

KENO VALLEY RECEIVING WATER MONITORING PROGRAM, 2005/2006

VOLUME ONE



Prepared for

Frank Patch
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by



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April 6, 2006

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Dear Mr. Patch

Re: Final Report Keno Valley Receiving Water Program 2005 - 2006

Included herewith are three (3) hard copies of the above report. The report consists of two volumes. Volume One contains the text and summary of the data and includes photographs in Appendix A. Volume Two contains the laboratory analyses of all water samples, sediment samples and benthic invertebrates samples, Appendices B, C and D respectively. An electronic copy which includes all text, figures and appendices will follow under separate cover. This report was prepared in response to our proposals attached to Contract GN553-3077-00138.

We extend our thanks and acknowledgement to you Frank, and hope this information helps to further the understanding of the receiving water ecosystem downstream of the former UKHM mine site.

Sincerely,

Bonnie Burns
Laberge Environmental Services

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EXECUTIVE SUMMARY

To address the concern about potential environmental degradation to the aquatic ecosystem of South McQuesten River and its sub-basins resulting from high metal-laden discharges from abandoned mine drainage in the Keno Valley, Laberge Environmental Services continued to collect regular water samples from the receiving waters throughout 2005 and into 2006. During the summer, water samples were also collected from several of the mine drainage input sites. The water quality throughout the South McQuesten River is good with very little change in concentrations from the background site to the downstream sites. Due to the natural mineralization of the area, the concentration of zinc in the water column often exceeded the Canadian Council and Ministers of the Environment (CCME) guideline for the protection of aquatic life at all of the South McQuesten River sites. Zinc concentrations in the Christal Creek sub-drainage grossly exceeded the CCME guideline. Concentrations of other metals were frequently high here as well. Concentrations of most metals were lower in Flat Creek than in Christal Creek. Water quality was good in the Lightning Creek drainage although some higher concentrations were recorded at the downstream site, KV-41 (Lightning Creek at Keno City).

As well as water chemistry characterization, stream sediment and benthic invertebrate samples were collected. Typically, metal concentrations in the stream sediments were the greatest at KV-6, Christal Creek upstream of the Keno Highway. The stream sediments at KV-9, Flat Creek near the mouth, also had high concentrations of most metals, and the Potential Effects Level (PEL) for most of the metals examined was exceeded at both sites. There does appear to be an impact to the sediment quality of the South McQuesten River downstream of the confluences of Christal and Flat Creeks. The stream sediment quality has recovered downstream where the concentrations of the examined metals at KV-5 (9 km downstream of Flat Creek) were similar to the background levels. Lead was the one exception to this trend and the PEL was exceeded here. The stream sediment analysis indicated an increase since 2004 in several metal concentrations at most locations, including some of the background sites. Historic data shows a decreasing trend in the concentrations of zinc and cadmium in the stream sediments at Flat Creek (KV-9).

Benthic invertebrate populations were generally healthy and robust throughout the South McQuesten River and Lightning Creek sub-basins. Population numbers and diversity were depressed in the Christal Creek watershed. The communities throughout Christal Creek and in Flat Creek had poor representation from chemical sensitive insects, especially mayflies. This could be attributed to the high level of metals present in the stream sediments at these locations.

1.0 INTRODUCTION

1.1 Background

The Elsa Keno mining district was a major silver producer in Canada for 70 years, consisting of several underground and open pit silver/lead/zinc mines. Although the mill has not operated since 1989, mine drainage water has continued to flow into the environment. Lime-treated discharge from the tailings pond system, Galkeno 900 Adit, Galkeno 300 Adit, Bellkeno 600 Adit and Silver King Adit plus untreated discharges from several other old mine openings comprise the most significant on-going source of metals burden to the receiving environment.

In 2003, the Government of Yukon assumed care and maintenance duties of the various mines, infrastructure and treatment facilities formerly known as the United Keno Hill Mines. To address the concern about potential environmental degradation to the South McQuesten River resulting from high metal-laden discharges from several abandoned mines, Laberge Environmental Services (LES) conducted an intensive sampling program targeting the receiving waters as well as the major inputs, in the summer of 2003 (Laberge Environmental Services, 2004). A continuation of the receiving water monitoring program was conducted during the summer of 2004 and during low flow conditions in February 2005 (Laberge Environmental Services, 2005).

The current study saw an increase in the frequency of the receiving water sampling from June 2005 to March 2006. During the summer season water samples were also collected from the input sites, similar to the 2003 survey. Stream sediment samples and benthic invertebrates were collected from each of the receiving water sites during the August sampling period.

1.2 Scope of Work

Long term monitoring of receiving water is meant to capture any special or temporal trends in effects on the aquatic ecosystem downstream of the mining areas. The tasks for the 2005/2006 season included the following:

- Collect water quality samples from the various receiving water sites during open water and low flow conditions.

- Collect one set of water quality samples from the input (adit and discharge) sites during the summer season.
- Conduct spot flow measurements where possible at all water quality sites.
- Maintain and download the three data loggers at KV-7 (Christal Creek), KV-9 (Flat Creek) and KV-41 (Lightning Creek).
- Collect stream sediment samples from each of the receiving water sites during the open water season.
- Collect benthic invertebrates from each of the receiving water sites during the open water season.

2.0 STUDY AREA

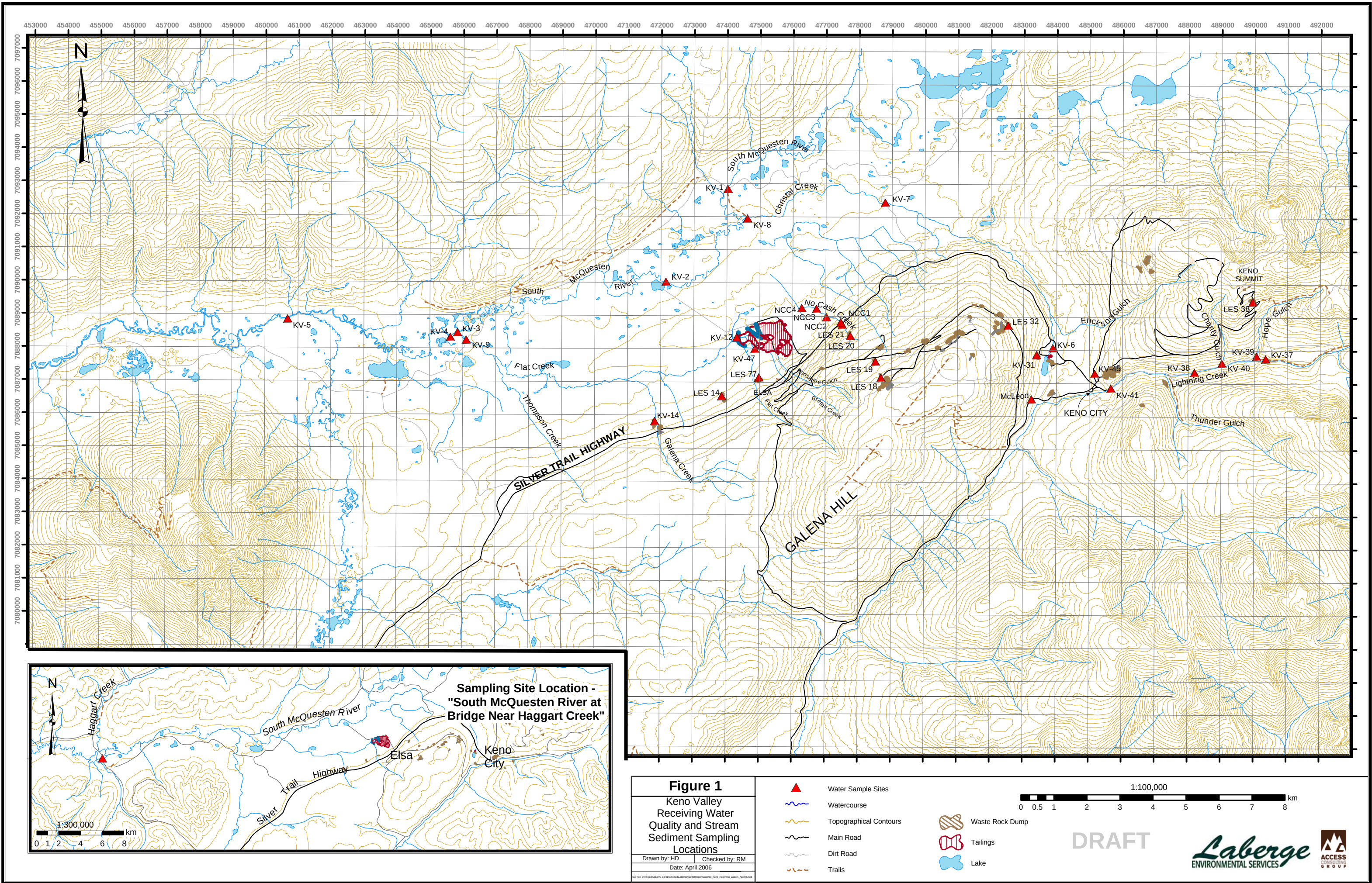
The Keno Valley study area is located in central Yukon, situated on the Silver Trail approximately 50 kilometres northeast of Mayo. The term "Keno Valley" is meant to describe the region encompassed by the historic Elsa/Keno mining areas and the mountains and valleys of the upper South McQuesten River in the vicinity of the small communities Elsa and Keno City. The study area lies within the Yukon Plateau North ecoregion with the terrain consisting of rolling upland plateaus and small mountain groups. The Tintina Trench traverses the ecoregion from southeast to northwest.

