) Extracted: 11/25/08 14:55 EPA 8270C ND 10.0 12/01/08 10:08 Acenaphthene ug/l 1xAcenaphthylene ND 10.0 Aniline ND 10.0 Anthracene ND 10.0 Benzo (a) anthracene ND 10.0 ND 10.0 Benzo (a) pyrene ND 10.0 Benzo (b) fluoranthene Benzo (k) fluoranthene ND 10.0 Benzo (ghi) perylene ND 10.0 ND 20.0 Benzoic Acid Benzyl alcohol ND 10.0 Bis(2-chloroethoxy)methane ND 10.0 Bis(2-chloroethyl)ether ND 10.0 Bis(2-chloroisopropyl)ether ND 10.0 Bis(2-ethylhexyl)phthalate ND 10.0 4-Bromophenyl phenyl ether ND 10.0 Butyl benzyl phthalate 10.0 ND 10.0 Carbazole 4-Chloroaniline ND 10.0 4-Chloro-3-methylphenol ND 10.0 2-Chloronaphthalene ND 10.0 10.0 2-Chlorophenol ND 4-Chlorophenyl phenyl ether ND 10.0 3 & 4-Methylphenol (m,p-Cresols) ND 10.0 2-Methylphenol (o-Cresol) ND 10.0 Chrysene ND 10.0 Di-n-butyl phthalate ND 10.0 Dibenz (a,h) anthracene ND 10.0 10.0 Dibenzofuran ND 1,2-Dichlorobenzene ND 10.0 1,3-Dichlorobenzene ND 10.0 1.4-Dichlorobenzene ND 10.0 3 3'-Dichlorobenzidine ND 10.0 2,4-Dichlorophenol ND 10.0 Diethyl phthalate ND 10.0 2.4-Dimethylphenol ND 10.0 10.0 Dimethyl phthalate ND 4,6-Dinitro-2-methylphenol ND 10.0

TestAmerica Seattle

2,4-Dinitrophenol

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.





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Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 12:29

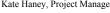
#### Semivolatile Organic Compounds by EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch:	8K25013	Water F	reparation	Method: EF	PA 3520C										
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8K25013	3-BLK1)								Extr	acted:	11/25/08 14	1:55			
2,4-Dinitrotoluene		EPA 8270C	ND		10.0	ug/l	1x							12/01/08 10:08	
2,6-Dinitrotoluene		"	ND		10.0	"	"							"	
N-Nitrosodiphenylami	ne	"	ND		10.0	"	"							"	
Fluoranthene		"	ND		10.0	"	"							"	
Fluorene		"	ND		10.0	"	"							"	
Hexachlorobenzene		"	ND		10.0	"	"							"	
Hexachlorobutadiene		"	ND		10.0	"	"							"	
Hexachlorocyclopenta	diene	"	ND		10.0	"	"							"	
Hexachloroethane		"	ND		10.0	"	"							"	
Indeno (1,2,3-cd) pyrei	ne	"	ND		10.0	"	"							"	
Isophorone		"	ND		10.0	"	"							"	
1-Methylnaphthalene		"	ND		10.0	"	"							"	
2-Methylnaphthalene		"	ND		10.0	"								"	
Naphthalene		"	ND		10.0	"								"	
2-Nitroaniline		"	ND		10.0	"	"							"	
3-Nitroaniline		"	ND		10.0	"	,,							"	
4-Nitroaniline		"	ND		10.0	"	,,							"	
Nitrobenzene		"	ND		10.0	"								"	
2-Nitrophenol		,,	ND		10.0	"								"	
4-Nitrophenol		,,	ND		10.0	"								"	
N-Nitrosodi-n-propyla	mine	,,	ND		10.0	"	,,							"	
Di-n-octyl phthalate		,,	ND		10.0	"	,,							"	
Pentachlorophenol		"	ND		10.0	,,	,,							,,	
Phenanthrene		"	ND		10.0	,,	,,					_		,,	
Phenol		"	ND		10.0	,,	.,		_			_		,,	
Pyrene		,,	ND		10.0	,,	,,							,,	
1,2,4-Trichlorobenzene		,,	ND ND		10.0	"			_					"	
2,4,5-Trichlorophenol	<u>-</u>	,,	ND ND		10.0	,,	,,		-					,,	
-		,,			10.0	,,	,,							,,	
2,4,6-Trichlorophenol			ND										-		
	2-FBP		Recovery:	83.6%	Lin	nits: 44-120%								12/01/08 10:0	8
	2-FP Nitrobenzene-d5			74.2% 84.6%		16-1209 38-1209								 "	
	Nurobenzene-as Phenol-d6			75.0%		38-120% 16-120%								"	
	p-Terphenyl-d14			77.6%		24-1469								"	
-	2,4,6-TBP			77.2%		32-135%								"	

