Golder Associates Inc.

18300 NE Union Hill Road, Suite 200 Redmond, WA USA 98052-3333 Telephone (425) 883-0777 Fax (425) 882-5498 www.golder.com



February 14, 2005

Our 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, 2004

Dear Mr. Kombol:

Golder Associates Inc. (Golder) completed an interim groundwater monitoring event at the Landsburg Mine Site during November, 2004. Groundwater samples were collected from monitoring wells LMW-2, LMW-3, LMW-4, LMW-5, LMW-6, LMW-7, LMW-8, LMW-9 and LMW-10 (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, and LMW-3 and LMW-5 are completed to monitor shallow and deeper zones within the Rogers coal seam south of the subsidence trench. These wells lay along the primary pathways for detection of a chemical release from the mine, were one to occur. Samples were also collected of the groundwater emanating from LMW-8, which is a shallow well monitoring the Rogers Portal #3 discharge and is a replacement for sampling the surface water discharge at the portal. LMW-8 provides a more representative water quality sample of the Rogers Portal #3 discharge than a sample of the surface water. LMW-6 and LMW-7 monitoring wells obtain groundwater from the Frasier and Landsburg coal mines to the west and east of the Rogers coal mine

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 pH, specific conductance, temperature, dissolved oxygen, and turbidity;
- Collection of representative samples in appropriate containers; metals samples were field filtered using an inline 0.45 µm filter; and
- Analyses of groundwater for volatile organic compounds (EPA Method 8260), priority pollutant metals and petroleum hydrocarbon identification scan.

The attached Table 1 presents analytical results for all analyses. Laboratory analytical reports are provided in Appendix B. Sampling activities were documented on Sample Integrity Data Sheets (SIDS). Copies of the completed SIDS are provided in Appendix A to this letter. Additionally, elevation data was surveyed for all wells at the project site. The attached Table 2 presents results of the survey, along with water depth measurements 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 a cooler maintained at approximately 4° C. All groundwater samples from monitoring wells were transported under chain-of-custody procedures to North Creek Analytical, Inc. for analyses, located in Bothell, Washington. Analysis on all water samples included volatiles by EPA Method 8260, priority metals suite of 13 analytes with the addition of Manganese and Iron, and a fuel hydrocarbon scan.

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.

It should be noted that an accidental introduction of acetone to the laboratory glassware occurred prior to the Interim Groundwater Sampling activities held in November. A full case narrative of the event has been submitted by the laboratory and is attached with the laboratory analytical data as Appendix B to this letter. Metals analysis and the hydrocarbon identification screening were not affected by the acetone contamination; however, acetone concentrations were such as to disallow Golder requested reporting levels from samples collected for VOCs from wells LMW-3, LMW-5, LMW-8 and LMW-9. The reporting limits for vinyl chloride were elevated to the lowest calibration standard of 0.5 μ g/L, due to the dilutions necessary for the acetone laboratory accident. This reporting limit is above the MTCA Method A screening levels of 0.2 μ g/L, creating a discrepancy in the quality assurance of the water samples. However, this discrepancy is minimal as vinyl chloride has not been observed in previous groundwater samples obtained from the Landsburg Mine Site wells. The laboratory has assured us that the acetone accident is not normal and will not occur in the future.

The analytical results indicate no significant changes in groundwater conditions from those observed during the remedial investigation (RI). One groundwater sample contained detectable organic compounds: LMW-10 had detectable benzene and toluene at $0.24\mu g/L$ and $0.31\mu g/L$, respectively. A duplicate sample was also collected from LMW-10 and showed benzene and toluene at $0.23\mu g/L$ and $0.29\mu g/L$, respectively. These detections are much below the MTCA levels as follows¹:

- Benzene MTCA cleanup level is 5μg/L for groundwater and 22.7μg/L for surface water.
- Toluene MTCA cleanup level is 1000 μ g/L for groundwater and 48,500 μ g/L for surface water.

The previous groundwater monitoring results from samples collected during the April/May, 2004 and August, 2004 events also showed slight concentrations of both benzene and toluene within LMW-10, though the observed concentrations were slightly higher when compared with current data (April/May

¹ Ecology, Washington State Department of, 2001. Cleanup Levels and Risk Calculations under the Model Toxics Control Act Cleanup Regulations. Publication No. 94-145. Olympia, Washington

data showed benzene and toluene at $0.39\mu g/L$ and $0.68\mu g/L$, respectively and August data showed benzene and toluene at $0.29\mu g/L$ and $0.44\mu g/L$, respectively). Since concentrations of the observed compounds are trace and appear to be decreasing in concentration, it is possible these organic compounds were introduced during the drilling and installation of LMW-10. However, future monitoring periods will provide further evidence whether these detected organic compounds are emanating from the Rogers Coal Seam mine or are merely residual artifacts from the drilling process. Also, chloroform was present in the field blank in slight concentrations. This compound did not show up in any other groundwater or quality control samples allowing the conclusion that it may have been either accidentally introduced during lab processing or was present in the deionized water used for the sample.

Iron and manganese are the only metals that were detected at concentrations in excess of the screening levels of $0.3\mu g/L$ and $0.05\mu g/L$, respectively. For these compounds, the only screening levels are secondary maximum contaminant levels (SMCLs) which are not health-based standards, but are protective of aesthetic qualities of water. The concentrations of iron and manganese detected during the November, 2004 sampling are similar to concentrations detected during the RI (Golder, 1996)² and the Interim Groundwater Sampling events held previously.

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

Sincerely,

GOLDER ASSOCIATES INC.

Ryan Vannier, L.G. Project Hydrogeologist

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

Principal

RGV/DJM/se

² Golder Associates Inc., 1996. Remedial Investigation and Feasibility Study for the Landsburg Mine Site. Landsburg PLP Steering Committee.

TABLES

NOVEMBER 2004 GROUNDWATER ANALYTICAL RESULTS LANDSBURG MINE SITE

ANALYTE	UNITS	LMW-2 11/16/2004	LMW-3 11/17/2004	LMW-4 11/16/2004	LMW-5 11/17/2004	LMW-6 11/16/2004	LMW-7 11/16/2004	LMW-8 11/17/2004	LMW-9 11/17/2004	LMW-10 11/16/2004	DuplicateL MW-10 11/16/2004	Field Blank 11/16/2004	Trip Blank 11/16/2004
Field Parameter													
pH	stnd	6.88	7.65	6.91	6.89	6.84	7.12	6.87	6.95	8.7	8.7	NA	NA
Conductivity	uS/cm	665	0.8	331	160.6	107.8	445	118.9	275	225	225	NA	NA
Temperature	°C	10.7	10.7	10.8	10.8	9.7	11.9	12.2	11.8	10.1	10.1	NA	NA
Turbidity	NTU	0.24	0.18	0.33	0.20	0.31	1.46	895	2.42	0.87	0.87		
Metals											·		
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	NT
Arsenic	mg/l	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00165	0.00267	0.001 U	0.00138	0.00135	0.001 U	NT
Beryllium	mg/l	0.001 U	0.001 U	0.001 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NT
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	NT
Chromium	mg/l	0.00181	0.001 U	0.0018	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NT
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	NT
Iron	mg/l	0.150 U	0.15 U	0.842	0.479	2.53	1.15	2.68	1.92	0.15 U	0.15 U	0.15 U	NT
Lead	mg/l	0.001 U	0.001 U	0.001 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NT
Manganese	mg/l	0.211	0.0844	0.202	0.21	0.031	0.145	0.597	0.16	0.01 U	0.0159	0.01 U	NT
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	NT
Nickel	mg/l	0.00147	0.001 U	0.00135	0.001 U	0.001 U	0.001	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NT
Selenium	mg/l	0.00311	0.001 U	0.0042	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NT
Silver	mg/l	0.001 U	0.001 U	0.005 U	0.005 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NT
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	0.001 U	NT
Zinc	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NT

NOVEMBER 2004 GROUNDWATER ANALYTICAL RESULTS LANDSBURG MINE SITE

											Ť		
											DuplicateL	Field	
ANALYTE	UNITS	LMW-2	LMW-3	LMW-4	LMW-5	LMW-6	LMW-7	LMW-8	LMW-9	LMW-10	MW-10	Blank	Trip Blank
		11/16/2004	11/17/2004	11/16/2004	11/17/2004	11/16/2004	11/16/2004	11/17/2004	11/17/2004	11/16/2004	11/16/2004	11/16/2004	11/16/2004
Volatile Organic Compounds											<u> </u>		
1,1,1,2-Tetrachloroethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,1-Trichloroethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U			
1,1,2,2-Tetrachloroethane	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U		
1,1,2-Trichloroethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U			0.2 U	
1,1-Dichloroethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	- 0.2 U		
1,1-Dichloropropene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,3-Trichlorobenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,3-Trichloropropane	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	
1,2,4-Trichlorobenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,4-Trimethylbenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dibromo-3-chloropropane	μg/L	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	
1,2-Dibromoethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U		0.2 U	0.2 U
1,2-Dichlorobenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U			0.2 U
1,2-Dichloroethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U			0.2 U
1,3,5-Trimethylbenzene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 .U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U		0.2 U	0.2 U
1,3-Dichloropropane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U		0.2 U	
2,2-Dichloropropane	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	μg/L	2 U	10 U	2 U	10 U	2 U	2 U	10 U	10 U	2 U			2 U
2-Chlorotoluene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	μg/L	2 U	10 U	2 U	10 U	2 U	2 U	10 U	10 U	2 U			2 U
4-Chlorotoluene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	0.5 U		0.5 U	0.5 U
4-Methyl-2-pentanone	μg/L	2 U	10 U	2 U	10 U	2 U	2 U	10 U	10 U	2 U			2 U
Acetone	μg/L	NR											
Benzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.24		0.2 U	0.2 U
Bromobenzene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U			0.5 U	0.5 U
Bromochloromethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	
Bromodichloromethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U		0.2 U	0.2 U
Bromoform	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U				
Bromomethane	μg/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U			
Carbon disulfide	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U			0.5 U	0.5 U
Carbon tetrachloride	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U			0.2 U	
Chloroethane	μg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	I U	0.2 U	0.2 U	1.16	0.2 U

NOVEMBER 2004 GROUNDWATER ANALYTICAL RESULTS LANDSBURG MINE SITE

		<u> </u>			1						1	r	T
		*									DuplicateL	Field	
ANALYTE	UNITS	LMW-2	LMW-3	LMW-4	LMW-5	LMW-6	LMW-7	LMW-8	LMW-9	LMW-10	MW-10	Blank	Trip Blank
		11/16/2004	11/17/2004	11/16/2004	11/17/2004	11/16/2004	11/16/2004	11/17/2004	11/17/2004	11/16/2004	11/16/2004	11/16/2004	11/16/2004
Chloromethane	μg/L	1 U	5 U	1 U	5 U	1 U	1 U	5 U	5 U				
cis-1,2-Dichloroethene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U		
cis-1,3-Dichloropropene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U			
Dibromochloromethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U		
Dibromomethane	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.5 U	
Dichlorodifluoromethane	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.2 U	
Ethylbenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	0.5 U	0.5 U
Hexachlorobutadiene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylene	μg/L	0.5 U	2 U	0.5 U	2 U	0.5 U	0.5 U	2 U	2 U	0.5 U	0.5 U	1 U	
Methyl tert-butyl ether	μg/L	1 U	2 U	1 U	2 U	1 U	1 U	2 U	2 U		1		
Methylene chloride	μg/L	2 U	5 U	2 U	5 U	2 U	2 U	5 U	5 U	2 U	2 U	0.2 U	
n-Butylbenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U			
n-Propylbenzene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U			0.5 U	
Naphthalene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U			1	
o-Xylene	μg/L	0.25 U	1 U	0.25 U	1 U	0.25 U	0.25 U	1 U	1 U		0.25 U	0.2 U	
p-Isopropyltoluene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U		1 U	1 U				
sec-Butylbenzene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U		1 U	1 U		1		
Styrene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U		1 U	1 U				
tert-Butylbenzene	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U			0.2 U	
Tetrachloroethene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U		1 U	1 U			0.2 U	
Toluene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U				
trans-1,2-Dichloroethene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U		1	0.2 U	
trans-1,3-Dichloropropene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U			±	
Trichloroethene	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U		1 U	1 U				
Trichlorofluoromethane	μg/L	0.5 U	1 U	0.5 U	1 U	0.5 U		1 U	1 U		1		
Vinyl chloride	μg/L	0.2 U	1 U	0.2 U	1 U	0.2 U	0.2 U	1 U	1 U	0.2 U	0.2 U	1 U	1 U
Hydrocarbon Identification													
Diesel Range	mg/l	0.63 U		0.63 U	0.63 U								
Gas Range	mg/l	0.25 U		0.25 U	0.25 U								
Heavy Fuel Oil	mg/l	0.63 U		0.63 U	0.63 U		<u> </u>						
Insulating Oil	mg/l	0.63 U		0.63 U	0.63 U		0.63 U						
Kerosene Range	mg/l	0.63 U		0.63 U	0.63 U								
Lube Oil Range	mg/l	0.63 U	0.63 U	NT									

Notes: NR

Acetone data is not reportable. Vials from lot# 4293060 contaminated with Acetone

Golder Associates

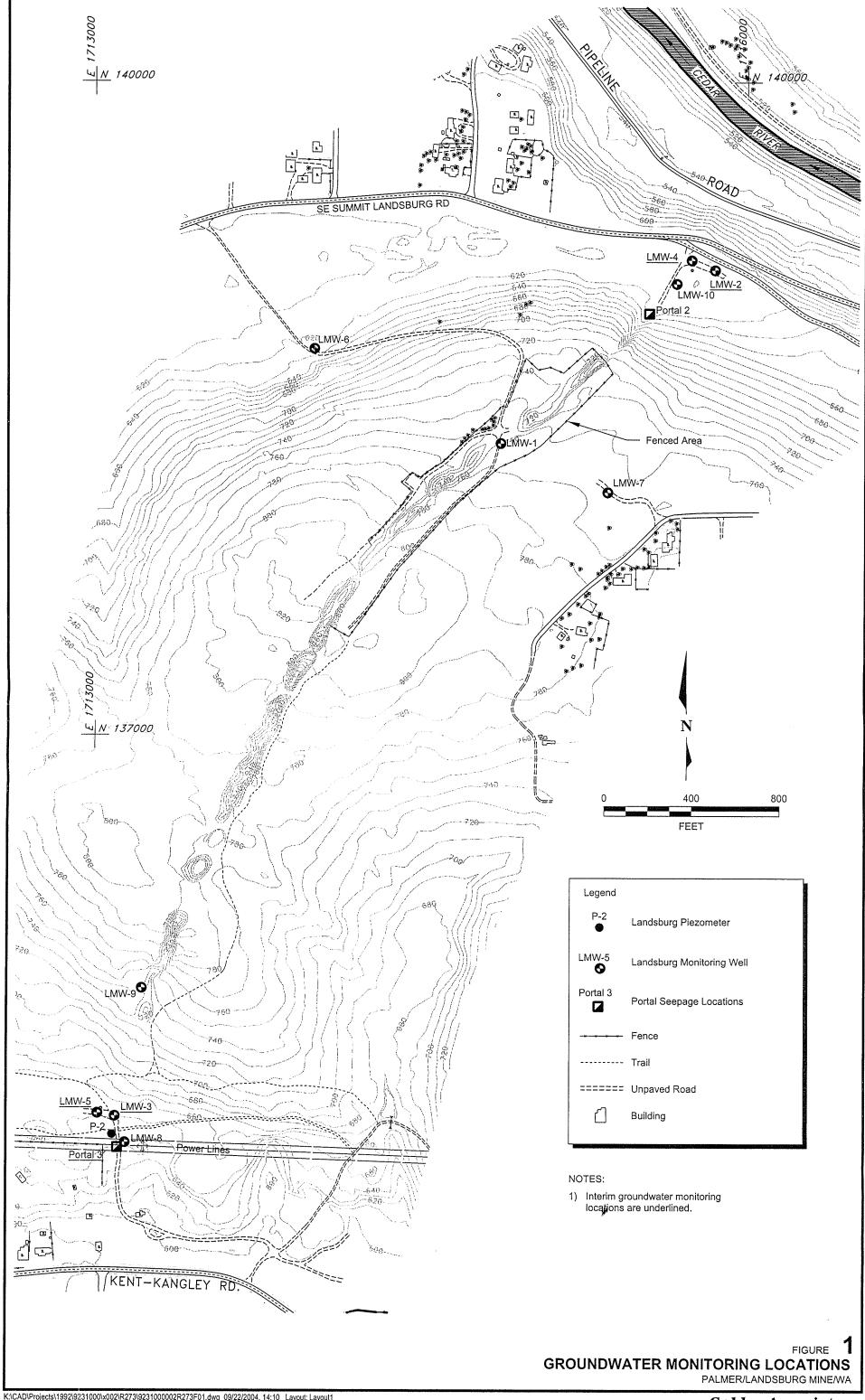
GROUNDWATER ELEVATION DATA COLLECTED 11/16/04 LANDSBURG MINE SITE

	UNITS	LMW-1	LMW-2	LMW-3	LMW-4	LMW-5	LMW-6	LMW-7	LMW-8	LMW-9	LMW-10	P-2	Water Drainage	Frazier Seam Tunnel
Water Depths													<u> </u>	
Time of data collection	ft bgs	0920	0852	0753	0849	0748	0833	0815	0740	0803	0845	0743	NA	NA
Measured to Top of PVC	ft bgs	146.50	7.01	12.91	8.50*	14.49	34.96	215.83*	4.28	100.25	Artesian	7.52	NA	NA
Measured to Top of Monument	ft bgs	147.27	7.68	NC	9.18*	NC	35.68	216.32*	NC	NC	Artesian	NC	NA	NA
Surveyed Elevation														
Top of PVC	ft asl	NC	NC	656.75	NC	658.27	632.33	NC	646.97	743.99	618.87	651.37	NA	NA
Top of Monument	ft asl	765.89	618.29	657.48	619.85	658.87	633.00	771.88	NC	NC	NC	NC	NA	NA
Ground Level	ft asl	762.90	615.35	654.40	617.09	655.63	629.95	768.79	645.25	741.13	615.75	648.54	551.38	542.15
Corrected Water Elevation														
Using PVC elevation	ft asl	NC	NC	643.84	NC	643.78	597.37	NC	642.69	643.74	Artesian	643.85	NA	NA
Using Monument elevation	ft asl	618.62	610.61	NC	610.67*	NC	597.32	555.56*	NC	NC	Artesian	NC	NA	NA

Golder Associates

^{* =} Data corrected to accomodate well inclination of 70°
NA = Not applicable.
NC = Data not collected.

FIGURE



APPENDIX A

FIELD REPORT FORMS

COLUMN 11 TO		Project No. <u>923-1000-002</u>						
Site Location Rave		-	HC0111 - SWML OI					
Sampling Location	Groundwater Monito	oring Well End of dedi	icated sampling tube					
Technical Procedu	re Reference(s) TP-1	.4-6, TP-1.2-20, TP-1	.2-23					
Type of Sampler <u>D</u>	edicated Pump Grund	dfos or QED Bladder						
Date 11/16/04		Time						
Media <u>Water</u>		Station <u>LN</u>	MW Z					
Sample Type:	grab	time composite	space composi					
			ell water and purged water, etc.)					
SWL - 7-01		(39-7-01)	× 0.66 gul/ff = 21.11					
Sand Pack Interval	25-39=14	(14) × 1.95)	> 0.66 gul/fr = 21.11 > 0.25 = 6.8 gul					
			•					
	s on Sample (pH, con	Moderate Hz50	dor					
Field Measurement SEE FIELD PARAI	s on Sample (pH, con METERS SHEET	nductivity, etc.)						
Field Measurement SEE FIELD PARAI Aliquot Amount	s on Sample (pH, con METERS SHEET Analysis	nductivity, etc.)	Preservation / Amour					
Field Measurement SEE FIELD PARAI Aliquot Amount A – 40 mL	s on Sample (pH, con METERS SHEET Analysis VOA	Container VOA Vial	Preservation / Amoun HCl					
Field Measurement SEE FIELD PARAI Aliquot Amount	s on Sample (pH, con METERS SHEET Analysis	Container VOA Vial HDPE	Preservation / Amour					

Well ID LMW-Z
Date II / I6 / OH
Time Begin Purge 1020
Time Collect Sample

Water Level feet bmp	Time	Volume Purged	рН	Conductivity uS/cm	Temp.	DO mg/L	Turbidity NTU
7.05	1005	10	6-86	754	10-7	0-17	8-65
7.05	1030	70	6.89	739	10-7	0.18	0.63
7.05	1035	30	6-88	732	10-7	1-30	0:57
7.05	1040	40	6.88	718	10-7	0.41	0.34
7.05	1050	60	6.89	688	10-7	0.10	0.77
7.05	1100	80	6.88	688 665	10-7	0.08	0.74
7					***************************************		

Comments:	Purge late 2	Z gal/min @	109.3 Hz	
	Generator shut	off @ 10:32 a	nd immediatly	restared

Sampler's Initials_____

Plant/Site Landsburg M	ine Site	Project	No. <u>923-1000-002</u>
Site Location Ravensda	le, WA	Sample	ID LMW 3-111704
Sampling Location Gro	undwater Monito	oring Well End of dedi	cated sampling tube
Technical Procedure Re	eference(s) <u>TP-1</u>	.4-6, TP-1.2-20, TP-1.	2-23
Type of Sampler Dedica	ated Pump Grunc	lfos or QED Bladder	
Date 11/17/04		Time <u>OS</u>	70
Media Water		Station <u>LM</u>	<u>[W-3</u>
Sample Type: gra	<u>ab</u>	time composite	space composite
Sample Acquisition Mea	asurements (dep		ell water and purged water, etc.)
SWL - 17.91		(65-39) • 0.	$\frac{66 \text{ sml/} G_{7} = 17}{2.25} = 11$
Sand Pack Interval 417	-69=221	1 - (79.1 × 55)	0-27 > 11
Packer Depth - 39;	Noll bottom = 6	5`	<u> 78 * 3 = 84</u>
Sample Description	lear Ward		
SEE FIELD PARAMET	Analysis	Container	Preservation / Amount
3 – 40 mL	VOA	VOA Vial	HCl
1 – 500 ml	Metals	HDPE	HNO3 (filter)
		Glass Amber	HCl
Sampler (signature)	mfl	Date!	1/17/04
Supervisor (signature) _		Date	

FIELD PARAMETERS SHEET

Well ID LMW-3

Date 11/17/04

Time Begin Purge 0755

Time Collect Sample 0850

Water Level feet bmp	Time	Volume Purged	pН	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	, , , , ,
17.45	0805	17.5 591	7.69	7.7	10.6	9.16	0.37	
	0180	76.25	7.71	1.5	10-7	5-18	0.61	
	0815	35,01	7.71	7.8	10-7	7.81	0.23	
12,45	0580	43.75 6	7.70	1.9	10-7	7.841	0-77	
<u> </u>	0875	52.50	7.68	0.5	10.7	7.78	0.70	
	0630	61-75	7.67	0.5	10,7	7.76	0.76	
-	0840	78-75	7.65	0,8	10.7	7.67	0.18	
<u> </u>	0845	87.5				·		

Comments: SwL	at 12.L	15)	aftipacker	inflate.	Packer pressure	at	110 psi
Purg	c Rate	~	1.77 galance	175.7	HZ		

Sampler's Initials__*RV*___

Plant/Site Landsburg M.	line Site	Proj	Project No. <u>923-1000-002</u>					
Site Location Ravensda	ıle, WA	Sam	ple ID <u>LMW</u> -	.4				
Sampling Location Gro	oundwater Monito	oring Well End of d	ledicated sampl	ing tube				
Technical Procedure R	eference(s) <u>TP-1</u>	.4-6, TP-1.2-20, TI	P-1.2-23					
Type of Sampler Dedic	ated Pump Grund	lfos or QED Bladde	er					
Date 11/16/04		Time	1500					
Media Water		Station _	LMW-4					
Sample Type: gr	<u>ab</u>	time composite		space composite				
Sample Acquisition Me				purged water, etc.)				
SWL - 9.07	-015)	187)· 0.66 gal/	G= 15-2					
Sand Pack Interval 189	· 75 = 115-	75-0×(79.1×55	= 10.7					
Packer Depth 1 ≤7	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		76 gent	×3 = 78 gal				
Sample Description(Clear Water S	some Hzs odor						
Field Measurements on	Sample (pH cor	iductivity etc.)						
SEE FIELD PARAMET								
Aliquot Amount	Analysis	Container	Pr	eservation / Amount				
3 – 40 mL	VOA	VOA Vial		HCl				
1 – 500 ml	Metals	HDPE		HNO3 (filter)				
2 – 1 Liter	TPH-HCID	Glass Amber		HCl				
Sampler (signature)		Data	illialm					
Supervisor (signature) _		Date						

FIELD PARAMETERS SHEET

Well ID LMW--Date 11/16/04
Time Begin Purge 1410
Time Collect Sample 1500

Water Level feet bmp	Time	Volume Purged	pН	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	
9.03	1420	zogal	6-89	367	10/8	0.73	0-25	
9.03	1430	40,901	6.90	348	10/8	51.0	0.77	
9.03	1440	40gal 60gal 70gal 80gal	6.91	336	10.8	0-07	0-17	
	1445	705-1	6.90	332	1015	0.04	0.65	
:		80gu	6.91	331	10/8	0.04	0.33	
		3						
, e								
					in the			
								,

Comments:			
Taflo	to packer to 110 po	si. Water Level @	9.05
	rate = Z gal/min		

Sampler's Initials_*fW*_____

Plant/Site Landsburg	Mine Site	····	Project No. 92	3-1000-002
Site Location Ravens	dale, WA	Sample ID LMW 5-111704		
Sampling Location <u>(</u>	Broundwater Monito	oring Well End	d of dedicated sa	umpling tube
Technical Procedure	Reference(s) TP-1	.4-6, TP-1.2-2	20, TP-1.2-23	
Type of Sampler Dec	licated Pump Grund	lfos or QED B	ladder	
Date 11/17/04		Tin	ne <u>1000</u>	
Media Water		Sta	tion <u>LMW-5</u>	
Sample Type:	<u>grab</u>	time compo	osite	space composite
Sample Acquisition M	Ieasurements (dep			and purged water, etc.)
SWL-14.49		(242-22	2) × 0.66 =	13 gal x 3 = 39 ga
Sand Pack Interval - J	Vone	······································		3
Packer Depth - 272	Well bottom 24	3		
Sample Description _				
Aliquot Amount	Analysis	Container		Preservation / Amount
3 – 40 mL	VOA	VOA Vial		HCl
1 – 500 ml	Metals	HDPE		HNO3 (filter)
2 – 1 Liter	TPH-HCID	Glass Ambe	er	HCl
Desired to the second s				
Sampler (signature) _	Bym Va	<u> </u>	Date [1/17/0	4
/ Supervisor (signature)				

Well ID LMW-5

Date II / 17/04

Time Begin Purge 0975

Time Collect Sample 1000

Water Level feet bmp	Time	Volume Purged	pН	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	
14.45	0935	15 ga	6.91	293	10.7	5,37	0.70	
<i>"</i> C	0940	25.55	6-9/	783	10,7	5,40	0-18	•
	0945	30 gal	6.89	276	8.01	5,15	0-17	
14.45	0955	45 951	6.89	160.6	8.01	4.98	0.70	
)						
			,					

Comments:
Parker pressure set at 140 psi
Puge rate = 1.5 gpm @ 109.2 HZ
SWL at 14.47 after poller inflate

Sampler's Initials________

Mine Site	Pro	ject No. <u>923-1000</u>	-002
dale, WA	San	nple ID <u>LMW-6</u>	- 111604
Groundwater Monito	oring Well End of	dedicated sampling	tube
Reference(s) <u>TP-1</u>	.4-6, TP-1.2-20, T	P-1.2-23	
licated Pump Grund	lfos or QED Blade	ler	
	Time _	1745	
	Station	LMW-6	
<u>grab</u>	time composite		space composite
			rged water, etc.)
	(106-81)	. 0.66 = 17	
3-106=23	(23 × 1.95	11= 25-0	
Well BoHom= 10	6`	78 × 3	, = 84gal

on Sample (pH, cor	iductivity, etc.)		
Analysis	Container	Prese	ervation / Amount
VOA	VOA Vial		HCl
Metals	HDPE		HNO3 (filter)
TPH-HCID	Glass Amber		HC1
111	•	,	
Men! / he	Date	11/16/04	
		•	
	Date	·	
	Reference(s) TP-1 licated Pump Grund grab leasurements (dep 3-106 = 73 well Coffont 10 Clear Wak on Sample (pH, contents SHEET Analysis VOA Metals	Reference(s) TP-1.4-6, TP-1.2-20, To dicated Pump Grundfos or QED Bladd Time Station grab time composite Resurements (depth, volume of station (106-81) 3-106=73 (23×1.95) ivel Clear Wake Analysis Container VOA VOA VIAL Metals HDPE TPH-HCID Glass Amber Date	Analysis Container Prese Wall Sample ID LMW-6 Analysis Container Prese VOA VOA VOA Vial Metals HDPE TPH-HCID Glass Amber Reference(s) TP-1.4-6, TP-1.2-20, TP-1.2-23 LIMW-6 Station LMW-6 Station LMW-6 (106-81) · 0.66 = 17 (23 × 1.95) 075 = 11 Well College Walk / Date 11/16/04

Well ID_	MWG		
Date	11/16/04		
Time Be	gin Purge	1650	
Time Co	llect Sample	1745	

Water Level feet bmp	Time	Volume Purged	pН	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	
34~70	1700	18	6.86	113.7	9.6		1.41	
34.70	1710	36	6.86	111-7	4.6		0-65	
)	1720	54	6-85	158,9	A16		5.32	
_	1730	72	6-83	108-3	9.7		0-32	
34-70	1740	90	6-84	107.8	9-7	,	0-31	
								\dashv

Comments $ ho_a$	s: cke/ S	er ar 100) psi	34.70 afr	in Flate	(DTW)	
187	1-3 H	e Pula	e Rade t	1.8 gal/m/-)		
:							

Sampler's Initials W

Plant/Site Landsburg Mi	ne Site		Project No. <u>923-10</u>)00-002	
Site Location Ravensdal	e, WA		Sample ID <u>LMW-7</u>		
Sampling Location Group	undwater Monito	oring Well En	d of dedicated sampl	ing tube	
Technical Procedure Re	ference(s) <u>TP-1</u>	.4-6, TP-1.2-	20, TP-1.2-23		
Type of Sampler Dedica	ited Pump Gruno	lfos or QED I	3ladder		
Date 11/16/04		Tir	ne <u>1215 </u>		
Media Water		Sta	tion <u>LMW</u>		
Sample Type: gra	<u>b</u>	time comp	osite	space composite	
Sample Acquisition Mea	surements (dep 254 - 279.68	th, volume of	static well water and	l purged water, etc.)	
Sand Pack Interval - NA			3		
Packer Depth - NA					
Sample Description	ecr Watr				

Field Measurements on S SEE FIELD PARAMETE	_	nductivity, etc	.)		
Aliquot Amount	Analysis	Container	P	reservation / Amount	
3 – 40 mL	VOA	VOA Vial		HCl	
1 – 500 ml	Metals	HDPE		HNO3 (filter)	
2 – 1 Liter	TPH-HCID	Glass Amb	er	HC1	
Sampler (signature)	en Va		Date		
, Supervisor (signature)			Date		

FIELD PARAMETERS SHEET

ابخ

Well II) LML	J-7_			
Date	11/16	104			
	3egin P		1135		
Time (Collect :	Sample	9 17	15	

Water Level feet bmp	Time	Volume Purged	pН	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	
	1145	15	7.34	350	17-1	3.1	1.14	
	1150	7.55	7.19	345	0.51	7.0	1.35	
	1155	30	7.10	378	0.51	0.16	1-77	
	1205	45	7/12	445	11.9	0-17	1.46	

Comments:		
Purge at	21.5 gpm	339.6 He on QED
1		

Sampler's Initials__PU____

Plant/Site Landsburg Mi	Pro	Project No. <u>923-1000-002</u>					
Site Location Ravensdal	e, WA	San	nple ID <u>LN</u>	1W 8 -	11170	4	
Sampling Location Grou	undwater Monito	oring Well End of	dedicated sa	ampling	tube		-
Taskwisal Dusas duus Da	favores (s) TD 1	4.6 TD 1.2.20 T	TD 1 2 22				
Technical Procedure Re	, ,		•				
Type of Sampler <u>Dedica</u> Date <u> 7 7 7 7 7 7 7 7 </u>	_						
• •				,			
Media Water	1 .		LMW - 8	·			•,
Sample Type: gra		time composite		1	_	compo	
Sample Acquisition Mea	surements (dep	th, volume of stati	c well water	r and pu	irged w	ater, et	tc.)
SWL - 4.78 Sand Pack Interval 6-	17` 1	(13-4.68)	0.17 =	<u> 1.)</u> ~			
Sand Pack Interval 6	15 bg 5	[(13-6) (2)	(0,t) =	4.)) ==	
Packer Depth - 13.0				6-0	gal	<u>×5 -</u>	18.0
Sample Description							
Field Measurements on S SEE FIELD PARAMETE							
Aliquot Amount	Analysis	Container		Prese	ervation	n / Amo	 ount
3 – 40 mL	VOA	VOA Vial			HC1		
1 – 500 ml	Metals	HDPE				<u>)3 (filt</u>	er)_
2 – 1 Liter	TPH-HCID	Glass Amber			HC1		

	1/1/	-	,	1			
Sampler (signature)	m lla	Date	e <u> </u>	104			
			'	•			
Supervisor (signature) _		Date	3				

FIELD PARAMETERS SHEET

Well ID LAW - 8

Date \\\[\lambda \lambda \rangle \]

Time Begin Purge \[O \text{IO} \]

Time Collect Sample \(\lambda \lam

Water Level feet bmp	Time	Volume Purged	pН	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	
	1045		6.96	116.4	11.2	5.09	9.99 f	
	1055		6.97	115.8	11.4	4.84	9.99t	
	1100	~ 70	6.87	118.9	17.51	414	9.99t	

Comments: Pump ser = 2 above bottom of well
11, -4, 1, 4, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6,
~ 0920 - Pumped dry. Monty to Line) to allow well to hemagin
=1015 - Bgin pumpins well at = 1.) gpm
1017 - will purped dry
1045 - Bigh pumping will at 2 0.5 gpm
1100 - will pumped dry. Toral & 20 gal puried
111) - Collect Sample

Sampler's Initials_______

Plant/Site Landsburg	Mine Site	Projec	et No. <u>923-1000-002</u>
Site Location Ravens	sdale, WA	Samp	le ID <u>LMW9~ [[1704]</u>
Sampling Location _	Groundwater Monito	oring Well End of de	dicated sampling tube
Technical Procedure			
Type of Sampler Dec	licated Pump Grund	lfos or QED Bladd er	
Date 11/17/04		Time/	405
Media Water		Station <u>L</u>	MW~9
	<u>grab</u>	time composite	space composite
,	Aeasurements (dep		vell water and purged water, etc.)
SWL - 100-25		(159-100)0-17	2 = 10 gal
Sand Pack Interval	-16-159'	(159-146) × 25	15 × 0-75 = 8 gc 18 gal/1 well vol
Packer Depth NA u			18 gal/1 well vol
Sample Description _	Cleer Water	<u>⊁3</u>	= 54 gal
SEE FIELD PARAMI Aliquot Amount	Analysis	Container	Preservation / Amount
3 – 40 mL	VOA	VOA Vial	HCl
1 – 500 ml	Metals	HDPE	HNO3 (filter)
		Glass Amber	
Sampler (signature)	Aus Mi	Date _	11/17/04
Supervisor (signature)	Date	***************************************

FIELD PARAMETERS SHEET

Well ID_	LMW-9		
Date	4/17/04		
Time Be	gin Purge	1315	
Time Co	llect Sample_	1405	

Adjusted

					·			
Water Level		Volume		Conductivity	Тетр.	DO	Turbidity	longe
feet bmp	Time	Purged	pН	uS/cm	°C	mg/L	NTU	
100.25° sul	1320	6-27	6.96	7.78	11.7	1.90	9.99 h	= 134
	1330	18-75	6.96	155.3	11-7	1.35	14.1	
	1340	31.25	6.96	277	11.8	1.18	4.34	
	1350	43.75	6.96	773	11.8	1.08	3,41	
	1400	56.75	6.95	275	11.8	0.89	242	
	4-14-14-14-14-14-14-14-14-14-14-14-14-14							

Comments:	Pump ser @ abor 10' off bottom:	
	Purge Rate = 1.27 gml/min @ 246.7 Hz	

Sampler's Initials___________

1 1	04)		LOW Plow purge
		Time_15	17
Sample Type:		Station <u>LMW</u>	-[[
	<u>grab</u>	time composite	space composi
Sample Acquisi	ition Measurements (dep	oth, volume of static well	water and purged water, etc.)
SWL - Artosis	۲-۲		
Sand Pack Inter	val = 787 - 767		
Packer Depth =	287' Pump at 8	30. Pump intake a	+ 277 A.
Sample Descrip	otion Clear Water		
Aliquot Amount	•	Container	Preservation / Amoun
\ 10 Y	7.70		
<u>X-40 mL</u>		VOA Vial	HCl
X – 40 mL X – 500 ml X – 1 Liter		HDPE	HCI HNO3 (filter) HCl

FIELD PARAMETERS SHEET

Well ID_	LMW-10	_
Datei	1/16/04	
Time Be	gin Purge 0905	
	llect Sample 1545	

Water Level feet bmp	Time	Volume Purged	pН	Conductivity uS/cm	Temp. °C	DO mg/L	Turbidity NTU	
	1525		8.70	205	10-1	3.77	1.93	
	1535		8-71	7.73	10-1	1-45	1-28	
	1547		8-70	225	18:1	1-16	0.87	
							,	

Comme		
	value @ 100 psi Set throttle @ 65 psi	
	= Artosian	
REC	0@ ID55 = Refill 15 Dischage 15 Parging @ = 1 L/min	
p (4107- 07W = 39.0' war. Pressure shut off allowing well to recover.	
	520 - Resport pump using 1020 R40 D20 purging at 250 ml/min	
	1525 - Begin takely parameter readings.	
	1547 - Collect Sample	

Sampler's Initials_____________

APPENDIX B

LABORATORY DATA



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

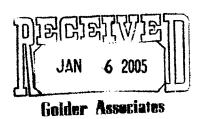
Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

15 December 2004

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

RE: Landsburg Mine



Enclosed are **amended** results of analyses for samples received by the laboratory on 11/17/04 16:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill

Project Manager



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

CASE NARRATIVE for B4K0507 amended

Client: Golder Associates Inc. Project Manager: Gary Zimmerman Project Name: Landsburg Mine Project Number: 923-1000-002

1.0 DESCRIPTION OF CASE

Seven (7) water samples were submitted for the analysis of:

- Hydrocarbon Identification by Washington DOE Method NWTPH-HCID
- Dissolved Metals by EPA 6000/7000 Series Methods
- Volatile Organic Compounds by EPA Method 8260B

2.0 COMMENTS ON SAMPLE RECEIPT

The samples were received and logged in 17th November 2004 at a temperature of 2.6°C. The samples were received in three coolers. Each cooler contained a Trip Blank; which was not listed on the COC. The COC was amended to note the receipt of the Trip Blanks. As per the clients request only the Trip Blank from the cooler containing the voa vial samples was logged in for VOC analysis. The remaining two Trip Blanks were placed on hold.