The ecoregion is characterized by long cold winters (mean temperature of -20°C) and warm summers (mean temperature of 10.5°C) and extensive areas of discontinuous permafrost. Mean annual precipitation ranges from 300 mm in the major valleys up to 600 in the mountains to the northeast. Within the study area, maximum precipitation occurs in July and minimum precipitation occurs in April.

Sedge or sphagnum tussocks are common in wetlands and in black spruce stands. Extensive shrub lands occur at mid-elevations and on valley bottoms due to cold air drainage. Northern boreal forests exist at elevations up to 1500 m asl. White spruce in a matrix of dwarf willow, birch, ericaceous shrubs, and, occasionally, lodgepole pine forms extensive open forests. Black spruce, scrub willow, birch, and mosses are found on poorly drained sites. Turbic Cryosolic and Eutric Brunisolic soils predominate.

A total of 13 sampling stations were monitored in three subdrainages in the study area as a component of the on-going receiving water monitoring (see Figure 1). The sites are located on the South McQuesten River, Christal Creek, Flat Creek and Lightning Creek. An additional 22 sites were sampled in July 2005 to characterize the water from several adits and discharges of concern. Several of the sites sampled in 2005/2006 have been sampled since the 1970s and have had several site designations over time. All sites are described in Table 1 and are displayed in Figure 1.

For the majority of the flows and inputs, the South McQuesten River is the ultimate receiving water. Two main tributaries, Christal Creek and Flat Creek, receive water affected by various sources in the Keno Valley. Lightning Creek receives inputs from the south side of Keno Hill



and the north-facing slope of Sourdough Hill. Lightning Creek flows into Duncan Creek, a tributary of the Mayo River. Both the McQuesten and Mayo Rivers drain into the Stewart River.

Table 1 SITE NUMBERING AND LOCATION

KV #	LES Site #	UKHM ¹ Site #	UKHM ² Site #	Site Description	UTM (NAD 83)
1	LES 01	S-21	UK1	S.McQuesten River u/s Christal Creek	08 V 0474043 7092848
2	LES 02	S-10	UK2	S.McQuesten River at Pumphouse Pond	08 V 0472086 7090028
3	LES 03		UK5	S.McQuesten River u/s Flat Creek	08 V 0465834 7088478
4	LES 04	S-11	UK3	S.McQuesten River 300 m d/s Flat Creek	08 V 0465619 7088333
5	LES 05			S.McQuesten River 9 km d/s Flat Creek	08 V 0460686 7088869
				S. McQuesten River at Haggart Creek Bridge	08 V 0449694 7085723
6	LES 06	S-18	UK6	Christal Creek @ Keno Hwy	08 V 0483892 7088111
7	LES 07	S-19	UK7	Christal Creek 100 m u/s Hanson Rd X-ing	08 V 0478789 7092460
8	LES 07B		UK8	Christal Creek @ Mouth	08 V 0474607 7091926
9	LES 09	S-9	UK9	Flat Creek u/s South McQuesten River	08V 0465861 7088396
37	LES 37		UK11	Lightning Creek u/s Hope Gulch	08 V 0490329 7087789
38	Stn 38			Lightning Creek u/s Thunder Gulch	08 V 0488195 7087325
41	LES 41		UK12	Lightning Creek @ Keno u/s bridge	08 V 0485434 7086769
14	LES 12	S-13	UK14	Silver King Decant	08 V 0471825 7085845
	LES 14	S-17	UK15	Husky Southwest	08 V 0473854 7086579
	LES 18	S-3	UK24	Birmingham Adit	
	LES 19	S-15	UK17	Ruby Adit	
	LES 20	S-4	UK25	No Cash 500	
	LES 21			No Cash just u/s highway	08 V 0477460 7088829
31	LES 31	S-5	UK20	Galkeno 900	
	LES 32		UK27	Galkeno 300	
	LES 38	S-6	UK21	Keno 700	
45	LES 40	S-8	UK19	Onesk	
47	LES 47		UK10	Porcupine Creek Diversion Ditch	
39	LES 48			Hope Gulch u/s Lightning Creek	08 V 0490231 7087800
12	LES 72	S-1	UK13	Tailings Decant	08 V 0474305 7088263
	LES 77			Husky	08 V 0474979 7087155
40	Stn 37			Charity Gulch u/s Lightning	08 V 0488981 7087516
	NCC1			No Cash Creek 35 md/s Hwy, #1	08 V 0477458 7088828
	NCC2			No Cash Creek 500 m d/s Hwy, #2	08 V 0477016 7088974
	NCC3			No Cash Creek in wetland, 800 m d/s Hwy	08 V 0476718 7089025
	NCC4			No Cash Creek just u/s Ditch, 1.4 km d/s Hwy	08 V 0476200 7089230
	McLeod			McLeod vein, trib to Christal Lake on Duncan Cr Rd	08 V 0483243 7086526
¹ Water Licence # QZ94-002					
² Water Licence # QZ96-001					

The South McQuesten River's headwaters originate in McQuesten Lake. The uppermost site on the South McQuesten River is located approximately 2 km upstream of the mouth of Christal Creek. Five additional sites were sampled along the South McQuesten River spanning a total distance of approximately 55 km.

Christal Creek flows northwest from Christal Lake for approximately 13 km and empties into the South McQuesten River. Christal Creek receives metal-laden inputs from Galkeno 900 (lime treated), Galkeno 300 (lime treatment commenced in March 2004) and seepages (surface and groundwater) from workings on the west face of Keno Hill. Christal Lake, a long term receptor for tailings and wastewater from Galkeno 900 and Mackeno (a 1950s era development), contribute to

loading as well. Three sites were sampled on Christal Creek.

Flat Creek originates on Galena Hill and flows north downslope to the broad valley below the tailings impoundment. It then flows westward 5 km through a sedge / horsetail wetland with black spruce and willows dominating the shrub/tree community (Laberge Environmental Services, 1994). The remainder of Flat Creek flows northwest mainly through mature forest to its confluence with the South McQuesten River. Flat Creek is the receiving water for mine effluent from the tailings facility and, indirectly from some of the adit discharges on Galena Hill. One site, Flat Creek at the mouth, was sampled in the current program.

Lightning Creek is situated in a steep sided valley. Three sites on Lightning Creek were sampled spanning a distance of approximately 5 km, from upstream of Hope Gulch to just upstream of the stream crossing at Keno City. Mine adit drainages from Keno 700 and the Onek decline portal located on the south side of Keno Hill, and Bellekeno 600 on the north side of Sourdough Hill, eventually report to Lightning Creek. The water quality of Thunder Gulch, a main tributary, is affected by placer mining activity, creating impacts on Lightning Creek that are not related to the Elsa/Keno mining developments.

3.0 METHODS

Six sets of samples were collected from the receiving water sites in June, July, August, October 2005 during open water, and in January and March 2006 during low flow conditions. Various adits and discharges were sampled in July 2005.

Stream sediment samples and benthic invertebrates were collected from the 12 receiving water sites during August 2005.

Diagnostics and data retrieval was done at all three data logger sites. Staff gauges and data loggers were maintained as required. Spot measurements were conducted throughout the sampling period.

3.1 Water Quality

Water samples were collected at each site prior to and upstream of any other sampling activity. In-situ measurements of conductivity and temperature were determined with an Orion conductivity meter model 126. Dissolved oxygen readings were obtained using an Accumet AP64 oxygen meter.

Samples for routine analysis such as alkalinity, anions, and nutrients, were collected in new one litre plastic bottles. Samples to be analyzed for total and dissolved metals were collected in new 250 mL plastic bottles. Filtering of dissolved metals samples was done at the end of each day at the lab house in Elsa using single-use sterile 0.45 micron in-line filters and new 60mL syringes. All samples to be analyzed for metals were preserved using nitric acid vials supplied by Norwest Labs. All samples were kept cool, shipped by air in coolers to Vancouver, BC and analyzed by Norwest Labs in Surrey, BC.

3.2 Hydrology

Instantaneous discharge (spot flow) measurements were taken at the majority of the sites during the open water sampling events. If the stream allowed, the standard velocity – area wading method was used with a "Price" type meter and self adjusting wading rod. An area with a uniform cross section was chosen and the velocity and depth were measured using either a AA Price or Price mini meter. Ten or more readings were taken across the profile of the stream. Total

discharge was calculated as the sum of these individual discharges. For those sites that had minimal discharges, the volumetric (timed-bucket) method was employed. Using a stopwatch, the flow was timed to fill a known volume. The average of three trials was reported as the discharge. Low flow measurements under ice were obtained using the salt slug injection method. This method relies on the conservation of the mass of NaCl reporting as a measured rise in conductivity.

At continuous recording stations, PT2X datalogger sensors were used to obtain a record of water level, or stage, which was then correlated to stream flow using a site specific stage – discharge relationship or rating curve. The data loggers were downloaded and observed frequently. At the gauged sites, a staff gauge installation was maintained and surveyed relative to established assumed datums in order to note any change in relative elevation of the stage recorder and to allow observations of stage without relying on the datalogger.