TestAmerica Seattle

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OC D-4-L 91/25012

Golder Associates Inc. Project Name: Landsburg Mine

18300 NE Union Hill Rd, Suite 200Project Number:923-1000-002-R273Report Created:Redmond, WA/USA 98052-3333Project Manager:Douglas Morell12/09/08 12:29

#### Semivolatile Organic Compounds by EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Seattle

	Method	Result	MDI *	MRI	Unite	Dil	Source	Spike	0/0	(Limite)	0/0	(Limite)	Analyzed	Note
	Method	Result	MDL	WIKL	Units	Dii	Result	Amt	REC	(Lillits)	RPD	(Lillits)	Anaiyzeu	NOU
3-BS1)								Extr	acted:	11/25/08 14	:55			
	EPA 8270C	73.0		10.0	ug/l	1x		100	73.0%	(57-120)			12/01/08 10:33	
enol	"	88.1		10.0	"	"		"	88.1%	(51-124)			"	
	"	71.2		10.0	"	"		"	71.2%	(40-120)			"	
	"	63.1		10.0	"	"		"	63.1%	(50-120)			"	
	"	88.2		10.0	"	"		"	88.2%	(66-130)			"	
	"	71.5		10.0	"	"		"	71.5%	(42-148)			"	
amine	"	84.7		10.0	"	"		"	84.7%	(49-120)			"	
	"	109		10.0	"	"		"	109%	(67-151)			"	
	"	73.1		10.0	"	"		"	73.1%	(28-120)			"	
	"	72.0		10.0	"	"		"	72.0%	(54-134)			"	
ne	"	73.9		10.0	"	"		"	73.9%	(52-120)			"	
2-FBP		Recovery:	77.6%	Lin	nits: 44-120%	<u>"</u>							12/01/08 10:33	
2-FP		,	70.0%										"	
Nitrobenzene-d5			81.8%										"	
Phenol-d6			70.1%		16-1209	6 "							"	
p-Terphenyl-d14			67.3%		24-1469	6 "							"	
2,4,6-TBP			94.0%		32-1359	6 "							"	
25013-BSD1)								Extr	acted:	11/25/08 14	:55			
	EPA 8270C	73.0		10.0	ug/l	1x		100	73.0%	(57-120)	0.0274	% (25)	12/01/08 13:12	
enol	,,				"	,,		••		` ′			"	
	,,				"			"		` ′			,,	
	,,				"			,,						
	"				"	,,	_	.,					"	
	"				"			"		` ′			,	
amine	,,				,,	.,		,,		` ′			,	
	,,				,,	.,		,,		` ′			,	
	,,				"			,,		` ′			"	
	,,				,,	,,		,,		` ′			,	
na	,,				,,	,,				` ′			,	
							-		11.070	(32-120)	3.1/%	0		
		Recovery:		Lin		,							12/01/08 13:12	
						0							"	
						U							"	
Phenol-d6			75.7%		16-1209	6 "							"	
p-Terphenyl-d14			70.2%		24-1469	/ <sub>a</sub> "								