3.0 PREPARATION AND ANALYSIS

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID

No additional anomalies or discrepancies were associated with this analysis other than those already qualified in the data.

Dissolved Metals by EPA 6000/7000 Series Methods

No additional anomalies or discrepancies were associated with this analysis other than those already qualified in the data.

Volatile Organic Compounds by EPA Method 8260B

The project samples were extracted into analytical batch 4K21006 and analyzed for Volatile Organic Compounds (VOC) by purging a 25mL aliquot of sample on the instrument column. Acetone was observed in all project samples. Where the Acetone concentration in the project samples exceeded the instrument calibration range, an E-flag was applied to the reported data. These project samples were reanalyzed in analytical batch 4K18066 with an appropriate dilution to report all target analytes within calibration range.

Amar Gill

Project Manager

North Creek Analytical



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

CASE NARRATIVE for B4K0507 amended

VOA vials associated with Lot 4293060 were contaminated with Acetone. Affected Acetone results in this report were qualified with A-02. The contamination of these vials originated with the manufacturer. NCA followed its purchasing procedures by ordering Level 1 containers. The Certificate of Analysis that accompanied these vials specified the concentration of Acetone as being less than 5 ppb. However, concentrations could range from 5 to over 300 ppb. NCA will review its purchasing and screening procedures to determine if measures can be implemented to prevent future occurrences of this kind. NCA regrets any inconvenience this may have caused.

Amar Gill
Project Manager
North Creek Analytical



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Poar 907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine Project Number: 923-1000-002

Amended Report

Project Manager: Douglas Morell

Issued: 12/15/04 16:51

ANALYTICAL REPORT FOR SAMPLES - Amended

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LMW2-111604	B4K0507-01	Water	11/16/04 11:10	11/17/04 16:15
LMW7-111604	B4K0507-02	Water	11/16/04 12:15	11/17/04 16:15
LMW10-111604	B4K0507-03	Water	11/16/04 15:45	11/17/04 16:15
FBLMW10-111604	B4K0507-04	Water	11/16/04 09:40	11/17/04 16:15
LMW6-111604	B4K0507-05	Water	11/16/04 17:45	11/17/04 16:15
LMW11-111604	B4K0507-06	Water	11/16/04 08:00	11/17/04 16:15
LMW4-111604	B4K0507-07	Water	11/16/04 15:00	11/17/04 16:15
Trip Blank 1	B4K0507-08	Water	11/16/04 12:00	11/17/04 16:15

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 1 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

e 2000 W. International Airport Road 907.563.9200 fax 907.563.9210

Golder Associates Inc.

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:51

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW2-111604 (B4K0507-01) Water	Sampled: 11/	16/04 11-10	Received.	11/17/04 1	6:15				
Gx Range Hydrocarbons	ND	0.250	mg/l	1	4K19059	11/19/04	11/22/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND ND	0.630	111E/1	"	H H	11,15,01	117.22757	n	
Diesel Range Hydrocarbons	ND	0.630	11	n	"	**	11	n	
<u> </u>	ND ND	0.630	11	. "	11	"	11	n	
Insulating Oil Range Hydrocarbons	ND ND	0.630	*1	"	**	**	"	n	
Heavy Fuel Oil Range Hydrocarbons Lube Oil Range Hydrocarbons	ND ND	0.630	11	**	н	н	n	n	
					,,	"	,,	"	
Surrogate: 2-FBP	85.2 %	50-150			"	,,	n	"	
Surrogate: Octacosane	107 %	50-150			,,				
LMW7-111604 (B4K0507-02) Water	Sampled: 11	16/04 12:15	Received	11/17/04 1	16:15				
Gx Range Hydrocarbons	ND	0.250	. mg/l	1	4K19059	11/19/04	11/22/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	n	"	11	11	n	Ħ	
Diesel Range Hydrocarbons	ND	0.630	11	11	11	11	n	ti	
Insulating Oil Range Hydrocarbons	ND	0.630	11	n	11	**	**	II	
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	**	"	IT	11	n	ti .	
Lube Oil Range Hydrocarbons	ND	0.630	"	n	#	IT	n	ti .	
Surrogate: 2-FBP	86.9 %	50-150			"	n	"	rr .	
Surrogate: Octacosane	94.2 %	50-150			n	n	"	"	
LMW10-111604 (B4K0507-03) Water	Sampled: 1	1/16/04 15:45	Receive	d: 11/17/04	16:15				
Gx Range Hydrocarbons	ND	0.250	mg/l	1	4K19059	11/19/04	11/22/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	"	11	"	**	n	11	
Diesel Range Hydrocarbons	ND	0.630	n	11	11	n	11	11	
Insulating Oil Range Hydrocarbons	ND	0.630	11	**	n	**	**	Ħ	
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	Ħ	**	n	n	11	n	
Lube Oil Range Hydrocarbons	ND	0.630	11	n	14	11	Ħ	Ħ	
Surrogate: 2-FBP	85.6 %	50-150			11	"	,,	n	2.00
Surrogate: Octacosane	105 %	50-150			"	"	n	"	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 2 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

age 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Golder Associates Inc.

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

Amended Report Issued: 12/15/04 16:51

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FBLMW10-111604 (B4K0507-04) Water	Sample	i: 11/16/04 09	:40 Recei	ived: 11/17/	04 16:15				
Gx Range Hydrocarbons	ND	0.250	mg/l	1	4K19059	11/19/04	11/22/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	n	"	11	11	11	n	
Diesel Range Hydrocarbons	ND	0.630	11	11	11	II	"	n	
Insulating Oil Range Hydrocarbons	ND	0.630	11	11	Ħ	11	11	Ħ	
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	"	11	11	**	11	n	
Lube Oil Range Hydrocarbons	ND	0.630	**	**	11	11	11	n	
Surrogate: 2-FBP	108 %	50-150			"	"	n	n	
Surrogate: Octacosane	111%	50-150			"	n	n	n	
LMW6-111604 (B4K0507-05) Water Sa	mpled: 11	/16/04 17:45	Received:	11/17/04 1	6:15				
Gx Range Hydrocarbons	ND	0.250	mg/l	1	4K19059	11/19/04	11/22/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	n	n	**	U	n	n	
Diesel Range Hydrocarbons	ND	0.630	n '	IT	**	11	n	n	
Insulating Oil Range Hydrocarbons	ND	0.630	11	n	"	U	n	**	
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	11	u	11	Ħ	n	11	
Lube Oil Range Hydrocarbons	ND	0.630	n '	н	**	n	"	n	
Surrogate: 2-FBP	97.9 %	50-150			н	"	11	"	
Surrogate: Octacosane	107 %	50-150			77	n	n	n	
LMW11-111604 (B4K0507-06RE1) Wate	r Sample	ed: 11/16/04 (08:00 Rec	eived: 11/1	7/04 16:15				
Gx Range Hydrocarbons	ND	0.250	mg/l	1	4K22060	11/22/04	11/24/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	**	н	**	#	19	n	
Diesel Range Hydrocarbons	ND	0.630	11	n	**	n	Ħ	n	
Insulating Oil Range Hydrocarbons	ND	0.630	R	н	n	"	n	n	
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	Ħ	**	11	11	Ħ	U	
Lube Oil Range Hydrocarbons	ND	0.630	"	n	n	n	"	n	
Surrogate: 2-FBP	80.8 %	50-150			"	"	"	"	
Surrogate: Octacosane	106 %	50-150			n	"	"	"	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 3 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

chorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 995 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

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

Amended Report

Issued: 12/15/04 16:51

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW4-111604 (B4K0507-07) Water	Sampled: 11	16/04 15:00	Received:	11/17/04 1	6:15				
Gx Range Hydrocarbons	ND	0.250	mg/l	I	4K19059	11/19/04	11/23/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	Ħ	11	11	n	**	11	
Diesel Range Hydrocarbons	ND	0.630	н	**	n	11	11	1f	
Insulating Oil Range Hydrocarbons	ND	0.630	Ħ	lt .	n	H	II.	Ħ	
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	n	u	H	Nr.	"	H	
Lube Oil Range Hydrocarbons	ND	0.630	H	It	11	n	11	11	
Surrogate: 2-FBP	96.2 %	50-150			**	n	"	n	
Surrogate: Octacosane	106 %	50-150			"	"	"	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 4 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Amended Report Issued: 12/15/04 16:51

Dissolved Metals by EPA 6000/7000 Series Methods North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW2-111604 (B4K0507-01) Water	Sampled: 11.	/16/04 11:10	Received	11/17/04 1	6:15			· · · · · · · · · · · · · · · · · · ·	
Silver	ND	0.00100	mg/l	1	4K23044	11/23/04	12/01/04	EPA 6020	
Arsenic	ND	0.00100	11	tt	11	n	11/24/04	n	
Beryllium	ND	0.00100	11	11	11	n	12/03/04	11	
Cadmium	ND	0.00100	11	It .	"	n	11/24/04	tr .	
Chromium	0.00181	0.00100	11	**	tr .	n	19	If	
Copper	ND	0.00100	11	11	Ħ	H	н	в	
Iron	ND	0.150	11	11	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	n	n	4K23013	11/23/04	11/23/04	EPA 7470A	
Manganese	0.211	0.0100	n	11	4K23044	11/23/04	12/01/04	EPA 6020	
Nickel	0.00147	0.00100	11	11	11	**	11/24/04	11	
Lead	ND	0.00100	n	**	**	**	12/01/04	tf	
Antimony	ND	0.00300	n	11	и .	"	11/24/04	n	
Selenium	0.00311	0.00100	n	11	tt	11	11/24/04	n	
Thallium	ND	0.00100	Ħ	Ħ	11	11	12/01/04	11	
Zinc	ND	0.0100	**	17	11	**	11/24/04	н	
LMW7-111604 (B4K0507-02) Water	Sampled: 11	/16/04 12:15	Received	: 11/17/04 1	6:15				
Silver	ND	0.00100	mg/l	1	4K23044	11/23/04	12/01/04	EPA 6020	
Arsenic	0.00165	0.00100	tr	11	n	11	11/24/04	11	
Beryllium	ND	0.00100	Ħ	**	n	11	12/01/04	11	
Cadmium	ND	0.00100	11	11	n	11	11/24/04	n	
Chromium	ND	0.00100	H	**	17	н	11	11	
Copper	ND	0.00100	n	II.	n	н	н	n	
Iron	1.15	0.150	11	rt .	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	11	n	4K23013	11/23/04	11/23/04	EPA 7470A	
Manganese	0.145	0.0100	31	Ħ	4K23044	11/23/04	12/01/04	EPA 6020	
Nickel	0.00100	0.00100	11	11	n	"	11/24/04	n	
Lead	ND	0.00100	n	11	u	11	12/01/04	57	
Antimony	ND	0.00300	n	u u	n	Ħ	11/24/04	17	
Selenium	ND	0.00100	n	u	**	11	11/24/04	n	
Thallium	ND	0.00100	11	ti	11	21	12/01/04	11	
Zinc	ND	0.0100	11	11	11	H	11/24/04	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network

Page 5 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 2000 W. International Airport Road

Golder Associates Inc.

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

Project: Landsburg Mine

907.563.9200 fax 907.563.9210

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

Amended Report

Issued: 12/15/04 16:51

Dissolved Metals by EPA 6000/7000 Series Methods North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
LMW10-111604 (B4K0507-03) Water	Sampled: 1	1/16/04 15:45	Received	l: 11/17/04	16:15				
Silver	ND	0.00100	mg/l	1	4K23044	11/23/04	12/01/04	EPA 6020	
Arsenic	0.00138	0.00100	n	**	11	11	11/24/04	u	
Beryllium	ND	0.00100	\$1	11	**	**	12/01/04	n	
Cadmium	ND	0.00100	11	n	Ħ	n	11/24/04	n	
Chromium	ND	0.00100	11	n	18	**	11	Ħ	
Copper	ND	0.00100	**	n	**	11	Ħ	n	
Iron	ND	0.150	It	н	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	n	17	4K23013	11/23/04	11/23/04	EPA 7470A	
Manganese	ND	0.0100	11	н	4K23044	11/23/04	12/01/04	EPA 6020	
Nickel	ND	0.00100	11	**	ji .	TP	11/24/04	11	
Lead	ND	0.00100	n	11	š1	tt	12/01/04	Ħ	
Antimony	ND	0.00300	Ħ	n	Ħ	*	11/24/04	Ħ	
Selenium	ND	0.00100	**	11	91	n	11/24/04	n	
Thallium	ND	0.00100	11	n	11	21	12/01/04	n	
Zinc	ND	0.0100	11	н	"	n	11/24/04	п	
FBLMW10-111604 (B4K0507-04) Wat	ter Sampleo	l: 11/16/04 09:	:40 Rece	ived: 11/17.	/04 16:15				
Silver	ND	0.00100	mg/l	I	4K23044	11/23/04	12/01/04	EPA 6020	
Arsenic	ND	0.00100	91	11	11	"	11/24/04	H	
Beryllium	ND	0.00100	11	u	n	11	12/01/04	"	
Cadmium	ND	0.00100	n	21	11	11	11/24/04	n	
Chromium	ND	0.00100	n	**	**	11	11	H	
Copper	ND	0.00100	**	n	11	11	n	п	
Iron	ND	0.150	11	11	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	Ħ	33	4K23013	11/23/04	11/23/04	EPA 7470A	
Manganese	ND	0.0100	n	n	4K23044	11/23/04	12/01/04	EPA 6020	
Nickel	ND	0.00100	п	н	"	n	11/24/04	n	
Lead	ND	0.00100	n	"	11	Ħ	12/01/04	n	
Antimony	ND	0.00300	11	n	n	11	11/24/04	It	
Selenium	ND	0.00100	n	17	n	n	11/24/04	n	
Thallium	ND	0.00100	**	n	n	Ħ	12/01/04	Ħ	
Zinc	ND	0.0100	11	"	11	11	11/24/04	#	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network**

Page 6 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 2000 W International Airport Road

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine Project Number: 923-1000-002

Amended Report Issued: 12/15/04 16:51

Dissolved Metals by EPA 6000/7000 Series Methods North Creek Analytical - Bothell

Project Manager: Douglas Morell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW6-111604 (B4K0507-05) Water	Sampled: 11	/16/04 17:45	Received:	11/17/04 1	6:15				
Silver	ND	0.00100	mg/l	1	4K23044	11/23/04	12/01/04	EPA 6020	
Arsenic	ND	0.00100	n	n	н	11	11/24/04	п	
Beryllium	ND	0.00100	, 11	***	H	11	12/01/04	n	
Cadmium	ND	0.00100	**	"	11	n	11/24/04	11	
Chromium	ND	0.00100	"	11	n	н	n	11	
Copper	ND	0.00100	l†	11	11	**	н	В	
Iron	2.53	0.150	It	ri	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	n	н	4K23013	11/23/04	11/23/04	EPA 7470A	
Manganese	0.0310	0.0100	п	н	4K23044	11/23/04	12/01/04	EPA 6020	
Nickel	ND	0.00100	H.	ņ	n	n	11/24/04	11	
Lead	ND	0.00100	н	**	17	**	12/01/04	n	
Antimony	ND	0.00300	11	11	n	17	11/24/04	ħ	
Selenium	ND	0.00100	n	н	n	11	11/24/04	n	
Thallium	ND	0.00100	В	n	11	11	12/01/04	11	
Zinc	ND	0.0100	"	n	n	ır	11/24/04	Ħ	
LMW11-111604 (B4K0507-06) Water	Sampled: 1	1/16/04 08:00	Received	1: 11/17/04	16:15				
Silver	ND	0.00100	mg/l	1	4K23044	11/23/04	12/01/04	EPA 6020	
Arsenic	0.00135	0.00100	n	11	**	n	11/24/04	п	
Beryllium	ND	0.00100	**	**	11	11	12/01/04	11	
Cadmium	ND	0.00100	п	н		"	11/24/04	n	
Chromium	ND	0.00100	11	II.	11	"	11	n	
Copper	ND	0.00100	11	**	н	n	tt	tt	
Iron	ND	0.150	n	31	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	н	**	4K23013	11/23/04	11/23/04	EPA 7470A	
Manganese	0.0159	0.0100	n	11	4K23044	11/23/04	12/01/04	EPA 6020	
Nickel	ND	0.00100	11	11	If	II	11/24/04	n	
Lead	ND	0.00100	11	tt	n	Ħ	12/01/04	n	
Antimony	ND	0.00300	11	*1	н	11	11/24/04	tt	
Selenium		0.00100	IT	n	H	n	11/24/04	tr	
	ND	0.00100							
Thallium	ND ND	0.00100	n	n	H	11	12/01/04	н	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 7 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 00602 1110

907.563.9200 fax 907.563.9210

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

Amended Report

Issued: 12/15/04 16:51

Dissolved Metals by EPA 6000/7000 Series Methods North Creek Analytical - Bothell

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW4-111604 (B4K0507-07) Water	Sampled: 11	/16/04 15:00	Received:	11/17/04 1	6:15				
Silver	ND	0.00100	mg/l	1	4K23044	11/23/04	12/02/04	EPA 6020	
Arsenic	ND	0.00100	tt .	11	Ħ	n	11/24/04	n	
Beryllium	ND	0.00100	**	H	11	Ħ	12/02/04	n	
Cadmium	ND	0.00100	ŧŧ	н	#	17	11/24/04	11	
Chromium	0.00180	0.00100	13	**	n	n	Ħ	Ħ	
Copper	ND	0.00100	u	**	*1	n	**	Ħ	
Iron	0.842	0.150	17	17	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	**	"	4K23013	11/23/04	11/23/04	EPA 7470A	
Manganese	0.202	0.0100	Ħ	n	4K23044	11/23/04	12/02/04	EPA 6020	
Nickel	0.00135	0.00100	11	ti	"	**	11/24/04	n	
Lead	ND	0.00100	11	**	**	11	12/02/04	п	
Antimony	ND	0.00300	11	n	11	11	11/24/04	n	
Selenium	0.00420	0.00100	n	**	н	н	11/24/04	'n	
Thallium	ND	0.00100	11	"	11	"	12/02/04	11	
Zinc	ND	0.0100	11	11	11	'n	11/24/04	Ħ	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 8 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

nchorage - 2000 W. International Airport Road, Suite A10, Anchorage, AK 09502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW2-111604 (B4K0507-01) Water	Sampled: 11/10	5/04 11:10	Received	: 11/17/04 1	6:15				
Acetone	Not Reportable	20.0	ug/l	1	4K18066	11/23/04	11/24/04	EPA 8260B	A-02
Benzene	ND	1.00	17	11	n	Ħ	n	ir 💛	
Bromobenzene	ND	1.00	11	11	n	n	11	Ħ	
Bromochloromethane	ND	1.00	11	tt	11	n	n	11	
Bromodichloromethane	ND	1.00	11	11	н	н	ţi	11	
Bromoform	ND	1.00	11	11	lt.	n	11	. 11	
Bromomethane	ND	2.00	11	ıı	n	n	n	п	
2-Butanone	ND	10.0	ıı	II .	17	n	n	11	
n-Butylbenzene	ND	1.00	ıı	11	#	11	U	11	
sec-Butylbenzene	ND	1.00	n	n	Ħ	Ħ	11	11	
tert-Butylbenzene	ND	1.00	11	"	**	n	11	n	
Carbon disulfide	ND	1.00	n	11	"	н	11	n	
Carbon tetrachloride	ND	1.00	11	Ħ	11	n	11	u	
Chlorobenzene	ND	1.00	"	11	11	n	H	11	
Chloroethane	ND	1.00	н	11	19	n	11	11	
Chloroform	ND	1.00	**	11	п	н	15	11	
Chloromethane	ND	5.00	**	11	**	"	"	п	
2-Chlorotoluene	ND	1.00	H	11	n	"	11	17	
4-Chlorotoluene	ND	1.00	**	11	**	u	It	11	r
Dibromochloromethane	ND	1.00	н	**	**	**	n	n	
1,2-Dibromo-3-chloropropane	ND	5.00	11	"	**	"	n	п	
1,2-Dibromoethane	ND	1.00	11	11	**	n n	n	n	
Dibromomethane	ND	1.00	H	11	17	н	n	H	
1,2-Dichlorobenzene	ND	1.00	**	11	"	"	n	u u	
1,3-Dichlorobenzene	ND	1.00	n	ti	"	**	**	11	
I,4-Dichlorobenzene	ND	1.00	ħ	**	n	"	11	#1	
Dichlorodifluoromethane	ND	1.00	n	11	n	11	n	"	
1,1-Dichloroethane	ND	1.00	n	11	11	n	11	11	
1,2-Dichloroethane	ND	1.00	"	"	"	11	H	11	
1,1-Dichloroethene	ND	1.00	11	11	**	n	n	11	
cis-1,2-Dichloroethene	ND	1.00	**	u	u	u	u	n	
rans-1,2-Dichloroethene	ND	1.00	n	u	**	11	11	11	
1,2-Dichloropropane	ND	1.00	**	II.	11	17	11	"	
1,3-Dichloropropane	ND	1.00		11	n	11	11	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 9 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine Project Number: 923-1000-002 Project Manager: Douglas Morell

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B

North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
						1			
LMW2-111604 (B4K0507-01) Water	Sampled: 11/							11	
2,2-Dichloropropane	ND	1.00	ug/l	1	4K18066	11/23/04	11/24/04	n	
1,1-Dichloropropene	ND	1.00	11	11	Ħ	n	-		
cis-1,3-Dichloropropene	ND	1.00	"	11	91	n	n	11	
trans-1,3-Dichloropropene	ND	1.00	u	11	11	n	n	11	
Ethylbenzene	ND	1.00	#	**	**	н	11	n	
Hexachlorobutadiene	ND	1.00	11	11	"	n	Ħ	"	
Methyl tert-butyl ether	ND	2.00	ti	11	н	ti	tr	n	
2-Hexanone	ND	10.0	91	Ħ	n	n	n	n	
Isopropylbenzene	ND	1.00	11	21	11	n	n	n	
p-Isopropyltoluene	ND	1.00	11	11	n	11	11	n	
4-Methyl-2-pentanone	ND	10.0	11	H	15	11	n	n	
Methylene chloride	ND	5.00	**	**	"	**	Ħ	н	
Naphthalene	ND	1.00	11	n	"	17	11	tt	
n-Propylbenzene	ND	1.00	R	n	n	n	11	n	
Styrene	ND	1.00	Ħ	"	**	"	11	n	
1,2,3-Trichlorobenzene	ND	1.00	*1	n	n	11	n	ŧi	
1,2,4-Trichlorobenzene	ND	1.00	11	11	n	11	n	"	
1,1,1,2-Tetrachloroethane	ND	1.00	n	n	11	**	p	"	
1,1,2,2-Tetrachloroethane	ND	1.00	**	**	H	Ħ	n	Ħ	
Tetrachloroethene	ND	1.00	11	"	11	**	n	11	
Toluene	ND	1.00	*1	n	11	n	11	n	
1,1,1-Trichloroethane	ND	1.00	*1	11	n	11	n	#	
1,1,2-Trichloroethane	ND	1.00	11	t†	n	и ,	**	n	
Trichloroethene	ND	1.00	n	**	11	11	n	n	
Trichlorofluoromethane	ND	1.00	н	n	u	tt.	11	11	
1,2,3-Trichloropropane	ND	1.00	H	ti ti	11	**	n	"	
1,2,4-Trimethylbenzene	ND	1.00	"	11	11	n	11	н	
1,3,5-Trimethylbenzene	ND	1.00	n	11	11	ti	n	ut.	
Vinyl chloride	ND	1.00	**	n	н	**	tt	n	
o-Xylene	ND	1.00	11	**	"	n	11	·	
m,p-Xylene	ND	2.00	n	n	0	n	н	11	
Surrogate: 1,2-DCA-d4	101 %	70-130			"	"	n	"	
Surrogate: Toluene-d8	99.0 %	70-130			"	"	"	"	
Surrogate: 4-BFB	102 %	70-130			"	"	n	"	
1,1,1,2-Tetrachloroethane	ND	0.200	n	п	4K21006	11/19/04	11/19/04		

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 10 of 62



Golder Associates Inc.

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

425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage 907.563.9200 fax 907.563.9210

Project: Landsburg Mine

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

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

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW2-111604 (B4K0507-01) Water	Sampled: 11	/16/04 11:10	Received:	11/17/04 1	6:15				
1,1,1-Trichloroethane	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	H	
1,1,2,2-Tetrachloroethane	ND	0.500	n	11	11	u	n	н	
1,1,2-Trichloroethane	ND	0.200	11	D	**	ti .	ti	n	
1,1-Dichloroethane	ND	0.200	11	11	"	11	11	н	
1,1-Dichloroethene	ND	0.200	n	11	11	n	11	Ħ	
1,1-Dichloropropene	ND	0.200	n	11	#	"	n	Ħ	
1,2,3-Trichlorobenzene	ND	0.200	17	"	n	11	11	н	
1,2,3-Trichloropropane	ND	0.500	51	"	H	**	II	II	
1,2,4-Trichlorobenzene	ND	0.200	11	u	H	**	n	ท	•
1,2,4-Trimethylbenzene	ND	0.200	н	ŧŧ	IF	**	"	n	
1,2-Dibromo-3-chloropropane	ND	0.500	11	11	n	11	"	н	
1,2-Dibromoethane	ND	0.200	n	n	11	tı	n	H	
1,2-Dichlorobenzene	ND	0.200	Ħ	n	11	11	n	n	
1,2-Dichloroethane	ND	0.200	11	11	n	n	11	11	
1,2-Dichloropropane	ND	0.200	**	**	. 11	11	11	n	
1,3,5-Trimethylbenzene	ND	0.500	n	11	11	11	11	11	
1,3-Dichlorobenzene	ND	0.200	n	Ħ	"	"	Ħ	11	
1,3-Dichloropropane	ND	0.200	11	п	n	17	n	и	
1,4-Dichlorobenzene	ND	0.200	11	n	n	11	n	n	
2,2-Dichloropropane	ND	0.500	11	tt	19	n	н	11	
2-Butanone	ND	2.00	"	11	ıı	11	п	11	
2-Chlorotoluene	ND	0.500	11	11	n	**	n	н	
2-Hexanone	ND	2.00	n	**	n	"	n	11	
4-Chlorotoluene	ND	0.500	n	**	n	11	"	π	
4-Methyl-2-pentanone	ND	2.00	11	H.	11	11	"	n	
Acetone	Not Reportable	10.0	"	"	n	n	n	n	A-02, E
Benzene	ND	0.200	11	11	**	11	n	n	
Bromobenzene	ND	0.500	11	11	n	11	"	TT	
Bromochloromethane	ND	0.200	11	11	ŧŧ	**	11	11	
Bromodichloromethane	ND	0.200	Ħ	**	11	n	11	н	
Bromoform	ND	0.200	U	**	***	"	n	n	
Bromomethane	ND	2.00	n	11	"	n	11	rr	
Carbon disulfide	ND	0.500	n	**	n	**	H	**	
Carbon tetrachloride	ND	0.200	n	"	11	11	11	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 11 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200

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

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

•		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW2-111604 (B4K0507-01) Water	Sampled: 11	/16/04 11:10	Received	: 11/17/04 1	6:15				****
Chlorobenzene	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	P	
Chloroethane	ND	1.00	H	97	n	11	น	n	
Chloroform	ND	0.200	н	"	н	31	n	Ħ	
Chloromethane	ND	1.00	"	**	"	11	n	†I	
cis-1,2-Dichloroethene	ND	0.200	н	**	**	n	n .	n	
cis-1,3-Dichloropropene	ND	0.200	**	11	u	"	n	"	
Dibromochloromethane	ND	0.200	11	н	n ·	11	tt	ti	
Dibromomethane	ND	0.200	н	11	n	91	#1	**	
Dichlorodifluoromethane	ND	0.500	11	n	n	n	11	11	
Ethylbenzene	ND	0.200	11	n	n	II	11	Ħ	
Hexachlorobutadiene	ND	0.500	n	**	11	n	n	н	
Isopropylbenzene	ND	0.500	n	ti	n	ŧı	ŧı	31	
m,p-Xylene	ND	0.500	n	n	**	11	Ħ	11	
Methyl tert-butyl ether	ND	1.00	n	"	"	11	If	11	
Methylene chloride	ND	2.00	**	**	"	Ħ	11	Ħ	
n-Butylbenzene	ND	0.200	rt	**	11	tt	u	n	
n-Propylbenzene	ND	0.500	u	n	11	"	11	11	
Naphthalene	ND	0.500	**	**	n	"	11	Tf.	
o-Xylene	ND	0.250	**	n	ti	ħ	n	n	
p-Isopropyltoluene	ND	0.200	"	**	н	11	u	Ħ	
sec-Butylbenzene	ND	0.200	"	11	17	n	11	11	
Styrene	ND	0.500	11	H	Ħ	Ħ	11	п	
tert-Butylbenzene	ND	0.500	n	"	11	ņ	H.	**	
Tetrachloroethene	ND	0.200	n	n	11	78	11	91	
Toluene	ND	0.200	11	n	n	11	11	11	
trans-1,2-Dichloroethene	ND	0.200	11	11	n	п	11	11	
trans-1,3-Dichloropropene	ND	0.200	n	11	**	n	tt	H	
Trichloroethene	ND	0.200	н	**	11	n	n	n	
Trichlorofluoromethane	ND	0.500	н	**	n	,,	n	n	
Vinyl chloride	ND	0.200	n	11	n	н	11	H	
Surrogate: 1,2-DCA-d4	93.2 %	70-130			n	"	n	"	
Surrogate: Toluene-d8	96.0 %	70-130			"	"	n	"	
Surrogate: 4-BFB	113 %	70-130			n	"	"	"	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 12 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119. 907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine Project Number: 923-1000-002

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Project Manager: Douglas Morell

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW7-111604 (B4K0507-02) Water	Sampled: 11/1	6/04 12:15	Received	11/17/04 1	6:15				
1,1,1,2-Tetrachloroethane	ND	0.200	ug/l	1 -	4K21006	11/19/04	11/19/04	EPA 8260B	
1,1,1-Trichloroethane	ND	0.200	11	n	12	11	Ħ	Ħ	
1,1,2,2-Tetrachloroethane	ND	0.500	11	n	n	11	17	11	
1,1,2-Trichloroethane	ND	0.200	Ħ	11	ţŧ	11	**	n	
1,1-Dichloroethane	ND	0.200	11	11	11	11	n	n	
1,1-Dichloroethene	ND	0.200	3)	11	11	1)	Ħ	n	
1,1-Dichloropropene	ND	0.200	II	u	n	n	H	n	
1,2,3-Trichlorobenzene	ND	0.200	17	H	11	н	Ħ	n	
1,2,3-Trichloropropane	ND	0.500	11	Ħ	11	11	tt	n	
1,2,4-Trichlorobenzene	ND	0.200	"	H	11	n	n	п	
1,2,4-Trimethylbenzene	ND	0.200	11	n	11	n	H	н	
1,2-Dibromo-3-chloropropane	ND	0.500	н	n	n	n	Ħ	II	
1,2-Dibromoethane	ND	0.200	n	15	н	11	II.	II	
1,2-Dichlorobenzene	ND	0.200	n	n	11	11	U	n	
1,2-Dichloroethane	ND	0.200	17	**	11	11	n	II.	
1,2-Dichloropropane	ND	0.200	11	н	11	11	11	11	
1,3,5-Trimethylbenzene	ND	0.500	"	H	11	n	n	II.	
1,3-Dichlorobenzene	ND	0.200	**	u	ti	n	tt	11	
1,3-Dichloropropane	ND	0.200	**	ii	n	ij	11	P	
1,4-Dichlorobenzene	ND	0.200	n	Ħ	"	If	11	II.	
2,2-Dichloropropane	ND	0.500	u u	H	*1	n	n	It	
2-Butanone	ND	2.00	н	11	**	II.	11	Tr .	
2-Chlorotoluene	ND	0.500	"	"	Ħ	"	н	11:	
2-Hexanone	ND	2.00	11	"	11	11	**	17	
4-Chlorotoluene	ND	0.500	11	17	n	11	Ħ	u	
4-Methyl-2-pentanone	ND	2.00	"	"		n	Ħ	n	
Acetone	Not	10.0	**	**	n	It	н	17	A-02, E
	Reportable								
Benzene	ND	0.200	17	"	11	n	11	1)	
Bromobenzene	ND	0.500	**	"	"	n	17	n	
Bromochloromethane	ND	0.200	**	Ħ	n	n	"	н	
Bromodichloromethane	ND	0.200	"	11	n	11	IT	P	
Bromoform	ND	0.200	"	**	n	"	n	n	
Bromomethane	ND	2.00	"	11	er	"	II.	n	
Carbon disulfide	ND	0.500	н	11	Ħ	16	H	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 13 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302
509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road. Suite A10. Anchorage. AK 99502-1119

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine Project Number: 923-1000-002 Project Manager: Douglas Morell