3.3 Stream Sediment Sampling

Triplicate sediment samples were collected from each site in August 2005. Sample sites were selected from areas of deposition along the stream bank, generally characterized by the finest grain size evident at the site. Samples were collected with a Teflon trowel, placed in zip-lock plastic bags, and kept cool until shipped to Norwest Labs in Surrey, BC.

At the lab the samples were dried and screened through a 0.053 mm stainless steel sieve. The portion passing the sieve was analyzed for metals by an ICP scan. The lab used methods described in *Test Methods for Evaluating Solid Waste, Physical /Chemical Method, SW846*, 3rd Edition.

3.4 Benthic Invertebrates

3.4.1 Field Collection

Artificial substrate samplers were used for benthic invertebrate sampling. The basket samplers were cylindrical in shape, measured 26 cm long with a diameter of 17 cm, and were constructed of galvanized wire with a 1 cm mesh. Each substrate sampler was filled with washed indigenous gravels collected from the stream bed or the bank at each sample site. The surface area provided by this 'artificial substrate' was approximately $6000 \pm 1000 \text{ cm}^2$ (Baker 1979). Three rock filled samplers were submerged in riffle areas of the stream at each site on July 18th to 20th, 2005. These

samplers were left to colonize for five weeks. From August 21st to 23rd, 2005, the artificial substrate samplers were retrieved by placing a screened bucket with a 300 micron mesh, downstream and under the basket. On shore the basket was opened in the bucket. Individual rocks were then carefully washed in the screened bucket to remove and collect all invertebrates from that sample. The debris and benthic invertebrates remaining in the bucket were placed in a one litre nalgene bottle and preserved with 10% formalin. These samples were sent to Charles Low PhD, an entomologist in Victoria, B.C. for enumeration and identification.

3.4.2 Laboratory Analysis

All samples were washed through two screens with mesh sizes 1 millimetre and 180 microns. All of the organisms retained by the coarse screen were counted and identified, whereas the organisms on the 180 micron screen were subsampled as necessary. A Folsom plankton splitter was used for the subsampling. The fraction that was counted and identified is indicated underneath the sample number in Appendix D. The majority of the benthos was identified to the genus level.

4.0 RESULTS AND DISCUSSION

Access trails and sites were cleared and grubbed out during 2005. A new site had to be established for KV-38, Lightning Creek upstream of Thunder Gulch. Originally this site was located just upstream of the bridge crossing Lightning Creek at Thunder Gulch. Placer work had cleared and destroyed this site, consequently it was re-established approximately 700 m upstream during the July 2005 visit. Photographs of some of the sites are presented in Appendix A.

4.1 Water Quality

4.1.1 Water Quality Results for the Receiving Water Sites, 2005/2006

Most of the 13 receiving water sites were sampled on six occasions from June 2005 to March 2006 (Table 2).

Table 2 SAMPLING FREQUENCY FOR THE STUDY PERIOD

Site #	Site Description	June 2005	July 2005	August 2005	Oct 2005	Jan 2006	March 2006
KV-1	S. McQuesten R u/s Christal	x	x	x	x	x	x
KV-2	S. McQuesten R @ pumphouse	x	x	x	x	x	x
KV-3	S. McQuesten R u/s Flat Cr	x	x	x	x	x	x
KV-4	S. McQuesten R d/s Flat Cr		x	x	x	x	x
KV-5	S. McQuesten 9 km d/s Flat Cr	x	x	x	x	x	x
	S. McQuesten @ Haggart Bridge	x	x				
KV-6	Christal Cr u/s Keno Hwy	x	x	x	x	x	x
KV-7	Christal Cr u/s Hanson Road	x	x	x	x	x	x
KV-8	Christal Cr at mouth	x	x	x	x	x	x
KV-9	Flat Creek at mouth	x	x	x	x	x	x
KV-37	Lightning Cr u/s Hope Gulch		x	x		x	x
KV-38	Lightning Cr u/s Thunder Gulch		x	x		x	x
KV-41	Lightning Cr at Keno	x	x	x	x	x	x

For the majority of the flows and inputs, the South McQuesten River is the ultimate receiving water. Two main tributaries, Christal Creek and Flat Creek, receive contaminants from various sources in the Keno Valley. Lightning Creek receives inputs from the south side of Keno Hill and the north facing slope of Sourdough Hill. Lightning Creek flows into Duncan Creek, a tributary of the Mayo River. Both the McQuesten and Mayo Rivers drain into the Stewart River.

The analytical lab sheets for all sampling periods are included in Appendix B (Volume Two). A summary of the data has been prepared in Table 3. The same parameters were examined as during the 2003 and 2004/5 studies and are displayed in the same format. The data were compared to the applicable CCME (1999) guidelines for the protection of freshwater aquatic life. The cells containing data that exceeded the CCME guidelines are highlighted in yellow.

The data was then analyzed according to the CCME Water Quality Index. For each sample, the number of yellow cells was counted to give a number that could range from 0 to 8. This value is displayed in the column labeled 'Index'. The sites with a high index value indicate that more guidelines were exceeded than sites with a low index, and thus are potentially more contaminated. This approach does not differentiate between samples that barely exceed the guideline than those that grossly exceed the guideline. For the sites investigated, the majority of the parameters that were exceeded had fairly low concentrations.

All waters were near neutral to slightly alkaline. Most of the waters sampled were clear. There was some suspended matter during the summer only; at Christal Creek u/s of Keno Hwy (KV-6) and at Lightning Creek u/s of the Keno City Bridge (KV-41). Conductivity, hardness and alkalinity were all considerably higher in the South McQuesten, Christal and Flat drainages than in Lightning Creek. Sulphate levels were substantially higher in Christal and Flat Creeks than in the drainages of the South McQuesten River and Lightning Creek.

The guideline for arsenic was exceeded only at KV-6 and KV-41 on a couple of occasions. Cadmium has a very conservative guideline, which was exceeded at all sites where it was detected. The detection limit is slightly greater than the guideline and it is uncertain whether it was met at KV-37 (Lightning Creek upstream of Hope Gulch) in the July, January and March samples. This site usually had an index of 0 and appears to lie outside of the mineralized zone of the region. The guideline for copper was slightly exceeded in the South McQuesten River at KV-4 and in Flat Creek, KV-9, during July 2005. All sites met the guideline for iron with the exception of KV-41 in July. This high value appears anomalous and is inconsistent with all other sampling. The concentration of lead slightly exceeded the guideline during July 2005 at KV-2, KV-3, KV-4, KV-5, KV-7 and KV-8. The guideline was significantly exceeded at KV-6, KV-9 and KV-41 in July 2005. Lead levels also exceeded the guideline at KV-9 in June, August and October, and at KV-6 in June and August. The guideline for zinc was exceeded frequently, including all the sites on the South McQuesten River, with the exception of the site near the Haggart Bridge. The guideline was grossly exceeded in all the water samples collected from the Christal Creek drainage.

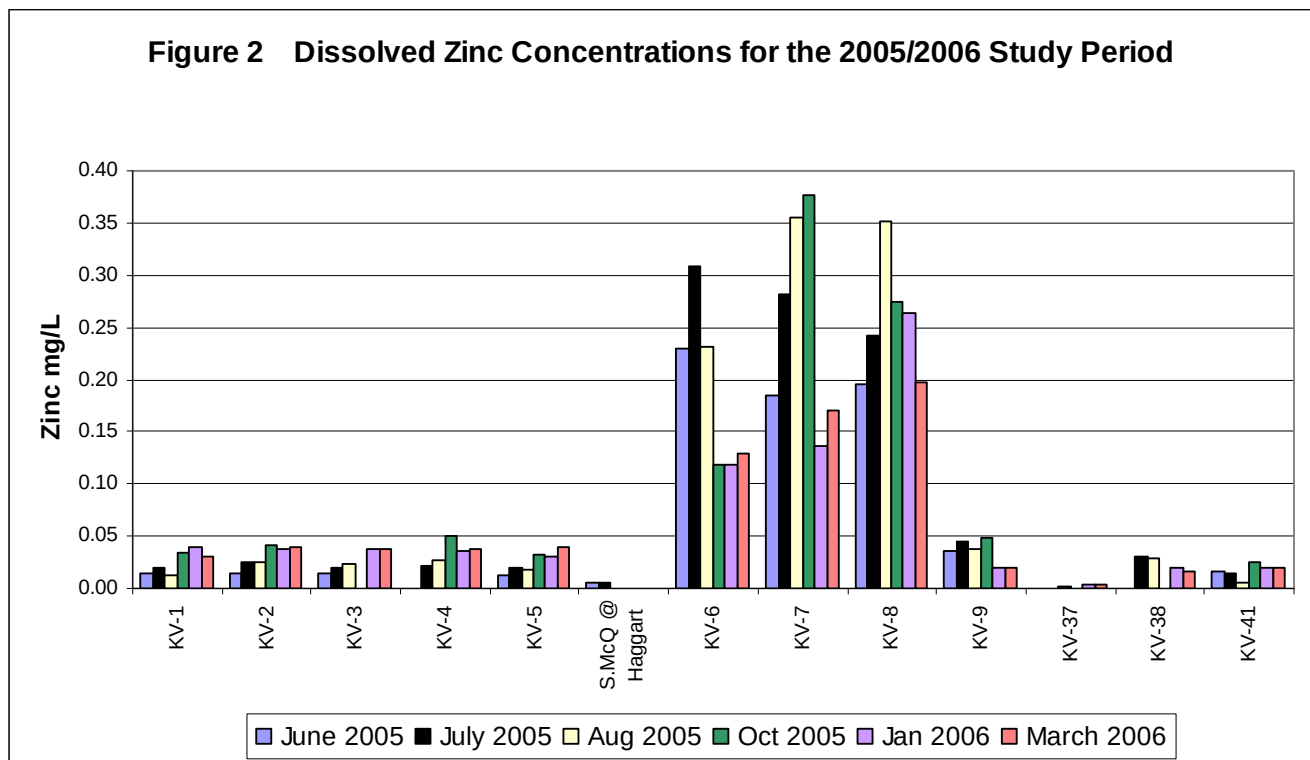
TABLE 3 WATER QUALITY RESULTS FOR THE STUDY PERIOD