	amine  2-FBP 2-FP Nitrobenzene-d5 Phenol-d6 p-Terphenyl-d14 2,4,6-TBP  25013-BSD1)  enol  damine  2-FBP 2-FP Nitrobenzene-d5	EPA 8270C enol " " " " " " " " " " " " " " " " " " "	### Sample	BEPA 8270C 73.0 enol " 88.1 " 71.2 " 63.1 " 88.2 " 71.5 amine " 84.7 " 109 " 73.1 " 72.0 " 73.9  2-FBP Recovery: 77.6% Phenol-d6 p-Terphenyl-d14 2,4,6-TBP 94.0%  EPA 8270C 73.0 enol " 95.5 " 74.8 " 74.8 " 73.1 " 73.1 " 73.1 " 74.8 " 74.8 " 75.3 " 74.8 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.3 " 75.5 " 75.5 " 75.6 " 75.7 " 75.8 " 77.8 " 77.8 " 77.8 " 77.8 " 76.8% Nitrobenzene-d5 87.5%	B-BS1)  EPA 8270C 73.0 10.0  " 88.1 10.0  " 71.2 10.0  " 63.1 10.0  " 88.2 10.0  " 71.5 10.0  amine " 84.7 10.0  " 109 10.0  " 73.1 10.0  " 73.1 10.0  " 73.9 10.0  " 73.9 10.0  " 70.0%  Bell Strobenzene-d5  Phenol-d6  P-Terphenyl-d14  2,4,6-TBP  25013-BSD1)  EPA 8270C 73.0 10.0  " 74.8 10.0  " 74.8 10.0  " 74.8 10.0  " 74.8 10.0  " 74.8 10.0  " 75.1 10.0  " 75.1 10.0  " 75.1 10.0  " 75.5 10.0  " 75.5 10.0  " 75.5 10.0  " 75.5 10.0  " 75.5 10.0  " 75.5 10.0  " 75.6 10.0  " 75.1 10.0  " 75.2 10.0  " 75.3 10.0  " 75.5 10.0  " 75.6 10.0  " 75.8 10.0  " 75.8 10.0  " 75.8 10.0  " 75.8 10.0	B-BS1)  EPA 8270C 73.0 10.0 ug/l  88.1 10.0 "  " 71.2 10.0 "  " 63.1 10.0 "  " 88.2 10.0 "  " 71.5 10.0 "  " 109 10.0 "  " 73.1 10.0 "  " 73.1 10.0 "  " 73.9 10.0 "  " 73.9 10.0 "  Bere " 73.9 10.0 "  " 74.6 10.0 "  Bere " 75.3 10.0 "  " 75.5 10.0 "  " 75.5 10.0 "  " 75.5 10.0 "  " 75.6 " 16-1209  ### 10.0 "  ### 10.0 "  #### 10.0 "  #### 10.0 "  #### 10.0 "  #### 10.0 "  #### 10.0 "  ###################################	B-BS1)  EPA 8270C 73.0 10.0 ug/l 1x enol " 88.1 10.0 " "  " 71.2 10.0 " "  " 88.2 10.0 " "  " 88.2 10.0 " "  " 71.5 10.0 " "  " 109 10.0 " "  " 73.1 10.0 " "  " 73.1 10.0 " "  " 73.1 10.0 " "  " 73.1 10.0 " "  " 73.1 10.0 " "  " 74.8 "  2-FBP Recovery: 77.6% Limits: 44-120% "  Phenol-d6 70.1% 16-120% "  Phenol-d6 70.1% 16-120% "  Phenol-d6 70.1% 16-120% "  Phenol-d6 70.1% 16-120% "  2-S013-BSD1)  EPA 8270C 73.0 10.0 ug/l 1x  enol " 95.5 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 87.7 10.0 " "  1 87.7 10.0 " "  1 88.7 10.0 " "  1 88.7 10.0 " "  1 88.7 10.0 " "  1 88.7 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  1 74.8 10.0 " "  2 76.8	Sepant   S	Selection   Sele	SPASTO	SABSI)	Selection   Sele	Series   S	Page   Page