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW7-111604 (B4K0507-02) Water	Sampled: 11	16/04 12:15	Received:	11/17/04 1	6:15				***
Carbon tetrachloride	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	17	
Chlorobenzene	ND	0.200	11	. "	**	11	n	**	
Chloroethane	ND	1.00	11	"	11	n	n	п	
Chloroform	ND	0.200	11	n	**	n	**	**	
Chloromethane	ND	1.00	"	. 11	n	"	n	n	
cis-1,2-Dichloroethene	ND	0.200	**	11	. 0	n	11	11	
cis-1,3-Dichloropropene	ND	0.200	35	11	**	n	n	tt	
Dibromochloromethane	ND	0.200	**	н	11	11	Ħ	н	
Dibromomethane	ND	0.200	n	н	11	11	п	n	
Dichlorodifluoromethane	ND	0.500	n	\$1	n	n	n	13	
Ethylbenzene	ND	0.200	u	11	H	21	H	n	
Hexachlorobutadiene	ND	0.500	n	***	"	71	II.	Ħ	
Isopropylbenzene	ND	0.500	11	н	н	11	19	n	
m,p-Xylene	ND	0.500	11	n	n	ti	n	Ħ	
Methyl tert-butyl ether	ND	1.00	H	**	"	**	Ħ	11	
Methylene chloride	ND	2.00	11	H	n	и	Ħ	11	
n-Butylbenzene	ND	0.200	n	"	#	"	11	Ħ	
n-Propylbenzene	ND	0.500	n	U	11	**	n	n	
Naphthalene	ND	0.500	n	**	n	Ħ	н	n	
o-Xylene	ND	0.250	11	91	11	11	11	11	
p-lsopropyltoluene	ND	0.200	11	11	ar .	IT	n	n	
sec-Butylbenzene	ND	0.200	ır	n	11	n	n	'n	
Styrene	ND	0.500	n	11	11	n	"	и ,	
tert-Butylbenzene	ND	0.500	n	Ħ	n	n	11	n	
Tetrachloroethene	ND	0.200	11	**	11	Ħ	Ħ	n	
Toluene	ND	0.200	11	17	**	n	Ħ	11	
trans-1,2-Dichloroethene	ND	0.200	n	11	11	\$1	Ħ	11	
trans-1,3-Dichloropropene	ND	0.200	11	n	D	11	19	n	
Trichloroethene	ND	0.200	"	11	**	n	n	11	
Trichlorofluoromethane	ND	0.500	11	n	11	n	. 11	n	
Vinyl chloride	ND	0.200		n	11	н	н	"	
Surrogate: 1,2-DCA-d4	94.5 %	70-130			"	"	n	n	
Surrogate: Toluene-d8	95.0 %	70-130			"	n	n	"	
Surrogate: 4-BFB	113 %	70-130			"	"	n	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 14 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 horage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW10-111604 (B4K0507-03) Water	Sampled: 1	1/16/04 15:45	Received	: 11/17/04	16:15				
1,1,1,2-Tetrachloroethane	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	EPA 8260B	
1,1,1-Trichloroethane	ND	0.200	n	11	11	n	11	tt	
1,1,2,2-Tetrachloroethane	ND	0.500	n	11	11	n	11	U	
1,1,2-Trichloroethane	ND	0.200	n	н	11	11	n	Ħ	
1,1-Dichloroethane	ND	0.200	n	Ħ	n	н	n	π	
1,1-Dichloroethene	ND	0.200	n	11	11	n	"	n	
1,1-Dichloropropene	ND	0.200	n	11	11	11	n	11	
1,2,3-Trichlorobenzene	ND	0.200	н	n	**	n	11	17	
1,2,3-Trichloropropane	ND	0.500	11	II	11	11	11	21	
1,2,4-Trichlorobenzene	ND	0.200	II.	11	n	tt .	n	11	
1,2,4-Trimethylbenzene	ND	0.200	"	**	11	11	11	ii.	
1,2-Dibromo-3-chloropropane	ND	0.500	**	11	"	"	H	n	
1,2-Dibromoethane	ND	0.200	11		\$1	17	H	11	
1,2-Dichlorobenzene	ND	0.200	n	11	: H	17	n	n	
1,2-Dichloroethane	ND	0.200	n	u	n	**	n	in	
1,2-Dichloropropane	ND	0.200	11	11	n	**	n	Ħ	
1,3,5-Trimethylbenzene	ND	0.500	11	"	n	**	n	n	
1,3-Dichlorobenzene	ND	0.200	n	31	11	n	11	n	
1,3-Dichloropropane	ND	0.200	Ħ	"	11	11	11	n	
1,4-Dichlorobenzene	ND	0.200	It	n	**	17	**	n	
2,2-Dichloropropane	ND	0.500	11	17	11	17	11	19	
2-Butanone	ND	2.00	11	11	n	11	"	tt	
2-Chlorotoluene	ND	0.500	ıı	11	H	*1	n	n	
2-Hexanone	ND	2.00	11	**	#	n	n	n	
4-Chlorotoluene	ND	0.500	11	ŧŧ	"	n	n	II	
4-Methyl-2-pentanone	ND	2.00	11	n	"	u	11	u	
Acetone	Not	10.0	**	н	u	n	н	n	A-02
	Reportable								
Benzene	0.240	0.200	n	11	n	n	11	n	
Bromobenzene	ND	0.500	II .	11	11	11	15	II .	
Bromochloromethane	ND	0.200	n	11	11	Ħ	11	н	
Bromodichloromethane	ND	0.200	н	11	11	IT	н	п	
Bromoform	ND	0.200	n	11	n	11	17	н	
Bromomethane	ND	2.00	If	11	и	11	n	n	
Carbon disulfide	ND	0.500	11	R	11	n	"	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 15 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

horage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine
Project Number: 923-1000-002
Project Manager: Douglas Morell

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW10-111604 (B4K0507-03) Water	Sampled: 1	1/16/04 15:45	Received	: 11/17/04	16:15				
Carbon tetrachloride	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	u .	
Chlorobenzene	ND	0.200	н	n	11	"	11	n	
Chloroethane	ND	1.00	Ħ	11	n	11	Ħ	n	
Chloroform	ND	0.200	11	11	**	н	Ħ	n	
Chloromethane	ND	1.00	11	n	H	Ħ	It	**	
cis-1,2-Dichloroethene	ND	0.200	"	PT	n	11	11	n	
cis-1,3-Dichloropropene	ND	0.200	H	n	92	11	n	n	
Dibromochloromethane	ND	0.200	ıı	n	11	ļii	**	n	
Dibromomethane	ND	0.200	n	н	11	u	"	n	
Dichlorodifluoromethane	ND	0.500	n	н	11	"	Ħ	n	
Ethylbenzene	ND	0.200	n	**	n	11	II	n	
Hexachlorobutadiene	ND	0.500	n	п	11	n	n	11	
Isopropylbenzene	ND	0.500	11	"	**	n	**	11	
m,p-Xylene	ND	0.500	n	11	H	n	11	n	
Methyl tert-butyl ether	ND	1.00	11	n	11	н	n	n	
Methylene chloride	ND	2.00	n	11	,,	**	H	n	
n-Butylbenzene	ND	0.200	11	п	"	11	Ħ	n	
n-Propylbenzene	ND	0.500	37	n	11	n	n	ti .	
Naphthalene	ND	0.500	11	u	11	n	15	n	
o-Xylene	ND	0.250	n	Ħ	n	"	II.	n	
p-Isopropyltoluene	ND	0.200	н	**	tı	**	11	n	
sec-Butylbenzene	ND	0.200	H	n	n	n	"	н	
Styrene	ND	0.500	Ir	n	**	"	11	11	
tert-Butylbenzene	ND	0.500	11	n .	"	11	11	11	
Tetrachloroethene	ND	0.200	n	Ħ	n	TT .	"	n "	
Toluene	0.310	0.200	tt	Ħ	и	n	n	If	
trans-1,2-Dichloroethene	ND	0.200	n	n	H	11	11	ŧŦ	
trans-1,3-Dichloropropene	ND	0.200	11	n	91	11	11	**	
Trichloroethene	ND	0.200	11	n	13	н	n	Ħ	
Trichlorofluoromethane	ND	0.500	17	n	n	Ð	H	Ħ	
Vinyl chloride	ND	0.200	"	h	n	11	"	Ħ	
Surrogate: 1,2-DCA-d4	95.8 %	70-130			17	"	n	"	
Surrogate: Toluene-d8	96.5 %	70-130			"	"	"	"	
Surrogate: 4-BFB	109 %	70-130			11	n	"	"	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 16 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

d 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 chorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine

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

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FBLMW10-111604 (B4K0507-04) Wate	r Sampled:	11/16/04 09	:40 Recei	ived: 11/17/	04 16:15				
Acetone	Not	20.0	ug/l	1	4K18066	11/23/04	11/24/04	EPA 8260B	A-02
	Reportable								
Benzene	ND	1.00	11	n	"	**	li .	n	
Bromobenzene	ND	1.00	**	n	**	**		n	
Bromochloromethane	ND	1.00	**	n	tt	n	11	n	
Bromodichloromethane	ND	1.00	n	п	11	U	11	tt	
Bromoform	ND	1.00	n	"	11	"	Ħ	ti	
Bromomethane	ND	2.00	11	11	11	11	*1	н	
2-Butanone	ND	10.0	**	**	11	11	41	Ħ	
n-Butylbenzene	ND	1.00	**	n	17	11	11	n	
sec-Butylbenzene	ND	1.00	H	**	11	11	u	н	
tert-Butylbenzene	ND	1.00	n	"	**	11 .	u	n	
Carbon disulfide	ND	1.00	11	n	n	**	n	n	
Carbon tetrachloride	ND	1.00	11	17	tt	tt.	n	II	
Chlorobenzene	ND	1.00	11	97	řt.	н	tt	p	
Chloroethane	ND	1.00	TT TT	**	17	**	n	11	
Chloroform	1.17	1.00	11	Ħ	17	n	Ħ	n	
Chloromethane	ND	5.00	H	D	11	11	**	n	
2-Chlorotoluene	ND	1.00	11	n	11	11	11	н	
4-Chlorotoluene	ND	1.00	n	n	n	11	**	11	
Dibromochloromethane	ND	1.00	**	n	11	11	19	н	
1,2-Dibromo-3-chloropropane	ND	5.00	**	11	**	11	11	11	
1,2-Dibromoethane	ND	1.00	n	17	11	**	n	rr r	
Dibromomethane	ND	1.00	u	11	Ħ	11	n	n	
1,2-Dichlorobenzene	ND	1.00	n	17	**	11	0	11	
1,3-Dichlorobenzene	ND	1.00	17	19	H	**	"	11	
1,4-Dichlorobenzene	ND	1.00	n	*1	\$1	11	**	13	
Dichlorodifluoromethane	ND	1.00	17	11	п	11	**	n	
1,1-Dichloroethane	ND ·	1.00	te	ti	n	**	**	n	
1,2-Dichloroethane	ND	1.00	"	n	n	n	**	IT	
1,1-Dichloroethene	ND	1.00	n	n	n	11	n	н	
cis-1,2-Dichloroethene	ND	1.00		II.	n	11	11	n	
trans-1,2-Dichloroethene	ND	1.00	"	u	н	**	"	n	
1,2-Dichloropropane	ND	1.00		ti.	tt	Ħ	Ħ	91	
1,3-Dichloropropane	ND	1.00	fr	ti	Ħ	11	n	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 17 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

nchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Zaliaye	- Nosuit	Lunt	Omes	Dittion	Baton	Tropared	rumyzou		11010
FBLMW10-111604 (B4K0507-04) Water	Sampled	: 11/16/04 09:	40 Rece	ived: 11/17/	04 16:15		· · · · · · · · · · · · · · · · · · ·		·
2,2-Dichloropropane	ND	1.00	ug/l	1	4K18066	11/23/04	11/24/04	n	
1,1-Dichloropropene	ND	1.00	11	15	**	37	II.	11	
cis-1,3-Dichloropropene	ND	1.00	11	**	**	n	11	H	
trans-1,3-Dichloropropene	ND	1.00	11	n	**	11	Ħ	rr	
Ethylbenzene	ND	1.00	n	"	n	n	"	n	
Hexachlorobutadiene	ND	1.00	ti	11	H	n	n	11	
Methyl tert-butyl ether	ND	2.00	11	"	tt	**	11	n	
2-Hexanone	ND	10.0	n	11	**	"	ti	n	
Isopropylbenzene	ND	1.00	#	11	11	11	"	11	
p-Isopropyltoluene	ND	1.00	11	11	n	11	11	11	
4-Methyl-2-pentanone	ND	10.0	Ħ	Ð	tt	н	n	tt	
Methylene chloride	ND	5.00	*1	ŧı	н	н	n	it.	
Naphthalene	ND	1.00	11	H	Ir.	**	11	н	
n-Propylbenzene	ND	1.00	D	* *1	**	n	11	n	
Styrene	ND	1.00	n	Ħ	**	n	17	н	
1,2,3-Trichlorobenzene	ND	1.00	0	**	**	"	11	n	
1,2,4-Trichlorobenzene	ND	1.00	11	11	**	"	tt	n	
1,1,1,2-Tetrachloroethane	ND	1.00	11	11	n	**	**	**	
1,1,2,2-Tetrachloroethane	ND	1.00	**	11	n	n	17	11	
Tetrachloroethene	ND	1.00	31	**	n	11	11	n	
Toluene	ND	1.00	11	n	**	n	Ħ	n	
1,1,1-Trichloroethane	ND	1.00	**	11	н	n	11	n	
1,1,2-Trichloroethane	ND	1.00	11	**	"	n	n		
Trichloroethene	ND	1.00	11	1)	11	21	11	n	
Trichlorofluoromethane	ND	1.00	D	n	11	17	11	n	
1,2,3-Trichloropropane	ND	1.00	н	R	*1	11	Ħ	н	
1,2,4-Trimethylbenzene	ND	1.00	**	ir	**	n	II	n	
1,3,5-Trimethylbenzene	ND	1.00	D	· it	**	**	н	n	
Vinyl chloride	ND	1.00	ti	#1	11	11	11	11	
o-Xylene	ND	1.00	11	11	11	12	"	Ħ	
m,p-Xylene	ND	2.00	Ħ	n	n	11	11	17	
Surrogate: 1,2-DCA-d4	100 %	70-130			"	17	II .	"	
Surrogate: Toluene-d8	96.0 %	70-130			"	"	"	"	
Surrogate: 4-BFB	103 %	70-130			n	"	n	"	
1,1,1,2-Tetrachloroethane	ND	0.200	11	11	4K21006	11/19/04	11/19/04	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 18 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

rage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine Project Number: 923-1000-002

Amended Report
Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Project Manager: Douglas Morell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FBLMW10-111604 (B4K0507-04) Water	Sampled:	11/16/04 09	:40 Recei	ved: 11/17/	04 16:15				
1,1,1-Trichloroethane	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	11	
1,1,2,2-Tetrachloroethane	ND	0.500	**	n	11	н	n	n	
1,1,2-Trichloroethane	ND	0.200	n	n	11	11	Ħ	Ħ	
1,1-Dichloroethane	ND	0.200	11	H	**	11	n	**	
1,1-Dichloroethene	ND	0.200	11	11	"	1)	11	n	
1,1-Dichloropropene	ND	0.200	n	11	n	**	It	ti	
1,2,3-Trichlorobenzene	ND	0.200	n	11	n	12	11	h	
1,2,3-Trichloropropane	ND	0.500	n	п	11	n	11	11	
1,2,4-Trichlorobenzene	ND	0.200	D	D	н	Ħ	11	11	
1,2,4-Trimethylbenzene	ND	0.200	11	11	11	н	n	**	
1,2-Dibromo-3-chloropropane	ND	0.500	11	н	п	n	11	11	
1,2-Dibromoethane	ND	0.200	n	**	n	n	"	11	
1,2-Dichlorobenzene	ND	0.200	n	**	n	n	n	**	
1,2-Dichloroethane	ND	0.200	n	11	11	11	31	**	
1,2-Dichloropropane	ND	0.200	н	n	1)	it	u	11	
1,3,5-Trimethylbenzene	ND	0.500	п	n	jt .	11	n	n	
1,3-Dichlorobenzene	ND	0.200	n	11	17	11	n	Ħ	
1,3-Dichloropropane	ND	0.200	Ħ	11	п	91	17	н ,	
1,4-Dichlorobenzene	ND	0.200	n	Ħ	11	11	D	tr .	
2,2-Dichloropropane	ND	0.500	tt	11	11	. 11	n	n	
2-Butanone	ND	2.00	n	"	11	īI	n	n	
2-Chlorotoluene	ND	0.500	11	11	n	n	11	D	
2-Hexanone	ND	2.00	11	n .	11	Ħ	11	H	
4-Chlorotoluene	ND	0.500	*1	"	11	**	n	Ħ	
4-Methyl-2-pentanone	ND	2.00	n	11	n	H	11	н	
Acetone	Not	10.0	н	n	n	H	n	n	A-02, E
	eportable								
Benzene	ND	0.200	n	**	n	**	ti .	17	
Bromobenzene	ND	0.500	11	11	19	n	II .	H .	
Bromochloromethane	ND	0.200	11	н	11	n	n	"	
Bromodichloromethane	ND	0.200	н	**	11	н	"	11	
Bromoform	ND	0.200	11	**	11	n	"	n	
Bromomethane	ND	2.00	11	11	ti	11	**	11	
Carbon disulfide	ND	0.500	11	17	n	**	11	11	
Carbon tetrachloride	ND	0.200	11	11	11	Ħ	11	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 19 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine Project Number: 923-1000-002

Project Manager: Douglas Morell

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B

North Creek Analytical - Bothell

Result Limit Units Dilution		Prepared	Analyzed	Method	Notes
Chlorobenzene ND 0.200 ug/l 1 Chloroethane ND 1.00 " " Chloroform 1.16 0.200 " " Chloromethane ND 1.00 " " Cis-1,2-Dichloroethene ND 0.200 " " cis-1,3-Dichloropropene ND 0.200 " " Dibromochloromethane ND 0.200 " " Dibromomethane ND 0.200 " " Dichlorodifluoromethane ND 0.500 " " Ethylbenzene ND 0.500 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "	17/04 16:15				
Chloroethane ND 1.00 " " Chloroform 1.16 0.200 " " Chloromethane ND 1.00 " " Cis-1,2-Dichloroethene ND 0.200 " " cis-1,3-Dichloropropene ND 0.200 " " Dibromochloromethane ND 0.200 " " Dibromomethane ND 0.200 " " Dichlorodifluoromethane ND 0.500 " " Ethylbenzene ND 0.200 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "					
Chloroform 1.16 0.200 " " Chloromethane ND 1.00 " " cis-1,2-Dichloroethene ND 0.200 " " cis-1,3-Dichloropropene ND 0.200 " " Dibromochloromethane ND 0.200 " " Dibromomethane ND 0.200 " " Dichlorodifluoromethane ND 0.500 " " Ethylbenzene ND 0.200 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "	4K21006	11/19/04	11/19/04	11	
Chloromethane ND 1.00 " " cis-1,2-Dichloroethene ND 0.200 " " cis-1,3-Dichloropropene ND 0.200 " " Dibromochloromethane ND 0.200 " " Dibromomethane ND 0.200 " " Dichlorodifluoromethane ND 0.500 " " Ethylbenzene ND 0.200 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "	n	n	**	n	
cis-1,2-Dichloroethene ND 0.200 " " cis-1,3-Dichloropropene ND 0.200 " " Dibromochloromethane ND 0.200 " " Dibromomethane ND 0.200 " " Dichlorodifluoromethane ND 0.500 " " Ethylbenzene ND 0.200 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "	11	"	II	n	
cis-1,3-Dichloropropene ND 0.200 " " Dibromochloromethane ND 0.200 " " Dibromomethane ND 0.200 " " Dichlorodifluoromethane ND 0.500 " " Ethylbenzene ND 0.200 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "	н	11	If	n	
Dibromochloromethane ND 0.200 " " Dibromomethane ND 0.200 " " Dichlorodifluoromethane ND 0.500 " " Ethylbenzene ND 0.200 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "	11	н	n	n	
Dibromomethane ND 0.200 " " Dichlorodifluoromethane ND 0.500 " " Ethylbenzene ND 0.200 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "	Ħ	n	11	11	
Dichlorodifluoromethane ND 0.500 " " Ethylbenzene ND 0.200 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "	н	n	Ħ	11	
Ethylbenzene ND 0.200 " " Hexachlorobutadiene ND 0.500 " " Isopropylbenzene ND 0.500 " " m,p-Xylene ND 0.500 " "	и	11	n	11	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	n	11	n	11	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	11	n	n	11	
m,p-Xylene ND 0.500 " "	n	11	n	н	
	11	**	11	"	
	n	11	n	n	
ivicity tert-butyl ether ND 1.00	rı	"	n	32	
Methylene chloride ND 2.00 "	n	n	tt.	ti	
n-Butylbenzene ND 0.200 "	**	Ħ	11	11	
n-Propylbenzene ND 0.500 " "	11	"	и	11	
Naphthalene ND 0.500 " "	**	**	n	11	
o-Xylene ND 0.250 " "	**	11	n	It	
p-lsopropyltoluene ND 0.200 " "	n	U	Ħ	11	
sec-Butylbenzene ND 0.200 " "	n	n	Ħ	n	
Styrene ND 0.500 " "	n	**	H .	n	
tert-Butylbenzene ND 0.500 " "	11	11	ı,	n	
Tetrachloroethene ND 0.200 " "	11	n	n	11	
Toluene ND 0.200 " "	11	11	11	n	
trans-1,2-Dichloroethene ND 0.200 " "	n	11	11	11	
trans-1,3-Dichloropropene ND 0.200 " "	n	n	ıı	*	
Trichloroethene ND 0.200 " "	н	n	n	n	
Trichlorofluoromethane ND 0.500 " "	11	11	99	11	
Vinyl chloride ND 0.200 " "	**	11	"	11	
Surrogate: 1,2-DCA-d4 99.8 % 70-130	"	n	"	n	
Surrogate: Toluene-d8 97.0 % 70-130	,,,				
Surrogate: 4-BFB 110 % 70-130	"	n	"	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc.

Environmental Laboratory Network

Page 20 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 2000 W International Airport Road, Suite A10, Anchorage,

907.563.9200 fax 907.563.9210 Project: Landsburg Mine

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

Golder Associates Inc.

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

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW6-111604 (B4K0507-05) Water	Sampled: 11/1	6/04 17:45	Received	: 11/17/04 1	6:15				
Acetone	Not	20.0	ug/l	1	4K24046	11/24/04	11/25/04	EPA 8260B	A-02
Benzene	Reportable ND	1.00	11	11	ti	н	п		
Bromobenzene	ND	1.00	11	II	11	11	n	,	
Bromochloromethane	ND	1.00	H*	"	**	11	n	n	
Bromodichloromethane	ND	1.00	11	**	Ħ	n	"	n	
Bromoform	ND	1.00	11	**	*1	n	"	17	
Bromomethane	ND	2.00	11	Ħ	**	11	n	17	
2-Butanone	ND	10.0	ti	**	**	n	"	v	
n-Butylbenzene	ND	1.00	11	11	•	n	H	n	
sec-Butylbenzene	ND	1.00	11	11	**	17	H	11	
tert-Butylbenzene	ND	1.00	tt	11	**		**	11	
Carbon disulfide	ND	1.00	11	u	11	ij	11	n	
Carbon tetrachloride	ND	1.00	n	tt	11	n	**	11	
Chlorobenzene	ND	1.00	n	n	H	n	n	11	
Chloroethane	ND	1.00	IT	n	n	n	"	**	
Chloroform	ND	1.00	11	n	n	n	**	11	
Chloromethane	ND	5.00	H	u	H	"	"	n	
2-Chlorotoluene	ND	1.00	11	n	tr		**	н	
4-Chlorotoluene	ND	1.00	n	11	,,	"	n	н .	
Dibromochloromethane	ND	1.00	11	11	11	U	н	н	
1,2-Dibromo-3-chloropropane	ND	5.00	11	n	0	н	II .	11	
1,2-Dibromoethane	ND	1.00	11	11	17	n	n	**	
Dibromomethane	ND	1.00	"	n	tt	n	11	n	
1,2-Dichlorobenzene	ND	1.00	11	U	ti	n	**	n	
1,3-Dichlorobenzene	ND	1.00	н	п	17	11	11	в	
1,4-Dichlorobenzene	ND	1.00	11	Ħ	Ħ	"	11	n	
Dichlorodifluoromethane	ND	1.00	11	n	n	11	n	H	
1,1-Dichloroethane	ND	1.00	11	***	11	n	n	57	
1,2-Dichloroethane	ND	1.00	**	**	**	11	n	n	
1,1-Dichloroethene	ND	1.00	Ħ	Ħ	**	н	n	n	
cis-1,2-Dichloroethene	ND	1.00	n	n	n	n	**	n	
trans-1,2-Dichloroethene	ND	1.00	11	11	n	**	11	Ħ	
1,2-Dichloropropane	ND	1.00	11	n	n	n	n	ŧ	
1,3-Dichloropropane	ND	1.00	n	11	11	11	ır	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 21 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

age 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

	ъ	Reporting	11-1	D.B. etc.	Dat-L	Duramanad	Analyzad	Method	Notes
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Memon	140163
LMW6-111604 (B4K0507-05) Water	Sampled: 11/	16/04 17:45	Received:	11/17/04 1	6:15				
2,2-Dichloropropane	ND	1.00	ug/l	1	4K24046	11/24/04	11/25/04	н	
1,1-Dichloropropene	ND	1.00	n	n	**	11	11	Ħ	
cis-1,3-Dichloropropene	ND	1.00	11	11	n	11	11	IF	
trans-1,3-Dichloropropene	ND	1.00	11	11	*1	n	н	**	
Ethylbenzene	ND	1.00	11	n	11	IT	n	n	
Hexachlorobutadiene	ND	1.00	Ħ	n	11	11	**	n	
Methyl tert-butyl ether	ND	2.00	11	**	11	11	11	11	
2-Hexanone	ND	10.0	H	"	**	**	17	H	
Isopropylbenzene	ND	1.00	n	n	11	11	"	n	
p-Isopropyltoluene	ND	1.00	n	"	\$2	Ħ	11	"	
4-Methyl-2-pentanone	ND	. 10.0	11	n	11	*t	11	n	
Methylene chloride	ND	5.00	11	11	Ħ	II	"	11	
Naphthalene	ND	1.00	Ħ	Ħ	11	**	n	n	
n-Propylbenzene	ND	1.00	Ħ	n	n	II.	91	n	
Styrene	ND	1.00	11	**	"	**	IT	n	
1,2,3-Trichlorobenzene	ND	1.00	n	Ħ	11	n	tr	n	
1,2,4-Trichlorobenzene	ND	1.00	n	n	11	n	11	n	
1,1,1,2-Tetrachloroethane	ND	1.00	n	**	n	11	"	n	
1,1,2,2-Tetrachloroethane	ND	1.00	**	**	It	11	11	11	
Tetrachloroethene	ND	1.00	**	11	н	"	II .	n	
Toluene	ND	1.00	11	u	n	11	11	11	
1,1,1-Trichloroethane	ND	1.00	11	n	11	11	11	ħ	
1,1,2-Trichloroethane	ND	1.00	n	17	11	"	II .	n	
Trichloroethene	ND	1.00	n	n	**	11	n	"	
Trichlorofluoromethane	ND	1.00	11	11	**	n	n	Ħ	
1,2,3-Trichloropropane	ND	1.00	11	**	n	*1	81	u	
1,2,4-Trimethylbenzene	ND	1.00	tt	**	11	11	н	tr	
1,3,5-Trimethylbenzene	ND	1.00	It	n	11	н	n	11	
Vinyl chloride	ND	1.00	n	11	υ	n	Ħ	n	
o-Xylene	ND	1.00	n	lī	11	n	Ħ	n	
m,p-Xylene	ND	2.00	**	**	D	11	"	n	
Surrogate: 1,2-DCA-d4	94.5 %	70-130			"	"	n	n	
Surrogate: Toluene-d8	102 %	70-130			"	n	11	"	
Surrogate: 4-BFB	108 %	70-130			"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.200	11	n	4K21006	11/19/04	11/19/04	11	
* * *									

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 22 of 62



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244 425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
7 min yee									
LMW6-111604 (B4K0507-05) Water	Sampled: 11/	16/04 17:45	Received:	11/17/04 1	6:15				
1,1,1-Trichloroethane	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	11	
1,1,2,2-Tetrachloroethane	ND	0.500	It	н	**	**	Ħ	1f	
1,1,2-Trichloroethane	ND	0.200	11	n	Ħ	11	11	ır	
1,1-Dichloroethane	ND	0.200	n	n	n	11	17	II .	
1,1-Dichloroethene	ND	0.200	n	tt	H	н	11	н	
1,1-Dichloropropene	ND	0.200	n	11	n	u	n	11	
1,2,3-Trichlorobenzene	ND	0.200	n	**	n	**	11	n	
1,2,3-Trichloropropane	ND	0.500	u	#1	11	"	n	ti	
1,2,4-Trichlorobenzene	ND	0.200	u	ŧŧ	n	**	11	#1	
1,2,4-Trimethylbenzene	ND	0.200	n	11	71	**	Ħ	"	
1,2-Dibromo-3-chloropropane	ND	0.500	n	11	**	n	11	n	
1,2-Dibromoethane	ND	0.200	n	11	93	n	IP	n	
1,2-Dichlorobenzene	ND	0.200	11	Ħ	"	11	11	11	
1,2-Dichloroethane	ND	0.200	**	n	n	**	H	11	
1,2-Dichloropropane	ND	0.200	11	11	n	ii .	**	11	
1,3,5-Trimethylbenzene	ND	0.500	11		11	**	#	H	
1,3-Dichlorobenzene	ND	0.200	11	H	**	n	н	H	
1,3-Dichloropropane	ND	0.200	11	U	**	n	n	n	
1,4-Dichlorobenzene	ND	0.200	11	tr .	11	tr	n	11	
2,2-Dichloropropane	ND	0.500	11	11	n	n	11	11	
2-Butanone	ND	2.00	11	11	n	n	11	H	
2-Chlorotoluene	ND	0.500	11	11	u	"	11	11	
2-Hexanone	ND	2.00	17	ıı	"	11	н	11	
4-Chlorotoluene	ND	0.500	n	II	**	n	n	**	
4-Methyl-2-pentanone	ND	2.00	n	n	11	n n	11	H	
Acetone	Not	10.0	11	11	n	17	11	n	A-02, E
	Reportable								
Benzene	ND	0.200	**	**	n	n	11	n	
Bromobenzene	ND	0.500	Ħ	11	**	n	11	H	
Bromochloromethane	ND	0.200	н	"	**	n	11	**	
Bromodichloromethane	ND	0.200	11	n	**	Ħ	II	11	
Bromoform	ND	0.200	11	"	ıı	11	n	"	
Bromomethane	ND	2.00	11	11	. 11	п	Ħ	11	
Carbon disulfide	ND	0.500	11	11	11	19	11	H	
Carbon tetrachloride	ND	0.200	11	rı	11	n	"	ti	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 23 of 62



425.420.9200 fax 425.420.9210 Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509:924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

nchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119. 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW6-111604 (B4K0507-05) Water	Sampled: 11/	16/04 17:45	Received:	11/17/04 1	6:15				
Chlorobenzene	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	11	
Chloroethane	ND	1.00	n	**	ıı	11	11	π	
Chloroform	ND	0.200	n	11	11	Ħ	n .	и ,	
Chloromethane	ND	1.00	tt	11	n	. "	n	n	
cis-1,2-Dichloroethene	ND	0.200	n	Ħ	tı	n	Ħ	n	
cis-1,3-Dichloropropene	ND	0.200	n	#	#	н	11	n	
Dibromochloromethane	ND	0.200	n	"	n	tt	tt	n	
Dibromomethane	ND	0.200	n	11	et	**	"	11	
Dichlorodifluoromethane	ND	0.500	n	n	**	**	Ħ	n	
Ethylbenzene	ND	0.200	**	**	n	**	II.	Ħ	
Hexachlorobutadiene	ND	0.500	11	n	11	11	tt	tr	
Isopropylbenzene	ND	0.500	11	11	n	Ħ	11	n	
m,p-Xylene	ND	0.500	11	11	n	11	н .	Ħ	
Methyl tert-butyl ether	ND	1.00	н	n	H	17	Ħ	n	
Methylene chloride	ND	2.00	11	H	n	n	11	n	
n-Butylbenzene	ND	0.200	**	H	**	н	n	п	
n-Propylbenzene	ND	0.500	17	*1	11	31	**	n	
Naphthalene	ND	0.500	n	11	n	11	n	tr	
o-Xylene	ND	0.250	11	Ħ	Ħ	n	Ħ	35	
p-Isopropyltoluene	ND	0.200	11	ŧt	**	**	n	15	
sec-Butylbenzene	ND	0.200	n	**	11	н	11	n	
Styrene	ND	0.500	11	11	11	Ħ	11	11	
tert-Butylbenzene	ND	0.500	71	,,	11	11	Ħ	п	
Tetrachloroethene	ND	0.200	**	n	H	n	n	Ħ	
Toluene	ND	0.200	97	31	11	**	11		
trans-1,2-Dichloroethene	ND	0.200	11	**	1)	n	11	ti.	
trans-1,3-Dichloropropene	ND	0.200	n	n	n	"	11	n	
Trichloroethene	ND	0.200	*1	H.	11	**	ŧŧ	D	
Trichlorofluoromethane	ND	0.500	**	n	n	11	n	11	
Vinyl chloride	ND	0.200	n	n	11	11	n	11	
Surrogate: 1,2-DCA-d4	99.8 %	70-130			11	n	n	n	
Surrogate: Toluene-d8	98.0 %	70-130			n	11	n	"	
Surrogate: 4-BFB	107 %	70-130			"	n	н	"	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 24 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW11-111604 (B4K0507-06) Water	Sampled: 11/	16/04 08:00	Received	i: 11/17/04	16:15				
1,1,1,2-Tetrachloroethane	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	EPA 8260B	
1,1,1-Trichloroethane	ND	0.200	n	11	11	17	"	11	
1,1,2,2-Tetrachloroethane	ND	0.500	**	n	97	"	n	11	
1,1,2-Trichloroethane	ND	0.200	n	**	**	"	11	n	
1,1-Dichloroethane	ND	0.200	u	"	11	tt	n	D	
1,1-Dichloroethene	ND	0.200	n	11	**	"	H	n	
1,1-Dichloropropene	ND	0.200	n	**	"	U	n	n	
1,2,3-Trichlorobenzene	ND	0.200	II.	tt.	n	"	Ħ	11	
1,2,3-Trichloropropane	ND	0.500	n	11	11	11	"	11	
1,2,4-Trichlorobenzene	ND	0.200	11	Ħ	n	**	"	Ħ	
1,2,4-Trimethylbenzene	ND	0.200	n	**	11	"	н	и	
1,2-Dibromo-3-chloropropane	ND	0.500	н	n	11	n	11	n	
1,2-Dibromoethane	ND	0.200	u	11	Ħ	u	Ħ	**	
1,2-Dichlorobenzene	ND	0.200	n	n	11	u u	17	11	
1,2-Dichloroethane	ND	0.200	II .	11	11	11	II	p	
1,2-Dichloropropane	ND	0.200	II .	11	11	"	II .	n	
1,3,5-Trimethylbenzene	ND	0.500	n	. 11	"	17	17	n	
1,3-Dichlorobenzene	ND	0.200		n	n	"	11	**	
1,3-Dichloropropane	ND	0.200	11	rr rr	u	n	**	11	
1,4-Dichlorobenzene	ND	0.200	11	tt	11	H	n	п	
2,2-Dichloropropane	ND	0.500	1)	n	**	н	11	н	
2-Butanone	ND	2.00	**	31	11	Ħ	"	n	
2-Chlorotoluene	ND	0.500	11	11	**	**	ţt	Ħ	
2-Hexanone	ND	2.00	п	11	11	11	17	11	
4-Chlorotoluene	ND	0.500	**	19	11	n	n	n	
4-Methyl-2-pentanone	ND	2.00	11	17	n	n	H	n	
Acetone	Not	10.0	11	n	Ħ	**)F	n	A-02
	Reportable								
Benzene	0.230	0.200	11	H	11	11	ii .	н	
Bromobenzene	ND	0.500	11	Ħ	11	n	u		
Bromochloromethane	ND	0.200	Ħ	11	"	II	"	n	
Bromodichloromethane	ND	0.200	**	11	u	ıt	**	n	
Bromoform	ND	0.200	n	¥	11	11	n	"	
Bromomethane	ND	2.00	n	11	11	**	11	11	
Carbon disulfide	ND	0.500	n	n	n	11	H	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amer Gill Brainst Mana

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 25 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road 907.563.9200 fax 907.563.9210

Golder Associates Inc. Project: Landsburg Mine

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

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Australia	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
Analyte	Resuit	LHIIL	Omis	Dilution	Datcii	ricpared	Anaryzeu	Wichiod	Note
LMW11-111604 (B4K0507-06) Water	Sampled: 1	1/16/04 08:00	Receive	d: 11/17/04	16:15				
Carbon tetrachloride	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	н	
Chlorobenzene	ND	0.200	11	Ħ	ŧı	n	"	Ħ	
Chloroethane	ND	1.00	n	H	\$1	n	n	n	
Chloroform	ND	0.200	11	11	#1	11	15	11	
Chloromethane	ND	1.00	31	Ħ	37	15	Ð	n	
cis-1,2-Dichloroethene	ND	0.200	25	tt	ŧr	11	11	11	
cis-1,3-Dichloropropene	ND	0.200	11	18	ŧŧ	H	81	в	
Dibromochloromethane	ND	0.200	11	n	Ħ	11	11	11	
Dibromomethane	ND	0.200	n	H	n	n	n	11	
Dichlorodifluoromethane	ND	0.500	n	Ħ	11	n	11	n	
Ethylbenzene	ND	0.200	n	n	n	"	11	n	
Hexachlorobutadiene	ND	0.500	n	**	н	11	17	**	
Isopropylbenzene	ND	0.500	#	15	,,	n	IJ	n	
m,p-Xylene	ND	0.500	11	n	n	11	Ħ	11	
Methyl tert-butyl ether	ND	1.00	11	"	n	**	U	Ħ	
Methylene chloride	ND	2.00	н	11	11	tt	11	11	
n-Butylbenzene	ND	0.200	11	tr	n	н	n	11	
n-Propylbenzene	ND	0.500	H	n	11	11	n	п	
Naphthalene	ND	0.500	17	"	11	#	n	71	
o-Xylene	ND	0.250	**	. 13	n	n	11	II .	
p-lsopropyltoluene	ND	0.200	11	11	11	11	Ħ	IT	
sec-Butylbenzene	ND	0.200	11	11	tt	"	n	"	
Styrene	ND	0.500	น	n	11	Ħ	н	11	
tert-Butylbenzene	ND	0.500	81	11	11	11	11	17	
Tetrachloroethene	ND	0.200	**	n	n	n	n	11	
Toluene	0.290	0.200	71	"	**	"	h	11	
trans-1,2-Dichloroethene	ND	0.200	13	11	. 11	"	и	11	
trans-1,3-Dichloropropene	ND	0.200	n	u	"	n	v	Ħ	
Trichloroethene	ND	0.200	n	"	"	11	11	11	
Trichlorofluoromethane	ND	0.500	н	11	11	"	**	n	
Vinyl chloride	ND	0.200	**	n	n	11	Ħ	n	
Surrogate: 1,2-DCA-d4	100 %	70-130			n	"	"	n	
Surrogate: Toluene-d8	96.2 %	70-130			n	"	"	"	
Surrogate: 4-BFB	106 %	70-130			"	"	"	"	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 26 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

horage 2000 W International Airport Road, St 907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine
Project Number: 923-1000-002