Site	Site Description	Date	Time	Water T.	pH	Cond. uS/cm	DO mg/L	Flow cms	Hard-d mg/L	TSS mg/l	Alk.-t mg/L	Sulphate-d mg/L	As-t mg/L	Cd-d mg/L	Cu-d mg/L	Fe-d mg/L	Pb-d mg/L	Se-d mg/L	Zn-t mg/L	Zn-d mg/L	Index
KV-1	S. McQuesten u/s Christal	6/30/2005	15:30	17.7	7.66	281			140	3	95	51	0.0011	0.00006	0.001	<0.10	<0.0001	0.0005	0.02	0.014	1
KV-1	S. McQuesten u/s Christal	7/20/2005	09:30	10.4	7.94	279			156	<2	104		0.0013	0.00012	0.002	0.08	0.0002	0.0003	0.02	0.02	1
KV-1	S. McQuesten u/s Christal	8/23/2005	09:30	10.8	7.99	321	9.9		175	<2	107		0.0015	0.00009	0.002	0.03	<0.0001	0.0006	0.031	0.013	2
KV-1	S. McQuesten u/s Christal	10/26/2005	13:00	0.2	7.84	347				4	115		0.0011	0.00014	0.001	0.05	<0.0001	0.0004	0.049	0.034	3
KV-1	S. McQuesten u/s Christal	25/01/2006	11:30	0.1	7.29	374			233	14	148	92	0.0019	0.00012	0.001	0.05	0.0004	0.0004	0.047	0.04	3
KV-1	S. McQuesten u/s Christal	3/15/2006	12:30:00	0.1	7.48	470			243	<2	165	96	0.0019	0.0001	<0.001	0.03	0.0004	0.0003	0.03	0.027	1
KV-2	S. McQuesten @ Pumphouse	6/30/2005	11:00	15.8	8.05	298		5.390	150	4	102	55	0.0014	0.0001	0.001	0.03	0.0002	0.0003	0.026	0.015	1
KV-2	S. McQuesten @ Pumphouse	7/18/2005	08:20	15.8		298			168	<2	119		0.0018	0.00018	0.002	0.07	0.0011	0.0004	0.028	0.026	2
KV-2	S. McQuesten @ Pumphouse	8/21/2005	17:00	10.2	7.59	344	10.3	5.949	188	<2	119		0.0017	0.00018	0.001	0.03	<0.0001	0.0005	0.04	0.026	2
KV-2	S. McQuesten @ Pumphouse	10/26/2005	10:00	0.5	7.8	399			4	130			0.0016	0.0002	0.001	0.06	0.0001	0.0005	0.058	0.041	3
KV-2	S. McQuesten @ Pumphouse	1/24/2006	17:20	0.2	6.81	431			235	<2	152	103	0.0015	0.00015	<0.001	0.03	0.0004	0.0004	0.038	0.038	3
KV-2	S. McQuesten @ Pumphouse	3/15/2006	10:00:00	0.1	7.59	538			214	<2	168	104	0.0019	0.0002	<0.001	0.02	0.0004	0.0005	0.039	0.03	2
KV-3	S. McQuesten u/s Flat Cr	6/29/2005	19:00	16.8	7.87	297			17	<2	107	54	0.0018	0.0001	0.001	<0.01	0.0004	0.0003	0.021	0.015	1
KV-3	S. McQuesten u/s Flat Cr	7/19/2005	15:00	15.1	7.72	300			162	<1	112		0.0021	0.00014	0.002	0.2	0.0014	0.0005	0.024	0.02	2
KV-3	S. McQuesten u/s Flat Cr	8/22/2005	10:30	8.8	8.04	352	10.1		192	<2	118		0.0019	0.00018	0.001	0.04	0.0001	0.0006	0.038	0.024	2
KV-3	S. McQuesten u/s Flat Cr	October											0.0021						0.072		1
KV-3	S. McQuesten u/s Flat Cr	1/24/2006	13:00	0.5	7.15	368		0.819	237	<2	153	93	0.0017	0.00015	<0.001	0.02	0.0004	0.0005	0.04	0.037	3
KV-3	S. McQuesten u/s Flat Cr	3/14/2006	16:00	0.1	7.64	472			275	<2	175	104	0.0021	0.00016	<0.001	0.02	0.0004	0.0006	0.038	0.033	3
KV-4	S. McQuesten 300m d/s Flat	7/19/2005	15:30	---	7.88				181	4	120		0.0022	0.00015	0.005	0.2	0.0025	0.0004	0.025	0.022	3
KV-4	S. McQuesten 300m d/s Flat	8/22/2005	12:00	8.5	7.44	397	10.9		216	<2	130		0.0022	0.00021	0.002	0.03	0.0002	0.0006	0.038	0.027	2
KV-4	S. McQuesten 300m d/s Flat	October			7.89				2	133			0.0021	0.00025	0.001	0.06	0.0004	0.0004	0.064	0.051	3
KV-4	S. McQuesten 300m d/s Flat	1/24/2006	13:45	0.1	7.16	369			244	<2	147	94	0.0017	0.00012	<0.001	0.04	0.0004	0.0004	0.038	0.036	3
KV-4	S. McQuesten 300m d/s Flat	3/14/2006	16:30	0.1	7.75	485			273	<2	172	104	0.002	0.00016	<0.001	0.03	0.0006	0.0004	0.037	0.035	3
KV-5	S. McQuesten 9km d/s Flat	6/29/2005	17:00	16.5	7.71	304			161	<2	106	50	0.0028	0.0001	0.001	0.05	0.0005	0.0003	0.019	0.013	1
KV-5	S. McQuesten 9km d/s Flat	7/19/2005	11:30	14.1		307			176	4	130		0.0039	0.00015	0.002	0.11	0.0015	0.0004	0.019	0.019	2
KV-5	S. McQuesten 9km d/s Flat	8/22/2005	14:30	9.5	8.17	359	10.7		196	<3	127		0.0041	0.00014	0.002	0.05	0.0002	0.0004	0.059	0.018	2
KV-5	S. McQuesten 9km d/s Flat	10/25/2005	19:00	0.2	7.89	405			4	134			0.0039	0.00017	0.001	0.08	0.0003	0.0005	0.049	0.033	3
KV-5	S. McQuesten 9km d/s Flat	1/24/2006	15:30	0.1	7.18	372			235	<2	160	110	0.004	0.00012	0.001	0.04	0.0005	0.0004	0.032	0.03	2
KV-5	S. McQuesten 9km d/s Flat	3/14/2006	18:30:00	0.1	7.78	468			268	<2	172	95	0.0039	0.00016	<0.001	0.04	0.0006	0.0004	0.039	0.028	2
	S.McQ @ Haggart Bridge	6/29/2005	16:00	14.6	7.83	303			154	<2	109	52	0.0037	0.00007	0.001	0.07	0.0007	0.0003	0.012	0.022	1
	S.McQ @ Haggart Bridge	7/19/2005	10:00	12.0	7.91	290			165	<2	130		0.0045	0.00007	0.001	0.08	0.001	0.0003	0.009	0.006	1
KV-6	Christal u/s Keno Hwy	6/30/2005	18:00		7.84			0.074	384	36	105	250	0.0261	0.00146	<0.001	0.03	0.0029	0.0007	0.438	0.229	5
KV-6	Christal u/s Keno Hwy	7/20/2005	15:00	10.5		622			367	80	130		0.0153	0.00327	0.001	0.07	0.0488	0.0008	0.389	0.308	5
KV-6	Christal u/s Keno Hwy	8/22/2005	18:30	9.6	7.96	602	9.2		351	8	114		0.0499	0.00123	0.001	0.02	0.0014	0.0009	0.709	0.231	5
KV-6	Christal u/s Keno Hwy	10/26/2005	15:00	0.3	7.62	800				2	125		0.0076	0.0006	<0.001	0.02	0.0004	0.0005	0.322	0.118	4
KV-6	Christal u/s Keno Hwy	1/25/2006	17:00	0.2	7.11	665			394	<2	134	297	0.003	0.00053	<0.001	0.04	0.0005	0.001	0.123	0.119	3
KV-6	Christal u/s Keno Hwy	3/15/2006	16:15:00	0.1	7.38	682			419	<2	134	280	0.0022	0.00081	<0.001	0.01	0.0004	0.0012	0.13	0.11	4
KV-7	Christal Cr u/s Hanson Br.	6/30/2005	16:00		8.1				304	<2	125	186	0.0019	0.00106	<0.001	0.02	0.0003	0.0007	0.191	0.184	3
KV-7	Christal Cr u/s Hanson Br.	7/20/2005	14:00	5.8		557			322	2	144		0.0024	0.00212	<0.001	0.05	0.0016	0.0005	0.318	0.282	4
KV-7	Christal Cr u/s Hanson Br.	8/23/2005	13:00	4.8	7.86	565	12.9	0.237	320	10	131		0.0028	0.00183	0.001	<0.01	<0.0001	0.0008	0.71	0.356	3
KV-7	Christal Cr u/s Hanson Br.	10/26/2005	14:00	0.2	7.96	665			<2	144			0.002	0.00093	<0.001	0.03	0.0004	0.001	0.356	0.377	3
KV-7	Christal Cr u/s Hanson Br.	1/25/2006	13:30	0.2	7.29	733		0.189	408	<2	153	340	0.0023	0.00043	<0.001	<0.01	0.0005	0.001	0.142	0.136	3
KV-7	Christal Cr u/s Hanson Br.	3/15/2006	14:00:00	0.1	7.82	680			372	4	152	240	0.002	0.0006	<0.001	<0.01	0.0004	0.001	0.17	0.121	3
KV-8	Christal Cr @ Mouth	6/30/2005	14:30	9.8	8.11	565			301	<2	129	188	0.0024	0.00109	<0.001	0.03	0.0003	0.0006	0.214	0.196	3
KV-8	Christal Cr @ Mouth	7/20/2005	11:00						321	<2	145		0.0028	0.00171	<0.001	0.04	0.0013	0.0005	0.282	0.242	4
KV-8	Christal Cr @ Mouth	8/23/2005	11:00	4.5	8.13	566	12.9		317	3	137		0.0028	0.00194	0.001	<0.01	<0.0001	0.0009	0.564	0.351	3
KV-8	Christal Cr @ Mouth	10/26/2005	12:40	0.2	7.89	654			<2	144			0.0024	0.00136	<0.001	0.03	0.0002	0.0008	0.388	0.274	3
KV-8	Christal Cr @ Mouth	1/25/2006	10:30	0.2	7.16	734			331	4	154	340	0.0018	0.00087	0.001	<0.01	0.0005	0.0013	0.165	0.264	4
KV-8	Christal Cr @ Mouth	3/15/2006	12:00:00	0.1	7.81	690			376	<2	156	267	0.0018	0.00066	<0.001	<0.01	0.0004	0.0011	0.198	0.143	4
KV-9	Flat Cr u/s S.McQuesten R.	6/29/2005	18:45	10.4	7.76	574		0.293	316	<2	172	143	0.0023	0.00036	0.001	0.02	0.002	<0.0002	0.035	0.036	4
KV-9	Flat Cr u/s S.McQuesten R.	7/19/2005	14:00	10.9	7.49	543			307	<2	194		0.0036	0.00053	0.003	0.2	0.0139	<0.0002	0.048	0.045	5
KV-9	Flat Cr u/s S.McQuesten R.	8/22/2005	09:30	6.7	8	527	11.04		303	<2	167		0.0027	0.00039	0.002	0.04	0.002	0.0002	0.043	0.038	4
KV-9	Flat Cr u/s S.McQuesten R.	October			7.79				<2	190			0.0016	0.00043	0.002	0.05	0.0111	0.0002	0.048	0.049	4
KV-9	Flat Cr u/s S.McQuesten R.	1/24/2006	13:50	0.4	6.88	648		0.117	300	<2	204	151	0.0006	0.00016	0.001	<0.01	0.0004	0.0002	0.022	0.02	1
KV-9	Flat Cr u/s S.McQuesten R.	3/14/2006	17:00	0.5	7.61	618			285	<2	196	138	0.0006	0.00018	<0.001	<0.01	0.0005	<0.0002	0.02	0.016	1
KV-37	Lighting Cr. u/s Hope	7/20/2005	17:30	6.4	6.98	106			52	3	28		0.0029	<0.00001	<0.001	<0.1	0.0002	0.0004	0.001	<0.001	0
KV-37	Lighting Cr. u/s Hope	8/23/2005	15:30	5.4	7.73	129	12.1		53	<2	30		0.0022	0.00003	<0.001	<0.01	<0.0001	0.0005	0.002	0.002	1
KV-37	Lighting Cr. u/s Hope	1/25/2006	16:00	---	---	---			57	<2	17	23.3	0.003	<0.00001	<0.001	0.03	0.0004	0.0005	0.004	0.004	0
KV-37	Lighting Cr. u/s Hope	3/15/2006	17:00:00	0.1	7.2	127			58	<2	32	22.7	0.0033	<0.00001	<0.001	<0.01	0.0004	0.0006	0.003	0.004	0
KV-38	Lighting Cr. u/s Thunder Creek	7/20/2005	19:00	5.9	7.62	133			65	<2	35		0.0032	0.00028	<0.001	<0.1	0.0005				