TestAmerica Seattle

Manching





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Golder Associates Inc. Landsburg Mine** Project Name:

18300 NE Union Hill Rd, Suite 200 923-1000-002-R273 Report Created: Project Number: Redmond, WA/USA 98052-3333 Project Manager: 12/09/08 12:29 Douglas Morell

#### **CERTIFICATION SUMMARY**

#### **TestAmerica Seattle**

Method	Matrix	Nelac	Washington	
EPA 6010B	Water	X	X	
EPA 6020	Water	X	X	
EPA 7470A	Water	X	X	
EPA 8081A	Water	X	X	
EPA 8082	Water	X	X	
EPA 8260B	Water	X	X	
EPA 8270C	Water	X	X	
NWTPH-HCID	Water		X	

Any abnormalities or departures from sample acceptance policy shall be documented on the 'Sample Receipt and Temperature Log Form'  $and \ 'Sample \ Non-conformance \ Form' \ (if \ applicable) \ included \ with \ this \ report.$ 

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC) .

TestAmerica Seattle





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Golder Associates Inc. Project Name: Landsburg Mine

 18300 NE Union Hill Rd, Suite 200
 Project Number:
 923-1000-002-R273
 Report Created:

 Redmond, WA/USA 98052-3333
 Project Manager:
 Douglas Morell
 12/09/08 12:29

#### **Notes and Definitions**

#### Report Specific Notes:

Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.

H8 - The sample was extracted past the holding time.

 Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.

L1 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.

L2 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below acceptance limits.

M1 - The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

M2 - The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

R2 - The RPD exceeded the acceptance limit.

R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

S3 - Post digestion spike is out of acceptance limits for this analyte

#### <u>Laboratory Reporting Conventions:</u>

DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).

NR/NA \_ Not Reported / Not Available

dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.

wet Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported

on a Wet Weight Basis.

RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.

MDL\* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported

as Estimated Results.

Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution

found on the analytical raw data.

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*.

Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Seattle

Tall Dung

Kate Haney, Project Manager



# <u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

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	1 +	C	HAIN OF CUST	ODY REPORT	Work Order #:	)RK0304
CLIENT: 50 der A	556610/05		INVOICE TO:		TURNAROUN	D REQUEST
	orall Union Hill Rd, 501	t. 2 <i>0</i> 0			Organic & Inorgani	1
PHONE: 425-483-0777FA	1X: 425-882-5496		P.O. NUMBER:	,	STD. Petroleum Hydroca	
PROJECT NAME:	Mine		PRI	SERVATIVE	<b>5</b> /43	2 1 <1
PROJECT NUMBER: 923-10	300-002-R273	HC1	HCI HNO2		STD.	
			REQUES	TED ANALYSES	OTHER Specify:	
SAMPLED BY: In Yo.	ung	( 5 6 5	70.3 OH CAMP	(AM)	* Turnaround Requests less than sta	ndard may incur Rush Charges.
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIM.E	12 Pm 600	Byling Krig My	N. salah		OCATION/ TA WO ID
LMW-11-1108 1	11/25/08 @ 1015	XXX	XXX	Hold all Filtered	W 11	-01
2 LMW-10-1108	a 1215			unpreserved simples		-02
3 LMW-9-1108	e 1400			ponding initial		-03
4 LMW-9-1108-D	V C 1405	VVV	1 1 1	analytical results	<b>√ ∀</b>	-04
5						
6						
7						
8						
9						
10						
RELEASED BY:		-1-	DATE: 11/25/06			DATE: 11.25.08
PRINT NAME: Im Young	FIRM:	AI	TIME: 1705	PRINT NAME: COLETC WEOVER	2 FIRM: TAL Sea	
RELEASED BY:			DATE:	RECEIVED BY:		DATE:
PRINT NAME: ADDITIONAL REMARKS:	FIRM:		TIME:	PRINT NAME:	FIRM:	TIME:
ADDITIONAL REMARKS:						TEMP: WO PAGE OF

171.	, apolition		<u></u>	( )
Page Time & Initials:_				Circle Y or N (If Y, see other side)
	TEST AMERICA S	SAMPLE RECEIPT (	CHECKLIST	(ii 1, see outer side)
Received By: (applies to temp at receipt)	Logged-in By:	Unpacked/Labeled I	By: Cooler ID: _	
Date: 1125 08	Date: 11-25	Date: 11.25	Work Order No	PK0304
Time: 1705	Time: <u>1749</u>	Time: <u>[7<i>3</i>5</u>	Client:	
Initials: <u>CW</u>	Initials: <u>CW</u>	Initials: <u>CW</u>	Project:	
Container Type:	coc	Seals:	Packing Material	<u> </u>
X Cooler	Ship Containe	rSign By	Bubble Bags	Styrofoam
Box	On Bottles	Date	Foam Packs	
None/Other		None	None/Other	
Refrigerant: Gel Ice Pack			Received Via: Bill#	Client
Loose Ice	and the second s		UPS	TA Courier
None/Other			DHL	Mid Valley
			Senvoy	TDP
			GS	Other
Cooler Temperature (	( <u>IR):</u> °C Plastic G		edlars and aqueous Meta	ils exempt)
Temperature Blank?	10.8 °C or NA 8.8	e)	Trip Blank?	P Y or Nor NA
BP. OPLC,ARCO-Ter (initial/date/time):	mperature monitoring eve			
Sample Containers:	ID			<u>ID</u>
Intact?	(P) or N	Metals Preserv	red? Ornor	NA
Provided by TA?	$\boldsymbol{\times}$	Client QAPP P		(A)
Correct Type?	(Ŷ) or N	Adequate Volu		
#Containers match C	OC? (Y)or N	(for tests requested Water VOAs: I	d) Headspace? Y or (N) or	NA
IDs/time/date match (	*	Comments:		
Hold Times in hold?				
PROJECT MANAGE	MENT		ı	
Is the Chain of Custo	dy complete?		Y or N If N, circle the	tems that were incomplete
Comments, Problems				
Total access set up? Has client been contacted	regarding non-conformances?		Y or N Y or N if Y,/_ Date	Time
PM Initials:	Date:	Time:	Jale	14110