Amended Report Issued: 12/15/04 16:51

Project Manager: Douglas Morell

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

	_	Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW4-111604 (B4K0507-07) Water	Sampled: 11/	16/04 15:00	Received:	11/17/04 1	6:15				
Acetone	Not	20.0	ug/l	1	4K24046	11/24/04	11/25/04	EPA 8260B	A-02
Benzene	Reportable ND	1.00	**	**	**	11	n	11	
Bromobenzene	ND	1.00	,,	**	11	11	11	11	
Bromochloromethane	ND	1.00	II	H	11	11	15	Ħ	
Bromodichloromethane	ND	1.00	**	**	**	31	11	**	
Bromoform	ND	1.00	11	**	11	11	u	n	
Bromomethane	ND	2.00		11	н	n	"	n	
2-Butanone	ND	10.0	н	n	11	n	"	If	
n-Butylbenzene	ND	1.00	11	11	11	11	,,	н	
sec-Butylbenzene	ND	1.00		11	11	10	**	11	
tert-Butylbenzene	ND	1.00	n	11	**	,,	"	н	
Carbon disulfide	ND	1.00	11	"	n	17	H	n	
Carbon tetrachloride	ND	1.00	**	11	n	n	H	n	
Chlorobenzene	ND	1.00	**	11	н	15	11		
Chloroethane	ND	1.00	n	11	11	11	n	11	
Chloroform	ND	1.00	II	n	11	It	n	n	
Chloromethane	ND	5.00	11	н	11	H	17	II.	
2-Chlorotoluene	ND	1.00	Ħ	n	11	11	11	11	
4-Chlorotoluene	ND	1.00	ŧì	ti	ti	n	11	11	
Dibromochloromethane	ND	1.00	u	11	**	17	11	n	
1,2-Dibromo-3-chloropropane	ND	5.00	11	"	**	ıı	u u	11	
1,2-Dibromoethane	ND	1.00	11	11	**	11	tr	11	
Dibromomethane	. ND	1.00	11	н	"	"	n	"	
1,2-Dichlorobenzene	ND	1.00	11	n	ŧŧ	11	11	n	
1,3-Dichlorobenzene	ND	1.00	n	It	н	11	11	11	
1,4-Dichlorobenzene	ND	1.00	It	n	н	11	H	17	
Dichlorodifluoromethane	ND	1.00	n	11	19	11	17	11	
1,1-Dichloroethane	ND	1.00	**	11	H	**	12	**	
1,2-Dichloroethane	ND	1.00	11	n	19	11	11	11	
1,1-Dichloroethene	ND	1.00	n	11	17	11	13	n	
cis-1,2-Dichloroethene	ND	1.00	H	11	n	11	n	11	
trans-1,2-Dichloroethene	ND	1.00	n	H	17	u	IT	n	
1,2-Dichloropropane	ND	1.00	n	n	18	11	n	11	
1,3-Dichloropropane	ND	1.00	11	11	**	n	11	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 27 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

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

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Maye		Limit	Omis		Baten		7 Hiaryzeu	Mediod	
LMW4-111604 (B4K0507-07) Water	Sampled: 11	/16/04 15:00	Received:	11/17/04 1	6:15				
2,2-Dichloropropane	ND	1.00	ug/l	1	4K24046	11/24/04	11/25/04	n	
1,1-Dichloropropene	ND	1.00	"	n	**	n	11	11	
cis-1,3-Dichloropropene	ND	1.00	"	Ħ	**	H	11	11	
trans-1,3-Dichloropropene	ND	1.00	n	Ħ	**	**	ti	11	
Ethylbenzene	ND	1.00	n	11	11	n	II	11	
Hexachlorobutadiene	ND	1.00	"	11	n	11	11	11	
Methyl tert-butyl ether	ND	2.00	n	ıı	n	n	n	п	
2-Hexanone	ND	10.0	11	**	*1	"	н	н	
Isopropylbenzene	ND	1.00	11	II	11	**	it	n	
p-Isopropyltoluene	ND	1.00	**	"	11	**	11	11	
4-Methyl-2-pentanone	ND	10.0	**	**	**	n	Ħ	n	
Methylene chloride	ND	5.00	11	n	n	n	n	n	
Naphthalene	ND	1.00	11	IT	11	n	U	n	
n-Propylbenzene	ND	1.00	n	u	27	n	11	11	
Styrene	ND	1.00	H	n	n	tt t	11	n	
1,2,3-Trichlorobenzene	ND	1.00	"	n	71	"	11	11	
1,2,4-Trichlorobenzene	ND	1.00	n		**	**	11	11	
1,1,1,2-Tetrachloroethane	ND	1.00	11	**	**	11	11	n	
1, 1, 2, 2-Tetrachloroethane	ND	1.00	11	Ħ	71	11	11	n	
Tetrachloroethene	ND	1.00	n .	89	11	"	It	n	
Toluene	ND	1.00	n	11	11	11	n	n	
1,1,1-Trichloroethane	ND	1.00	u	91	17	11		n	
1,1,2-Trichloroethane	ND	1.00	31	***	P	**	n	n	
Trichloroethene	ND	1.00	n	11	19	11	11	n	
Trichlorofluoromethane	ND	1.00	n	11	н	11	11	n	
1,2,3-Trichloropropane	ND	1.00	n	11	n	n	11	n	
1,2,4-Trimethylbenzene	ND	1.00	11	н	n	11	11	n	
1,3,5-Trimethylbenzene	ND	1.00	"	n	11	n	11	II.	
Vinyl chloride	ND	1.00	11	17	11	*1	н	31	
o-Xylene	ND	1.00	11	11	н	11	11	n	
m,p-Xylene	ND	2.00	u	n	n	11	**	11	
Surrogate: 1,2-DCA-d4	97.5 %	70-130			11	"	"	71	
Surrogate: Toluene-d8	103 %	70-130			n	"	"	"	
Surrogate: 4-BFB	110 %	70-130			H	"	n	"	
1,1,1,2-Tetrachloroethane	ND	0.200	н	er	4K21006	11/19/04	11/19/04	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 28 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 Anchorage 2000 W, International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

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

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW4-111604 (B4K0507-07) Water	Sampled: 11/	16/04 15:00	Received:	11/17/04 1	6:15				
1,1,1-Trichloroethane	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	II.	
1,1,2,2-Tetrachloroethane	ND	0.500	**		n	11	11	11	
1,1,2-Trichloroethane	ND	0.200	11	n	n	н	11	II	
1,1-Dichloroethane	ND	0.200	11	п	n	н	11	1r	
1,1-Dichloroethene	ND	0.200	n	11	n	n	n	11	
1,1-Dichloropropene	ND	0.200	17	11	**	н	11	n	
1,2,3-Trichlorobenzene	ND	0.200	"	tt	n	t†	11	n	
1,2,3-Trichloropropane	ND	0.500	n	Ħ	n	**	11	tt.	
1,2,4-Trichlorobenzene	ND	0.200	n	11	"	**	"	n	
1,2,4-Trimethylbenzene	ND	0.200	n	11	н	н	**	17	
1,2-Dibromo-3-chloropropane	ND	0.500	19	**	11	"	**	п	
1,2-Dibromoethane	ND	0.200	**	11	"	n	n	н	
1,2-Dichlorobenzene	ND	0.200	"	**	n	n	H	11	
1,2-Dichloroethane	ND	0.200	n	**	11	n	n	11	
1,2-Dichloropropane	ND	0.200	ii .	Ħ	11	n	н	11	
1,3,5-Trimethylbenzene	ND	0.500	11	11	11	H	n	11	
1,3-Dichlorobenzene	ND	0.200	**	11	11	n	n	н	
1,3-Dichloropropane	ND	0.200	"	11	**	11	11	n	
1,4-Dichlorobenzene	ND	0.200	n	**	n	11	**	11	
2,2-Dichloropropane	ND	0.500	n	tt	11	tt.	11	n	
2-Butanone	ND	2.00	II	u	II	e	n	n	
2-Chlorotoluene	ND	0.500	Ħ	n	n	11	"	n	
2-Hexanone	ND	2.00	**	n	11	н	11	11	
4-Chlorotoluene	ND	0.500	11	11	19	n	**	n	
4-Methyl-2-pentanone	ND	2.00	n	11	11	11	**	n	
Acetone	Not	10.0	н	n	**	11	11	11	A-02, E
	Reportable								
Benzene	ND	0.200	11	11	11	n	11	п	
Bromobenzene	ND	0.500	11	"	"	11	u	11	•
Bromochloromethane	ND	0.200	"	**	**	n	11	11	
Bromodichloromethane	ND	0.200	11	n	11	11	11	n	
Bromoform	ND	0.200	Ħ	п	n	n	"	В	
Bromomethane	ND	2.00	11	n	"	н	11	R	
Carbon disulfide	ND	0.500	n	Ħ	H	11	11	n	
Carbon tetrachloride	ND	0.200	11	n	u	n	n	ti	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network

Page 29 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
LMW4-111604 (B4K0507-07) Water	Sampled: 11	/16/04 15:00	Received: 1	11/17/04 1	6:15				
Chlorobenzene	ND	0.200	ug/l	1	4K21006	11/19/04	11/19/04	n	
Chloroethane	ND	1.00	. 11	n	Ħ	11	n	н	
Chloroform	ND	0.200	it	n	19	n	n	11	
Chloromethane	ND	1.00	11	17	n	n	"	n	
cis-1,2-Dichloroethene	ND	0.200	11	н	n	81	n	Ħ	
cis-1,3-Dichloropropene	ND	0.200	n	11	**	11	n	n	
Dibromochloromethane	ND	0.200	11	**	ti	ff.	11	n	
Dibromomethane	ND	0.200	U	11	11	**	. 11	B	
Dichlorodifluoromethane	ND	0.500	11	**	*1	11	11	n	
Ethylbenzene	ND	0.200	11	**	**	It	n	n	
Hexachlorobutadiene	ND	0.500	n	**	**	H	11	ŧŧ	
Isopropylbenzene	ND	0.500	11	**	11	tr .	n	н	
m,p-Xylene	ND	0.500	11	17	11	**	n	n	
Methyl tert-butyl ether	ND	1.00	31	н	n	"	11	n	
Methylene chloride	ND	2.00	11	r	17	"	n .	п	
n-Butylbenzene	ND	0.200	11	n	lf .	11	n	Ħ	
n-Propylbenzene	ND	0.500	Ħ	ii.	n	н	11	11	
Naphthalene	ND	0.500	11	n	н	IT	**	11	
o-Xylene	ND	0.250	11	н	n	b	11	н	
p-Isopropyltoluene	ND	0.200	**	н	n	n	11	11	
sec-Butylbenzene	ND	0.200	11	**	**	n	n	17	
Styrene	ND	0.500	17	n	"	U	n	Ħ	
tert-Butylbenzene	ND	0.500	11	"	11	н	U	Ħ	
Tetrachloroethene	ND	0.200	11	**	n	*	"		
Toluene	ND	0.200	11	11	**	#1	11	19	
trans-1,2-Dichloroethene	ND	0.200	Ħ	H	11	11	ti	11	
trans-1,3-Dichloropropene	ND	0.200	#1	11	11	n	11	11	
Trichloroethene	ND	0.200	11	n	u	n	n	н	
Trichlorofluoromethane	ND	0.500	n	n	n	11	51	в	
Vinyl chloride	ND	0.200	**	11	11	11	n	n	
Surrogate: 1,2-DCA-d4	102 %	70-130			"	n	"	"	
Surrogate: Toluene-d8	93.8 %	70-130			"	n	"	"	
Surrogate: 4-BFB	108 %	70-130			"	"	"	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network

Page 30 of 62



425.420.9200 fax 425.420.9210

 Spokane
 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

 509.924.9200
 fax 509.924.9290

 Portland
 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit		Dilution	Batch	Prepared	Analyzed	Method	Notes
Trip Blank 1 (B4K0507-08) Water	Sampled: 11/16	5/04 12:00	Received: 1	1/17/04 16:1	15				A-01
1,1,1,2-Tetrachloroethane	ND	0.200	ug/l	1	4K28003	11/24/04	11/24/04	EPA 8260B	
1,1,1-Trichloroethane	ND	0.200	n	It	n	**	11	n	
1,1,2,2-Tetrachloroethane	ND	0.500	н	н	11	11	n	n	
1,1,2-Trichloroethane	ND	0.200	11	11	tt	H	n	ท	
1,1-Dichloroethane	ND	0.200	n	11	1)	n	n	и	
1,1-Dichloroethene	ND	0.200	**	n	11	n	n	II.	
1,1-Dichloropropene	ND	0.200	tt	11	Ħ	11	19	n	
1,2,3-Trichlorobenzene	ND	0.200	n	n	91	n	13	11	
1,2,3-Trichloropropane	ND	0.500	n	11	#1	11	11	н	
1,2,4-Trichlorobenzene	ND	0.200	11	n	н	**	11	11	
1,2,4-Trimethylbenzene	ND	0.200	tt	11	U	u	11	11	
1,2-Dibromo-3-chloropropane	ND	0.500	11	"	n	"	11	11	
1,2-Dibromoethane	ND	0.200	u .	н	19	н	11	11	
1,2-Dichlorobenzene	ND	0.200	ıı	n	11	n	"	u	
1,2-Dichloroethane	ND	0.200	U	n	n	11	11	n	
1,2-Dichloropropane	ND	0.200	11	n	11	n	11	н	
1,3,5-Trimethylbenzene	ND	0.500	11	0	11	"	11	H	
1,3-Dichlorobenzene	ND	0.200	11	17	11	H)1	10	
1,3-Dichloropropane	ND	0.200	11	If	15	11	11		
1,4-Dichlorobenzene	ND	0.200	11	11	11	н	11	n .	
2,2-Dichloropropane	ND	0.500	н	n	11	н	11	11	
2-Butanone	ND	2.00	n .	ti .	51	п	11	n	
2-Chlorotoluene	ND	0.500	n	Ħ	11	11	**	н	
2-Hexanone	ND	2.00	n	n	ti	11	11	n	
4-Chlorotoluene	ND	0.500	n	U	n	11	11	н	
4-Methyl-2-pentanone	ND	2.00	11	n	Ħ	11	11	n	
Acetone	Not	10.0	**	IT	n	n	11	n	A-02, E
	Reportable								
Benzene	ND	0.200	Ħ	n	n	n	11	11	
Bromobenzene	ND	0.500	"	н	н	"	n	IT	
Bromochloromethane	ND	0.200	n	n	n	H	II	н	
Bromodichloromethane	ND	0.200	"	н	11	**	ti .		
Bromoform	ND	0.200	h	n	n	11	**	tr	
Bromomethane	ND	2.00	**	11	"	н .	tt*	11	
Carbon disulfide	ND	0.500	"	n	tı	**	11	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 31 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine
Project Number: 923-1000-002
Project Manager: Douglas Morell

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit		Dilution	Batch	Prepared	Analyzed	Method	Notes
				,					
Trip Blank 1 (B4K0507-08) Water	Sampled: 11/16			1/17/04 16:			·		A-01
Carbon tetrachloride	ND	0.200	ug/l	I	4K28003	11/24/04	11/24/04	ts	
Chlorobenzene	ND	0.200	*	. "	n	"	11	n	
Chloroethane	ND	1.00	**	***	Ħ	**	ti	11	
Chloroform	ND -	0.200	n	91	11	17	11	11	
Chloromethane	ND	1.00	D	Ħ	Ħ	17	111	n	
cis-1,2-Dichloroethene	ND	0.200	17	rt	n	**	n	н	
cis-1,3-Dichloropropene	ND	0.200	Ħ	n	11	11	n	n	
Dibromochloromethane	ND	0.200	**	n	81	ti	tt	n	
Dibromomethane	ND	0.200	II .	Ħ	11	11	52	u	
Dichlorodifluoromethane	ND	0.500	17	н -	**	tt	**	11	
Ethylbenzene	ND	0.200	п	Ħ	#	n	n	11	
Hexachlorobutadiene	ND	0.500	17	n	11	Ħ	**	11	
sopropylbenzene	ND	0.500	II	Ħ	Ħ	н	11	11	
m,p-Xylene	ND	0.500	II.	Ħ	11	n	n	Ħ	
Methyl tert-butyl ether	ND	1.00	ıt	Ħ	11	п	II	If	
Methylene chloride	ND	2.00	ıı	**	ij	11	11	lt.	
n-Butylbenzene	ND	0.200	11	**	n	11	11	. "	
n-Propylbenzene	ND	0.500	tr .	11	**	11	н	11	
Naphthalene	ND	0.500	II .	tr	n	11	H	h	
o-Xylene	ND	0.250	n	**	"	n	11	11	
p-lsopropyltoluene	ND	0.200	u,	"	**	n	15	II .	
sec-Butylbenzene	ND	0.200	13	n	,,	II	tt.	11	
Styrene	ND	0.500	"	II.	11	II	H	n	
ert-Butylbenzene	ND	0.500	"	n	ti	H	Ħ	11	
Tetrachloroethene	ND	0.200	**	n	tt	n	11	n	
Foluene Foluene	ND	0.200	11	u	11	11	11	11	
trans-1,2-Dichloroethene	ND	0.200	n	n	11	11	n	11	
rans-1,3-Dichloropropene	ND	0.200	17	11	97	11	11	R	
Frichloroethene	ND	0.200	ti .	n	n	п	п	н	
Trichlorofluoromethane	ND	0.500	"	11	11	n	n	**	
Vinyl chloride	ND	0.200	11	,,	**	11	**	11	
Surrogate: 1,2-DCA-d4	103 %	70-130			n	"	n .	п	
Surrogate: Toluene-d8	99.0 %	70-130			11	n	n	n	
Surrogate: 4-BFB	106 %	70-130			"	n	n	"	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network

Page 32 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine Project Number: 923-1000-002

Amended Report Issued: 12/15/04 16:51

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID - Quality Control North Creek Analytical - Bothell

Project Manager: Douglas Morell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K19059: Prepared 11/19/04	Using E	EPA 3520C								
Blank (4K19059-BLK1)										
Gx Range Hydrocarbons	ND	0.250	mg/l							
Kerosene Range Hydrocarbons	ND	0.630	n							
Diesel Range Hydrocarbons	ND	0.630	Ħ							
Insulating Oil Range Hydrocarbons	ND	0.630	11							
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	11							
Lube Oil Range Hydrocarbons	ND	0.630	n							
Surrogate: 2-FBP	DET		n	0.250		97.6	50-150			
Surrogate: Octacosane	DET		"	0.240		105	50-150			
LCS (4K19059-BS1)										
Diesel Range Hydrocarbons	DET	0.630	mg/l	1.87		96.3	58-125			
Surrogate: 2-FBP	DET		n	0.250		105	50-150			
LCS Dup (4K19059-BSD1)										
Diesel Range Hydrocarbons	DET	0.630	mg/l	1.87		87.2	25-125	9.91	40	
Surrogate: 2-FBP	DET		n	0.250		94.0	50-150			
Batch 4K22060: Prepared 11/22/04	Using E	PA 3520C								
Blank (4K22060-BLK1)										
Gx Range Hydrocarbons	ND	0.250	mg/l	10.1						
Kerosene Range Hydrocarbons	ND	0.630	n							
Diesel Range Hydrocarbons	ND	0.630	н							
Insulating Oil Range Hydrocarbons	ND	0.630	n							
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	tr							
Lube Oil Range Hydrocarbons	ND	0.630	11							
Surrogate: 2-FBP	DET		11	0.250		102	50-150			
Surrogate: Octacosane	DET		n	0.240		103	50-150			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 33 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:51

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID - Quality Control North Creek Analytical - Bothell

		Reporting		Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Prepared 11/22/04	Using El	PA 3520C								
)										
bons	DET	0.630	mg/l	1.87		92.5	58-125			
	DET		11	0.250		111	50-150			
-BSD1)										
bons	DET	0.630	mg/l	1.87		91.4	58-125	1.16	40	
	DET	•	11	0.250		92.8	50-150			
2060-MS2)					Source: E	84K0565-	04			
bons	DET	0.630	mg/l	1.76	0.0489	102	25-149			
	DET		"	0.236		105	50-150			
4K22060-MSD2)					Source: E	34K0565-	04			
bons	DET	0.630	mg/l	1.76	0.0489	83.6	25-149	19.0	200	
	DET	,	n	0.236		83.5	50-150			
) bons -BSD1) bons 2060-MS2) bons 4K22060-MSD2)	Prepared 11/22/04 Using EI) bons DET -BSD1) bons DET -DET -BSD2) bons DET -DET -DET	Result Limit	Result Limit Units	Result Limit Units Level	Result Limit Units Level Result	Result Limit Units Level Result %REC	Result Limit Units Level Result %REC Limits	Result Limit Units Level Result %REC Limits RPD	Result Limit Units Level Result %REC Limits RPD Limit

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 34 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

2000 W. International Airport Road. Suite A10. Anchorage. AK 99502-1119 907.563.9200 fax 907.563.9210 Anchorage

Golder Associates Inc.

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

Project: Landsburg Mine

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

Amended Report

Issued: 12/15/04 16:51

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control North Creek Analytical - Bothell

_		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K23013: Prepared 11	/23/04 Using	EPA 7470A		<u>.</u>						
Blank (4K23013-BLK1)										
Mercury	ND	0.000200	mg/l							
LCS (4K23013-BS1)										
Mercury	0.00500	0.000200	mg/l	0.00500		100	80-120			
LCS Dup (4K23013-BSD1)										
Mercury	0.00517	0.000200	mg/l	0.00500		103	80-120	3.34	20	
Duplicate (4K23013-DUP1)					Source: B	4K0528-	01			
Mercury	0.0000923	0.000200	mg/l		ND				20	
Matrix Spike (4K23013-MS1)				i	Source: B	4K0528-	01			
Mercury	0.00508	0.000200	mg/l	0.00500	ND	102	70-130			
Matrix Spike (4K23013-MS2)					Source: B	4K0345-	01			
Mercury	0.00485	0.000200	mg/I		0.000126	94.5	70-130			
Matrix Spike (4K23013-MS3)					Source: B	4K0507-	01			
Mercury	0.00508	0.000200	mg/l		0.0000675	100	70-130			
Matrix Spike Dup (4K23013-MSD2	2)				Source: B	4K0345-	01			
Mercury	0.00491	0.000200	mg/l		0.000126	95.7	70-130	1.23	20	
Matrix Spike Dup (4K23013-MSD3	3)				Source: B	4K0507-	91			Q-1
Mercury	0.00404	0.000200	mg/l		0.0000675	79.4	70-130	22.8	20	<u> </u>
Batch 4K23044: Prepared 11	/23/04 Using I	EPA 3005A								
Blank (4K23044-BLK1)	.zo, or esing i	37 77 50 0371							<u> </u>	
Silver	ND	0.00100	mg/l							
Arsenic	ND	0.00100	11							
3eryllium	ND	0.00100	n							
Cadmium	ND	0.00100	n							
Chromium	ND	0.00100	n							
	I TD									
Copper	ND	0.00100	11							
			11							
Copper	ND	0.00100 0.0100 0.00100	1) 11							

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 35 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

chorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K23044:	Prepared 11/23/04	Using 1	EPA 3005A								
Blank (4K23044-BL	K1)										
Antimony		ND	0.00300	mg/l							•
Selenium		ND	0.00100	m .							
Thallium		ND	0.00100	n							
Zinc		ND	0.0100	**							
LCS (4K23044-BS1)											
Silver		0.199	0.00100	mg/l	0.200		99.5	80-120			
Arsenic		0.195	0.00100	R	0.200		97.5	80-120			
Beryllium		0.184	0.00100	н	0.200		92.0	80-120			
Cadmium		0.196	0.00100	п	0.200		98.0	80-120			
Chromium		0.208	0.00100	11	0.200		104	80-120			
Copper		0.198	0.00100	11	0.200		99.0	80-120			
Manganese		0.204	0.0100	n	0.200		102	80-120			
Nickel		0.204	0.00100	11	0.200		102	80-120			
Lead		0.198	0.00100	Ħ	0.200		99.0	80-120			
Antimony		0.0496	0.00300	11	0.0500		99.2	80-120			
Selenium		0.194	0.00100	n	0.200		97.0	80-120			
Thallium		0.200	0.00100	11	0.200		100	80-120			
Zinc		0.196	0.0100	n	0.200		98.0	80-120			
LCS Dup (4K23044-	BSD1)										
Silver		0.199	0.00100	mg/l	0.200		99.5	80-120	0.00	20	
Arsenic		0.195	0.00100	n	0.200		97.5	80-120	0.00	20	
Beryllium		0.187	0.00100	\$1	0.200		93.5	80-120	1.62	20	
Cadmium		0.197	0.00100	11	0.200		98.5	80-120	0.509	20	
Chromium		0.210	0.00100	11	0.200		105	80-120	0.957	20	
Copper		0.198	0.00100	Ħ	0.200		99.0	80-120	0.00	20	
Manganese		0.203	0.0100	tt	0.200		102	80-120	0.491	20	
Nickel		0.203	0.00100	11	0.200		102	80-120	0.491	20	
Lead		0.196	0.00100	11	0.200		98.0	80-120	1.02	20	
Antimony		0.0500	0.00300	Ħ	0.0500		100	80-120	0.803	20	
Selenium		0.195	0.00100	n	0.200		97.5	80-120	0.514	20	
Thallium		0.200	0.00100	n	0.200		100	80-120	0.00	20	
Zinc		0.197	0.0100	¥	0.200		98.5	80-120	0.509	20	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 36 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

%REC

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

Golder Associates Inc.

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

Spike

Source

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

Amended Report

RPD

Issued: 12/15/04 16:51

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control North Creek Analytical - Bothell

Reporting

l			Reporting		Spike	Source		70KEC		KPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K23044:	Prepared 11/23/04	Using I	EPA 3005A								
Matrix Spike (4K23	044-MS1)					Source: B	4K0507-	01	111111111111111111111111111111111111111		
Silver		0.0542	0.00100	mg/l	0.100	ND	54.2	43-124			
Arsenic		0.106	0.00100	Ħ	0.100	0.000330	106	70-138			
Beryllium		0.0912	0.00100	n	0.100	ND	91.2	80-125			
Cadmium		0.0926	0.00100	tr	0.100	0.000140	92.5	80-125			
Chromium		0.0977	0.00100	н	0.100	0.00181	95.9	76-125			
Copper		0.0672	0.00100	11	0.101	0.000930	65.6	71-125			Q-13
Manganese		0.310	0.0100	"	0.100	0.211	99.0	54-158			
Nickel		0.0900	0.00100	U	0.0995	0.00147	89.0	73-125			
Lead		0.0894	0.00100	n	0.0995	ND	89.8	78-125			
Antimony		0.0547	0.00300	Ħ	0.0500	ND	109	63-126			
Selenium		0.0706	0.00100	и .	0.100	0.00311	67.5	61-156			
Thallium		0.0966	0.00100	n	0.100	ND	96.6	78-125			
Zinc		0.0991	0.0100	**	0.0995	0.00317	96.4	70-127			
Matrix Spike Dup (4	K23044-MSD1)					Source: B	4K0507-0	01			
Silver		0.0754	0.00100	mg/I	0.100	ND	75.4	43-124	32.7	50	
Arsenic		0.108	0.00100	"	0.100	0.000330	108	70-138	1.87	20	
Beryllium		0.100	0.00100	11	0.100	ND	100	80-125	9.21	20	
Cadmium		0.0940	0.00100	п	0.100	0.000140	93.9	80-125	1.50	20	
Chromium		0.0996	0.00100	n	0.100	0.00181	97.8	76-125	1.93	20	
Copper		0.0675	0.00100	n	0.101	0.000930	65.9	71-125	0.445	20	Q-13
Manganese		0.317	0.0100	H	0.100	0.211	106	54-158	2.23	20	
Nickel		0.0907	0.00100	17	0.0995	0.00147	89.7	73-125	0.775	20	
Lead		0.0963	0.00100	n	0.0995	ND	96.8	78-125	7.43	20	
Antimony		0.0542	0.00300	ข	0.0500	ND	108	63-126	0.918	20	
Selenium		0.0720	0.00100	n	0.100	0.00311	68.9	61-156	1.96	20	
Thallium		0.101	0.00100	II .	0.100	ND	101	78-125	4.45	20	•
Zinc		0.0999	0.0100	н	0.0995	0.00317	97.2	70-127	0.804	20	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 37 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Amended Report Issued: 12/15/04 16:51

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control North Creek Analytical - Bothell

1			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K30019: Pr	repared 11/30/04	Using EI	A 3005A							···-	
Blank (4K30019-BLK1)										
Iron		ND	0.150	mg/l				-			
LCS (4K30019-BS1)											
Iron		4.99	0.150	mg/l	5.00		99.8	80-120		_	
LCS Dup (4K30019-BS	ED1)										
Iron		4.94	0.150	mg/l	5.00		98.8	80-120	1.01	20	
Matrix Spike (4K30019	P-MS1)					Source: B	4K0507-	01			
Iron		5.41	0.150	mg/l	5.00	0.114	106	80-120			
Matrix Spike (4K30019	P-MS2)					Source: B	4K0565-	-04			
Iron		7.10	0.150	mg/l	5.00	1.92	104	80-120			
Matrix Spike Dup (4K3	30019-MSD1)					Source: B	34K0507-	-01			
Iron		5.27	0.150	mg/l	5.00	0.114	103	80-120	2.62	20	
Matrix Spike Dup (4K3	30019-MSD2)					Source: B	34K0565-	-04			
Iron	· · · · · · · · · · · · · · · · · · ·	7.27	0.150	mg/l	5.00	1.92	107	80-120	2.37	20	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 38 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

%REC

Limits

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

%REC

Golder Associates Inc.

Analyte

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

Spike

Level

Source

Result

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

Amended Report Issued: 12/15/04 16:51

RPD

Limit

Notes

RPD

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Units

Reporting

Limit

Result

ND

ND

ND

ND

ND

ND

1.00

1.00

1.00

1.00

1.00

1.00

Batch 4K18066: Pr	repared 11/23/04	Using EP	A 5030B	
Blank (4K18066-BLK1)				
Acetone		ND	20.0	ug/l
Benzene		ND	1.00	н
Bromobenzene		ND	1.00	н
Bromochloromethane		ND	1.00	ti
Bromodichloromethane ·		ND	1.00	Ħ
Bromoform		ND	1.00	n
Bromomethane		ND	2.00	n
2-Butanone		ND	10.0	n
n-Butylbenzene		ND	1.00	**
sec-Butylbenzene		ND	1.00	"
tert-Butylbenzene		ND	1.00	11
Carbon disulfide		ND	1.00	n
Carbon tetrachloride		ND	1.00	
Chlorobenzene		ND	1.00	11
Chloroethane		ND	1.00	Ħ
Chloroform		ND	1.00	II
Chloromethane		ND	5.00	**
2-Chlorotoluene		ND	1.00	ti
4-Chlorotoluene		ND	1.00	It
Dibromochloromethane		ND	1.00	n
1,2-Dibromo-3-chloropropane	e	ND	5.00	n
1,2-Dibromoethane		ND	1.00	11
Dibromomethane		ND	1.00	n
1,2-Dichlorobenzene		ND	1.00	Ħ
1,3-Dichlorobenzene		ND	1.00	н
1,4-Dichlorobenzene		ND	1.00	n
Dichlorodifluoromethane		ND	1.00	n
1,1-Dichloroethane		ND	1.00	11

North Creek Analytical - Bothell

1,2-Dichloroethane

1,1-Dichloroethene

cis-1,2-Dichloroethene

1,2-Dichloropropane

1,3-Dichloropropane

trans-1,2-Dichloroethene

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 39 of 62



425,420.9200 fax 425,420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

0/DEC

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

רום מ

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

	3	Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K18066: Prepared 11/23/04	Using EP	A 5030B								
Blank (4K18066-BLK1)										
2,2-Dichloropropane	ND	1.00	ug/l							
1,1-Dichloropropene	ND	1.00	n							
cis-1,3-Dichloropropene	ND	1.00	**							
trans-1,3-Dichloropropene	ND	1.00	11							
Ethylbenzene	ND	1.00	Ħ							
Hexachlorobutadiene	ND	1.00	11							
Methyl tert-butyl ether	ND	2.00	**							
2-Hexanone	ND	10.0	Ħ							
Isopropylbenzene	ND	1.00	Ħ							
p-lsopropyltoluene	ND	1.00	**							
4-Methyl-2-pentanone	ND	10.0	11							
Methylene chloride	ND	2.00	Ħ							
Naphthalene	ND	1.00	tr							
n-Propylbenzene	ND	1.00	"							
Styrene	ND	1.00	n							
1,2,3-Trichlorobenzene	ND	1.00	11							
1,2,4-Trichlorobenzene	ND	1.00	If							
1,1,1,2-Tetrachloroethane	ND	1.00	11							
1,1,2,2-Tetrachloroethane	ND	1.00	11							
Tetrachloroethene	ND	1.00	11							
Toluene	ND	1.00	**							
1,1,1-Trichloroethane	ND	1.00	Ħ							
1,1,2-Trichloroethane	ND	1.00	"							
Trichloroethene	ND	1.00	n							
Trichlorofluoromethane	ND	1.00	n							
1,2,3-Trichloropropane	ND	1.00	н							
1,2,4-Trimethylbenzene	ND	00.1	H							
1,3,5-Trimethylbenzene	ND	1.00	11							
Vinyl chloride	ND	1.00	11							
o-Xylene	ND .	1.00	**							
m,p-Xylene	ND	2.00	31							
Surrogate: 1,2-DCA-d4	20.2		"	20.0		101	70-130	-		
Surrogate: Toluene-d8	19.7		"	20.0		98.5	70-130			
Surrogate: 4-BFB	20.6		"	20.0		103	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 40 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K18066:	Prepared 11/23/04	Using E	EPA 5030B								
LCS (4K18066-BS1)											
Benzene		18.3	1.00	ug/l	20.0		91.5	80-120			
Chlorobenzene		19.0	1.00	Ħ	20.0		95.0	77-120			
1,1-Dichloroethene		17.7	1.00	u	20.0		88.5	80-120			
Methyl tert-butyl ether		17.1	2.00	"	20.0		85.5	80-120			
Toluene		19.1	1.00	n	20.0		95.5	80-120			
Trichloroethene		18.0	1.00	11	20.0		90.0	80-120			
Surrogate: 1,2-DCA-d4		19.6		"	20.0		98.0	70-130			
Surrogate: Toluene-d8		20.3		"	20.0		102	70-130			
Surrogate: 4-BFB		19.8		"	20.0		99.0	70-130			
LCS Dup (4K18066-B	SD1)										
Benzene	*** • •	20.7	1.00	ug/l	20.0		104	80-120	12.3	20	
Chlorobenzene	7 - 1	19.8	1.00	17	20.0		99.0	77-120	4.12	20	
1,1-Dichloroethene		20.5	1.00	ti.	20.0		102	80-120	14.7	20	
Methyl tert-butyl ether		18.1	2.00	u	20.0		90.5	80-120	5.68	20	
Toluene		20.6	1.00	n	20.0		103	80-120	7.56	20	
Trichloroethene		20.0	1.00	н	20.0		100	80-120	10.5	20	
Surrogate: 1,2-DCA-d4		19.6		n	20.0		98.0	70-130			
Surrogate: Toluene-d8		19.5		"	20.0		97.5	70-130			
Surrogate: 4-BFB		19.9		"	20.0		99.5	70-130			
Matrix Spike (4K1800	66-MS1)		·····			Source: 1	B4K0550-	05			
Benzene		22.0	1.00	ug/l	20.0	ND	110	63-148			
Chlorobenzene		20.9	1.00	D	20.0	ND	104	80-128			
1,1-Dichloroethene		22.9	1.00	**	20.0	ND	114	59-158			
Methyl tert-butyl ether		20.4	2.00	Ħ	20.0	ND	102	60-140			
Toluene		21.9	1.00	Ħ	20.0	ND	110	72-127			
Trichloroethene		21.8	1.00	"	20.0	ND	109	80-126			
Surrogate: 1,2-DCA-d4		19.6		"	20.0		98.0	70-130			
Surrogate: Toluene-d8		19.9		n	20.0		99.5	70-130			
Surrogate: 4-BFB		20.2		"	20.0		101	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 41 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K18066:	Prepared 11/23/04	Using El	PA 5030B								
Matrix Spike Dup (41	K18066-MSD1)					Source: E	34K0550-	05			A-01a
Benzene		21.3	1.00	ug/l	20.0	ND	106	63-148	3.23	20	
Chlorobenzene		20.5	1.00	Ħ	20.0	ND	102	80-128	1.93	20	
1,1-Dichloroethene		21.4	1.00	Ħ	20.0	ND	107	59-158	6.77	30	
Methyl tert-butyl ether		20.0	2.00	n	20.0	ND	100	60-140	1.98	30	
Toluene		21.2	1.00	Ħ	20.0	ND	106	72-127	3.25	20	
Trichloroethene		21.7	1.00	II	20.0	ND	108	80-126	0.460	20	
Surrogate: 1,2-DCA-d4	,	19.3		"	20.0		96.5	70-130			
Surrogate: Toluene-d8		19.7		"	20.0		98.5	70-130			
Surrogate: 4-BFB		19.8		"	20.0		99.0	70-130			
Batch 4K21006:	Prepared 11/19/04	Using El	PA 5030B								
Blank (4K21006-BLk	Κ1)										
1,1,1,2-Tetrachloroethane	2	ND	0.200	ug/l							
1,1,1-Trichloroethane		ND	0.200	11							
1,1,2,2-Tetrachloroethane	2	ND	0.500	H							
1,1,2-Trichloroethane		ND	0.200	n							
1,1-Dichloroethane		ND	0.200	"							
1,1-Dichloroethene		ND	0.200	n							
1,1-Dichloropropene		ND	0.200	11							
1,2,3-Trichlorobenzene		ND	0.200	11							
1,2,3-Trichloropropane		ND	0.500	n							

ND

0.200

0.200

0.500

0.200

0.200

0.200

0.200

0.500

0.200

0.200

0.200

0.500

2.00

North Creek Analytical - Bothell

1,2,4-Trichlorobenzene

1,2,4-Trimethylbenzene

1,2-Dibromoethane

1,2-Dichlorobenzene

1,2-Dichloroethane

1,2-Dichloropropane

1,3-Dichlorobenzene

1,3-Dichloropropane

1,4-Dichlorobenzene

2,2-Dichloropropane

2-Butanone

1,3,5-Trimethylbenzene

1,2-Dibromo-3-chloropropane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 42 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Analyte	Result			Spike	Source		%REC		RPD	
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K21006: Prepared 11	/19/04 Using I	EPA 5030B								
Blank (4K21006-BLK1)										
2-Chlorotoluene	ND	0.500	ug/l		.,					
2-Hexanone	ND	2.00	H							
4-Chlorotoluene	ND	0.500	11							
4-Methyl-2-pentanone	ND	2.00	"							
Acetone	ND	10.0	Ħ							
Benzene	ND	0.200	n							
Bromobenzene	ND	0.500	11							
Bromochloromethane	ND	0.200	17							
Bromodichloromethane	ND	0.200	17							
Bromoform	ND	0.200	11							
Bromomethane	ND	2.00	n							
Carbon disulfide	ND	0.500	Ħ							
Carbon tetrachloride	ND	0.200	17							
Chlorobenzene	ND	0.200	11							
Chloroethane	ND	1.00	11							
Chloroform	ND	0.200	11							
Chloromethane	ND	1.00	11							
cis-1,2-Dichloroethene	ND	0.200	11							•
cis-1,3-Dichloropropene	ND	0.200	Ħ							
Dibromochloromethane	ND	0.200	11							
Dibromomethane	ND	0.200	71							
Dichlorodifluoromethane	ND	0.500	11							
Ethylbenzene	ND	0.200	n							
Hexachlorobutadiene	ND	0.500	n							
Isopropylbenzene	ND	0.500	11							
m,p-Xylene	ND	0.500	11							
Methyl tert-butyl ether	ND	1.00	11							
Methylene chloride	ND	2.00	11							
n-Butylbenzene	ND	0.200	Ħ							
n-Propylbenzene	ND	0.500	11							
Naphthalene	ND	0.500	11							
o-Xylene	ND	0.250	11							
p-Isopropyltoluene	ND	0.200	#							
sec-Butylbenzene	ND	0.200	H.							