The guideline was slightly exceeded during the open water months at KV-9, Flat Creek near the mouth, and only in the total metals summer samples at KV-41.

The highest concentrations of metals occurred in the Christal Creek drainage. An index of 5 was reported at KV-6 during June, July and August. An index of 5 was also documented at KV-9 and KV-41 during July 2005. Based on the index values, KV-4 appears to be the most contaminated site on the South McQuesten River. However, all sites, including the background site KV-1, were very similar in their water borne metal concentrations. The two upper sites on Lightning Creek are the least contaminated in the study area. Some slightly elevated concentrations were reported in Lightning Creek downstream at KV-41.

Zinc was identified in the 2003 survey as the major contaminant of concern in the Keno Valley study area. Figure 2 is the graphical representation of dissolved zinc concentrations at the sites over the current sampling period. Very low suspended solids were documented throughout, and there was generally little difference between total and dissolved zinc concentrations for most of the sites.



It is evident that zinc concentrations are much greater in Christal Creek than at the other sites. There appears to be little, if any evidence that this is impacting the South McQuesten River. There was little overall change in zinc concentrations between all five regular South McQuesten River

sites per sampling period. Levels of zinc were considerably lower at the site downstream on the South McQuesten River near the Haggart Creek bridge, and were lower here than concentrations documented at the background site, KV-1. Concentrations ranged only slightly at the South McQuesten River sites over time, with lower levels generally occurring in early summer (June) and concentrations increasing during the winter months.

Conversely, concentrations fluctuated considerably throughout the sampling period at the Christal Creek sites with the higher levels documented during the summer months. The highest zinc concentrations documented at the downstream sites coincide with high values reporting from the treated Galkeno 300 effluent (Access, Oct 2005, and Feb 2006). When the effluent concentrations approach the influent concentrations, the treatment pond is cleaned out. Pond cleanout occurred on September 13, and Nov 6, dates closely following the sampling dates in August and October. Zinc concentrations increased from the upstream to downstream sites (KV-6 to KV-8) under ice cover.

Concentrations were relatively stable at the Flat Creek site with slightly lower levels during the winter months.

There was little change in the zinc concentrations at each of the Lightning Creek sites over time. The highest concentrations in this drainage were documented at the site upstream of Thunder Gulch, KV-38, during the summer months. Concentrations were very low in the upstream site of Lightning Creek, KV-37 during all sampling periods.

4.1.2 Comparisons of Annual Summer Water Quality

The water sampling program conducted in the summer of 2003 encompassed all of the sample sites as the 2004 and 2005 studies, with the exception of the site at the South McQuesten River Bridge near Haggart Creek. The three sets of data have been summarized in Table 4. The lab used a higher method detection limit in 2003 for several of the parameters. This made comparisons of some of those "non-detected" parameters difficult as values lower than the 2003 detection limit were reported in the later surveys. This was the case for arsenic, cadmium and lead. Arsenic was not detected in any of the samples in 2003 when the detection limit used was 0.02 mg/L. In 2004 arsenic was detected in all of the samples and concentrations ranged from 0.0022 to 0.0092 mg/L. In 2005 arsenic was also detected in all samples and ranged from 0.0013 to 0.0267 mg/L.