Paperwork to PM - Date:\_\_\_\_\_ Time:\_\_\_\_

TAT: \_\_\_\_\_

Non-Conformances?

## APPENDIX B SAMPLE INTEGRITY DATA SHEETS (SIDS)

Plant/Site Landsburg Mine Site		Project N	Project No. <u>923-1000-002</u>			
Site Location Ravenso	iale, WA	Sample I	D LMW-2-1108			
Sampling Location <u>G</u>	roundwater Monito	oring Well End of dedica	ated sampling tube			
Technical Procedure l	Reference(s) <u>TP-1</u>	.4-6, TP-1.2-20, TP-1.2	-23			
Type of Sampler Ded	icated Pump Grund	fos or QED Bladder				
Date		Time				
Media Water						
Sample Type:	<u>grab</u>	time composite	space composite			
<b>Sample Acquisition M</b>	leasurements (dept	th, volume of static well	water and purged water, etc.)			
SWL – 6.21 ft below T	COC (bottom at 209	.7 ft, 4-in casing)				
Sand Pack Interval - N	A					
Packer Depth – 187.3 1	ft bgs	(~16 gal/total we	ll vol)			
Sample Description						
Field Measurements of	on Sample (pH. cor	nductivity, etc.)				
SEE FIELD PARAME						
Aliquot Amount	Analysis	Container	Preservation / Amount			
3 – 40 mL	VOA	VOA Vial	HCl			
1 - 500  ml	Metals	HDPE	HNO3 (filter)			
1 - 500  ml	Metals	HDPE	None (non)			
2 – 1 Liter	TPH-HCID	Glass Amber	HCl			
2 – 1 Liter	PCBs/Pest	Glass Amber	none			
2 – 1 Liter	SVOCs	Glass Amber	none			
Sampler (signature) _		Date				
Supervisor (signature)	)	Date				

Plant/Site Landsburg M	Iine Site	Project N	Project No. <u>923-1000-002</u>			
Site Location Ravensda	ale, WA	Sample I	<b>D</b> LMW-3-1108			
Sampling Location <u>Ground</u>	oundwater Monito	oring Well End of dedica	ated sampling tube			
Technical Procedure R	eference(s) <u>TP-1</u>	.4-6, TP-1.2-20, TP-1.2	-23			
Type of Sampler Dedic	cated Pump Grund	lfos or QED Bladder				
<b>Date</b>		Time				
Media Water		Station				
Sample Type: gr	<u>ab</u>	time composite	space composite			
Sample Acquisition Me	easurements (dep	th, volume of static well	water and purged water, etc.)			
<u>SWL – 11.92 ft below T</u>	OC (bottom at ft	, 4-in casing)				
Sand Pack Interval – 47	.1 to 64.8 ft bgs (8	3-in hole)				
Packer Depth – NA		(~18 gal/tota	al well vol)			
Sample Description						
Field Measurements on	Sample (pH cor	nductivity etc.)				
SEE FIELD PARAMET						
Aliquot Amount	Analysis	Container	Preservation / Amount			
3-40  mL	VOA	VOA Vial	HCl			
1 – 500 ml	Metals	HDPE	HNO3 (filter)			
1 - 500  ml	Metals	HDPE	None (non)			
2 – 1 Liter	TPH-HCID	Glass Amber	HCl			
2 – 1 Liter	PCBs/Pest	Glass Amber	none			
2 – 1 Liter	SVOCs	Glass Amber	none			
Sampler (signature)		Date				
Supervisor (signature)		Date				