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 43 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

0/DEC

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Cnilea

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

Amended Report

DDD

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Donorting

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K21006:	Prepared 11/19/04	Using El	PA 5030B	, .							
Blank (4K21006-BLK	(1)										
Styrene		ND	0.500	ug/l							
tert-Butylbenzene		ND	0.500	"							
Tetrachloroethene		ND	0.200	n							
Toluene		ND	0.200	"							
trans-1,2-Dichloroethene		ND	0.200	:1							
trans-1,3-Dichloropropen	2	ND	0.200	n							
Trichloroethene		ND	0.200	n							
Trichlorofluoromethane		ND	0.500	H							
Vinyl chloride		ND	0.200	Ħ							
Surrogate: 1,2-DCA-d4	···	4.15		#	4.00		104	70-130			
Surrogate: Toluene-d8		3.91		"	4.00		97.8	70-130			
Surrogate: 4-BFB		4.07		#	4.00		102	70-130			
LCS (4K21006-BS1)											
1,1,1,2-Tetrachloroethane		3.96	0.200	ug/l	4.00		99.0	80-120			
1,1,1-Trichloroethane		3.85	0.200	11	4.00		96.2	80-120			
1,1,2,2-Tetrachloroethane		3.81	0.500	13	4.00		95.2	80-120			
1,1,2-Trichloroethane		3.81	0.200	11	4.00		95.2	80-120			
1,1-Dichloroethane		3.86	0.200	#	4.00		96.5	80-120			
1,1-Dichloroethene		4.17	0.200	n	4.00		104	80-120			
1,1-Dichloropropene		4.28	0.200	H	4.00		107	80-120			
1,2,3-Trichlorobenzene		3.98	0.200	в	4.00		99.5	80-120			
1,2,3-Trichloropropane		3.73	0.500	n	4.00		93.2	80-120			
1,2,4-Trichlorobenzene		3.79	0.200	n	4.00		94.8	80-120			
1,2,4-Trimethylbenzene		4.26	0.200	n	4.00		106	80-120			
1,2-Dibromo-3-chloropro	pane	4.04	0.500	**	4.00		101	80-120			
1,2-Dibromoethane		4.25	0.200	**	4.00		106	80-120			
1,2-Dichlorobenzene		4.33	0.200	11	4.00		108	80-120			
1,2-Dichloroethane		3.91	0.200	17	4.00		97.8	80-120			
1,2-Dichloropropane		4.06	0.200	n	4.00		102	80-120			
1,3,5-Trimethylbenzene		4.35	0.500	Ħ	4.00		109	80-120			
1,3-Dichlorobenzene		4.22	0.200	n	4.00		106	80-120			
1,3-Dichloropropane		4.17	0.200	11	4.00		104	80-120			
1,4-Dichlorobenzene		4.13	0.200	19	4.00		103	80-120			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network

Page 44 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

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

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Analyte		Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4K21006:	Prepared 11/19/04		EPA 5030B								
LCS (4K21006-BS1)		Using I	51 A 3030D								
2,2-Dichloropropane		3.56	0.500	ug/l	4.00		89.0	80-120			
2-Butanone		41.4	2.00	ng/i	40.0		104	80-120			
2-Chlorotoluene		4.48	0.500	U	4.00		112	80-120			
2-Hexanone		41.6	2.00	п	40.0		104	80-120			
4-Chlorotoluene		4.26	0.500	n	4.00		104	80-120			
4-Methyl-2-pentanone		42.4	2.00	Ħ	40.0		106	80-120			
Acetone		42.0	10.0	Ħ	40.0		105	80-120			
Benzene		4.17	0.200	n	4.00		104	80-120			
Bromobenzene		4.22	0.500	н	4.00		106	80-120			
Bromochloromethane		3.90	0.200	n	4.00		97.5	80-120			
Bromodichloromethane		3.94	0.200	II	4.00		98.5	80-120			
Bromoform		4.07	0.200	n	4.00		102	80-120		•	
Bromomethane		3.97	2.00	**	4.00		99.2	80-120			
Carbon disulfide		3.88	0.500	91	4.00		97.0	80-120			
Carbon tetrachloride		3.92	0.200	n	4.00		98.0	80-120			
Chlorobenzene		4.11	0.200	11	4.00		103	80-120			
Chloroethane		4.02	1.00	11	4.00		100	80-120			
Chloroform		3.83	0.200	n	4.00		95.8	80-120			
Chloromethane		3.75	1.00	11	4.00		93.8	80-120			
cis-1,2-Dichloroethene		4.19	0.200	n	4.00		105	80-120			
cis-1,3-Dichloropropene		4.24	0.200	11	4.00		106	80-120			
Dibromochloromethane		4.11	0.200	n	4.00		103	80-120			
Dibromomethane		4.01	0.200	II .	4.00		100	80-120			
Dichlorodifluoromethane		3.77	0.500	*	4.00		94.2	80-120			
Ethylbenzene		4.35	0.200	7	4.00		109	80-120			
Hexachlorobutadiene		4.11	0.500	. 19	4.00		103	80-120			
Isopropylbenzene		3.96	0.500	IF	4.00		99.0	80-120			
m,p-Xylene		8.39	0.500	n	8.00		105	80-120			
Methyl tert-butyl ether		4.48	1.00	n	4.00		112	80-120			
Methylene chloride		3.80	2.00	**	4.00		95.0	80-120			
n-Butylbenzene		4.29	0.200	n	4.00		107	80-120			
n-Propylbenzene		4.32	0.500	н	4.00		108	80-120			
Naphthalene		4.15	0.500	n	4.00		104	80-120			
o-Xylene		3.97	0.250	It	4.00		99.2	80-120			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 45 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K21006: Prepared 11/19/04	Using El	PA 5030B								
LCS (4K21006-BS1)										
p-lsopropyltoluene	3.99	0.200	ug/l	4.00		99.8	80-120			
sec-Butylbenzene	4.00	0.200	II	4.00		100	80-120			
Styrene	3.98	0.500	11	4.00		99.5	80-120			
tert-Butylbenzene	3.98	0.500	11	4.00		99.5	80-120			
Tetrachloroethene	4.17	0.200	11	4.00		104	80-120			
Toluene	4.18	0.200	11	4.00		104	80-120			
trans-1,2-Dichloroethene	4.08	0.200	n	4.00		102	80-120			
trans-1,3-Dichloropropene	4.33	0.200	ħ	4.00		108	80-120			
Trichloroethene	4.12	0.200	11	4.00		103	80-120			
Trichlorofluoromethane	4.02	0.500	**	4.00		100	80-120			
Vinyl chloride	3.80	0.200	11	4.00		95.0	80-120			
Surrogate: 1,2-DCA-d4	3.80		"	4.00		95.0	70-130			
Surrogate: Toluene-d8	3.95		"	4.00		98.8	70-130			
Surrogate: 4-BFB	3.93		n	4.00		98.2	70-130			
LCS Dup (4K21006-BSD1)										
1,1,1,2-Tetrachloroethane	4.00	0.200	ug/l	4.00		100	80-120	1.01	30	
1,1,1-Trichloroethane	3.82	0.200	II .	4.00		95.5	80-120	0.782	30	
1,1,2,2-Tetrachloroethane	3.99	0.500	IT	4.00		99.8	80-120	4.62	30	
1,1,2-Trichloroethane	3.79	0.200	tr	4.00		94.8	80-120	0.526	30	
1,1-Dichloroethane	3.81	0.200	"	4.00		95.2	80-120	1.30	30	
1,1-Dichloroethene	4.03	0.200	11	4.00		101	80-120	3.41	30	
1,1-Dichloropropene	4.32	0.200	н	4.00		108	80-120	0.930	30	
1,2,3-Trichlorobenzene	4.02	0.200	Ħ	4.00		100	80-120	1.00	30	
1,2,3-Trichloropropane	4.04	0.500	Ħ	4.00		101	80-120	7.98	30	
1,2,4-Trichlorobenzene	3.97	0.200	Ħ	4.00		99.2	80-120	4.64	30	
1,2,4-Trimethylbenzene	4.31	0.200	11	4.00		108	80-120	1.17	30	
1,2-Dibromo-3-chloropropane	3.99	0.500	11	4.00		99.8	80-120	1.25	30	
1,2-Dibromoethane	4.15	0.200	n	4.00		104	80-120	2.38	30	
1,2-Dichlorobenzene	4.31	0.200	17	4.00		108	80-120	0.463	30	
1,2-Dichloroethane	3.85	0.200	"	4.00		96.2	80-120	1.55	30	
1,2-Dichloropropane	4.03	0.200	ıı .	4.00		101	80-120	0.742	30	
1,3,5-Trimethylbenzene	4.34	0.500	n	4.00		108	80-120	0.230	30	
1,3-Dichlorobenzene	4.22	0.200	**	4.00		106	80-120	0.00	30	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 46 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc. 18300 NE Union Hill Rd, Suite 200 Redmond, WA/USA 98052-3333 Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Aлalyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K21006:	Prepared 11/19/04	Using El	PA 5030B								
LCS Dup (4K21006	-BSD1)										
1,3-Dichloropropane		4.24	0.200	ug/l	4.00		106	80-120	1.66	30	
1,4-Dichlorobenzene		4.07	0.200	n	4.00		102	80-120	1.46	30	
2,2-Dichloropropane		3.42	0.500	n	4.00		85.5	65-138	4.01	30	
2-Butanone		39.6	2.00	n	40.0		99.0	80-120	4.44	30	
2-Chiorotoluene		4.27	0.500	n	4.00		107	80-120	4.80	30	
2-Hexanone		42.2	2.00	ıt	40.0		106	80-120	1.43	30	
4-Chlorotoluene		4.48	0.500	"	4.00		112	80-120	5.03	30	
4-Methyl-2-pentanone		42.4	2.00	It	40.0		106	80-120	0.00	30	
Acetone		39.4	10.0	**	40.0		98.5	80-120	6.39	30	
Benzene		4.14	0.200	"	4.00		104	80-120	0.722	30	
Bromobenzene		4.14	0.500	11	4.00		104	80-120	1.91	30	
Bromochloromethane		3.87	0.200	11	4.00		96.8	80-120	0.772	30	
Bromodichloromethane		3.96	0.200	17	4.00		99.0	80-120	0.506	30	
Bromoform		4.13	0.200	n.	4.00		103	80-120	1.46	30	
Bromomethane		3.97	2.00	Ħ	4.00		99.2	80-120	0.00	30	
Carbon disulfide		3.83	0.500	II	4.00		95.8	80-120	1.30	30	
Carbon tetrachloride		3.91	0.200	Ħ	4.00		97.8	80-120	0.255	30	
Chlorobenzene		4.14	0.200	II	4.00		104	80-120	0.727	30	
Chloroethane		3.88	1.00	п	4.00		97.0	80-120	3.54	30	
Chloroform		3.82	0.200	11	4.00		95.5	80-120	0.261	30	
Chloromethane		3.59	1.00	11	4.00		89.8	80-120	4.36	30	
cis-1,2-Dichloroethene		4.19	0.200	n	4.00		105	80-120	0.00	30	
cis-1,3-Dichloropropene	:	4.21	0.200	n	4.00		105	80-120	0.710	30	
Dibromochloromethane		4.08	0.200	н	4.00		102	80-120	0.733	30	
Dibromomethane		3.98	0.200	11	4.00		99.5	80-120	0.751	30	
Dichlorodifluoromethan	e	3.62	0.500	H	4.00		90.5	80-120	4.06	30	
Ethylbenzene		4.38	0.200	n	4.00		110	80-120	0.687	30	
-lexachlorobutadiene		4.17	0.500	n	4.00		104	80-120	1.45	30	
sopropylbenzene		3.88	0.500	и	4.00		97.0	80-120	2.04	30	
n,p-Xylene		8.40	0.500	n	8.00		105	80-120	0.119	30	
Methyl tert-butyl ether		4.44	1.00	п	4.00		111	80-120	0.897	30	
Methylene chloride		3.71	5.00	11	4.00		92.8	80-120	2.40	30	
n-Butylbenzene		4.27	0.200	n	4.00		107	80-120	0.467	30	
n-Propylbenzene		4.40	0.500	n	4.00		110	80-120	1.83	30	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 47 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K21006: I	Prepared 11/19/04	Using E	PA 5030B								
LCS Dup (4K21006-B	SD1)										
Naphthalene		4.23	0.500	ug/l	4.00		106	80-120	1.91	30	
o-Xylene		3.88	0.250	n	4.00		97.0	80-120	2.29	30	
p-Isopropyltoluene		3.98	0.200	11	4.00		99.5	80-120	0.251	30	
sec-Butylbenzene		3.95	0.200	#	4.00		98.8	80-120	1.26	30	
Styrene		3.90	0.500	p	4.00		97.5	80-120	2.03	30	
tert-Butylbenzene		4.02	0.500	11	4.00		100	80-120	1.00	30	
Tetrachloroethene		4.13	0.200	11	4.00		103	80-120	0.964	30	
Toluene		4.13	0.200	n	4.00		103	80-120	1.20	30	
trans-1,2-Dichloroethene		4.03	0.200	"	4.00		101	80-120	1.23	30	
trans-1,3-Dichloropropene	;	4.34	0.200	n	4.00		108	80-120	0.231	30	
Trichloroethene		4.14	0.200	n	4.00		104	80-120	0.484	30	
Trichlorofluoromethane		3.86	0.500	11	4.00		96.5	80-120	4.06	30	
Vinyl chloride		3.60	0.200	11	4.00		90.0	80-120	5.41	30	
Surrogate: 1,2-DCA-d4		3.81		,,	4.00		95.2	70-130			
Surrogate: Toluene-d8		4.01		rr .	4.00		100	70-130			
Surrogate: 4-BFB		4.10		n	4.00		102	70-130			
Matrix Spike (4K2106	06-MS1)					Source: 1	B4K0507-	01			
1,1,1,2-Tetrachloroethane		3.99	0.200	ug/l	4.00	ND	99.8	70-130			
1,1,1-Trichloroethane		4.00	0.200	n	4.00	ND	100	70-130			
1,1,2,2-Tetrachloroethane		3.83	0.500	n	4.00	ND	95.8	70-130			
1,1,2-Trichloroethane		3.82	0.200	11	4.00	ND	95.5	70-130			
1,1-Dichloroethane		3.96	0.200	"	4.00	ND	99.0	70-130			
1,1-Dichloroethene		4.27	0.200	Ħ	4.00	ND	107	59-158			
1,1-Dichloropropene		4.48	0.200	n	4.00	ND	112	70-130			
1,2,3-Trichlorobenzene		3.74	0.200	11	4.00	ND	93.5	70-130			
1,2,3-Trichloropropane		4.01	0.500	ıı	4.00	ND	100	70-130			
1,2,4-Trichlorobenzene		3.78	0.200	11	4.00	ND	94.5	70-130			
1,2,4-Trimethylbenzene		4.24	0.200		4.00	ND	106	70-130			
1,2-Dibromo-3-chloropro	pane	3.99	0.500	*	4.00	ND	99.8	70-130			
1,2-Dibromoethane		3.93	0.200	11	4.00	ND	98.2	70-130			
1,2-Dichlorobenzene		4.15	0.200	11	4.00	ND	104	70-130			
1,2-Dichloroethane		4.00	0.200	Ħ	4.00	ND	100	70-130			
1.2-Dichloropropane		3.96	0.200	71	4.00	ND	99.0	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 48 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

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

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 4K21006:	Prepared 11/19/04	Using E	PA 5030B						
Matrix Spike (4K21	006-MS1)			.,		Source: I	34K0507-	-01	
1,3,5-Trimethylbenzene		4.43	0.500	ug/l	4.00	ND	111	70-130	
1,3-Dichlorobenzene		4.14	0.200	IT	4.00	ND	104	70-130	
1,3-Dichloropropane		4.10	0.200	11	4.00	ND	102	70-130	
1,4-Dichlorobenzene		4.04	0.200	11	4.00	ND	101	70-130	
2,2-Dichloropropane		4.78	0.500	n	4.00	ND	120	70-130	
2-Butanone		39.8	2.00	Ħ	40.0	ND	99.5	70-130	
2-Chlorotoluene		4.52	0.500		4.00	ND	113	70-130	
2-Hexanone		40.0	2.00	n	40.0	ND	100	70-130	
4-Chlorotoluene		4.08	0.500	n	4.00	ND	102	70-130	
4-Methyl-2-pentanone		39.0	2.00	II .	40.0	ND	97.5	70-130	
Acetone		153	10.0	n	40.0	85.0	170	70-130	Q-03
Benzene		4.16	0.200	11	4.00	ND	104	63-148	
Bromobenzene		4.16	0.500	ti	4.00	ND	104	70-130	
Bromochloromethane		3.91	0.200	n	4.00	ND	97.8	70-130	
Bromodichloromethane		3.88	0.200	n	4.00	ND	97.0	70-130	
Bromoform		3.96	0.200	n	4.00	ND	99.0	70-130	
Bromomethane		3.57	2.00	н	4.00	ND	89.2	70-130	
Carbon disulfide		4.15	0.500	II.	4.00	ND	104	70-130	
Carbon tetrachloride		4.04	0.200	n	4.00	ND	101	70-130	
Chlorobenzene		4.15	0.200	11	4.00	ND	104	80-128	
Chloroethane		4.07	1.00	71	4.00	ND	102	70-130	
Chloroform		3.86	0.200	n	4.00	ND	96.5	70-130	
Chloromethane		3.78	1.00	п	4.00	ND	94.5	70-130	
cis-1,2-Dichloroethene		4.27	0.200		4.00	ND	107	70-130	
cis-1,3-Dichloropropene	:	4.05	0.200	lr .	4.00	ND	101	70-130	
Dibromochloromethane		4.01	0.200	n	4.00	ND	100	70-130	
Dibromomethane		3.96	0.200	tr .	4.00	ND	99.0	70-130	
Dichlorodifluoromethan	е	3.95	0.500	11	4.00	ND	98.8	70-130	
Ethylbenzene		4.50	0.200	**	4.00	ND	112	70-130	
Hexachlorobutadiene		4.20	0.500	n	4.00	ND	105	70-130	
Isopropylbenzene		4.06	0.500	в	4.00	ND	102	70-130	
m,p-Xylene		8.56	0.500	n	8.00	ND	107	70-130	
Methyl tert-butyl ether		4.23	1.00	"	4.00	ND	106	70-130	
Methylene chloride		3.81	2.00	11	4.00	ND	95.2	70-130	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 49 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K21006: Prepared 11/19/04	Using El	PA 5030B								
Matrix Spike (4K21006-MS1)					Source: E	4K0507-	01			,
n-Butylbenzene	4.49	0.200	ug/l	4.00	ND	112	70-130			
n-Propylbenzene	4.47	0.500	n	4.00	ND	112	70-130			
Naphthalene	4.03	0.500	n	4.00	ND	101	70-130			
o-Xylene	3.85	0.250	n	4.00	ND	96.2	70-130			
p-Isopropyltoluene	4.06	0.200	**	4.00	ND	102	70-130			•
sec-Butylbenzene	4.07	0.200	"	4.00	ND	102	70-130			
Styrene	3.94	0.500	11	4.00	ND	98.5	70-130			
tert-Butylbenzene	3.82	0.500	11	4.00	ND	95.5	70-130			
Tetrachloroethene	4.25	0.200	n	4.00	ND	106	70-130			
Toluene	4.18	0.200	n	4.00	ND	104	72-127			
trans-1,2-Dichloroethene	4.16	0.200	11	4.00	ND	104	70-130			
trans-1,3-Dichloropropene	4.15	0.200	11	4.00	ND	104	70-130			
Trichloroethene	4.16	0.200	n	4.00	ND	104	80-126			
Trichlorofluoromethane	4.19	0.500	n	4.00	ND	105	70-130			
Vinyl chloride	3.96	0.200	**	4.00	ND	99.0	70-130			
Surrogate: 1,2-DCA-d4	3.97		11	4.00		99.2	70-130			
Surrogate: Toluene-d8	3.97		"	4.00		99.2	70-130			
Surrogate: 4-BFB	4.00		"	4.00		100	70-130			
Matrix Spike Dup (4K21006-MSD1)					Source: I	34K0507-	01			
1,1,1,2-Tetrachloroethane	3.98	0.200	ug/l	4.00	ND	99.5	70-130	0.251	30	
1,1,1-Trichloroethane	4.00	0.200	ŧr	4.00	ND	100	70-130	0.00	30	
1,1,2,2-Tetrachloroethane	3.92	0.500	11	4.00	ND	98.0	70-130	2.32	30	
1,1,2-Trichloroethane	3.83	0.200	11	4.00	ND	95.8	70-130	0.261	30	
1,1-Dichloroethane	3.94	0.200	11	4.00	ND	98.5	70-130	0.506	30	
1,1-Dichloroethene	4.38	0.200	Ħ	4.00	ND	110	59-158	2.54	30	
1,1-Dichloropropene	4.54	0.200	**	4.00	ND	114	70-130	1.33	30	
1,2,3-Trichlorobenzene	3.93	0.200	**	4.00	ND	98.2	70-130	4.95	30	
1,2,3-Trichloropropane	3.86	0.500	Ħ	4.00	ND	96.5	70-130	3.81	30	
1,2,4-Trichlorobenzene	3.99	0.200	33	4.00	ND	99.8	70-130	5.41	30	
1,2,4-Trimethylbenzene	4.38	0.200	v	4.00	ND	110	70-130	3.25	30	
1,2-Dibromo-3-chloropropane	3.82	0.500	11	4.00	ND	95.5	70-130	4.35	30	
1,2-Dibromoethane	4.14	0.200	n	4.00	ND	104	70-130	5.20	30	
1.2-Dichlorobenzene	4.23	0.200	n	4.00	ND	106	70-130	1.91	30	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of $custody\ document.\ This\ analytical\ report\ must\ be\ reproduced\ in\ its\ entirety.$

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 50 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4K21006: Prepared 11/19/04	Using l	EPA 5030B								
Matrix Spike Dup (4K21006-MSD1)					Source: B	4K0507-	01			
1,2-Dichloroethane	3.85	0.200	ug/l	4.00	ND	96.2	70-130	3.82	30	
1,2-Dichloropropane	4.05	0.200	Ħ	4.00	ND	101	70-130	2.25	30	
1,3,5-Trimethylbenzene	4.42	0.500	н	4.00	ND	110	70-130	0.226	30	
1,3-Dichlorobenzene	4.21	0.200	11	4.00	ND	105	70-130	1.68	30	
1,3-Dichloropropane	4.10	0.200	н	4.00	ND	102	70-130	0.00	30	
1,4-Dichlorobenzene	4.15	0.200	II .	4.00	ND	104	70-130	2.69	30	
2,2-Dichloropropane	4.72	0.500	n	4.00	ND	118	70-130	1.26	30	
2-Butanone	38.6	2.00	H	40.0	ND	96.5	70-130	3.06	30	
2-Chlorotoluene	4.49	0.500	It	4.00	ND	112	70-130	0.666	. 30	
2-Hexanone	40.0	2.00	11	40.0	ND	100	70-130	0.00	30	
4-Chlorotoluene	4.14	0.500	n	4.00	ND	104	70-130	1.46	30	
4-Methyl-2-pentanone	40.3	2.00	**	40.0	ND	101	70-130	3.28	30	
Acetone	154	10.0	n	40.0	85.0	172	70-130	0.651	30	Q-03
Benzene	4.22	0.200	11	4.00	ND	106	63-148	1.43	20	
Bromobenzene	4.11	0.500	н	4.00	ND	103	70-130	1.21	30	
Bromochloromethane	3.93	0.200	n	4.00	ND	98.2	70-130	0.510	30	
Bromodichloromethane	3.97	0.200	Ħ	4.00	ND	99.2	70-130	2.29	30	
Bromoform	3.86	0.200	n	4.00	ND	96.5	70-130	2.56	30	
Bromomethane	3.75	2.00	n	4.00	ND	93.8	70-130	4.92	30	
Carbon disulfide	5.23	0.500	11	4.00	ND	131	70-130	23.0	30	Q-03
Carbon tetrachloride	4.05	0.200	**	4.00	ND	101	70-130	0.247	30	
Chlorobenzene	4.14	0.200	11	4.00	ND	104	80-128	0.241	20	
Chloroethane	3.93	1.00	11	4.00	ND	98.2	70-130	3.50	30	
Chloroform	3.85	0.200	n	4.00	ND	96.2	70-130	0.259	30	
Chloromethane	3.99	1.00	12	4.00	ND	99.8	70-130	5.41	30	
cis-1,2-Dichloroethene	4.25	0.200	n	4.00	ND	106	70-130	0.469	30	
cis-1,3-Dichloropropene	4.28	0.200	11	4.00	ND	107	70-130	5.52	30	
Dibromochloromethane	3.96	0.200	II	4.00	ND	99.0	70-130	1.25	30 .	
Dibromomethane	4.01	0.200	19	4.00	ND	100	70-130	1.25	30	
Dichlorodifluoromethane	3.86	0.500	n	4.00	ND	96.5	70-130	2.30	30	
Ethylbenzene	4.48	0.200	n	4.00	ND	112	70-130	0.445	30	
Hexachlorobutadiene	4.36	0.500	11	4.00	ND	109	70-130	3.74	30	
Isopropylbenzene	4.02	0.500	u	4.00	ND	100	70-130	0.990	30	
m,p-Xylene	8.36	0.500	¥	8.00	ND	104	70-130	2.36	30	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 51 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

Project Number: 923-1000-002

Project Manager: Douglas Morell

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K21006: Prepared 11/19/04	Using I	EPA 5030B								
Matrix Spike Dup (4K21006-MSD1)					Source: I	34K0507-	01			
Methyl tert-butyl ether	4.45	1.00	ug/l	4.00	ND	111	70-130	5.07	30	
Methylene chloride	3.78	2.00	11	4.00	ND	94.5	70-130	0.791	30	
n-Butylbenzene	4.56	0.200	n	4.00	ND	114	70-130	1.55	30	
n-Propylbenzene	4.52	0.500	"	4.00	ND	113	70-130	1.11	30	
Naphthalene	4.36	0.500	11	4.00	ND	109	70-130	7.87	30	
o-Xylene	3.88	0.250	n	4.00	ND	97.0	70-130	0.776	30	
p-Isopropyltoluene	4.10	0.200	n	4.00	ND	102	70-130	0.980	30	
sec-Butylbenzene	4.03	0.200	11	4.00	ND	101	70-130	0.988	30	
Styrene	3.90	0.500	u	4.00	ND	97.5	70-130	1.02	30	
tert-Butylbenzene	3.96	0.500	17	4.00	ND	99.0	70-130	3.60	30	
Tetrachloroethene	4.27	0.200	11	4.00	ND	107	70-130	0.469	30	
Toluene	4.19	0.200	**	4.00	ND	105	72-127	0.239	20	
trans-1,2-Dichloroethene	4.19	0.200	11	4.00	ND	105	70-130	0.719	30	
trans-1,3-Dichloropropene	4.11	0.200	11	4.00	ND	103	70-130	0.969	30	
Trichloroethene	4.32	0.200	n	4.00	ND	108	80-126	3.77	20	
Trichlorofluoromethane	4.07	0.500	ti	4.00	ND	102	70-130	2.91	30	
Vinyl chloride	3.95	0.200	u	4.00	ND	98.8	70-130	0.253	30	
Surrogate: 1,2-DCA-d4	3.88		n	4.00		97.0	70-130			
Surrogate: Toluene-d8	3.92		n	4.00		98.0	70-130			
Surrogate: 4-BFB	4.06		"	4.00		102	70-130			
Batch 4K24046: Prepared 11/24/04	Using	EPA 5030B								
Blank (4K24046-BLK1)										
Acetone	ND	20.0	ug/l							
Benzene	ND	1.00	11							
Bromobenzene	ND	1.00	n							
Bromochloromethane	ND	1.00	н							
Bromodichloromethane	ND	1.00	n							
Bromoform	ND	1.00	**							
Bromomethane	ND	2.00	n							
2-Butanone	ND	10.0	11							
n-Butylbenzene	ND	1.00	"							
sec-Butylbenzene	ND	1.00	н							

North Creek Analytical - Bothell

ND

1.00

tert-Butylbenzene

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 52 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K24046:	Prepared 11/24/04	Using EI	A 5030B								
Blank (4K24046-BLF	(1)				•						
Carbon disulfide		ND	1.00	ug/l							
Carbon tetrachloride		ND	1.00	n							
Chlorobenzene		ND	1.00	H							
Chloroethane		ND	1.00	H							
Chloroform		ND	1.00	"							
Chloromethane		ND	5.00	**							
2-Chlorotoluene		ND	1.00	"							
4-Chlorotoluene		ND	1.00	#							
Dibromochloromethane		ND	1.00	If							
1,2-Dibromo-3-chloropro	pane	ND	5.00	n							
1,2-Dibromoethane		ND	1.00	n							
Dibromomethane		ND	1.00	n							
1,2-Dichlorobenzene		ND	1.00	11							
1,3-Dichlorobenzene		ND	1.00	В							
1,4-Dichlorobenzene		ND	1.00	н							
Dichlorodifluoromethane		ND	1.00	н							
I,1-Dichloroethane		ND	1.00	11							
1,2-Dichloroethane		ND	1.00	11							
1,1-Dichloroethene		ND	1.00	17							
cis-1,2-Dichloroethene		ND	1.00	11							
trans-1,2-Dichloroethene		ND	1.00	n							
1,2-Dichloropropane		ND	1.00	11							
1,3-Dichloropropane		ND	1.00	11							
2,2-Dichloropropane		ND	1.00	n							
1,1-Dichloropropene		ND	1.00	n							
cis-1,3-Dichloropropene		ND	1.00	11							
trans-1,3-Dichloropropen	•	ND	1.00	tt							
Ethylbenzene		ND	1.00	U							
Hexachlorobutadiene		ND	1.00	11							
Methyl tert-butyl ether		ND	2.00	n							
2-Hexanone		ND	10.0	II							
Isopropylbenzene		ND	1.00	11							
p-lsopropyltoluene		ND	1.00	11							
4-Methyl-2-pentanone		ND	10.0	n							

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 53 of 62

North Creek Analytical, Inc. Environmental Laboratory Network



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fav 503.906.9240

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K24046: Prepared 11/24/04	Using EI	A 5030B								
Blank (4K24046-BLK1)										
Methylene chloride	ND	5.00	ug/l			•				
Naphthalene	ND	1.00	н							
n-Propylbenzene	ND	1.00	11							
Styrene	ND	1.00	н							
1,2,3-Trichlorobenzene	ND	1.00	"							
1,2,4-Trichlorobenzene	ND	1.00	n							
1,1,1,2-Tetrachloroethane	ND	1.00								
1,1,2,2-Tetrachloroethane	ND	1.00	57							
Tetrachloroethene	ND	1.00	•							
Toluene	ND	1.00	Ħ							
1,1,1-Trichloroethane	ND	1.00	11							
1,1,2-Trichloroethane	ND	1.00	Ħ							
Trichloroethene	ND	1.00	n							
Trichlorofluoromethane	ND	1.00	11							
1,2,3-Trichloropropane	ND	1.00	ti							
1,2,4-Trimethylbenzene	ND	1.00	11							
1,3,5-Trimethylbenzene	ND	1.00	11							
Vinyl chloride	ND	1.00	n							
o-Xylene	ND	1.00	ti							
m,p-Xylene	ND	2.00	н							
Surrogate: 1,2-DCA-d4	19.7		"	20.0		98.5	70-130			
Surrogate: Toluene-d8	20.5		· n	20.0		102	70-130			
Surrogate: 4-BFB	20.1		п	20.0		100	70-130			
LCS (4K24046-BS1)										
Benzene	17.1	1.00	ug/l	20.0		85.5	80-120			
Chlorobenzene	19.0	1.00	n	20.0		95.0	77-120			
1,1-Dichloroethene	17.6	1.00	11	20.0		88.0	80-120			
Methyl tert-butyl ether	19.6	2.00	n	20.0		98.0	80-120			
Toluene	18.7	1.00	11	20.0		93.5	80-120			
Trichloroethene	18.5	1.00	n	20.0		92.5	80-120			
Surrogate: 1,2-DCA-d4	18.8		"	20.0		94.0	70-130			
Surrogate: Toluene-d8	20.4		"	20.0		102	70-130			
Surrogate: 4-BFB	20.6		"	20.0		103	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 54 of 62