TABLE 4 WATER QUALITY RESULTS FOR SUMMER OF 2003, 2004 AND 2005

Site	Date	Water T. °C	pH units	Flow m³/sec	Hard.-t mg/L	TSS mg/L	Alk.-t mg/L	S04-d mg/L	As-t mg/L	Cd-d mg/L	Cu-d mg/L	Fe-d mg/L	Pb-d mg/L	Zn-t mg/L	Zn-d mg/L	Index
KV-1	07/20/05	15.4	7.94		156	<2	104		0.0013	0.00012	0.002	0.08	0.0002	0.02	0.02	1
KV-1	07/30/04	11.8	7.85	4.168	300	13	91	59.6	0.0022	0.000040	0.003	0.19	0.0002	0.064	0.018	3
KV-1	08/03/03	14.1	8.43	4.872	140	<1	97	65.7	<0.02	<0.0006	0.013	0.007	<0.005	0.026	0.020	1
KV-2	07/18/05	15.8			168	<2	119		0.0018	0.00018	0.002	0.07	0.0011	0.028	0.026	2
KV-2	07/30/04	11.8	7.61	5.484	315	8	99	66.1	0.0023	0.000200	0.002	0.09	0.0003	0.080	0.035	3
KV-2	08/02/03	14.3		4.797	169	1	106	67.8	<0.02	<0.0006	0.011	0.030	<0.005	0.025	0.021	1
KV-3	07/19/05	15.1	7.72		162	<1	112		0.0021	0.00014	0.002	0.2	0.0014	0.024	0.02	2
KV-3	07/31/04	10.4	7.81	5.996	290	4	88	62.8	0.0022	0.000210	0.003	0.09	0.0003	0.075	0.039	4
KV-3	08/02/03	13.7	8.41	4.612	176	<1	109	69.6	<0.02	<0.0006	0.010	0.016	<0.005	0.022	0.020	1
KV-4	07/19/05	---	7.88		181	4	120		0.0022	0.00015	0.005	0.2	0.0025	0.025	0.022	3
KV-4	07/31/04	10.5	7.94	6.204*	330	2	98	72.3	0.0024	0.000230	0.003	0.07	0.0004	0.080	0.038	4
KV-4	08/02/03	13.8	8.08		184	<1	113	70.2	<0.02	<0.0006	0.010	0.007	<0.005	0.025	0.021	1
KV_5	07/19/05	14.1			176	4	130		0.0039	0.00015	0.002	0.11	0.0015	0.019	0.019	2
KV-5	07/31/04	12.2	8.22	7.966	314	4	98	67.1	0.0004	0.000150	0.003	0.06	0.0003	0.067	0.021	3
KV-5	08/02/03	13.7	8.33	4.728	185	<1	115	64.6	<0.02	<0.0006	0.010	0.016	<0.005	0.017	0.019	1
S McQ @ Haggart	07/19/05	12.0	7.91		165	<2	130		0.0045	0.00007	0.001	0.08	0.001	0.009	0.006	1
S McQ @ Haggart	07/31/04	11.2	8.16		274	100	92	51.4	0.0041	0.000020	0.001	0.06	0.0001	0.018	0.006	1
KV_6	07/20/05	10.5			367	80	130		0.0153	0.00327	0.001	0.07	0.0488	0.389	0.308	5
KV-6	07/29/04	11.7	7.61	0.085	274	5	114	281	0.0082	0.002790	<0.001	0.07	0.0018	0.520	0.417	5
KV-6	08/02/03	9.9	8.09		601	98	132	467.0	<0.02	0.0010	0.010	0.020	<0.005	0.900	0.774	4
KV_7	07/20/05	5.8			322	2	144		0.0024	0.00212	<0.001	0.05	0.0016	0.318	0.282	4
KV-7	07/30/04	6.1	7.12	0.323	534	75	114	161	0.0092	0.001780	0.001	0.07	0.0005	0.753	0.388	4
KV-7	08/03/03	6.3	8.5	0.166	399	<1	146	292.0	<0.02	0.0006	0.010	<0.002	<0.005	0.312	0.298	4
KV_8	07/20/05				321	<2	145		0.0028	0.00171	<0.001	0.04	0.0013	0.282	0.242	4
KV-8	07/30/04	7.8	7.15	0.347	528	14	102	160	0.0043	0.002760	0.002	0.07	0.0006	0.569	0.503	3
KV-8	08/03/03	8.2	8.38		407	<1	143	290.0	<0.02	0.0012	0.009	<0.002	<0.005	0.256	0.259	4
KV-9	07/19/05	10.9	7.49		307	<2	194		0.0036	0.00053	0.003	0.2	0.0139	0.048	0.045	5
KV-9	07/31/04	9.8	7.78	0.208	715	8	202	190	0.0035	0.000440	0.002	0.03	0.0009	0.085	0.044	3
KV-9	08/02/03	8.2	8.12	0.109	384	2	197	201.0	<0.02	<0.0006	0.010	<0.002	<0.005	0.036	0.044	3
KV-37	07/20/05	6.4	6.98		52	3	28		0.0029	<0.00001	<0.001	<0.1	0.0002	0.001	<0.001	0
KV-37	07/30/04	5.1	7.28	0.589	114	5	27	24.8	0.0028	<0.00001	<0.001	0.04	0.0002	0.008	0.007	0
KV-37	08/04/03	4.8	7.88	0.424	56	<1	31	26.6	<0.02	<0.0006	0.007	0.019	<0.005	0.004	0.023	1
KV-38	07/20/05	5.9	7.62		65	<2	35		0.0032	0.00028	<0.001	<0.1	0.0005	0.03	0.03	1
KV-38	07/30/04	5.1	7.19	0.836	139	5	36	31.8	0.0032	0.000450	<0.001	0.03	0.0004	0.051	0.049	3
KV-38	08/04/03	5.1	7.8	0.651	69	<1	37	38.6	<0.02	<0.0006	0.005	0.003	<0.005	0.036	0.037	3
KV-41	07/20/05	6.5	7.23		74	32	42		0.0267	0.00012	0.002	2.6	0.0166	0.033	0.014	5
KV-41	07/29/04	6.1	7.73	0.961	148	38	36	32.6	0.0051	0.000290	<0.001	0.05	0.0003	0.055	0.035	4
KV-41	08/03/03	6.8	7.88	0.641	83	52	43	40.9	<0.02	<0.0006	0.009	0.068	<0.005	0.582	0.019	2
* = Q @ KV-3 + Q @ KV-9 Detection Limit (2003) Detection Limit (2004 & 2005) CCME Guideline for Freshwater Aquatic Life Sample exceeds the guideline.																
					1	1	5	0.2	0.02	0.0006	0.001	0.002	0.005	0.001	0.001	
						1	5	0.2	0.0002	0.000010	0.001	0.10	0.0001	0.001	0.001	
									0.005	0.000017	0.002	0.30	0.0010	0.030	0.030	

Due to the high detection limit used in 2003, cadmium was only detected in the Christal Creek watershed, whereas in the ensuing years, cadmium was detected at all of the sites. Cadmium levels increased in Christal Creek in 2004 and 2005. Concentrations did not change a great deal at the South McQuesten River sites or in Flat Creek. Levels decreased at the Lightning Creek sites.

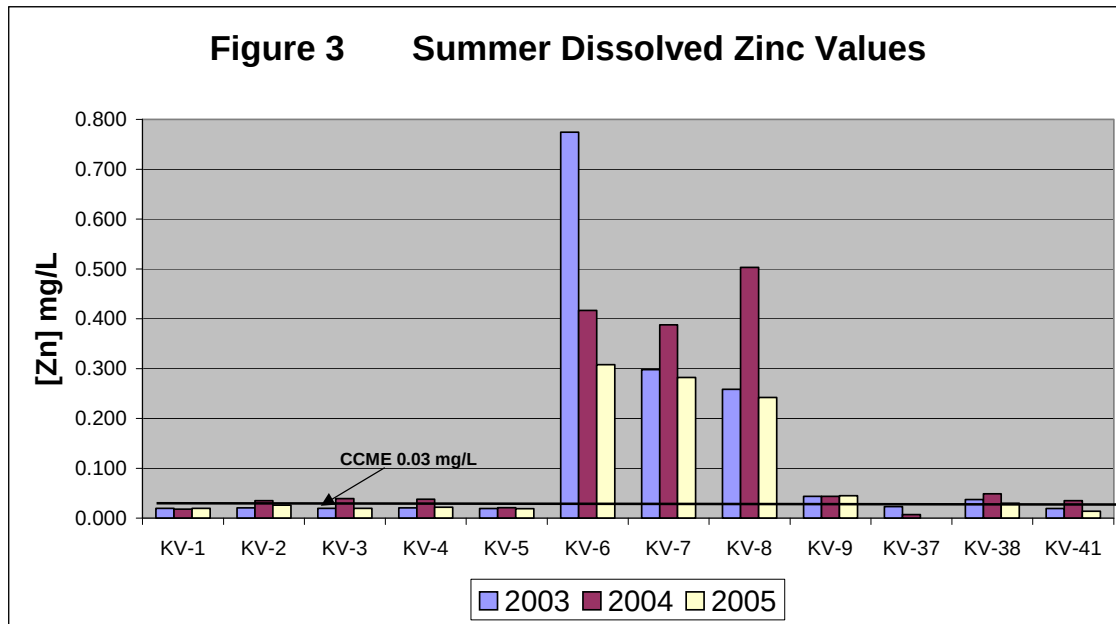
Lead was not detected in any of the samples in 2003, but the detection limit was greater than the CCME guideline. Lead values were low at all of the sites in 2004 and the CCME guideline was exceeded at KV-6 only. Lead levels increased at all sites in 2005 and the guideline was exceeded at all sites except at KV-1, South McQuesten River at Haggart Bridge, KV-37 and KV-38. A very high concentration was recorded at KV-6 and is inconsistent with the other samples collected here during the current study. Likewise, an anomalous value was documented at KV-41, which is incompatible with past sampling.

Iron concentrations were generally low throughout and met the CCME guideline. The only exception to this was a very high iron concentration documented at KV-41 in 2005 which significantly exceeded the guideline.