Plant/Site Landsburg Mine Site		Project N	<b>[0.</b> <u>923-1000-002</u>			
Site Location Ravensda	ale, WA	Sample I	<b>D</b> <u>LMW-4-1108</u>			
Sampling Location Great	oundwater Monito	ring Well End of dedica	ated sampling tube			
<b>Technical Procedure R</b>	eference(s) <u>TP-1</u>	4-6, TP-1.2-20, TP-1.2	-23			
Type of Sampler Dedic	cated Pump Grund	fos or QED Bladder				
<b>Date</b>		Time				
Media Water		Station				
Sample Type: gr	<u>rab</u>	time composite	space composite			
Sample Acquisition Me	easurements (dept	h, volume of static well	water and purged water, etc.)			
SWL – 7.66 ft below TO	OC (bottom at ft,	4-in casing)				
Sand Pack Interval – 189 to 209 ft bgs (11.7 gal/sandpack vol						
Packer Depth – 187.3 ft	Packer Depth – 187.3 ft bgs (~14 gal/total well vol)					
Sample Description						
Field Measurements or	<b>Sample</b> (pH, con	ductivity, etc.)				
SEE FIELD PARAMET	TERS SHEET					
Aliquot Amount	Analysis	Container	Preservation / Amount			
3 – 40 mL	VOA	VOA Vial	HCl			
1 – 500 ml	Metals	HDPE	HNO3 (filter)			
1 – 500 ml	Metals	HDPE	None (non)			
2 – 1 Liter	TPH-HCID	Glass Amber	HCl			
2 – 1 Liter	PCBs/Pest	Glass Amber	none			
2 – 1 Liter	SVOCs	Glass Amber	none			
Sampler (signature)		Date				

Plant/Site Landsburg Mine Site		Project N	Project No. <u>923-1000-002</u>				
Site Location Ravenso	dale, WA	Sample II	D LMW-5-1108				
Sampling Location <u>G</u>	roundwater Monito	oring Well End of dedica	ated sampling tube				
Technical Procedure	Reference(s) <u>TP-1</u>	.4-6, TP-1.2-20, TP-1.2-	-23				
Type of Sampler Ded	icated Pump Grund	fos or QED Bladder					
Date	_	Time					
Media Water							
Sample Type:	<u>grab</u>	time composite	space composite				
<b>Sample Acquisition M</b>	leasurements (dep	th, volume of static well	water and purged water, etc.)				
SWL – 13.45 ft below	TOC (bottom at 24	1.8 ft, 4-in casing)					
Sand Pack Interval - N	Α						
Packer Depth – 222.11	ft bgs	(~14 gal/total w	ell vol)				
Sample Description							
Field Measurements of	on Sample (pH, cor	nductivity, etc.)					
SEE FIELD PARAME	ETERS SHEET						
Aliquot Amount	Analysis	Container	Preservation / Amount				
3 – 40 mL	VOA	VOA Vial	HCl				
1 - 500  ml	Metals	HDPE	HNO3 (filter)				
1 – 500 ml	Metals	HDPE	None (non)				
2 – 1 Liter	TPH-HCID	Glass Amber	HCl				
2 – 1 Liter	PCBs/Pest	Glass Amber	none				
2 – 1 Liter	SVOCs	Glass Amber	none				
Sampler (signature) _		Date					
Supervisor (signature							
~~Por thor (n.Simula)	/	Dutc					