425.420.9200 fax 425.420.9210 Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4K24046: Prepared 11/24/04		EPA 5030B								
LCS Dup (4K24046-BSD1)										
Benzene	17.7	1.00	ug/l	20.0		88.5	80-120	3.45	20	
Chlorobenzene	19.5	1.00	tt.	20.0		97.5	77-120	2.60	20	
I,1-Dichloroethene	20.1	1.00	n	20.0		100	80-120	13.3	20	
Methyl tert-butyl ether	20.0	2.00	11	20.0		100	80-120	2.02	20	
Toluene	19.3	1.00	ti	20.0		96.5	80-120	3.16	20	
Trichloroethene	19.3	1.00	11	20.0		96.5	80-120	4.23	20	
Surrogate: 1,2-DCA-ä4	19.2		"	20.0		96.0	70-130			
Surrogate: Toluene-d8	20.1		"	20.0		100	70-130			
Surrogate: 4-BFB	20.5		"	. 20.0		102	70-130			
Batch 4K28003: Prepared 11/24/04	Using I	EPA 5030B								
Blank (4K28003-BLK1)										
1,1,1,2-Tetrachloroethane	ND	0.200	ug/l							
1,1,1-Trichloroethane	ND	0.200	n							
1,1,2,2-Tetrachloroethane	ND	0.500	tt.							
1,1,2-Trichloroethane	ND	0.200	17							
1,1-Dichloroethane	ND	0.200	n							
1,1-Dichloroethene	ND	0.200	11							
1,1-Dichloropropene	ND	0.200	n							
1,2,3-Trichlorobenzene	ND	0.200	11							
1,2,3-Trichloropropane	ND	0.500	н							
1,2,4-Trichlorobenzene	ND	0.200	п							
1,2,4-Trimethylbenzene	ND	0.200	17							
1,2-Dibromo-3-chloropropane	ND	0.500	**							
1,2-Dibromoethane	ND	0.200	Ħ							
1,2-Dichlorobenzene	ND	0.200	"							
1,2-Dichloroethane	ND	0.200	10							
1,2-Dichloropropane	ND	0.200	17							
1,3,5-Trimethylbenzene	ND	0.500	n							
1,3-Dichlorobenzene	ND	0.200	**							
1,3-Dichloropropane	ND	0.200	11							
1,4-Dichlorobenzene	ND	0.200	II							
2,2-Dichloropropane	ND	0.500	II.							
2-Butanone	ND	2.00	"							

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 55 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W International Airport Road

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Batch 4K28003: Prepared 11/24/04 Using EPA 5030B Blank (4K28003-BLKI) 2-Chlorotoluene ND 0.500 ug/l 2-Hexanone ND 0.500 " 4-Methyl-2-pentanone ND 0.500 " 4-Methyl-2-pentanone ND 0.500 " 8-Envicence ND 0.5			Reporting		Spike	Source		%REC		RPD	
Part	Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
2-Chlorotoluene ND 0.500 ug/l 2-Hexanone ND 2.00 " 4-Chilorotoluene ND 0.500 " 4-Methyl-2-pentanone ND 1.00 " Acetone ND 0.200 " Bromochenzene ND 0.500 " Bromochoromethane ND 0.200 " Bromoform ND 0.200 " Carbon terachloride ND 0.200 " Carbon terachloride ND 0.200 " Chlorotethane ND 0.200 " Chlorotethane ND 0.200 " Chlorotethane ND 0.200 " Dibromochlo	Batch 4K28003: Prepared 11/24/04	Using I	EPA 5030B								
2-Chlorotoluene ND 0.500 ug/l 2-Hexanone ND 2.00 " 4-Chilorotoluene ND 0.500 " 4-Methyl-2-pentanone ND 1.00 " Acetone ND 0.200 " Bromochenzene ND 0.500 " Bromochoromethane ND 0.200 " Bromoform ND 0.200 " Carbon terachloride ND 0.200 " Carbon terachloride ND 0.200 " Chlorotethane ND 0.200 " Chlorotethane ND 0.200 " Chlorotethane ND 0.200 " Dibromochlo	Blank (4K28003-BLK1)										
	2-Chlorotoluene	ND	0.500	ug/l							
4-Methyl-2-pentanone ND 2.00 " Acetone ND 10.0 " Bromochezene ND 0.500 " Bromochloromethane ND 0.200 " Bromochloromethane ND 0.200 " Bromomethane ND 0.200 " Bromomethane ND 0.200 " Carbon disulfide ND 0.500 " Carbon itetrachloride ND 0.200 " Chlorochrane ND 0.200 " Cis-1,3-Dichloropropene ND 0.200 " Dibromochloromethane ND 0.200 " Dibromochloromethane ND 0.200 "	2-Hexanone	ND	2.00	n							
Actone ND 10.0 " Benzene ND 0.200 " Bromochloromethane ND 0.500 " Bromodichloromethane ND 0.200 " Bromodichloromethane ND 0.200 " Bromomethane ND 0.200 " Bromomethane ND 0.500 " Carbon disulfide ND 0.500 " Carbon tetrachloride ND 0.200 " Chlorobenzene ND 0.200 " Chlorofehane ND 0.200 " Dibromochlorofehane ND 0.200 "	4-Chlorotoluene	ND	0.500	n							
Benzene ND 0.200 " Bromobenzene ND 0.500 " Bromochloromethane ND 0.200 " Bromofichloromethane ND 0.200 " Bromofform ND 0.200 " Bromomethane ND 0.200 " Carbon disulfide ND 0.200 " Carbon tetrachloride ND 0.200 " Chlorostene ND 0.200 " Chloroform ND 1.00 " Chloroform ND 1.00 " Chloromethane ND 1.00 " Chloromethane ND 0.200 " Chloromethane ND 0.200 " Dibromomethane ND 0.200 " Dibromomethane ND 0.200 " Ethylbenzene ND 0.500 " Isopropylbenzene ND 0.500 " Met	4-Methyl-2-pentanone	ND	2.00	n							
Bromobenzene ND 0.500 " Bromochloromethane ND 0.200 " Bromochloromethane ND 0.200 " Bromomethane ND 0.200 " Bromomethane ND 0.200 " Carbon disulfide ND 0.200 " Carbon tetrachloride ND 0.200 " Chlorothane ND 0.200 " Chlorothane ND 1.00 " Chlorothane ND 1.00 " Chlorothane ND 1.00 " Chlorothane ND 0.200 " Chlorothane ND 0.200 " Chlorothane ND 0.200 " Dibromochlorothane ND 0.200 " Dibromochloromethane ND 0.200 " Hexachlorobutadiene ND 0.200 " Hexachlorobutadiene ND 0.500 "	Acetone	ND	10.0	11							
Bromochloromethane ND 0.200 " Bromodichloromethane ND 0.200 " Bromodichloromethane ND 0.200 " Bromodichloromethane ND 0.200 " Carbon disulfide ND 0.500 " Carbon tetrachloride ND 0.200 " Chlorobenzene ND 0.200 " Chlorothane ND 0.200 " Chlorothane ND 0.200 " Chloromethane ND 0.200 " Chloromethane ND 0.200 " Dibromochloromethane ND 0.200 " Dibromochloromethane ND 0.200 " Ethylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " Methyl tert-butyl ether ND 0.500 " Methyl tert-butyl ether ND	Benzene	ND	0.200	H							
Bromodichloromethane ND 0.200 " Bromoferm ND 0.200 " Bromomethane ND 0.200 " Carbon disulfide ND 0.500 " Carbon tetrachloride ND 0.200 " Chlorobenzene ND 0.200 " Chlorochane ND 1.00 " Chlorochane ND 0.200 " cis-1,2-Dichlorochane ND 0.200 " cis-1,2-Dichlorochane ND 0.200 " Dibromochloromethane ND 0.200 " Dibromochloromethane ND 0.200 " Ethylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 "	Bromobenzene	ND	0.500	n							
Bromoform ND 0.200 " Bromomethane ND 2.00 " Carbon disulfide ND 0.500 " Carbon tetrachloride ND 0.200 " Chloroberzene ND 0.200 " Chloroform ND 0.200 " Chloroform ND 0.200 " Chloromethane ND 0.200 " Cis-1,2-Dichloropropene ND 0.200 " Dibromochloromethane ND 0.200 " Dibromochlane ND 0.200 " Ethylbenzene ND 0.500 " Ethylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 " Methylter-butyl ether ND 0.500 " Methylter-butyl ether ND 0.500 " Methyltene chloride ND 0.200 " N-Butylbenzene ND 0.500 " </td <td>Bromochloromethane</td> <td>ND</td> <td>0.200</td> <td>11</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Bromochloromethane	ND	0.200	11							
Bromomethane ND 2.00 " Carbon disulfide ND 0.500 " Carbon tetrachloride ND 0.200 " Chlorobenzene ND 0.200 " Chlorodhane ND 1.00 " Chloromethane ND 0.200 " Chloromethane ND 0.200 " cis-1,2-Dichloropropene ND 0.200 " Dibromochloromethane ND 0.200 " Dibromochloromethane ND 0.200 " Eitylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " Methyl tert-butyl ether ND 0.500 " Methylene chloride ND 0.500 " N-Butylbenzene ND 0.500 " N-Propylbenzene ND 0.500 " N-Propylbenzene ND 0.500	Bromodichloromethane	ND	0.200	n							
No	Bromoform	ND	0.200	ti							
Carbon tetrachloride ND 0.200 " Chlorobenzene ND 0.200 " Chloroethane ND 1.00 " Chloromethane ND 0.200 " cis-1,2-Dichloroethene ND 0.200 " cis-1,3-Dichloropropene ND 0.200 " Dibromochloromethane ND 0.200 " Dibromodifluoromethane ND 0.200 " Ethylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 " isopropylbenzene ND 0.500 " m,p-Xylene ND 0.500 " Methyl tert-butyl ether ND 0.200 " Methylene chloride ND 0.200 " n-Burylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.500 " p-Isopropyltoluene ND 0.250 <td>Bromomethane</td> <td>ND</td> <td>2.00</td> <td>11</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Bromomethane	ND	2.00	11							
Chlorobenzene ND 0.200 " Chloroethane ND 1.00 " Chloroform ND 0.200 " Chloromethane ND 1.00 " cis-1,3-Dichloroethene ND 0.200 " cis-1,3-Dichloropropene ND 0.200 " Dibromoethane ND 0.200 " Dibromoethane ND 0.200 " Ethylbenzene ND 0.500 " Ethylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " Methyl tert-butyl ether ND 0.500 " Methylene chloride ND 0.200 " n-Butylbenzene ND 0.500 " N-Propylbenzene ND 0.500 " N-Propylbenzene ND 0.500 " N-Propylbenzene ND 0.500 " </td <td>Carbon disulfide</td> <td>ND</td> <td>0.500</td> <td>n</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Carbon disulfide	ND	0.500	n							
Chloroethane ND 1.00 " Chloromethane ND 0.200 " cis-1,2-Dichloroethene ND 0.200 " cis-1,3-Dichloropropene ND 0.200 " Dibromoethloromethane ND 0.200 " Dibromomethane ND 0.500 " Ethylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 " Hexachlorobutadiene ND 0.500 " m,p-Xylene ND 0.500 " Methyl tert-butyl ether ND 0.500 " Methylenc chloride ND 0.200 " n-Propylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " ND 0.500 " Naphthalene ND 0.500 " P-Isopropyltoluene ND 0.250 "	Carbon tetrachloride	ND	0.200	11							
Chloroform ND 0.200 " Chloromethane ND 0.200 " cis-1,2-Dichloroethene ND 0.200 " cis-1,3-Dichloropropene ND 0.200 " Dibromoethloromethane ND 0.200 " Dibromomethane ND 0.500 " Ethylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " Methyl terl-butyl ether ND 0.500 " Methyle nethoride ND 0.200 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " n-Propylbenzene ND 0.500 " n-Propylbenzene ND 0.500 " n-Propylbenzene ND 0.500 " ND 0.500 "	Chlorobenzene	ND	0.200	n							
Chloromethane ND 1.00 " cis-1,2-Dichloroethene ND 0.200 " cis-1,3-Dichloropropene ND 0.200 " Dibromochloromethane ND 0.200 " Dibromomethane ND 0.200 " Dichlorodifluoromethane ND 0.500 " Ethylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " Methyl tert-butyl ether ND 0.500 " Methyl tert-butyl ether ND 1.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " ND 0.500 " Naphthalene ND 0.500 " P-Isopropyltoluene ND 0.200 "	Chloroethane	ND	1.00	Ħ							
Chloromethane cis-1,2-Dichloroethene cis-1,3-Dichloropropene ND 0.200 Dibromochloromethane ND 0.200 Dibromochloromethane ND 0.200 Dibromomethane ND 0.500 " Dichlorodifluoromethane ND 0.500 " Hexachlorobutadiene ND 0.500 " Hexachlorobutadiene ND 0.500 " Methyl tert-butyl ether ND 0.500 Methyl tert-butyl ether ND 0.200 Methyl tert-butyl ether ND 0.200 Methylene chloride ND 0.200 " Methylene chloride ND 0.500 " Methylenzene ND 0.500 " Methylenzene ND 0.500 " Methylenzene ND 0.500 " Methylenzene ND 0.200 " N-Propylbenzene ND 0.500 " ND 0.5	Chloroform	ND	0.200	If							
cis-1,3-Dichloropropene ND 0.200 " Dibromochloromethane ND 0.200 " Dichlorodifluoromethane ND 0.500 " Ethylbenzene ND 0.200 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " Methyl tert-butyl ether ND 0.500 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " Naphthalene ND 0.500 " Naphthalene ND 0.500 " p-Isopropyltoluene ND 0.250 "	Chloromethane	ND	1.00	tt .							
cis-1,3-Dichloropropene ND 0.200 " Dibromochloromethane ND 0.200 " Dibromomethane ND 0.200 " Dichlorodifluoromethane ND 0.500 " Ethylbenzene ND 0.500 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " Methyl tert-butyl ether ND 0.500 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.500 " Naphthalene ND 0.500 " Naphthalene ND 0.500 " p-Isopropyltoluene ND 0.250 "	cis-1,2-Dichloroethene	ND	0.200	11							
Dibromomethane ND 0.200 " Dichlorodifluoromethane ND 0.500 " Ethylbenzene ND 0.200 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " m,p-Xylene ND 0.500 " Methyl tert-butyl ether ND 1.00 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "		ND	0.200	11							
Dichlorodifluoromethane ND 0.500 " Ethylbenzene ND 0.200 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " m,p-Xylene ND 0.500 " Methyl tert-butyl ether ND 1.00 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-isopropyltoluene ND 0.200 "	Dibromochloromethane	ND	0.200	n							
Ethylbenzene ND 0.200 " Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " m,p-Xylene ND 0.500 " Methyl tert-butyl ether ND 1.00 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "	Dibromomethane	ND	0.200	ti							
Hexachlorobutadiene ND 0.500 " Isopropylbenzene ND 0.500 " m,p-Xylene ND 0.500 " Methyl tert-butyl ether ND 1.00 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "	Dichlorodifluoromethane	ND	0.500	н							
Isopropylbenzene ND 0.500 " m,p-Xylene ND 0.500 " Methyl tert-butyl ether ND 1.00 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "	Ethylbenzene	ND	0.200	11							
isopropylicenzene ND 0.500 " m,p-Xylene ND 0.500 " Methyl tert-butyl ether ND 1.00 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "	Hexachlorobutadiene	ND	0.500	17							
m,p-Xylene ND 0.500 " Methyl tert-butyl ether ND 1.00 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "	Isopropylbenzene	ND	0.500	n							
Methyl tert-butyl ether ND 1.00 " Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "	m,p-Xylene	ND	0.500	11							
Methylene chloride ND 2.00 " n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "	Methyl tert-butyl ether	ND	1.00	n							
n-Butylbenzene ND 0.200 " n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "		ND	2.00	n							
n-Propylbenzene ND 0.500 " Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "		ND	0.200	11							
Naphthalene ND 0.500 " o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "	-	ND	0.500								
o-Xylene ND 0.250 " p-Isopropyltoluene ND 0.200 "		ND	0.500	11							
p-Isopropyltoluene ND 0.200 "	·	ND		n							
				17							
	sec-Butylbenzene	ND	0.200	n							

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 56 of 62

North Creek Analytical, Inc. **Environmental Laboratory Network**



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4K28003: Prepared 11/24/04	Using I	EPA 5030B								
Blank (4K28003-BLK1)										
Styrene	ND	0.500	ug/l							
tert-Butylbenzene	ND	0.500	11							
Tetrachloroethene	ND	0.200	11							
Toluene	ND	0.200	11							
trans-1,2-Dichloroethene	ND	0.200	n							
trans-1,3-Dichloropropene	ND	0.200	n							
Trichloroethene	ND	0.200	Ħ							
Trichlorofluoromethane	ND	0.500	11							
Vinyl chloride	ND	0.200	11							
Surrogate: 1,2-DCA-d4	4.16		"	4.00		104	70-130			
Surrogate: Toluene-d8	3.86		"	4.00		96.5	70-130			
Surrogate: 4-BFB	4.20		n	4.00		105	70-130			
LCS (4K28003-BS1)										
1,1,1,2-Tetrachloroethane	4.29	0.200	ug/l	4.00		107	80-120			
1,1,1-Trichloroethane	3.91	0.200	17	4.00		97.8	80-120			
1,1,2,2-Tetrachloroethane	3.98	0.500	n	4.00		99.5	80-120			
1,1,2-Trichloroethane	4.05	0.200	11	4.00		101	80-120			
1,1-Dichloroethane	3.99	0.200	t)	4.00		99.8	80-120			
1,1-Dichloroethene	3.99	0.200	II	4.00		99.8	80-120			
1,1-Dichloropropene	4.25	0.200	n	4.00		106	80-120			
1,2,3-Trichlorobenzene	4.12	0.200	n .	4.00		103	80-120			
1,2,3-Trichloropropane	4.24	0.500	11	4.00		106	80-120			
1,2,4-Trichlorobenzene	3.96	0.200	n	4.00		99.0	80-120			
1,2,4-Trimethylbenzene	4.47	0.200	n	4.00		112	80-120			
1,2-Dibromo-3-chloropropane	3.99	0.500	n	4.00		99.8	80-120			
1,2-Dibromoethane	4.19	0.200	11	4.00		105	80-120			
1,2-Dichlorobenzene	4.24	0.200	н	4.00		106	80-120			
1,2-Dichloroethane	3.80	0.200	n	4.00		95.0	80-120			
1,2-Dichloropropane	4.06	0.200	n	4.00		102	80-120			
1,3,5-Trimethylbenzene	4.53	0.500	n	4.00		113	80-120			
1,3-Dichlorobenzene	4.23	0.200	n	4.00		106	80-120			
1,3-Dichloropropane	4.21	0.200	n	4.00		105	80-120			
1,4-Dichlorobenzene	4.17	0.200	11	4.00		104	80-120			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 57 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

%REC

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002

Spike

Source

Project Manager: Douglas Morell

Amended Report

Issued: 12/15/04 16:51

RPD

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Reporting

			Reporting		Shike	Source		/ord.C		10 D	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K28003:	Prepared 11/24/04	Using I	EPA 5030B								
LCS (4K28003-BS1)											
2,2-Dichloropropane		3.58	0.500	ug/l	4.00		89.5	80-120			
2-Butanone		41.3	2.00	n	40.0		103	80-120			
2-Chlorotoluene		4.61	0.500	Ħ	4.00		115	80-120			
2-Hexanone		40.7	2.00	II	40.0		102	80-120			
4-Chlorotoluene		4.13	0.500	n	4.00		103	80-120			
4-Methyl-2-pentanone		39.6	2.00	11	40.0		99.0	80-120			
Acetone		37.9	10.0	11	40.0		94.8	80-120			
Benzene		4.21	0.200	tr	4.00		105	80-120			
Bromobenzene		4.28	0.500	1)	4.00		107	80-120			
Bromochloromethane		3.83	0.200	n	4.00		95.8	80-120			
Bromodichloromethane		4.02	0.200	16	4.00		100	80-120			
Bromoform		4.23	0.200	п	4.00		106	80-120			
Bromomethane		4.29	2.00	n	4.00		107	80-120			
Carbon disulfide		3.93	0.500	ы	4.00		98.2	80-120			
Carbon tetrachloride		3.99	0.200	в	4.00		99.8	80-120			
Chlorobenzene		4.29	0.200	n	4.00		107	80-120			
Chloroethane		3.88	1.00	n	4.00		97.0	80-120			
Chloroform		3.86	0.200	11	4.00		96.5	80-120			
Chloromethane		3.81	1.00	n	4.00		95.2	80-120			
cis-1,2-Dichloroethene		4.23	0.200	17	4.00		106	80-120			
cis-1,3-Dichloropropene		4.21	0.200	11	4.00		105	80-120			
Dibromochloromethane		4.26	0.200	11	4.00		106	80-120			
Dibromomethane		4.07	0.200	11	4.00		102	80-120			
Dichlorodifluoromethan	2	3.95	0.500	**	4.00		98.8	80-120			
Ethylbenzene		4.57	0.200	v	4.00		114	80-120			
Hexachlorobutadiene		4.18	0.500	11	4.00		104	80-120			
Isopropylbenzene		4.04	0.500	If	4.00		101	80-120			
m,p-Xylene		8.81	0.500	n	8.00		110	80-120			
Methyl tert-butyl ether		4.31	1.00	n	4.00		108	80-120			
Methylene chloride		3.86	2.00	17	4.00		96.5	80-120			
n-Butylbenzene		4.37	0.200	H	4.00		109	80-120			
n-Propylbenzene		4.47	0.500	11	4.00		112	80-120			
Naphthalene		4.16	0.500	11	4.00		104	80-120			
o-Xylene		4.11	0.250	n	4.00		103	80-120			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 58 of 62

North Creek Analytical, Inc. **Environmental Laboratory Network**



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244 425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509,924,9200 fax 509,924,9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119.

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

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

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source	****	%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K28003:	Prepared 11/24/04	Using El	PA 5030B								
LCS (4K28003-BS1)											
p-Isopropyltoluene		4.03	0.200	ug/l	4.00		101	80-120			
sec-Butylbenzene		4.01	0.200	n	4.00		100	80-120			
Styrene		4.09	0.500	11	4.00		102	80-120			
tert-Butylbenzene		4.05	0.500	n	4.00		101	80-120			
Tetrachloroethene		4.17	0.200	n	4.00		104	80-120			
Toluene		4.41	0.200	n	4.00		110	80-120			
trans-1,2-Dichloroethene		4.12	0.200	n	4.00		103	80-120			
trans-1,3-Dichloropropen	2	4.09	0.200	II .	4.00		102	80-120			
Trichloroethene		4.15	0.200	п	4.00		104	80-120			
Trichlorofluoromethane		3.85	0.500	n	4.00		96.2	80-120			
Vinyl chloride		3.74	0.200	**	4.00		93.5	80-120			
Surrogate: 1,2-DCA-d4		3.86		"	4.00		96.5	70-130			
Surrogate: Toluene-d8		4.11		n	4.00		103	70-130			
Surrogate: 4-BFB		4.04		"	4.00		101	70-130			
LCS Dup (4K28003-E	SD1)										
1,1,1,2-Tetrachloroethane		4.30	0.200	ug/l	4.00		108	80-120	0.233	30	
1,1,1-Trichloroethane		4.01	0.200	n	4.00		100	80-120	2.53	30	
1,1,2,2-Tetrachloroethane		4.05	0.500	11	4.00		101	80-120	1.74	30	
1,1,2-Trichloroethane		3.98	0.200	IF	4.00		99.5	80-120	1.74	30	
1,1-Dichloroethane		4.12	0.200	11	4.00		103	80-120	3.21	30	
1,1-Dichloroethene		4.07	0.200	H	4.00		102	80-120	1.99	30	
1,1-Dichloropropene		4.37	0.200	11	4.00		109	80-120	2.78	30	
1,2,3-Trichlorobenzene		4.14	0.200	n	4.00		104	80-120	0.484	30	
1,2,3-Trichloropropane		4.24	0.500	11	4.00		106	80-120	0.00	30	
1,2,4-Trichlorobenzene		4.13	0.200	н	4.00		103	80-120	4.20	30	
1,2,4-Trimethylbenzene		4.52	0.200	31	4.00		113	80-120	1.11	30	
1,2-Dibromo-3-chloropro	pane	3.96	0.500	n	4.00		99.0	80-120	0.755	30	
1,2-Dibromoethane		4.30	0.200	Ħ	4.00		108	80-120	2.59	30	
1,2-Dichlorobenzene		4.33	0.200	n	4.00		108	80-120	2.10	30	
1,2-Dichloroethane		3.82	0.200	n	4.00		95.5	80-120	0.525	30	
1,2-Dichloropropane		4.13	0.200	n	4.00		103	80-120	1.71	30	
1,3,5-Trimethylbenzene		4.57	0.500	11	4.00		114	80-120	0.879	30	
1,3-Dichlorobenzene		4.30	0.200	11	4.00		108	80-120	1.64	30	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 59 of 62

North Creek Analytical, Inc. **Environmental Laboratory Network**



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K28003: Prepared 11/24/04	Using l	EPA 5030B								
LCS Dup (4K28003-BSD1)										
1,3-Dichloropropane	4.26	0.200	ug/l	4.00		106	80-120	1.18	30	
1,4-Dichlorobenzene	4.19	0.200	n	4.00		105	80-120	0.478	30	
2,2-Dichloropropane	3.58	0.500	11	4.00		89.5	80-120	0.00	30	
2-Butanone	41.1	2.00	n	40.0		103	80-120	0.485	30	
2-Chlorotoluene	4.84	0.500	H	4.00		121	80-120	4.87	30	Х
2-Hexanone	41.0	2.00	11	40.0		102	80-120	0.734	30	
4-Chlorotoluene	4.03	0.500	17	4.00		101	80-120	2.45	30	
4-Methyl-2-pentanone	39.2	2.00	tr	40.0		98.0	80-120	1.02	30	
Acetone	35.2	10.0	11	40.0		88.0	80-120	7.39	30	
Benzene	4.31	0.200		4.00		108	80-120	2.35	30	
Bromobenzene	4.44	0.500	H	4.00		111	80-120	3.67	30	
Bromochloromethane	3.94	0.200	11	4.00		98.5	80-120	2.83	30	
Bromodichloromethane	4.03	0.200	IT	4.00		101	80-120	0.248	30	
Bromoform	4.25	0.200	11	4.00		106	80-120	0.472	30	
Bromomethane	4.41	2.00	11	4.00		110	80-120	2.76	30	
Carbon disulfide	3.91	0.500	n	4.00		97.8	80-120	0.510	30	
Carbon tetrachloride	3.98	0.200	11	4.00		99.5	80-120	0.251	30	
Chlorobenzene	4.37	0.200	11	4.00		109	80-120	1.85	30	
Chloroethane	3.95	1.00	11	4.00		98.8	80-120	1.79	30	
Chloroform	3.95	0.200	11	4.00		98.8	80-120	2.30	30	
Chloromethane	3.89	1.00	15	4.00		97.2	80-120	2.08	30	
cis-1,2-Dichloroethene	4.34	0.200	H	4.00		108	80-120	2.57	30	
cis-1,3-Dichloropropene	4.26	0.200	**	4.00		106	80-120	1.18	30	
Dibromochloromethane	4.29	0.200	Ħ	4.00		107	80-120	0.702	30	
Dibromomethane	4.08	0.200	n	4.00		102	80-120	0.245	30	
Dichlorodifluoromethane	3.98	0.500	**	4.00		99.5	80-120	0.757	30	
Ethylbenzene	4.66	0.200	n	4.00		116	80-120	1.95	30	
Hexachlorobutadiene	4.34	0.500	n	4.00		108	80-120	3.76	30	
lsopropylbenzene	4.14	0.500	n	4.00		104	80-120	2.44	30	
m,p-Xylene	8.94	0.500	n	8.00		112	80-120	1.46	30	
Methyl tert-butyl ether	4.44	1.00	**	4.00		111	80-120	2.97	30	
Methylene chloride	3.95	2.00	17	4.00		98.8	80-120	2.30	30	
n-Butylbenzene	4.55	0.200	"	4.00		114	80-120	4.04	30	
n-Propylbenzene	4.64	0.500	n	4.00		116	80-120	3.73	30	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 60 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002

Project Manager: Douglas Morell

Amended Report

Issued: 12/15/04 16:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K28003:	Prepared 11/24/04	Using El	PA 5030B								
LCS Dup (4K28003	-BSD1)										
Naphthalene		4.28	0.500	ug/l	4.00		107	80-120	2.84	30	
o-Xylene		4.21	0.250	n	4.00		105	80-120	2.40	30	
p-lsopropyltoluene		4.11	0.200	11	4.00		103	80-120	1.97	30	
sec-Butylbenzene		4.14	0.200	11	4.00		104	80-120	3.19	30	
Styrene		4.18	0.500	11	4.00		104	80-120	2.18	30	
tert-Butylbenzene		4.13	0.500	71	4.00		103	80-120	1.96	30	
Tetrachloroethene		4.37	0.200	11	4.00		109	80-120	4.68	30	
Toluene	* - *	4.37	0.200	ון	4.00		109	80-120	0.911	30	
trans-1,2-Dichloroether	ne	4.27	0.200	n	4.00		107	80-120	3.58	30	
trans-1,3-Dichloroprop	ene	4.35	0.200	n	4.00		109	80-120	6.16	30	
Trichloroethene		4.15	0.200	11	4.00		104	80-120	0.00	30	
Trichlorofluoromethane	2	3.95	0.500	II	4.00		98.8	80-120	2.56	30	
Vinyl chloride		3.88	0.200	11	4.00		97.0	80-120	3.67	30	
Surrogate: 1,2-DCA-d4	1	3.75		"	4.00		93.8	70-130			
Surrogate: Toluene-d8		4.10		n	4.00		102	70-130			
Surrogate: 4-BFB		3.98		"	4.00		99.5	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network**

Page 61 of 62



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

Project Number: 923-1000-002

Project Manager: Douglas Morell

Amended Report

Issued: 12/15/04 16:51

Notes and Definitions

A-01 No sample volume left to perform re-run.

The Matrix Spike Duplicate was analyzed ten minutes outside of the twelve hour QC window. A-01a

Vials from lot# 4293060 contaminated with Acetone. A-02

Estimated value. The reported value exceeds the calibration range of the analysis. Ε

NR Not Reportable

The percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already Q-03

present in the sample.

Multiple analyses indicate the percent recovery is outside the control limits due to a matrix effect. Q-13

Visual examination indicates the RPD and/or matrix spike recovery is outside the control limit due to a non-homogeneous sample Q-14

matrix.

Χ See case narrative.

Analyte DETECTED DET

Analyte NOT DETECTED at or above the reporting limit ND

Not Reported NR

Sample results reported on a dry weight basis dry

Relative Percent Difference RPD

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 62 of 62



Trin Blank 3

Revised Chain of Custody

11720 North Creek Pkwy N Suite 400, Bothell,	WA 9	98011-9508
11115 E Montgomery Suite B, Spokane,	WA 9	99206-4776

9405 SW Nimbus Ave, Beaverton, OR 97008-7132 20332 Empire Ave Suite F-1, Bend, OR 99701-5711 3209 Denali St, Anchorage, AK 99503-4030

25-420-9200	FAX 420-9210	1
09-924-9200	FAX 924-9290	
03-906-9200	FAX 906-9210	
41-383-9310	FAX 382-7588	

541-383-9310 FAX 382-7588 907-334-9200 FAX 334-9210

	•	CF	IAIN O	FC	'US'	TO	DY	RE]	POI	RT						7	Work Or	der#:	By Kost	+	
CLIENT: Golder Ass	oci'al							DICE 7									T	URNAI	ROUND REQUEST		
DEPORTE TO PUED VEAN	ie c	•														- 1		in :	Business Days *		
ADDRESS: (Samo Ale t	Jamo	Hill F	d. Ste. ?	30												l	<u> </u>	rganic &	Inorganic Analyses	~ — ·	
Rodnand W	Α (>	15052														(5	4 3 2 1	<1	
PHONE (417) 883-0777	FAX:	:					P.O. 1												Hydrocarbon Analyses	<u> </u>	
PROJECT NAME: Londsh	N/S		·		,	,	Y		PRES	ERVA	TIVE			т			(5	4	3 2 1 <	1	
PROJECT NUMBER: 923		30a. (HCI	HND3	Hel		REO	UEST	ED A	NALY	SES					OT	HER	Specify:		•
SAMPLED BY: Ryon Van	าาโอ			<u> </u>										· [* Turnaroun	d Requests l	ess than standard may incur Rush	Charges.	
CLIENT SAMPLE IDENTIFICATION		SAMP DATE/		३५०	Jerals	Test-		·				٠					MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID	
1 LMWZ - 111604	10/10	0/04	ШО	×		X											W	10	Extra (->r MS/MSD	c/	
2 LMW7-111604			1215	×	×	X											W	6		02_	
3 LAW10 -111604			1545	×	×	x	i i										W	6		03	
4 FRLMWIO - 111604		·	0940	×	X	X											W	6		CN	
FHMH-MEDT				×	4	X											-₩-	6		- 05	PITY
6 LMWG-111604			1745	X	×	X	,										W	6_		06	
7 LMW11-111604			0800	×	7	X											W	6		06	
8 LMW4-111604		1	1500	×	X	X											W	6		07	1
o Trip Blocks -1	,	NA	12200	×													W		7B-1, 7B-2, TB	-3-09	_
10 Trip 13 10m K 27 RELEASED BY:	7	•																<u> </u>		019 1/17/84	
		-						: 11/10	č.		RECE	IYED B	(D)	an	8	10		A 0-1 - A	DATE: 1	11+124	
PRINT NAME: Fyen Vorgi	`e,r		FIRM: (yolde	<u>'</u>			19.	30		PRIN	NAME IVED B	: BR	mary	90	WTZ	FIRM:	140%	TIME: /	013	-
RELEASED BY:			****** (•	DATE TIME				l,	L NYWE IAED-R		'		C	/ FIRM:	:	TIME:		
PRINT NAME: ADDITIONAL REMARKS:			FIRM;		•	·	INTE	··			11 10114	TITITI		*************					TEMP:	E OF	

11/16/04 12:00

15/25 - In



11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-9508
11115 E Montgomery Suite B, Spokane, WA 99206-4776
9405 SW Nimbus Ave, Beaverton, OR 97008-7132
20332 Empire Ave Suite F-1, Bend, OR 99701-5711
3209 Denali St, Anchorage, AK 99503-4030
907-334-9200
FAX 420-9210
FAX 924-9290
FAX 906-9210
FAX 382-7588
907-334-9200
FAX 334-9210

		CHAIN	OF (CUS	ТО	DY	RE	POI	RT					Work ()rder #	: BY K05	37
CLIENT: Golder Ass	ociat	75 lar.				INV	DICE	TO:	· · · · · · · · · · · · · · · · · · ·				~~~~			ROUND REQUE	
PEDORT TO PIGO VACA	ie c														in	Business Days *	}
ADDRESS: 18300 NE	המותט	Hall Rd. Sie	500												Organic &	Inorganic Analyses	
Radmand, W	A 9	8052												(10)	5	4 3 2	1 <1
PHONE(425) 883-0777	FAX:					P.O. 1	IMU							SFB.		Hydrocarbon Analyse	
PROJECT NAME: Lands	211			.,		· · · · · · · · · · · · · · · · · · ·		PRES	ERV	ATIVE					4	3 2 1	< 1
PROJECT NUMBER: 923	-1000	30a.	HCI	HNO	HCI	<u> </u>	REC	UEST	ED A	NALYSI	F.S				OTHER	Specify:	
SAMPLED BY: Ryan Va.	1717						T.E.		32 11			T				less than standard may incur h	lush Charges.
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME	505	Herals	TON- HOID									MATRIX (W, S, O)	1	LOCATION / COMMENTS	NCA WO ID
1 LMWZ-111604	11/16	104 1110	×	文										W	10	Extra for MS/MSD	01
2 LMW7-111604		1215	\times	×	X									\mathbb{V}	6		02
3 LAW10 -111604		1545	X	×	X									W	6		03
4 FBLMW10 - 111604		0940	\times	X	X									W	6		04
studit-111004			×	×	X									 W -	6		
6 LMW6-111604		1745	X	×	X									W	6		05
7 LMW11-111604		0500	\times	17	X									W	6		070
8 LMW4-111604		1500	×	X	X									W	6		07,
o Trip Blaks		NA	×											l w		7B-1 7B-2,7	B-B 08
10	1																-64
RELEASED BY:						DATE:	11/16	104		RECEIVE	DBV:	an	8	ION			11/17/04
PRINT NAME: Byon Vannis	: r	FIRM:	<u>Golde</u>	_		TIME:	19:	30			AME: DR	chary	72N	FIRM FIRM	1: NOA		1615
RELEASED BY:						DATE:				RECEIVE		(0	_	DATE:	
PRINT NAME: ADDITIONAL REMARKS:		FIRM:			·····	TIME:				PRINT NA	AME:			FIRM	[:	TIME:	
COC REV 1/03																	AGE (OF)

12/05



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

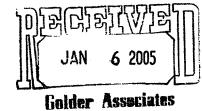
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

15 December 2004



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

RE: Landsburg Mine

Enclosed are **amended** results of analyses for samples received by the laboratory on 11/18/04 14:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill

Project Manager



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541,382,7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

CASE NARRATIVE for B4K0565 amended

Client: Golder Associates Inc.