Copper concentrations were higher in 2003 than in subsequent years. Copper appears to be a common element in the South McQuesten watershed and generally had higher levels than the other watersheds. The guideline was frequently exceeded at the South McQuesten River sites.

Zinc was detected throughout. Concentrations were generally lower in 2005 and the data for dissolved zinc have been graphed in Figure 3. The highest zinc concentration was documented at KV-6 in 2003. The location of KV-6 in 2003 was downstream of the highway crossing at the old gauge site, whereas in 2004 and 2005, it was located upstream of the highway. The current location is upstream of a diversion ditch situated to collect seepages from the Galkeno area and coincides with site number ACG-WQ-5 of the Galkeno 300 monthly monitoring program. Zinc concentrations have fluctuated at the Christal Creek sites over time, but appear to be decreasing since 2004. Concentrations were relatively similar at each Christal Creek site in July 2005, however this trend is not duplicated at other times of the year (Section 4.1.1, Figure 2).

Christal Creek is the most impacted water body in the study area and suffers the effects from discharges from Galkeno 900 and Galkeno 300, and the old Mackeno mill site.



4.1.3 Effluent Discharge Data

Most mining in the study area has taken place on the north slopes of Galena Hill and Keno Hill. Elevated levels of zinc and cadmium are common in the drainages from many of these workings. Due to the high costs of ore transportation from the Keno Valley district, most mining operations in the early days selected the richest ore for shipment. Consequently, large amounts of mineralized waste rock were deposited near portals and open pits. Elevated metal concentrations near these areas may also be a result of leaching of the mineralized waste rock.

Effluent and drainage data from several of the adits and tailings ponds have been summarized in Table 5. The greatest concentrations of metals in the study area occurred at several of these sites. The effluent from Birmingham adit had the highest index of 8, however several of the metal concentrations were quite low and only slightly exceeded the guidelines. Discharges from the No Cash 500, Galkeno 300 and Husky adits had an index of 7.

There were only three sites where the CCME guideline for zinc was met; Charity Gulch, the tailings decant at dam #3 and the decant from the treatment system at Galkeno 900. An extremely high zinc concentration of 175 mg/L was documented at the Galkeno 300 adit prior to treatment. (A treatment pond was installed and lime treatment commenced in March 2004.) This value was reduced considerably after treatment to 28.4 mg/L, however this value grossly exceeds the CCME guideline.

Table 5 SUMMARIZED DATA FOR ADITS AND DECANTS, July 2005

Station name	Site #	Date	Temp °C	pH (lab)	Cond uS/sec	Flow L/sec	TSS mg/L	Alkalinity mg/L as CaCO3	Hardness mg/L as CaCO3	Cadmium-d mg/L	Copper-d mg/L	Iron-d mg/L	Lead-d mg/L	Selenium-t mg/L	Zinc-d mg/L	Zinc-t mg/L	Arsenic-t mg/L	Index	
Galena Hill discharges:																			
Birmingham Adit	LES-18	7/21/2006	2.2	6.8	253	2.4	10	92	130	0.204	0.004	0.4	0.0014	0.0015	6	5.13	0.0463	8	
Ruby Adit	LES-19	7/21/2006	2.8	7.62	439	1.28	27	132	242	0.00591	0.001	15.1	0.0003	0.0017	0.486	2.76	0.192	6	
No Cash 500	LES-20	7/21/2006	1.3	7.47	912	7.2	10	122	512	0.146	0.009	2.3	0.0008	0.0014	19.2	27.7	0.0164	7	
No Cash 500 @ Hwy	LES-21	7/21/2006	5.7	7.91	776	8.5	9	119	451	0.0461	0.003	0.8	0.0005	0.0009	5.54	4.76	0.0048	5	
No Cash 35 m D/S	NCC-1	7/21/2006	6	7.82	761	8.5	18	119	442	0.044	0.002	1.3	0.0002	0.001	4.96	5.06	0.0062	5	
No Cash 500 m D/S	NCC-2	7/21/2006	5.7	7.86	808	7	7	138	491	0.0216	0.001	0.3	0.0002	0.001	2.06	2.33	0.0016	3	
No Cash 850m D/S	NCC-3	7/21/2006	7.4	7.47	808	6	2	147	492	0.01	0.008	0.1	0.0002	0.0006	1.17	1.34	0.0009	4	
No Cash 1.4 km D/S	NCC-4	7/21/2006	---	7.68	771	4	10	147	477	0.0008	<0.001	0.2	<0.0001	0.0006	0.527	0.626	0.0006	3	
G300 Adit		7/21/2006	3.1	5.79	1785	9	42	41	666	0.437	0.012	23.8	0.0218	0.0004	135	175	0.181	7	
G300 decant		7/21/2006	3.5	7.74	1696	9	11	136	904	0.298	<0.001	0.02	0.0008	0.0004	19.7	28.4	0.0161	4	
G 900 Adit	KV-31	7/21/2006	2.8	6.73	1790	2.7	25	233	1280	0.00109	<0.001	1.6	0.0004	<0.0002	1.28	5.5	0.0861	5	
G 900 Decant	KV-32	7/21/2006	7.8	7.82	1739	2.6	<2	209	1200	0.00005	<0.001	<0.1	<0.0001	0.0002	0.016	0.028	0.0436	2	
McLeod vein		7/21/2006	2.1	6.65	445	25	18	94	246	0.00195	<0.001	2.6	0.0006	0.0002	0.192	0.206	0.0208	5	
Keno Hill discharges:																			
S. McQuesten Watershed																			
Onek Adit	KV-45	7/21/2006	4.1	7.18	1133	0.42	36	196	620	0.931	0.001	0.8	0.0013	<0.0002	59.8	74.7	0.0415	6	
Duncan Creek Watershed																			
Keno 700 Adit	LES-36	7/21/2006	1.9	7.84	488	4.3	<2	148	275	0.0153	0.001	<0.1	0.0047	0.0008	1.49	1.66	0.038	5	
Hope Gulch	KV-39	7/20/2006	---	7.78	---	2	<2	47	110	0.00366	0.003	<0.1	0.0017	0.0007	0.286	0.271	0.0091	6	
Charity Gulch	KV-40	7/20/2006	2.3	7.72	309	3	<2	34	159	0.00004	<0.001	<0.1	0.0001	0.0014	0.005	0.003	0.0009	2	
Southwest of Elsa:																			
Silver King Decant	KV-14	7/19/2006	6.5	7.44	1018	6.8	6	157	607	0.00386	0.005	3	0.0002	0.0004	0.156	0.453	0.0103	6	
Husky	LES-77	7/19/2006	13.4	3.08	1354	0.15	129	<5	618	0.036	0.22	48.7	0.0646	0.0007	2.49	3.05	0.0726	7	
Husky SW	LES-14	7/19/2006	---	7.69	1060	0.02	5	313	662	0.0165	0.004	0.9	0.001	<0.0002	0.889	1.12	0.0187	6	
Tailings Pond Area:																			
Valley Tailings Dam # 3	KV-12	7/21/2006	13.9	7.21	482	1.5	<2	41	264	0.00029	0.003	0.1	0.0164	<0.0002	0.016	0.014	0.0086	4	
Porcupine Div. Ditch	KV-47	7/19/2006	8.5	7.9	769	70.2	<2	208	454	0.00137	<0.001	0.3	0.0005	0.0003	0.206	0.237	0.0022	3	
* estimated																			
CCME Directive for Freshwater Aquatic Life Protection Limit										2	5	0.000017	0.002	0.300	0.001	0.001	0.030	0.030	0.005
												0.00001	0.001	0.1	0.00001	0.0002	0.001	0.001	0.0002

Zinc loadings from these discharges were calculated and compared to the loadings documented in 2003 (Table 6). The sites have been ranked according to increasing loading values for the 2006 data. McLeod vein was not sampled in 2003 but has been included in Table 6. It has a fairly substantial flow and contributes 0.4 kilograms of zinc to Christal Lake per day.

Most of the sites saw an increase in zinc loadings. This was related to higher zinc concentrations, higher flows, or a combination of both, at various sites during 2006. The greatest contributor of zinc to the study area is Galkeno 300 where 136 kilograms of zinc exits the adit per day, when sampled on July 21, 2006. When sampled in 2003 the concentration of zinc was 40, compared to 175 in 2006, and the flow was considerably less at 4 litres per second compared to 9.