Plant/Site Landsburg Mine Site		Project 1	No. <u>923-1000-002</u>
Site Location Ravensd	lale, WA	Sample	ID <u>LMW-6-1108</u>
Sampling Location G	roundwater Monito	oring Well End of dedic	cated sampling tube
Technical Procedure I	Reference(s) <u>TP-1</u>	.4-6, TP-1.2-20, TP-1.2	2-23
Type of Sampler <u>Dedi</u>	cated Pump Grund	lfos or QED Bladder	
<b>Date</b>		Time	
Media Water		Station	
Sample Type: g	<u>rab</u>	time composite	space composite
<b>Sample Acquisition M</b>	easurements (dep	th, volume of static we	ll water and purged water, etc.)
SWL – 29.42 ft below	TOC		
(~23.5 gal/total well vo			
Field Measurements o SEE FIELD PARAME		nductivity, etc.)	
Aliquot Amount	Analysis	Container	Preservation / Amount
3-40  mL	VOA	VOA Vial	HC1
1 - 500  ml	Metals	HDPE	HNO3 (filter)
1 - 500  ml	Metals	HDPE	None (non)
2 – 1 Liter	TPH-HCID	Glass Amber	HCl
2 – 1 Liter	PCBs/Pest	Glass Amber	none
2 – 1 Liter	SVOCs	Glass Amber	none
Sampler (signature) _		Date	
Supervisor (signature)		Date	

Plant/Site Landsburg Mine Site		Project 1	<b>No.</b> <u>923-1000-002</u>
Site Location Ravenso	lale, WA	Sample	<b>ID</b> <u>LMW-7-1108</u>
Sampling Location G	roundwater Monito	oring Well End of dedic	cated sampling tube
Technical Procedure I	Reference(s) <u>TP-1</u>	.4-6, TP-1.2-20, TP-1.2	2-23
Type of Sampler Dedi	cated Pump Grund	lfos or QED Bladder	
Date		Time	
Media Water		Station	
Sample Type: g	<u>rab</u>	time composite	space composite
Sample Acquisition M	easurements (dep	th, volume of static we	ll water and purged water, etc.)
SWL – 213.33 ft below	<sup>1</sup> TOC		
(~23 gal/total well vol)	<u> </u>		
Sample Description			
Field Measurements o SEE FIELD PARAME		nductivity, etc.)	
Aliquot Amount	Analysis	Container	Preservation / Amount
3 – 40 mL	VOA	VOA Vial	HC1
1 – 500 ml	Metals	HDPE	HNO3 (filter)
1 – 500 ml	Metals	HDPE	None (non)
2 – 1 Liter	TPH-HCID	Glass Amber	HCl
2 – 1 Liter	PCBs/Pest	Glass Amber	none
2 – 1 Liter	SVOCs	Glass Amber	none
Sampler (signature) _		Date	
Supervisor (signature)	)	Date	

Plant/Site Landsburg Mine Site		Pr	Project No. <u>923-1000-002</u>		
Site Location Ravensda	le, WA	Sa	G I ID I MILL O 1100		
Sampling Location <u>Ground</u>	undwater Monito	oring Well End o	of dedicated sampling tube		
Technical Procedure Ro	eference(s) <u>TP-1</u>	.4-6, TP-1.2-20,	TP-1.2-23		
Type of Sampler Dedic	ated Pump Grund	lfos or QED Blac	dder		
Date Time					
			on		
Sample Type: grab		time composi	te space comp	osite	
Sample Acquisition Me	asurements (dept	th, volume of sta	atic well water and purged water, e	tc.)	
SWL – 3.65 ft below TC	OC (bottom at 13 f	ft, 2-in casing)	(1.7 gal/casing vol)		
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					
Field Measurements on	Sample (pH, con	nductivity, etc.)			
SEE FIELD PARAMET	ERS SHEET				
Aliquot Amount	Analysis	Container	Preservation / Am	ount	
3 – 40 mL	VOA	VOA Vial	HCl		
1 - 500  ml	Metals	HDPE	HNO3 (fil	ter)	
1 – 500 ml	Metals	HDPE	None (non	<u>ı)</u>	
2 – 1 Liter	TPH-HCID	Glass Amber	HCl		
2 – 1 Liter	PCBs/Pest	Glass Amber	none		
2 – 1 Liter	SVOCs	Glass Amber	none		
Sampler (signature)		Da	ate		
Supervisor (signature)		Da	ate		