Project Manager: Gary Zimmerman Project Name: Landsburg Mine Project Number: 923-1000-002

1.0 DESCRIPTION OF CASE

Four (4) water samples were submitted for the analysis of:

- Hydrocarbon Identification by Washington DOE Method NWTPH-HCID
- Dissolved Metals by EPA 6000/7000 Series Methods
- Volatile Organic Compounds by EPA Method 8260B

2.0 COMMENTS ON SAMPLE RECEIPT

The samples were received 18th November 2004 at a temperature of 5.9°C and logged in 19th November 2004.

3.0 PREPARATION AND ANALYSIS

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID

No additional anomalies or discrepancies were associated with this analysis other than those already qualified in the data.

Dissolved Metals by EPA 6000/7000 Series Methods

No additional anomalies or discrepancies were associated with this analysis other than those already qualified in the data.

Volatile Organic Compounds by EPA Method 8260B

The samples were pre-screened for Volatile Organic Compounds (VOC) and found to contain significant concentrations of Acetone. Due to the high Acetone concentrations observed in each project sample a 10mL sample aliquot was shot onto the column. The 10mL sample purge results in raised reporting limits which exceed the project requirements. The reporting limit for Vinyl Chloride was lowered from 1.0ug/L to 0.5ug/L, concentration of the lowest calibration standard.

VOA vials associated with Lot 4293060 were contaminated with Acetone. Affected Acetone results in this report were qualified with A-02. The contamination of these vials originated with the manufacturer. NCA followed its purchasing procedures by ordering Level 1 containers. The Certificate of Analysis that accompanied these vials specified the concentration of Acetone as being less than 5 ppb. However,

Amar Gill Project Manager

North Creek Analytical



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

CASE NARRATIVE for B4K0565 amended

concentrations could range from 5 to over 300 ppb. NCA will review its purchasing and screening procedures to determine if measures can be implemented to prevent future occurrences of this kind. NCA regrets any inconvenience this may have caused.

Amar Gill Project Manager North Creek Analytical



Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244 425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302 509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119, 907.563.9200 fax 907.563.9210 Anchorage

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:58

ANALYTICAL REPORT FOR SAMPLES - Amended

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LMW3-111704	B4K0565-01	Water	11/17/04 08:50	11/18/04 14:10
LMW5-111704	B4K0565-02	Water	11/17/04 10:00	11/18/04 14:10
LMW8-111704	B4K0565-03	Water	11/17/04 11:10	11/18/04 14:10
LMW9-111704	B4K0565-04	Water	11/17/04 14:05	11/18/04 14:10

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 1 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:58

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW3-111704 (B4K0565-01) Water	Sampled: 11	/17/04 08:50	Received	11/18/04 1	4:10				
Gx Range Hydrocarbons	ND	0.250	mg/l	1	4K22060	11/22/04	11/24/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	11	н	11	n	Ħ	11	
Diesel Range Hydrocarbons	ND	0.630	11	11	tt	n	lt.	n	
Insulating Oil Range Hydrocarbons	ND	0.630	n	96	**	"	n	11	
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	n	11	11	11	11	"	
Lube Oil Range Hydrocarbons	ND	0.630	"	11	11	Ħ	11	ti	
Surrogate: 2-FBP	78.8 %	50-150	•		n	"	11	n	
Surrogate: Octacosane	108 %	50-150			n	"	"	n	
LMW5-111704 (B4K0565-02) Water	Sampled: 11	/17/04 10:00	Received	11/18/04 1	4:10				
Gx Range Hydrocarbons	ND	0.250	mg/l	1	4K22060	11/22/04	11/24/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	и	"	Ħ	**	n	n	
Diesel Range Hydrocarbons	ND	0.630	11	"	*1	n	**	11	
Insulating Oil Range Hydrocarbons	ND	0.630	"	Ħ	**	п.	11	n	
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	n	11	11	**	21	11	
Lube Oil Range Hydrocarbons	ND	0.630	n	11	H	tr	**	Ir	
Surrogate: 2-FBP	99.6 %	50-150			"	"	"	n	
Surrogate: Octacosane	102 %	50-150			"	"	"	n	
LMW8-111704 (B4K0565-03) Water	Sampled: 11	/17/04 11:10	Received	: 11/18/04 1	4:10				
Gx Range Hydrocarbons	ND	0.250	mg/l	1	4K22060	11/22/04	11/24/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	17	11	n	11	n	11	
Diesel Range Hydrocarbons	ND	0.630	11	н	"	tt	ti.	, ,	
Insulating Oil Range Hydrocarbons	ND	0.630	."	n	n	11	11	п	
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	11	11	H	11	Ħ	, n	
Lube Oil Range Hydrocarbons	ND	0.630	**	11	w	11	n	n	
Surrogate: 2-FBP	106 %	50-150			"	"	"	n	
Surrogate: Octacosane	105 %	50-150			"	"	n	н	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Environmental Laboratory Network

Amar Gill, Project Manager

North Creek Analytical, Inc.



Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

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

425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:58

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW9-111704 (B4K0565-04) Water	Sampled: 11	/17/04 14:05	Received:	11/18/04 1	4:10				
Gx Range Hydrocarbons	ND	0.250	mg/l	1	4K22060	11/22/04	11/24/04	NWTPH-HCID	
Kerosene Range Hydrocarbons	ND	0.630	11	n	Ħ	**	17	n	
Diesel Range Hydrocarbons	ND	0.630	17	11	n	35	н	n	
Insulating Oil Range Hydrocarbons	ND	0.630	59	11	н	31	11	ıı	
Heavy Fuel Oil Range Hydrocarbons	. ND	0.630	31	11	Ħ	tt	17	**	
Lube Oil Range Hydrocarbons	ND	0.630	11	**	n	**	n	n	
Surrogate: 2-FBP	70.8 %	50-150			"	"	n	n	
Surrogate: Octacosane	106 %	50-150			"	"	n	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:58

Dissolved Metals by EPA 6000/7000 Series Methods North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW3-111704 (B4K0565-01) Water	Sampled: 11	/17/04 08:50	Received:	11/18/04 1	4:10				
Silver	ND	0.00100	mg/l	1	4K24042	11/24/04	11/30/04	EPA 6020	
Arsenic	ND	0.00100	11	II.	**	n	"	"	
Beryllium	ND	0.00100	11	н	"	11	12/06/04	tt .	
Cadmium	ND	0.00100	n	11	**	Ħ	11/30/04	ŧŧ	
Chromium	ND	0.00100	Ħ	n	n	"	Ħ	n	
Copper	ND	0.00100	**	"	n	Ħ	ti .	n	
Iron	ND	0.150	11	**	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	n	11	4K29015	11/29/04	11/29/04	EPA 7470A	
Manganese	0.0844	0.0100	n	11	4K24042	11/24/04	11/30/04	EPA 6020	
Nickel	ND	0.00100	n	11	n	n	11	в	
Lead	ND	0.00100	**	11	81	11	u	n	
Antimony	ND	0.00300	11	H	It	n	12/02/04	n	
Selenium	ND	0.00100	11	Ħ	H	n	11/30/04	u	
Thallium	ND	0.00100	11	**	н	Ħ	11	н	
Zinc	ND	0.0100	33	11	Ħ	11	n	и	
LMW5-111704 (B4K0565-02) Water	Sampled: 11	/17/04 10:00	Received:	11/18/04 1	4:10				
Silver	ND	0.00100	mg/l	1	4K24042	11/24/04	11/30/04	EPA 6020	
Arsenic	ND	0.00100	n	n	**	n	11	11	
Beryllium	ND	0.00100	11	11	11	11	12/06/04	ti .	
Cadmium	ND	0.00100	"	н	н	u	11/30/04	n	
Chromium	ND	0.00100	**	*1	U	n	n	Ħ	
Copper	ND	0.00100	"	n	**	n	31	n	
Iron	0.479	0.150	11	11	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	n	11	4K29015	11/29/04	11/29/04	EPA 7470A	
Manganese	0.210	0.0100	н	tt	4K24042	11/24/04	11/30/04	EPA 6020	
Nickel	ND	0.00100	n	**	11	**	"	n	
Lead	ND	0.00100	11	Ħ	11	11	11	n	
Antimony	ND	0.00300	11	n	11	n	12/02/04		
Selenium	ND	0.00100	н	n	11	11	11/30/04	n	
Thallium	ND	0.00100	H	**	11	n	n	11	
Zinc	ND	0.0100	11	n	n	n	n	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 4 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine Project Number: 923-1000-002 Project Manager: Douglas Morell

Amended Report Issued: 12/15/04 16:58

Dissolved Metals by EPA 6000/7000 Series Methods North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW8-111704 (B4K0565-03) Water	Sampled: 11	/17/04 11:10	Received:	11/18/04 1	4:10				
Silver	ND	0.00100	mg/l	1	4K24042	11/24/04	11/30/04	EPA 6020	
Arsenic	0.00267	0.00100	n	II	**	**	11	n	
Beryllium	ND	0.00100	11	ıı	**	11	12/06/04	ıı	
Cadmium	ND	0.00100	n	n	11	11	11/30/04	H	
Chromium	ND	0.00100	11	n	**	11	11	II.	
Copper	ND	0.00100	17	n	**	11	11	п	
Iron	2.68	0.150	**	n	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	31	n	4K29015	11/29/04	11/29/04	EPA 7470A	
Nickel	ND	0.00100	n	n	4K24042	11/24/04	11/30/04	EPA 6020	
Lead	ND	0.00100	n	n	н	11	**	п	
Antimony	ND	0.00300	н	"	Ħ	n	12/02/04	n	
Selenium	ND	0.00100	n	**	н	11	11/30/04	If	
Thallium	ND	0.00100	n	11	11	n	H	Ħ	
Zinc	ND	0.0100	n	n	"	11	11	n	
LMW8-111704 (B4K0565-03RE1) Wa	iter Sampled	l: 11/17/04 11	1:10 Rece	ived: 11/18/	/04 14:10				
Manganese	0.597	0.0200	mg/l	2	4K24042	11/24/04	12/01/04	EPA 6020	
LMW9-111704 (B4K0565-04) Water	Sampled: 11	/17/04 14:05	Received:	11/18/04 1	4:10				
Silver	ND	0.00100	mg/l	1	4K24042	11/24/04	11/30/04	EPA 6020	
Arsenic	ND	0.00100	lt.	n	n	"	H,	11	
Beryllium	ND	0.00100	п	н	11	11	12/06/04	В	
Cadmium	ND	0.00100	n	u	**	**	11/30/04	н	
Chromium	ND	0.00100	n	11	"	11	**	n	
Copper	ND	0.00100	u	11	**	11	11	11	
Iron	1.92	0.150	n	**	4K30019	11/30/04	11/30/04	EPA 6010B	
Mercury	ND	0.000200	11	11	4K29015	11/29/04	11/29/04	EPA 7470A	
Manganese	0.160	0.0100	II .	11	4K24042	11/24/04	11/30/04	EPA 6020	
Nickel	ND	0.00100	H	"	**	"	11	n	
Lead	ND	0.00100	11	n	n	n	n	It	
Antimony	ND	0.00300	ŧr	"	11	II	12/02/04	31	
Selenium	ND	0.00100	11	n		н	11/30/04	11	
Thallium	ND	0.00100	**	n	,,	В	11	19	
Zinc	ND	0.0100	n	11	11	11	**	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network**



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

ge 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report
Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Reportable ND	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Reportable ND	LMW3-111704 (B4K0565-01) Water	Sampled: 11/	17/04 08:50	Received:	11/18/04 1	4:10				
Benzene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <th< td=""><td>Acetone</td><td></td><td>20.0</td><td>ug/l</td><td>1</td><td>4K30028</td><td>11/30/04</td><td>11/30/04</td><td>EPA 8260B</td><td>A-02</td></th<>	Acetone		20.0	ug/l	1	4K30028	11/30/04	11/30/04	EPA 8260B	A-02
Bromobenzene ND 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1		•								
Bromochloromethane ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "										
Bromodichloromethane ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td></td>										
Bromoform ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <		ND	1.00	n						
Bromomethane ND 2.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	Bromodichloromethane		1.00	n	**	**	11	21	n	
2-Butanone ND 10.0 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	Bromoform	ND	1.00	11	"	**	n	**	Ħ	
ND 1.00	Bromomethane	ND	2.00	n	11	97	п	11	tt	
sec-Butylbenzene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	2-Butanone	ND	10.0	11	"	11	11	Ħ	n	
tert-Butylbenzene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	n-Butylbenzene	ND	1.00	'n	11	н	11	**	11	
Carbon disulfide ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	sec-Butylbenzene	ND	1.00	11	U	**	"	**	11	
Carbon tetrachloride ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>tert-Butylbenzene</td> <td>ND</td> <td>1.00</td> <td>Ħ</td> <td>11</td> <td>**</td> <td>11</td> <td>Ħ</td> <td>n</td> <td></td>	tert-Butylbenzene	ND	1.00	Ħ	11	**	11	Ħ	n	
Chlorobenzene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	Carbon disulfide	ND	1.00	n	11	11	n	n	Ħ	
Chloroethane ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	Carbon tetrachloride	ND	1.00	11	11	11	11	11	Ħ	
Chloroform ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	Chlorobenzene	ND	1.00	ti	11	п	11	11	11	
Chloromethane ND 5.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	Chloroethane	ND	1.00	n	Ħ	lt .	11	11	it .	
2-Chlorotoluene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	Chloroform	ND	1.00	11	Ħ	**	11	D	n	
4-Chlorotoluene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	Chloromethane	ND	5.00	n	Ħ	**	11	n	IT	
Dibromochloromethane ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>2-Chlorotoluene</td> <td>ND</td> <td>1.00</td> <td>11</td> <td></td> <td>**</td> <td>**</td> <td>n</td> <td>n</td> <td></td>	2-Chlorotoluene	ND	1.00	11		**	**	n	n	
1,2-Dibromo-3-chloropropane ND 5.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <t< td=""><td>4-Chlorotoluene</td><td>ND</td><td>1.00</td><td>H</td><td>**</td><td>11</td><td>11</td><td>11</td><td>и</td><td></td></t<>	4-Chlorotoluene	ND	1.00	H	**	11	11	11	и	
1,2-Dibromoethane ND 1.00 """"""""""""""""""""""""""""""""""""	Dibromochloromethane	ND	1.00	11	**	н	17	"	n	
1,2-Dibromoethane ND 1.00 """"""""""""""""""""""""""""""""""""	1,2-Dibromo-3-chloropropane	ND	5.00	H	ŧt	n	11	**	n	
1,2-Dichlorobenzene ND 1.00 """"""""""""""""""""""""""""""""""""	• •	ND	1.00	п	11	"	11	11	n	
1,2-Dichlorobenzene ND 1.00 """"""""""""""""""""""""""""""""""""	Dibromomethane	ND	1.00	n	91	**	Ħ	11	n	
1,4-Dichlorobenzene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>1,2-Dichlorobenzene</td> <td>ND</td> <td>1.00</td> <td>n</td> <td>11</td> <td>**</td> <td>17</td> <td>**</td> <td>11</td> <td></td>	1,2-Dichlorobenzene	ND	1.00	n	11	**	17	**	11	
Dichlorodifluoromethane ND 1.00 """"""""""""""""""""""""""""""""""""	1,3-Dichlorobenzene	ND	1.00	n	11	**	17	**	11	
Dichlorodifluoromethane ND 1.00 """"""""""""""""""""""""""""""""""""	1,4-Dichlorobenzene	ND	1.00	11	"	n	11	11	n	
1,1-Dichloroethane ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>-</td> <td>ND</td> <td>1.00</td> <td>11</td> <td>11</td> <td>11</td> <td>11</td> <td>n</td> <td>n</td> <td></td>	-	ND	1.00	11	11	11	11	n	n	
1,2-Dichloroethane ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>1.1-Dichloroethane</td> <td></td> <td></td> <td>11</td> <td>11</td> <td>п</td> <td>11</td> <td>H</td> <td>n</td> <td></td>	1.1-Dichloroethane			11	11	п	11	H	n	
1,1-Dichloroethene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>-</td> <td></td> <td></td> <td>11</td> <td>n</td> <td>11</td> <td>n</td> <td>**</td> <td>п</td> <td></td>	-			11	n	11	n	**	п	
cis-1,2-Dichloroethene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "				11	п	н	11	11	11	
trans-1,2-Dichloroethene ND 1.00 " " " " " " " " " " " 1,2-Dichloropropane ND 1.00 " " " " " " " " " " " " " " " " " "				n	ti .	11	**	n	11	
1,2-Dichloropropane ND 1.00 " " " " " "				**	at .	**	**	n	11	
				**	n	n	"	11	n	
1.5"Dichiotopiane IND 1.00	1,3-Dichloropropane	ND	1.00	n	n	II.	н	11	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 6 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Amelyto	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Analyte	Vesuit	Lum	Omis	Dilution	Dalcii	Гтерагец	Allalyzed	Michied	Notes
LMW3-111704 (B4K0565-01) Water	Sampled: 11	/17/04 08:50	Received	11/18/04 1	4:10				
2,2-Dichloropropane	ND	1.00	ug/l	1	4K30028	11/30/04	11/30/04	n	
1,1-Dichloropropene	ND	1.00	11	11	17	n	Ħ	n	
cis-1,3-Dichloropropene	ND	1.00	11	**	It	n .	H	n	
trans-1,3-Dichloropropene	ND	1.00	n	***	H	n	H	н	
Ethylbenzene	ND	1.00	11	***	n	11	11	n	
Hexachlorobutadiene	ND	1.00	11	91	n	**	tt	n	
Methyl tert-butyl ether	ND	2.00	**	31	n	Ħ	Ħ	11	
2-Hexanone	ND	10.0	n	**	II .	Ħ	tt .	n	
Isopropylbenzene	ND	1.00	ır	**	n	11	II .	11	
p-Isopropyltoluene	ND	1.00	IF	ti	н	ıı	Ħ	n	
4-Methyl-2-pentanone	ND	10.0	n	**	11	#	11	11	
Methylene chloride	ND	5.00	**	**	**	11	**	11	
Naphthalene	ND	1.00	n	**	**	11	11	n	
n-Propylbenzene	ND	1.00	11	**	n	11	11	H	
Styrene	ND	1.00	11	et	11	11	11	n	
1,2,3-Trichlorobenzene	ND	1.00	11	**	**	11	11	н	
1,2,4-Trichlorobenzene	ND	1.00	11	**	**	**	11	11	
1,1,1,2-Tetrachloroethane	ND	1.00	n	**	**	11	n	n	
1,1,2,2-Tetrachloroethane	ND	1.00	n	17	11	11	11	11	
Tetrachloroethene	ND	1.00	11	77	11	11	II	11	
Toluene	ND	1.00	11	**	11	11	H	11	
1,1,1-Trichloroethane	ND	1.00	11	**	н	**	"	11	
1,1,2-Trichloroethane	ND	1.00	11	*1	17	u	11	n	
Trichloroethene	ND	1.00	n	11	n	11	11	11	
Trichlorofluoromethane	ND	1.00	n	11	tt	11	11	TT	
1,2,3-Trichloropropane	ND	1.00	н	n	u	11	n	11	
1,2,4-Trimethylbenzene	ND	1.00	11	n	n	11	11	11	
1,3,5-Trimethylbenzene	ND	1.00	Ħ	n	11	u	**	17	
Vinyl chloride	ND	0.500	"	n	"	н	t)	n	
o-Xylene	ND	1.00	**	11	Ħ	ır	11	n	
m,p-Xylene	ND	2.00	11	11	11	11	11	11	
Surrogate: 1,2-DCA-d4	106 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	99.0 %	70-130			"	n	n	n	
Surrogate: 4-BFB	100 %	70-130			n	"	n	"	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 7 of 28



425.420.9200 fax 425.420.9210

11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Acetone Not Reportable	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Reportable ND	LMW5-111704 (B4K0565-02) Water	Sampled: 11/	17/04 10:00	Received:	11/18/04 1	4:10				
Benzene ND 1.00 " " " " " " " " "	Acetone		20.0	ug/l	1	4K29054	11/24/04	11/25/04	EPA 8260B	A-02
Bromochloromethane ND 1.00 " " " " " " " " "	Benzene		1.00	n	•	ŧŧ	11	n	tt .	
Bromodichloromethane ND 1.00 " " " " " " " " "	Bromobenzene	ND	1.00	n	n	11	11	11	19	
Bromoform ND 1.00 " " " " " " " " "	Bromochloromethane	ND	1.00	Ħ	\$F	**	н	"	Ħ	
Bromomethane ND 2.00 " " " " " " " " "	Bromodichloromethane	ND	1.00	u	н	11	**	11	n	
2-Butanone	Bromoform	ND	1.00	n	11	11	N,	11	н	
n-Butylbenzene ND 1.00 " " " " " " " " " " " " " " " " " "	Bromomethane	ND	2.00	Ü	**	11	n	н	Ħ	
Sec-Butylbenzene ND 1.00 " " " " " " " " "	2-Butanone	ND	10.0	n	**	н	n	31	11	
Carbon disulfide	n-Butylbenzene	ND	1.00	n	n	n	n	11	Ħ	
Carbon disulfide	sec-Butylbenzene	ND	1.00	n .	n	н	n	Ħ	It	
Carbon tetrachloride ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>tert-Butylbenzene</td> <td>ND</td> <td>1.00</td> <td>11</td> <td>11</td> <td>n</td> <td>n</td> <td>11</td> <td>17</td> <td></td>	tert-Butylbenzene	ND	1.00	11	11	n	n	11	17	
Chlorobenzene ND 1.00 " " " " " " " " " " " " " " " Chloroethane ND 1.00 " " " " " " " " " " " " " " " " " "	Carbon disulfide	ND	1.00	11	11	H	11	11	u	
Chloroethane	Carbon tetrachloride	ND	1.00	11	**	n	11	n	n .	
Chloroform ND 1.00 " " " " " " " " " " " " Chloromethane ND 5.00 " " " " " " " " " " " " " " " " " "	Chlorobenzene	ND	1.00	n	11	**	н	H	11	
Chloromethane ND 5.00 " " " " " " " " " " " " " " " " " "	Chloroethane	ND	1.00	11	11	**	n	11	11	
C-Chlorotoluene	Chloroform	ND	1.00	11	"	Ħ	"	n	n	
A-Chlorotoluene ND 1.00 """"""""""""""""""""""""""""""""""	Chloromethane	ND	5.00	"	11	**	11	tr	TF .	
Dibromochloromethane ND 1.00 " " " " " " " " " " " " 1.2-Dibromo-3-chloropropane ND 5.00 " " " " " " " " " " " " " " " " " "	2-Chlorotoluene	ND	1.00	n	11	"	11	Ħ	n	
1,2-Dibromo-3-chloropropane ND 5.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "	4-Chlorotoluene	ND	1.00	11	11	n	11	11	n	
1,2-Dibromoethane	Dibromochloromethane	ND	1.00	11	n	n	11	11	31	
Dibromomethane	1,2-Dibromo-3-chloropropane	ND	5.00	"	Ħ	n	11	ti	11	
1,2-Dichlorobenzene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>1,2-Dibromoethane</td> <td>ND</td> <td>1.00</td> <td>11</td> <td>н</td> <td>11</td> <td>11</td> <td>11</td> <td>17</td> <td></td>	1,2-Dibromoethane	ND	1.00	11	н	11	11	11	17	
1,3-Dichlorobenzene ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>Dibromomethane</td> <td>ND</td> <td>1.00</td> <td>11</td> <td>11</td> <td>n</td> <td>н</td> <td>it</td> <td>n</td> <td></td>	Dibromomethane	ND	1.00	11	11	n	н	it	n	
1,4-Dichlorobenzene ND 1.00 " " " " " " " " " " " " " " " " " "	1,2-Dichlorobenzene	ND	1.00	**	н	н	n	n .	17	
Dichlorodifluoromethane ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " "<	1,3-Dichlorobenzene	ND	1.00	11	H	"	н	it .	n	
1,1-Dichloroethane ND 1.00 " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " " <td>1,4-Dichlorobenzene</td> <td>ND</td> <td>1.00</td> <td>11</td> <td>"</td> <td>"</td> <td>Ħ</td> <td>n</td> <td>11</td> <td></td>	1,4-Dichlorobenzene	ND	1.00	11	"	"	Ħ	n	11	
1,2-Dichloroethane ND 1.00 " " " " " " " " " " " " " " " " " "	Dichlorodifluoromethane	ND	1.00	11	Ħ	n	н	н	п	
1,1-Dichloroethene ND 1.00 " " " " " " " " " " " " " " " " " "	1,1-Dichloroethane	ND	1.00	n	n	**	n	H	11	
is-1,2-Dichloroethene ND 1.00 " " " " " " " " " " " " " " " " " "	1,2-Dichloroethane	ND	1.00	11	n	**	n	**	11	
trans-1,2-Dichloroethene ND 1.00 " " " " " " " " " " " " " " " " " "	1, I-Dichloroethene	ND	1.00	n	n	**	11	#	11	
1,2-Dichloropropane ND 1.00 " " " " " " "	cis-1,2-Dichloroethene	ND	1.00	11	11	"	11	11	"	
	trans-1,2-Dichloroethene	ND	1.00	n		н	n	ŧı	н	
1,3-Dichloropropane ND 1.00 " " " " " " "	1,2-Dichloropropane	ND	1.00	**	**	**	Ħ	11	11	
	1,3-Dichloropropane	ND	1.00	**	n	**	11	11	11	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 8 of 28



18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

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

425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

2000 W, International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW5-111704 (B4K0565-02) Water	Sampled: 11	/17/04 10:00	Received:	11/18/04 1	4:10				
2,2-Dichloropropane	ND	1.00	ug/l	1	4K29054	11/24/04	11/25/04	tr	
1,1-Dichloropropene	ND	1.00	11	**	**	11	n	Ħ	
cis-1,3-Dichloropropene	ND	1.00	D	11	11	11	n	\$f	
trans-1,3-Dichloropropene	ND	1.00	11	tt	11	n	n	ir .	
Ethylbenzene	ND	1.00	11	. "	n	11	n	**	
Hexachlorobutadiene	ND	1.00	11 .	ST.	"	11	li .	и	
Methyl tert-butyl ether	ND	2.00	11	n	**	11	n	\$1	
2-Hexanone	ND	10.0	n	11	Ħ	11	U	11	
Isopropylbenzene	ND	1.00	13	n	91	11	ŋ	tr	
p-Isopropyltoluene	ND	1.00	11	n	ti	11	11	11	
4-Methyl-2-pentanone	ND	10.0	n	n	n	n	n	n	
Methylene chloride	ND	5.00	u	n	n	**	n	ff.	
Naphthalene	ND	1.00	11	н	tt	11	II .	51	
n-Propylbenzene	ND	1.00	n	n	11	11	II .	**	
Styrene	ND	1.00	u	11	Ħ	11	n	n	
1,2,3-Trichlorobenzene	ND	1.00	п	n	n	11	Ħ	Ħ	
1,2,4-Trichlorobenzene	ND	1.00	n	n	я	11	H	n	
1,1,1,2-Tetrachloroethane	ND	1.00	n	Ħ	#	11	tt	n	
1,1,2,2-Tetrachloroethane	ND	1.00	n	u	11	n	1)	11	
Tetrachloroethene	ND	1.00	11	11	11	n	H	IF.	
Toluene	ND	1.00	11	11	н	n	11	Ħ	
1,1,1-Trichloroethane	ND	1.00	n	н	n	n	tt .	11	
1,1,2-Trichloroethane	ND	1.00	"	n	11	11	17	n	
Trichloroethene	ND	1.00	"	n	n	н	11	W	
Trichlorofluoromethane	ND	1.00	11	n	н	n	11	11	
1,2,3-Trichloropropane	ND	1.00	11	н	н	n	11	и	
1,2,4-Trimethylbenzene	ND	1.00	11	n	11	н	B	n	
1,3,5-Trimethylbenzene	ND	1.00	11	н	77	n	n	n	
Vinyl chloride	ND	0.500	11	II	Ħ	n	H	tt .	
o-Xylene	ND	1.00	п	,,	n	11	11	11	
m,p-Xylene	ND	2.00	IF	Ħ	11	n	n	11	
Surrogate: 1,2-DCA-d4	102 %	70-130			n	"	"	"	
Surrogate: Toluene-d8	97.0 %	70-130			"	"	"	n	
Surrogate: 4-BFB	100 %	70-130			n	"	n	n	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 9 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW8-111704 (B4K0565-03) Water	Sampled: 11/	17/04 11:10	Received:	11/18/04 1	4:10				
Acetone	Not	20.0	ug/l	1	4K29054	11/24/04	11/25/04	EPA 8260B	A-02
	Reportable								
Benzene	ND	1.00	11	**	н	n	11	11	
Bromobenzene	ND	1.00	ti	11	tt	**	n	n	
Bromochloromethane	ND	1.00	n	11	**	II.	tt .	11	
Bromodichloromethane	ND	1.00	н	15	17	"	11	12	
Bromoform	ND	1.00	Ħ	"	11	11	11	n	
Bromomethane	ND	2.00	**	11	11	11	H	n	
2-Butanone	ND	10.0	11	11	n	11	n	n	
n-Butylbenzene	ND	1.00	**	Ħ	н	ti	Ħ	н	
sec-Butylbenzene	ND	1.00	11	lı .	**	**	31	II.	
tert-Butylbenzene	ND	1.00	11	"	**	Tř	31	17	
Carbon disulfide	ND	1.00	11	**	n	11	11	11	
Carbon tetrachloride	ND	1.00	n	Ħ	ti.	11	**	11	
Chlorobenzene	ND	1.00	n	11	**	#1	ti	n	
Chloroethane	ND	1.00	n	n	n	Ħ	n	11	
Chloroform	ND	1.00	tt	н	n	11	n	11	
Chloromethane	ND	5.00	11	81	**	tt	11	11	
2-Chlorotoluene	ND	1.00	n	21	"	11	11	Ħ	
4-Chlorotoluene	ND	1.00	11	11	17	Ħ	11	n	
Dibromochloromethane	ND	1.00	"	11	Ħ	31	ii	п	
1,2-Dibromo-3-chloropropane	ND	5.00	11	11	13	Ħ	II .	n	
1,2-Dibromoethane	ND	1.00	11	H	**	"	**	11	
Dibromomethane	ND	1.00	ti	n	n	n	**	n	
1,2-Dichlorobenzene	ND	1.00	N	**	"	**	n	11	
1,3-Dichlorobenzene	ND	1.00	ŧŧ	91	11	ti .	H	11	
1,4-Dichlorobenzene	ND	1.00	#1	ti	H	11	n	11	
Dichlorodifluoromethane	ND	1.00	917	**	11	Ħ	11	17	
1,1-Dichloroethane	ND	1.00	**	ıt	11	**	11	11	
1,2-Dichloroethane	ND	1.00	11	"	11	**	и	n	
1,1-Dichloroethene	ND	1.00	n	11	11	11	**	n	
cis-1,2-Dichloroethene	ND	1.00	н	n	11	11	n	11	
trans-1,2-Dichloroethene	ND	1.00	**	n	n	H	n	11	
1,2-Dichloropropane	ND	1.00	97	#1	н	n	н	II	
1,3-Dichloropropane	ND	1.00	1)	11	**	11	n	н	
,rF									

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Environmental Laboratory Network

Amar Gill, Project Manager

Page 10 of 28 North Creek Analytical, Inc.



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

	1.2.	Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW8-111704 (B4K0565-03) Water	Sampled: 11	/17/04 11:10	Received	: 11/18/04 1	4:10				
2,2-Dichloropropane	ND	1.00	ug/l	1	4K29054	11/24/04	11/25/04	ıı	
1,1-Dichloropropene	ND	1.00	11	11	11	"	tt	"	
cis-1,3-Dichloropropene	ND	1.00	19	11	11	**	11	11	
trans-1,3-Dichloropropene	ND	1.00	17	Ħ	11	11	n	n	
Ethylbenzene	ND	1.00	"	Ħ	11	n	11	n	
Hexachlorobutadiene	ND	1.00	n	"	n	n	11	н	
Methyl tert-butyl ether	ND	2.00	n	11	11	"	11	п	
2-Hexanone	ND	10.0	n	n	11	**	11	11	
Isopropylbenzene	ND	1.00	It	n	**	11	11	11	
p-Isopropyltoluene	ND	1.00	IT	n	**	**	11	н	
4-Methyl-2-pentanone	ND	10.0	11	11	**	n	11	19	
Methylene chloride	ND	5.00	12	n	"	"	11	H	
Naphthalene	ND	1.00	11	h	**	"	11	н	
n-Propylbenzene	ND	1.00	11	11	n	rr ·	n	n	
Styrene	ND	1.00	n	11	ti.	**	11	n	
1,2,3-Trichlorobenzene	ND	1.00	n	17	tt	**	11	It	
1,2,4-Trichlorobenzene	ND	1.00	n	**	17	"	11	n	
1,1,1,2-Tetrachloroethane	ND	1.00	n	11	п	11	11	н	
1,1,2,2-Tetrachloroethane	ND	1.00	n	**	**	**	11	n	
Tetrachloroethene	ND	1.00	II	11	11	11	n	n	
Toluene	ND	1.00	n	**	n	"	11	11	
1,1,1-Trichloroethane	ND	1.00	"	**	**	"	ti	п	
1,1,2-Trichloroethane	ND	1.00	"	11	н	"	n	**	
Trichloroethene	ND	1.00	n	**	н	11	II	11	
Trichlorofluoromethane	ND	1.00	n	11	**	n	Ħ	11	
1,2,3-Trichloropropane	ND	1.00	n	*1	**	"	**	11	
1,2,4-Trimethylbenzene	ND	1.00	n	11	17	11	11	It.	
1,3,5-Trimethylbenzene	ND	1.00	11	,n	**	H	11	112	
Vinyl chloride	ND	0.500	11	11	**	11	11	H	
o-Xylene	ND	1.00	"	11	**	R	n	n	
m,p-Xylene	ND	2.00	11	n	11	"	n	tt	
Surrogate: 1,2-DCA-d4	103 %	70-130			"	"	п	11	
Surrogate: Toluene-d8	98.0 %	70-130			n	n	"	"	
Surrogate: 4-BFB	106 %	70-130			n	11	"	H	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 11 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road. Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Analyte	Kesuk	Linin	Omts	Dilution	Dateir	Trepared			7,010.
LMW9-111704 (B4K0565-04) Water	Sampled: 11/	17/04 14:05	Received	: 11/18/04 1	4:10				
Acetone	Not	20.0	ug/l	1	4K30028	11/30/04	11/30/04	EPA 8260B	A-02
	Reportable				U	19	n	**	
Benzene	ND	1.00	ŧŧ	11				,,	
Bromobenzene	ND	1.00	n	11	н	"	н		
Bromochloromethane	ND	1.00	11	11	11	"	*1	n	
Bromodichloromethane	ND	1.00	ŧ	н	U	11	11	n	
Bromoform	ND	1.00	u	11	"	**	Ħ	11	
Bromomethane	ND	2.00	**	11	"	11	33	tt	
2-Butanone	ND	10.0	11	11	**	n	,,	u	
n-Butylbenzene	ND	1.00	n	n	11	Ħ	II	11:	
sec-Butylbenzene	ND	1.00	u	н	n	Ħ	**	n	
tert-Butylbenzene	ND	1.00	11	11	"	11	11	n	
Carbon disulfide	ND	1.00	"	n	11	et	Ħ	n	
Carbon tetrachloride	ND	1.00	11	11	ıı	**	11	11	
Chlorobenzene	ND	1.00	n	*11	n	11	n	11	
Chloroethane	ND	1.00	n	"	11	11	n	11	
Chloroform	ND	1.00	11	11	11	Ħ	n	n	
Chloromethane	ND	5.00	"	11	n	11	n	\$1	
2-Chlorotoluene	ND	1.00	n .	h	**	11	11	11	
4-Chlorotoluene	ND	1.00	11	11	,,	11	n	B	
Dibromochloromethane	ND	1.00	11	***	,,	"	"	11	
1,2-Dibromo-3-chloropropane	ND	5.00	n	11	u	**	n	31	
1.2-Dibromoethane	ND	1.00	n	11	n	**	11	11	
Dibromomethane	ND	1.00	**	n	Ħ	11	11	Ħ	
1,2-Dichlorobenzene	ND	1.00	11	tt	**	Ħ	11	11	
1,3-Dichlorobenzene	ND	1.00	11	11	н	"	11	11	
1,4-Dichlorobenzene	ND	1.00	n	n	Ħ	11	m	n	
Dichlorodifluoromethane	ND	1.00	н	n	11	n	11	11	
1.1-Dichloroethane	ND	1.00	11	n	n	**	**	II	
1,2-Dichloroethane	ND	1.00	**	11	11	"	11	н	
1,1-Dichloroethene	ND	1.00	11	11	"	11	n	11	
cis-1,2-Dichloroethene	ND	1.00	n	n	,,	tı	**	u	
trans-1,2-Dichloroethene	ND	1.00	n	H	n	, "	н	n	
1,2-Dichloropropane	ND	1.00	11	11	31	n	91	11	
1,3-Dichloropropane	ND	1.00	11	11	n	11	n		
1,5-Diemoropropane	עאו	1.00							

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 12 of 28



18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

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

425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

orage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119.

907.563.9200 fax 907.563.9210

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

		Reporting	** *.	D.1				14-41-3	
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LMW9-111704 (B4K0565-04) Water	Sampled: 11	/17/04 14:05	Received	: 11/18/04 1	4:10				
2,2-Dichloropropane	ND	1.00	ug/l	1	4K30028	11/30/04	11/30/04	n	
1,1-Dichloropropene	ND	1.00	11	n	u	n	"	n .	
cis-1,3-Dichloropropene	ND	1.00	11	11	**	**	11	tt	
trans-1,3-Dichloropropene	ND	1.00	11	11	tt	**	H	n	
Ethylbenzene	ND	1.00	19	11	H	**	H	n	
Hexachlorobutadiene	ND	1.00	11	11	**	Ħ	н	"	
Methyl tert-butyl ether	ND	2.00	11	11	11	"	H	"	
2-Hexanone	ND	10.0	11	n ·	11	37	n	"	
Isopropylbenzene	ND	1.00	11	**	n	**	**	"	
p-Isopropyltoluene	ND	1.00	**	11	***	"	11	n	
4-Methyl-2-pentanone	ND	10.0	11	97	**	tt	"	n	
Methylene chloride	ND	5.00	**	n	11	**	"	n	
Naphthalene	ND	1.00	tt	11	13	11	11	n	
n-Propylbenzene	ND	1.00	11	n	"	11	H	**	
Styrene	ND	1.00	11	**	11	н	n	n	
1,2,3-Trichlorobenzene	ND	1.00		tt	п	Ħ	tt	"	
1,2,4-Trichlorobenzene	ND	1.00	11	tţ	Ħ	**	n	Ħ	
1,1,1,2-Tetrachloroethane	ND	1.00	n	н	n	*1	11	n	
1,1,2,2-Tetrachloroethane	ND	1.00	11	n	**	11	11	tr .	
Tetrachloroethene	ND	1.00	n	31	Ħ	11	U	**	
Toluene	ND	1.00	11	**	#	h	11	n	
1,1,1-Trichloroethane	ND	1.00	n	11	tt	II	Ħ	n	
1,1,2-Trichloroethane	ND	1.00	11	11	"	**	**	n	
Trichloroethene	ND	1.00	n	**	11	**	11	11	
Trichlorofluoromethane	ND	1.00	u	n	11	"	11	11	
1,2,3-Trichloropropane	ND	1.00	п	н	17	11	ıı	**	
1,2,4-Trimethylbenzene	ND	1.00	n	tt	11	n	**	n	
1,3,5-Trimethylbenzene	ND	1.00	Ħ	11	11	u	n	n	
Vinyl chloride	ND	0.500	ti	11	11	n	Ħ	11	
o-Xylene	ND	1.00	11	11		11	II .	n	
m,p-Xylene	ND	2.00	11	Ħ	tt	11	11	Ħ	
Surrogate: 1,2-DCA-d4	106 %	70-130			n	n	n .	n	
Surrogate: Toluene-d8	100 %	70-130			n	"	n	n	
Surrogate: 4-BFB	102 %	70-130			"	n	n	"	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 13 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:58

Hydrocarbon Identification by Washington DOE Method NWTPH-HCID - Quality Control North Creek Analytical - Bothell

	<u>, , , , , , , , , , , , , , , , , , , </u>	Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K22060: Prepared 11/22/04	4 Using El	PA 3520C								
Blank (4K22060-BLK1)										
Gx Range Hydrocarbons	ND	0.250	mg/l							
Kerosene Range Hydrocarbons	ND	0.630	11							
Diesel Range Hydrocarbons	ND	0.630	n							
Insulating Oil Range Hydrocarbons	ND	0.630	19							
Heavy Fuel Oil Range Hydrocarbons	ND	0.630	n							
Lube Oil Range Hydrocarbons	ND	0.630	И							
Surrogate: 2-FBP	DET		"	0.250		102	50-150			
Surrogate: Octacosane	DET		"	0.240		103	50-150			
LCS (4K22060-BS1)										
Diesel Range Hydrocarbons	DET	0.630	mg/l	1.87	•	92.5	58-125			
Surrogate: 2-FBP	DET		n	0.250		111	50-150			
LCS Dup (4K22060-BSD1)										
Diesel Range Hydrocarbons	DET	0.630	mg/l	1.87		91.4	58-125	1.16	40	
Surrogate: 2-FBP	DET		"	0.250		92.8	50-150		,,	
Matrix Spike (4K22060-MS2)					Source: B	34K0565-	04			
Diesel Range Hydrocarbons	DET	0.630	mg/l	1.76	0.0489	102	25-149			
Surrogate: 2-FBP	DET		"	0.236		105	50-150			
Matrix Spike Dup (4K22060-MSD2)					Source: B	34K0565-	04			
Diesel Range Hydrocarbons	DET	0.630	mg/l	1.76	0.0489	83.6	25-149	19.0	200	
Surrogate: 2-FBP	DET		"	0.236		83.5	50-150			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager



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

425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

%REC

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Project: Landsburg Mine

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

Issued: 12/15/04 16:58

RPD

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control North Creek Analytical - Bothell

Reporting

Spike

Source

Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K24042:	Prepared 11/24/04	Using I	EPA 3005A								
Blank (4K24042-BI	LK1)									•	
Silver		ND	0.00100	mg/l							
Arsenic	,	ND	0.00100	13							
Beryllium		ND	0.00100	n							
Cadmium		ND	0.00100	n							
Chromium		ND	0.00100	12							
Соррег		ND	0.00100	n							
Manganese		ND	0.0100	n							
Nickel		ND	0.00100	ii .							
Lead		ND	0.00100	н							
Antimony		ND	0.00300	H							
Selenium		ND	0.00100	#							
Thallium		ND	0.00100	u							
Zinc		ND	0.0100	11							
LCS (4K24042-BS1	1)										
Silver		0.198	0.00100	mg/l	0.200		99.0	80-120			
Arsenic		0.195	0.00100	n	0.200		97.5	80-120			
Beryllium		0.207	0.00100	11	0.200		104	80-120			
Cadmium		0.197	0.00100	0	0.200		98.5	80-120			
Chromium		0.206	0.00100	11	0.200		103	80-120			
Copper		0.198	0.00100	31	0.200		99.0	80-120			
Manganese		0.208	0.0100	11	0.200		104	80-120			
Nickel		0.201	0.00100	ıt	0.200		100	80-120			
Lead		0.198	0.00100	11	0.200		99.0	80-120			
Antimony		0.0518	0.00300	1t	0.0500		104	80-120			
Selenium		0.195	0.00100	n	0.200		97.5	80-120			
Thallium		0.197	0.00100	n	0.200		98.5	80-120			
Zinc		0.195	0.0100	n	0.200		97.5	80-120			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

Project Number: 923-1000-002

Project Manager: Douglas Morell

Amended Report Issued: 12/15/04 16:58

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control

North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K24042:	Prepared 11/24/04	Using I	EPA 3005A								
LCS Dup (4K24042	e-BSD1)										
Silver		0.196	0.00100	mg/l	0.200		98.0	80-120	1.02	20	
Arsenic		0.195	0.00100	n	0.200		97.5	80-120	0.00	20	
Beryllium		0.200	0.00100	**	0.200		100	80-120	3.44	20	
Cadmium		0.196	0.00100	#	0.200		98.0	80-120	0.509	20	
Chromium		0.203	0.00100	"	0.200		102	80-120	1.47	20	
Copper		0.197	0.00100	11	0.200		98.5	80-120	0.506	20	
Manganese		0.206	0.0100	tt	0.200		103	80-120	0.966	20	
Nickel		0.200	0.00100	11	0.200		100	80-120	0.499	20	
Lead		0.196	0.00100	11	0.200		98.0	80-120	1.02	20	
Antimony		0.0522	0.00300	If	0.0500		104	80-120	0.769	20	
Selenium		0.195	0.00100	n	0.200		97.5	80-120	0.00	20	
Thallium		0.194	0.00100	n	0.200		97.0	80-120	1.53	20	
Zinc		0.194	0.0100	11	0.200		97.0	80-120	0.514	20	
Matrix Spike (4K2	4042-MS1)					Source: E	34K0565-	04			
Silver		0.0817	0.00100	mg/l	0.100	ND	81.7	43-124			
Arsenic		0.104	0.00100	"	0.100	0.000510	103	70-138			
Beryllium		0.0987	0.00100	11	0.100	ND	98.7	80-125			
Cadmium		0.0908	0.00100	n	0.100	ND	90.8	80-125			
Chromium		0.0942	0.00100	Ħ	0.100	0.000520	93.7	76-125			
Copper		0.0860	0.00100	n	0.101	0.000590	84.6	71-125			
Manganese		0.250	0.0100	**	0.100	0.160	90.0	54-158			
Nickel		0.0875	0.00100	11	0.0995	0.000510	87.4	73-125			
Lead		0.0880	0.00100	n	0.0995	ND	88.4	78-125			
Antimony		0.0478	0.00300	n	0.0500	ND	95.6	63-126			
Selenium		0.108	0.00100	11	0.100	0.000390	108	61-156			
Thallium		0.0904	0.00100	11	0.100	ND	90.4	78-125			
Zinc		0.0946	0.0100	"	0.0995	0.00283	92.2	70-127			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

%REC

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 Anchorage 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Spike

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:58

RPD

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control North Creek Analytical - Bothell

Reporting

ł			reporting		opiico	504.00		, 0. 22 0			
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K24042:	Prepared 11/24/04	Using I	EPA 3005A								
Matrix Spike Dup (4	4K24042-MSD1)					Source: B	4K0565-	04			
Silver		0.0846	0.00100	mg/l	0.100	ND	84.6	43-124	3.49	50	
Arsenic		0.107	0.00100	n	0.100	0.000510	106	70-138	2.84	20	
Beryllium		0.0984	0.00100	Ħ	0.100	ND	98.4	80-125	0.304	20	
Cadmium		0.0953	0.00100	n	0.100	ND	95.3	80-125	4.84	20	
Chromium		0.0986	0.00100	n	0.100	0.000520	98.1	76-125	4.56	20	
Copper		0.0904	0.00100	n	0.101	0.000590	88.9	71-125	4.99	20	
Manganese		0.258	0.0100	11	0.100	0.160	98.0	54-158	3.15	20	
Nickel		0.0914	0.00100	ņ	0.0995	0.000510	91.3	73-125	4.36	20	
Lead		0.0916	0.00100	Ħ	0.0995	ND	92.1	78-125	4.01	20	
Antimony		0.0480	0.00300	11	0.0500	ND	96.0	63-126	0.418	20	
Selenium		0.110	0.00100	**	0.100	0.000390	110	61-156	1.83	20	
Thallium		0.0936	0.00100	It	0.100	ND	93.6	78-125	3.48	20	
Zinc		0.0988	0.0100	11	0.0995	0.00283	96.5	70-127	4.34	20	
Batch 4K29015:	Prepared 11/29/04	Using I	EPA 7470A			400 70			·		
Blank (4K29015-BL	K1)										
Mercury		ND	0.000200	mg/l							
LCS (4K29015-BS1))										
Mercury		0.00483	0.000200	mg/l	0.00500		96.6	80-120		·	
LCS Dup (4K29015-	-BSD1)										
Mercury		0.00503	0.000200	mg/l	0.00500		101	80-120	4.06	20	
Matrix Spike (4K29	015-MS1)					Source: B	4K0565-	04			
Mercury		0.00539	0.000200	mg/l	0.00500	0.000116	105	70-130			· · · ·

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report

Issued: 12/15/04 16:58

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control North Creek Analytical - Bothell

Limit EPA 7470A 0.000200 0.000200	Units mg/l	0.00500	Result Source: B ² 0.000171		Limits	RPD	Limit	Notes
0.000200	mg/l				05			
	mg/l				05			
	mg/l	0.00500	0.000171					
0.000200			0.000171	93.0	70-130			
0.000200			Source: B	4K0550-	06			
0.000200	mg/l	0.00500	0.0000916	96.2	70-130			
			Source: B	4K0550-	07			···
0.000200	mg/l	0.00500	0.000104	95.9	70-130			
			Source: B	4K0565-	04			
0.000200	mg/l	0.00500	0.000116	100	70-130	5.14	20	
			Source: B	4K0550-	05			
0.000200	mg/l	0.00500	0.000171	96.4	70-130	3.47	20	
			Source: B	4K0550-	06			
0.000200	mg/l	0.00500	0.0000916	99.8	70-130	3.61	20	
			Source: B	4K0550-	07			
0.000200	mg/l	0.00500	0.000104	97.3	70-130	1.42	20	
EPA 3005A								·
0.150	mg/l							
0.150	mg/l	5.00		99.8	80-120			
	0.000200 0.000200 0.000200 0.000200 EPA 3005A	0.000200 mg/l 0.000200 mg/l 0.000200 mg/l 0.000200 mg/l EPA 3005A	0.000200 mg/l 0.00500 0.000200 mg/l 0.00500 0.000200 mg/l 0.00500 0.000200 mg/l 0.00500 EPA 3005A 0.150 mg/l	0.000200 mg/l 0.00500 0.000104 Source: B- 0.000200 mg/l 0.00500 0.000116 Source: B- 0.000200 mg/l 0.00500 0.000171 Source: B- 0.000200 mg/l 0.00500 0.0000916 Source: B- 0.000200 mg/l 0.00500 0.0000104 EPA 3005A	0.000200 mg/l 0.00500 0.000104 95.9 Source: B4K0565- 0.000200 mg/l 0.00500 0.000116 100 Source: B4K0550- 0.000200 mg/l 0.00500 0.000171 96.4 Source: B4K0550- 0.000200 mg/l 0.00500 0.0000916 99.8 Source: B4K0550- 0.000200 mg/l 0.00500 0.000104 97.3 EPA 3005A	Source: B4K0565-04	0.000200 mg/l 0.00500 0.000104 95.9 70-130 Source: B4K0565-04 0.000200 mg/l 0.00500 0.000116 100 70-130 5.14 Source: B4K0550-05 0.000200 mg/l 0.00500 0.000171 96.4 70-130 3.47 Source: B4K0550-06 0.000200 mg/l 0.00500 0.0000916 99.8 70-130 3.61 Source: B4K0550-07 0.000200 mg/l 0.00500 0.000104 97.3 70-130 1.42 EPA 3005A	0.000200 mg/l 0.00500 0.000104 95.9 70-130 Source: B4K0565-04 0.000200 mg/l 0.00500 0.000116 100 70-130 5.14 20 Source: B4K0550-05 0.000200 mg/l 0.00500 0.0000916 99.8 70-130 3.61 20 Source: B4K0550-07 0.000200 mg/l 0.00500 0.000104 97.3 70-130 1.42 20 EPA 3005A

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 18 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119 907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

Project Number: 923-1000-002

Project Manager: Douglas Morell

Amended Report Issued: 12/15/04 16:58

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control North Creek Analytical - Bothell

		Reporting		Spike	Source		%REC	nnn.	RPD	21-4
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K30019: Prepared 11/30/04	Using E	PA 3005A						 		
LCS Dup (4K30019-BSD1)										
Iron	4.94	0.150	mg/l	5.00		98.8	80-120	1.01	20	
Matrix Spike (4K30019-MS1)					Source: E	34K0507-	01			
Iron	5.41	0.150	mg/l	5.00	0.114	106	80-120			
Matrix Spike (4K30019-MS2)					Source: I	34K0565-	04			
Iron	7.10	0.150	mg/l	5.00	1.92	104	80-120			
Matrix Spike Dup (4K30019-MSD1)					Source: I	34K0507-	01			
Iron	5.27	0.150	mg/l	5.00	0.114	103	80-120	2.62	20	
Matrix Spike Dup (4K30019-MSD2)					Source: I	34K0565-	04			
Iron	7.27	0.150	mg/l	5.00	1.92	107	80-120	2.37	20	

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. Environmental Laboratory Network Page 19 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

%REC

907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

Spike

Source

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

Amended Report Issued: 12/15/04 16:58

RPD

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Reporting

Analysta		Result	Reporting Limit	Units	Spike Level	Result	%REC	Limits	RPD	Limit	Notes
Analyte				Onna	Level	rosuit	701400				
Batch 4K29054:	Prepared 11/24/04	Using I	EPA 5030B								
Blank (4K29054-BL	K1)								· · · · · · · ·		
Acetone		ND	20.0	ug/l							
Benzene		ND	1.00	n							
Bromobenzene		ND	1.00	11							
Bromochloromethane		ND	1.00	н							
Bromodichloromethane		ND	1.00	n							
Bromoform		ND	1.00	11							
Bromomethane		ND	2.00	. н							
2-Butanone		ND	10.0	11							
n-Butylbenzene		ND	1.00	17							
sec-Butylbenzene		ND	1.00	n							
tert-Butylbenzene		ND	1.00	n							
Carbon disulfide		ND	1.00	11							
Carbon tetrachloride		ND	1.00	11							
Chlorobenzene		ND	1.00	n							
Chloroethane		ND	1.00	31							
Chloroform		ND	1.00	11							
Chloromethane		ND	5.00	n							
2-Chlorotoluene		ND	1.00	11							
4-Chlorotoluene		ND	1.00	Ħ							
Dibromochloromethane	2	ND	1.00	**							
1,2-Dibromo-3-chlorop	ropane	ND	5.00	31							
1,2-Dibromoethane		ND	1.00	n							
Dibromomethane		ND	1.00	tr							
1,2-Dichlorobenzene		ND	1.00	В							
1,3-Dichlorobenzene		ND	1.00	"							
1,4-Dichlorobenzene		ND	1.00	**							
Dichlorodifluorometha	ne	ND	1.00	n							
1,1-Dichloroethane		ND	1.00	11							
1,2-Dichloroethane		ND	1.00	Ħ							
1,1-Dichloroethene		ND	1.00	n							
cis-1,2-Dichloroethene		ND	1.00	11							
trans-1,2-Dichloroether	ne	ND	1.00	"							
1,2-Dichloropropane		ND	1.00	11							
1,3-Dichloropropane		ND	1.00	11							

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

		Reporting		Spike	Source	•	%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K29054: Prepared 11/24/04	Using 1	EPA 5030B								
Blank (4K29054-BLK1)										
2,2-Dichloropropane	ND	1.00	ug/l							
1,1-Dichloropropene	ND	1.00	n							
cis-1,3-Dichloropropene	ND	1.00	n							
trans-1,3-Dichloropropene	ND	1.00								
Ethylbenzene	ND	1.00	91							
Hexachlorobutadiene	ND	1.00	n							
Methyl tert-butyl ether	ND	2.00	Ħ							
2-Hexanone	ND	10.0	31							
Isopropylbenzene	ND	1.00	17							
p-lsopropyltoluene	ND	1.00	19							
4-Methyl-2-pentanone	ND	10.0	13							
Methylene chloride	ND	5.00	11							
Naphthalene	ND	1.00	II							
n-Propylbenzene	ND	1.00	H							
Styrene	ND	1.00	n							
1,2,3-Trichlorobenzene	ND	1.00	n							
1,2,4-Trichlorobenzene	ND	1.00	91							
1,1,1,2-Tetrachloroethane	ND	1.00	**							
1,1,2,2-Tetrachloroethane	ND	1.00	11							
Tetrachloroethene	ND	1.00	n							
Toluene	ND	1.00	н							
1,1,1-Trichloroethane	ND	1.00	H							
1,1,2-Trichloroethane	ND	1.00	n							
Trichloroethene	ND	1.00	n							
Trichlorofluoromethane	ND	1.00	11							
1,2,3-Trichloropropane	ND	1.00	11							
1,2,4-Trimethylbenzene	ND	1.00	11							
1,3,5-Trimethylbenzene	ND	1.00	n							
Vinyl chloride	ND	0.500	п							
o-Xylene	ND	1.00	11							
m,p-Xylene	ND	2.00	11							
Surrogate: 1,2-DCA-d4	19.8		"	20.0		99.0	70-130			
Surrogate: Toluene-d8	20.0		n	20.0		100	70-130			
Surrogate: 4-BFB	20.9		11	20.0		104	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 21 of 28



425.420.9200 fax 425.420.9210

11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588 2000 W. International Airport Road. Suite A10. Anchorage. AK 99502-1119

Golder Associates Inc.

907.563.9200 fax 907.563.9210

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

Project: Landsburg Mine Project Number: 923-1000-002

Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Project Manager: Douglas Morell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K29054:	Prepared 11/24/04	Using E	PA 5030B								
LCS (4K29054-BS1)											
Benzene		19.2	1.00	ug/l	20.0		96.0	80-120			
Chlorobenzene		19.0	1.00	11	20.0		95.0	77-120			
1,1-Dichloroethene		18.4	1.00	n	20.0		92.0	80-120			
Methyl tert-butyl ether		18.5	2.00	11	20.0		92.5	80-120			
Toluene		18.7	1.00	п	20.0		93.5	80-120			
Trichloroethene		18.8	1.00	91	20.0		94.0	80-120			
Surrogate: 1,2-DCA-d4		19.5		"	20.0		97.5	70-130			
Surrogate: Toluene-d8		19.7		n	20.0		98.5	70-130			
Surrogate: 4-BFB		19.5		n	20.0		97.5	70-130			
LCS Dup (4K29054-	BSD1)										
Benzene		19.2	1.00	ug/l	20.0		96.0	80-120	0.00	20	
Chlorobenzene		18.9	1.00	Ħ	20.0		94.5	77-120	0.528	20	
1,1-Dichloroethene		19.0	1.00	11	20.0		95.0	80-120	3.21	20	
Methyl tert-butyl ether		18.2	2.00	n	20.0		91.0	80-120	1.63	20	
Toluene		19.4	1.00	u	20.0		97.0	80-120	3.67	20	
Trichloroethene		18.8	1.00	11	20.0		94.0	80-120	0.00	20	
Surrogate: 1,2-DCA-d4		19.1		"	20.0		95.5	70-130			
Surrogate: Toluene-d8		20.0		"	20.0		100	70-130			
Surrogate: 4-BFB		19.7		"	20.0		98.5	70-130			
Batch 4K30028:	Prepared 11/30/04	Using E	PA 5030B								
Blank (4K30028-BL	K1)										
Acetone		ND	20.0	ug/l					·		
Benzene		ND	1.00	31							
Bromobenzene		ND	1.00	17							
Bromochloromethane		ND	1.00	11							
Bromodichloromethane		ND	1.00	n							
Bromoform		ND	1.00	n							
Bromomethane		ND	2.00	11							
2-Butanone		ND	10.0	11							
		ND	1.00	n							
n-Butylbenzene		ND	1.00								
n-Butylbenzene sec-Butylbenzene		ND	1.00	11							

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 22 of 28



18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

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

425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Project: Landsburg Mine

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

Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Anolito	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte			Omis		Result	701000	Emits			110103
Batch 4K30028: Prepared 11/30/04	Using 1	EPA 5030B								
Blank (4K30028-BLK1)										
Carbon disulfide	ND	1.00	ug/l							
Carbon tetrachloride	ND	1.00	n							
Chlorobenzene	ND	1.00	n							
Chloroethane	ND	1.00	n							
Chloroform	ND	1.00	11							
Chloromethane	ND	5.00	н							
2-Chlorotoluene	ND	1.00	n							
4-Chlorotoluene	ND	1.00	n							
Dibromochloromethane	ND	1.00	n							
1,2-Dibromo-3-chloropropane	ND	5.00	n							
1,2-Dibromoethane	ND	1.00	13							
Dibromomethane	ND	1.00	11							
1,2-Dichlorobenzene	ND	1.00	11							
1,3-Dichlorobenzene	ND	1.00	11							
1,4-Dichlorobenzene	ND	1.00	17							
Dichlorodifluoromethane	ND	1.00	II							
1,1-Dichloroethane	ND	1.00	11							
1,2-Dichloroethane	ND	1.00	lf .							
1,1-Dichloroethene	ND	1.00	n							
cis-1,2-Dichloroethene	ND	1.00	n							
trans-1,2-Dichloroethene	ND	1.00	11							
1,2-Dichloropropane	ND	1.00	n							
1,3-Dichloropropane	ND	1.00	Ħ							
2,2-Dichloropropane	ND	1.00	n							
1,1-Dichloropropene	ND	1.00	**							
cis-1,3-Dichloropropene	ND	1.00	11							
trans-1,3-Dichloropropene	ND	1.00	n							
Ethylbenzene	ND	1.00	н							
Hexachlorobutadiene	ND	1.00	**							
Methyl tert-butyl ether	ND	2.00	11							
2-Hexanone	ND	10.0	"							
Isopropylbenzene	ND	1.00	19							
p-Isopropyltoluene	ND	1.00	н							
4-Methyl-2-pentanone	ND	10.0	n							

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 23 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

%REC

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine

Spike

Amended Report Issued: 12/15/04 16:58

RPD

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Reporting

		Keporing		эрікс	Jouree		701000			
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K30028: Prepared 11/30/04	Using E	CPA 5030B								
Blank (4K30028-BLK1)										
Methylene chloride	ND	2.00	ug/l							
Naphthalene	ND	1.00	tr							
n-Propylbenzene	ND	1.00	Ħ							
Styrene	ND	1.00	ti							
1,2,3-Trichlorobenzene	ND	1.00	11							
1,2,4-Trichlorobenzene	ND	1.00	n							
1,1,1,2-Tetrachloroethane	ND	1.00	Ħ							
1,1,2,2-Tetrachloroethane	ND	1.00	11							
Tetrachloroethene	ND	1.00	ft.							
Foluene Foluene	ND	1.00	n							
1,1,1-Trichloroethane	ND	1.00	n							
1,1,2-Trichloroethane	ND	1.00	tr							
Trichloroethene	ND	1.00	19							
Trichlorofluoromethane	ND	1.00	11							
1,2,3-Trichloropropane	ND	1.00	11							
1,2,4-Trimethylbenzene	ND	1.00	ıı							
1,3,5-Trimethylbenzene	ND	1.00	n							
Vinyl chloride	ND	0.500	11							
o-Xylene	ND	1.00	11							
m,p-Xylene	ND	2.00	11							
Surrogate: 1,2-DCA-d4	20.9		n	20.0	12.000	104	70-130			
Surrogate: Toluene-d8	20.0		n	20.0		100	70-130			
Surrogate: 4-BFB	20.6		"	20.0		103	70-130			
LCS (4K30028-BS1)										
Benzene	19.3	1.00	ug/l	20.0		96.5	80-120			
Chlorobenzene	19.3	1.00	и	20.0		96.5	77-120			
1,1-Dichloroethene	19.6	1.00	91	20.0		98.0	80-120			
Methyl tert-butyl ether	21.2	2.00	11	20.0		106	80-120			
Toluene	20.4	1.00	n	20.0		102	80-120			
Trichloroethene	19.2	1.00	H	20.0		96.0	80-120			
Surrogate: 1,2-DCA-d4	19.8		"	20.0		99.0	70-130			
Surrogate: Toluene-d8	20.7		n	20.0		104	70-130			
Surrogate: 4-BFB	19.4		n	20.0		97.0	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 24 of 28



18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

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

425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119, 907.563,9200 fax 907.563.9210

Project: Landsburg Mine

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

Amended Report

Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K30028:	Prepared 11/30/04	Using E	PA 5030B								
LCS Dup (4K30028-	BSD1)										
Benzene		20.6	1.00	ug/l	20.0		103	80-120	6.52	20	
Chlorobenzene		20.2	1.00	n	20.0		101	77-120	4.56	20	
1,1-Dichloroethene		21.5	1.00	H	20.0		108	80-120	9.25	20	
Methyl tert-butyl ether		21.6	2.00	В	20.0		108	80-120	1.87	20	
Toluene		21.4	1.00	n	20.0		107	80-120	4.78	20	
Trichloroethene		20.9	1.00	11	20.0		104	80-120	8.48	20	
Surrogate: 1,2-DCA-d4		19.7		"	20.0		98.5	70-130			
Surrogate: Toluene-d8		20.4		"	20.0		102	70-130			
Surrogate: 4-BFB		19.6		"	20.0		98.0	70-130			
Matrix Spike (4K300	ix Spike (4K30028-MS1) Source: B4K0550-06										
Benzene		22.0	1.00	ug/l	20.0	ND	110	63-148			
Chlorobenzene		20.8	1.00	n	20.0	ND	104	80-128			
1,1-Dichloroethene		23.5	1.00	н	20.0	ND	118	59-158			
Methyl tert-butyl ether		23.7	2.00	11	20.0	ND	118	60-140			
Toluene		22.4	1.00	н	20.0	ND	112	72-127			
Trichloroethene		23.0	1.00	n	20.0	ND	115	80-126			
Surrogate: 1,2-DCA-d4		19.8		#	20.0		99.0	70-130			
Surrogate: Toluene-d8		19.3		n	20.0		96.5	70-130			
Surrogate: 4-BFB		19.7		"	20.0		98.5	70-130			
Matrix Spike (4K300	28-MS2)			Source: B4K0550-07							
Benzene		22.0	1.00	ug/l	20.0	ND	110	63-148			
Chlorobenzene		20.7	1.00	11	20.0	ND	104	80-128			
1,1-Dichloroethene		23.1	1.00	Ħ	20.0	ND	116	59-158			
Methyl tert-butyl ether		22.9	2.00	n	20.0	ND	114	60-140			
Toluene		22.9	1.00	Ħ	20.0	ND	114	72-127			
Trichloroethene		22.7	1.00	n	20.0	ND	114	80-126			
Surrogate: 1,2-DCA-d4		19.6		11	20.0		98.0	70-130			
Surrogate: Toluene-d8		20.0		"	20.0		100	70-130			
Surrogate: 4-BFB		20.3		"	20.0		102	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager



425.420.9200 fax 425.420.9210

11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

907.563.9200 fax 907.563.9210

Golder Associates Inc.

18300 NE Union Hill Rd, Suite 200

Redmond, WA/USA 98052-3333

Project: Landsburg Mine

Anchorage

Project Number: 923-1000-002

Project Manager: Douglas Morell

Amended Report Issued: 12/15/04 16:58

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K30028:	Prepared 12/01/04	Using El	PA 5030B								
Matrix Spike (4K300)28-MS3)					Source: E	4K0565-	04			
Benzene		21.8	1.00	ug/l	20.0	ND	109	63-148			
Chlorobenzene		20.6	1.00	n	20.0	ND	103	80-128			
1,1-Dichloroethene		23.7	1.00	"	20.0	ND	118	59-158			
Methyl tert-butyl ether		22.9	2.00	11	20.0	ND	114	60-140			
Toluene		22.4	1.00	n	20.0	ND	112	72-127			
Trichloroethene		22.8	1.00	11	20.0	ND	114	80-126			
Surrogate: 1,2-DCA-d4		19.6	A 481 A	"	20.0		98.0	70-130			
Surrogate: Toluene-d8		19.4		n	20.0		97.0	70-130			
Surrogate: 4-BFB		20.5		"	20.0		102	70-130			
Matrix Spike Dup (4	K30028-MSD1)					Source: I	34K0550-	06			
Benzene		20.2	1.00	ug/l	20.0	ND	101	63-148	8.53	20	
Chlorobenzene		19.7	1.00	II	20.0	ND	98.5	80-128	5.43	20	
1,1-Dichloroethene		21.4	1.00	11	20.0	ND	107	59-158	9.35	30	
Methyl tert-butyl ether		22.4	2.00	11	20.0	ND	112	60-140	5.64	30	
Toluene		20.6	1.00	n	20.0	ND	103	72-127	8.37	20	
Trichloroethene		21.2	1.00	n	20.0	ND	106	80-126	8.14	20	
Surrogate: 1,2-DCA-d4		19.2		"	20.0		96.0	70-130			
Surrogate: Toluene-d8		19.2		"	20.0		96.0	70-130			
Surrogate: 4-BFB		20.4		"	20.0		102	70-130			
Matrix Spike Dup (4	K30028-MSD2)					Source: 1	B4K0550-	07			A-0
Benzene		20.3	1.00	ug/l	20.0	ND	102	63-148	8.04	20	
Chlorobenzene		19.5	1.00	17	20.0	ND	97.5	80-128	5.97	20	
1,1-Dichloroethene		20.5	1.00	**	20.0	ND	102	59-158	11.9	30	
Methyl tert-butyl ether		22.2	2.00	11	20.0	ND	111	60-140	3.10	30	
Toluene		21.2	1.00	n	20.0	ND	106	72-127	7.71	20	
Trichloroethene		21.4	1.00	11	20.0	ND	107	80-126	5.90	20	
Surrogate: 1,2-DCA-d4		19.2	and an arriver	n	20.0		96.0	70-130			
Surrogate: Toluene-d8		19.6		"	20.0		98.0	70-130			
Surrogate: 4-BFB		20.9		"	20.0		104	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 26 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

Anchorage 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

%REC

907.563.9200 fax 907.563.9210

Golder Associates Inc.

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

Project: Landsburg Mine Project Number: 923-1000-002

Spike

Source

Amended Report Issued: 12/15/04 16:58

RPD

Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Reporting

Project Manager: Douglas Morell

Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 4K30028:	Prepared 12/01/04	Using EI	PA 5030B								
Matrix Spike Dup (4	K30028-MSD3)					Source: I	84K0565-	04			
Benzene		20.4	1.00	ug/l	20.0	ND	102	63-148	6.64	20	
Chlorobenzene		20.0	1.00	**	20.0	ND	100	80-128	2.96	20	
1,1-Dichloroethene		22.2	1.00	11	20.0	ND	111	59-158	6.54	30	
Methyl tert-butyl ether		23.0	2.00	11	20.0	ND	115	60-140	0.436	30	
Toluene		20.9	1.00	17	20.0	ND	104	72-127	6.93	20	
Trichloroethene		21.2	1.00	19	20.0	ND	106	80-126	7.27	20	
Surrogate: 1,2-DCA-d4		18.9		n	20.0		94.5	70-130			
Surrogate: Toluene-d8		19.7		n	20.0		98.5	70-130			
Surrogate: 4-BFB		20.2		"	20.0		101	70-130			

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

North Creek Analytical, Inc. **Environmental Laboratory Network** Page 27 of 28



425.420.9200 fax 425.420.9210

Spokane 11922 E. 1st Avenue, Spokane Valley, WA 99206-5302

509.924.9200 fax 509.924.9290

Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

503.906.9200 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

ge - 2000 W. International Airport Road, Suite A10, Anchorage, AK 99502-1119

Golder Associates Inc.

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

Project: Landsburg Mine

907.563.9200 fax 907.563.9210

Project Number: 923-1000-002 Project Manager: Douglas Morell Amended Report Issued: 12/15/04 16:58

Notes and Definitions

A-01 The Matrix Spike Duplicate was analyzed one minute outside of the twelve hour QC window.

A-02 Vials from lot# 4293060 contaminated with Acetone.

NR Not Reportable

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amar Gill, Project Manager

Page 28 of 28



425-420-9200	FAX 420-9210	X
509-924-9200	FAX 924-9290	
503-906-9200	FAX 906-9210	
541-383-9310	FAX 382-7588	
907-334-9200	FAX 334-9210	
	509-924-9200 503-906-9200 541-383-9310	509-924-9200 FAX 924-9290 503-906-9200 FAX 906-9210 541-383-9310 FAX 382-7588

Work Order #: 134 K0565 CHAIN OF CUSTODY REPORT CLIENT: (golde/ Associaris lac. INVOICE TO: TURNAROUND REQUEST REPORT TO: Lyon Varior ADDRESS: 18300 NE Union Hill Fd. Sta. 200 Redmond, WA 98072 in Business Days * Organic & Inorganic Analyses 5 4 3 2 1 <1 PHONE: 425-83-0777 FAX: PROJECT NAME: Londshura P.O. NUMBER: Petroleum Hydrocarbon Analyses **PRESERVATIVE** 3 PROJECT NUMBER: 973-1000,002, 8773 401410 401 REQUESTED ANALYSES **OTHER** Specify: SAMPLED BY: Ryon Vanier * Turnaround Requests less than standard may incur Rush Charges. Merals CLIENT SAMPLE SAMPLING MATRIX # OF LOCATION / NCA **IDENTIFICATION** DATE/TIME (W, S, O) CONT. COMMENTS WO ID 01 1 LMW3-111704 11/17/04 0850 \times W X 2 LMW5-111704 02 1097 W 03 3 LMW 8-111704 1110 IN LMW9-111704 1405 W RELEASED BY: DATE: [1/17/04] RECEIVED BY: DATE: 11 18 04 Non Hollers FIRM: NCA PRINT NAME: TIME: 1715 PRINT NAME: TIME: 140 RELEASED BY: DATE: RECEIVED BY: DATE: PRINT NAME: TIME: PRINT NAME: TIME: FIRM: ADDITIONAL REMARKS:
COCREVIAN Metals Somples were Field Filter TEMP: 5.9°c PAGE | OF)