Plant/Site Landsburg Mine Site		Proj	Project No. <u>923-1000-002</u>		
Site Location Ravensda	ale, WA	Sam	C I ID I MW 0 1100		
Sampling Location Gro	oundwater Monito	ring Well End of c	ledicated sampling tube		
Technical Procedure R	eference(s) TP-1	.4-6, TP-1.2-20, T	P-1.2-23		
Type of Sampler Dedic	ated Pump Grund	fos or QED Bladd	er		
Date Time					
Sample Type: gr	<u>ab</u>	time composite	space composite		
<b>Sample Acquisition Me</b>	asurements (dept	th, volume of static	e well water and purged water, etc.)		
SWL – 99.22 ft below T	OC (bottom at 15	9 ft, 2-in casing)	(10.3 gal/casing vol)		
Sand Pack Interval – 143	3 to 159 ft (8-in he	ole)	(9.7 gal/sandpack vol)		
Packer Depth – NA			(~20 gal/total well vol)		
Sample Description					
Field Measurements on	Sample (pH, con	nductivity, etc.)			
SEE FIELD PARAMET	TERS SHEET				
Aliquot Amount	Analysis	Container	Preservation / Amount		
3 – 40 mL	VOA	VOA Vial	HCl		
1 – 500 ml	Metals	HDPE	HNO3 (filter)		
1 – 500 ml	Metals	HDPE	None (non)		
2 – 1 Liter	TPH-HCID	Glass Amber	HCl		
2 – 1 Liter	PCBs/Pest	Glass Amber	none		
2 – 1 Liter	SVOCs	Glass Amber	none		
Sampler (signature)		Date			
Supervisor (signature)		Date			

Plant/Site Landsburg M	Iine Site	Project	No. <u>923-1000-002</u>		
Site Location Ravensda	ale, WA	Sample Sample	a		
Sampling Location <u>Ground</u>	oundwater Monito	ring Well End of dedic	cated sampling tube		
Technical Procedure R	eference(s) TP-1	.4-6, TP-1.2-20, TP-1.2	2-23		
Type of Sampler Dedic	cated Pump Grund	fos or QED Bladder			
Date	Date Time				
Media Water Station					
Sample Type: gr	<u>rab</u>	time composite	space composite		
<b>Sample Acquisition Me</b>	easurements (dep	th, volume of static we	ll water and purged water, etc.)		
SWL – 0 ft below TOC	(bottom at 286 ft,	4-in casing)			
Sand Pack Interval – 25	8 to 289 ft bgs				
Packer Depth – NA					
Sample Description					
Field Measurements on	Sample (pH. cor	nductivity, etc.)			
SEE FIELD PARAMET					
Aliquot Amount	Analysis	Container	Preservation / Amount		
3-40  mL	VOA	VOA Vial	HCl		
1 – 500 ml	Metals	HDPE	HNO3 (filter)		
1 – 500 ml	Metals	HDPE	None (non)		
<u>2 – 1 Liter</u>	TPH-HCID	Glass Amber	HC1		
2 – 1 Liter	PCBs/Pest	Glass Amber	none		
2 – 1 Liter	SVOCs	Glass Amber	none		
Sampler (signature)		Date			
Supervisor (signature)		Date			

Plant/Site Landsburg Mine Site		Proje	Project No. <u>923-1000-002</u>		
Site Location Ravensda	ale, WA	Sample ID <u>LMW-11-1108</u>			
Sampling Location <u>Gr</u>	oundwater Monito	oring Well End of d	edicated sampling tube		
Technical Procedure R	deference(s) <u>TP-1</u>	.4-6, TP-1.2-20, TF	P-1.2-23		
Type of Sampler Dedic	cated Pump Grund	lfos or QED Bladde	er		
Date	Date Time				
Media Water					
Sample Type: gr	<u>rab</u>	time composite	space composite		
Sample Acquisition Me	easurements (dep	th, volume of static	well water and purged water, etc.)		
SWL – 157.07 ft below	TOC (bottom at 7	707 ft, 4-in casing)	(363 gal/casing vol)		
Sand Pack Interval – 68	88 to 707 ft (8-in h	ole)	(9.2 gal/sandpack vol)		
Packer Depth – NA					
Sample Description					
Field Measurements or	<b>Sample</b> (pH, cor	nductivity, etc.)			
SEE FIELD PARAME	ΓERS SHEET				
	_				
Aliquot Amount	Analysis	Container	Preservation / Amount		
3 – 40 mL	VOA	VOA Vial	HCl		
1 - 500  ml	Metals	HDPE	HNO3 (filter)		
1 - 500  ml			None (non)		
2 – 1 Liter			HCl		
	PCBs/Pest		none		
2 – 1 Liter			none		
Sampler (signature)		Date			
Supervisor (signature)		Date			