**Table 6 ZINC LOADINGS (kg/day) FROM VARIOUS SOURCES,
JULY 2006 AND AUGUST 2003**

Station Name	Site #	Date	Flow cms	Zinc-t mg/L	Index	Loading kg/day
Charity Gulch	KV-40	20/07/2006	0.0030	0.003	2	0.0008
Charity Gulch	Strn #37	04/08/2003	0.0008	0.008	1	0.0005
Tailings Decant	KV-12	21/07/2006	0.0015	0.014	4	0.0018
Tailings Decant	LES-72	03/08/2003	0.0014	0.009	3	0.0011
Husky SW	LES-14	19/07/2006	0.00002	1.120	6	0.0019
Husky SW	LES-14	01/08/2003	0.0001	1.911	5	0.0165
Galkeno 900 Decant	KV-32	21/07/2006	0.0026	0.028	2	0.0063
Galkeno 900 Decant	LES-31	02/08/2003	0.0027	0.091	3	0.0213
Husky Mine	LES-77	19/07/2006	0.0002	3.050	7	0.040
Husky Mine	LES-77	01/08/2003	0.0002	7.522	8	0.130
Hope Gulch	KV-39	20/07/2006	0.0020	0.271	6	0.047
Hope Gulch	LES-48	04/08/2003	0.0295	0.382	4	0.974
Silver King Decant	KV-14	19/07/2006	0.0068	0.453	6	0.266
Silver King decant	LES-12	03/08/2003	0.0042	0.873	5	0.317
Ruby Adit	LES-19	21/07/2006	0.0013	2.760	6	0.305
Ruby Adit	LES-19	02/08/2003	0.0007	0.931	6	0.056
McLeod vein		21/07/2006	0.025	0.206	5	0.445
Keno 700 Adit	LES-36	21/07/2006	0.0043	1.660	5	0.617
Keno 700 Adit	LES-36	02/08/2003	0.0016	0.832	6	0.115
Birmingham Adit	LES-18	21/07/2006	0.0024	5.130	8	1.06
Birmingham Adit	LES-18	02/08/2003	0.0005	4.433	6	0.19
Porcupine Div. Ditch	KV-47	19/07/2006	0.0702	0.237	3	1.44
Porcupine Div. Ditch	LES-47	03/08/2003	0.0310	0.248	4	0.66
Onek Adit	KV-45	21/07/2006	0.0004	74.7	6	2.7
Onek Adit	LES-40	03/08/2003	0.0003	60.2	6	1.6
No Cash 500 Adit	LES-20	21/07/2006	0.0072	27.7	7	17.2
No Cash 500 Adit	LES-20	02/08/2003	0.0027	13.1	6	3.1
Galkeno 300 Adit	LES-32	21/07/2006	0.0090	175.0	7	136.1
Galkeno 300 Adit	LES-32	02/08/2003	0.0039	40.4	8	13.6
G300 decant		21/07/2006	0.0090	28.4	4	22.1

4.2 Surface Water Hydrology

4.2.1 Background

Mining companies, government agencies and consultants have collected stream flow data in the study area sporadically over the years. Stream flow variation and extreme event forecasts were most recently compiled by Access Mining Consultants Ltd for the UKHM water licence application in 1997. At that time, a form of regional analysis was done, augmented with various partial records and instantaneous discharge measurements. The results were reproduced in *The Keno Valley / Dublin Gulch Environmental Baseline Assessment*, by Environmental Services, Public Works and Government Services, March 2000. By comparing Water Survey of Canada gauging stations median elevations and mean annual runoff (MAR), a correlation was established for the Keno Valley area. Seasonal runoff distribution was predicted for several sub basins in the study area. The results compared favorably with the instantaneous (spot) discharge measurements at that time. There has not been a hydrological analysis since then.

For the purposes of the current study a number of spot discharge measurements were done concurrently with water quality sampling to facilitate loading calculations. Results of instantaneous discharge measurements are included in Table 3 with the water quality data. In July 2004 continuous stage recorders were installed at Flat Creek upstream of the South McQuesten River (KV-9), Christal Creek at the Hanson Lake Road (KV-7) and Lightning Creek at Keno City (KV-41). In addition, LES installed it's own datalogger at Christal Creek in the 2003 open water season. Stage - discharge relationships have been developed for the gauged stations enabling preliminary discharge records for each station since the dataloggers were installed.

The three small streams of most interest in the study area present peak snowmelt freshet flow in late May and low flow between February and April. Significant flood events occur due to rainstorms in the summer and/or fall, such as the peak that can be seen in mid August, 2003 at KV-7. The unit discharge during peak flow in 2005 is presented along with basin area and median elevation in Table 7. A brief discussion of the continuous recording stations follows.

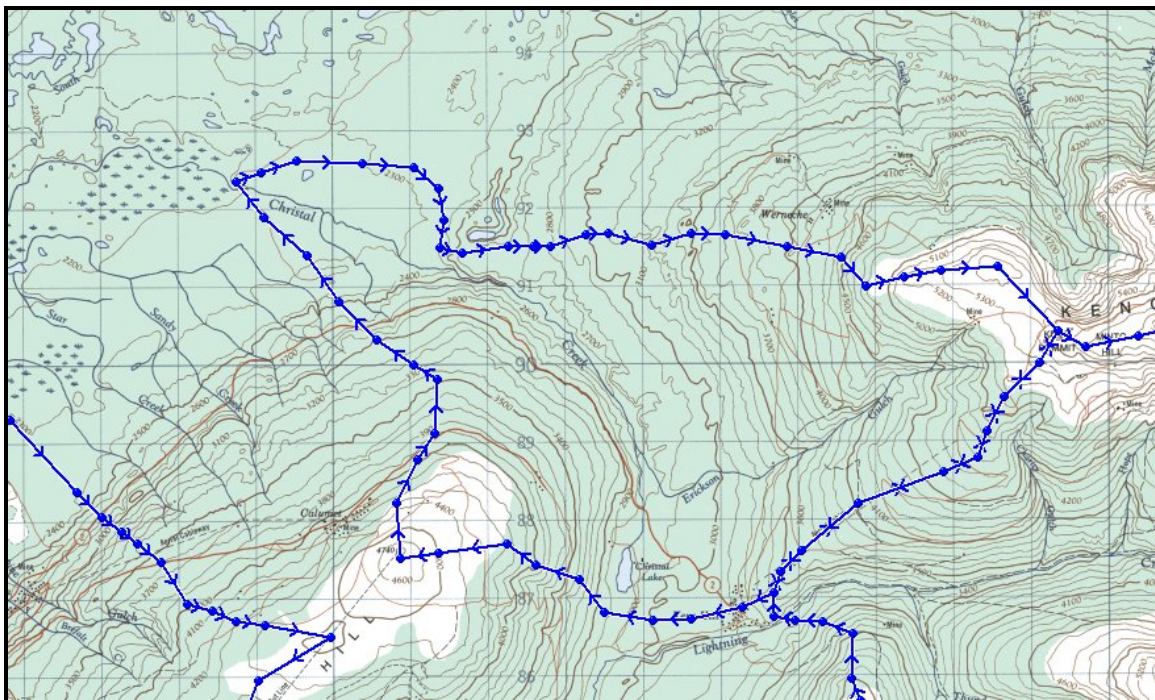
4.2.2 KV-7 Christal Creek Upstream of Hanson Lake Road

This site was established as a water licence station (UK7) during the 1980s. In 1994 a Stevens sensor and datalogger was installed just upstream of the bridge on the Hanson Lake Road but was destroyed by ice in the spring of 1995. The Stevens datalogger was moved 140 m upstream of the bridge and supplied with a temporary staff gauge in May 1995. This system was inspected in July 1998 when the staff gauge was rebuilt. The datalogger had failed and was replaced with LES equipment which was salvaged from the site in the fall of 1998. In August 2003 the LES Chart Pac data logger and Bourdon pressure transducer were re-installed and operated until November 18th, 2003 when it failed due to a power supply fault. The Chart Pac was reinstalled on March 23, 2004 and was replaced with a permanent INW PT2X system on July 30, 2004. In 2005 the trail and site were grubbed out and surveyed relative to an assumed datum. Although the gauge zero (bottom of the staff plate surveyed relative to an assumed datum) only varied by - 0.002m over the period, the cross section shifted, requiring separate rating curves for each season with poor R² values. For this reason the “calculated discharge” based on the rating curves should be considered provisional at best for 2003 and 2004. The flow variation over the period of record is illustrated in the discharge curves and spot discharge measurements in Figures 4 through 6. Christal Creek experienced a rainfall event flood around the 18th of August 2003, when the creek overtopped its banks and presented a very high discharge in the order of 2.5 m³/sec. A snowmelt freshet flood was measured on May 20, 2004 at 2.0 m³/sec. The freshet flood was also captured on May 10, 2005 when Water Resources (Wayne Kettley pers. Comm.) measured the discharge at 2.3 m³/sec. The maximum discharge of about 2.8 m³/sec occurred on May 12, 2005 which represents a Unit Discharge of about 84 L/sec/km².

Table 7 Basin Characteristics for the Gauged Sites

Station	Drainage Area (km²)	Median Elevation (m)	Unit Discharge During peak flow m
KV-7 Christal Cr @ Hanson Lake Road	33.4	870	84 L/sec/km ²
KV-41 Lightning @ Keno City	57.9	920	119 L/sec/km ²
KV-9 Flat Cr u/s South McQuesten River	57.5	700	61 L/sec/km ²

Conversely, low flow has been monitored at KV-7 using the salt slug injection method in an attempt to characterize the drought conditions. The lowest discharge measured in the study period was 0.078 m³/sec in April 2005. The pressure transducers at the recording sites often experience freezing problems thus the late winter low flow record is not reliable. Also, overflow ice conditions can cause false high readings from pressure transducers. However, there have been sufficient measurements to state that the winter low flow for Christal Creek at the Hanson Lake Road was in the order of 0.08 to 0.12 m³/sec in the study period. It is interesting to note that the measured discharge at this site has been as low as 0.136 m³/sec in open water (June 30, 2005).



Christal Creek Drainage Basin

Figure 4
KV_7 Christal Creek at Hanson Lake Road Calculated Discharge
August to November 2003

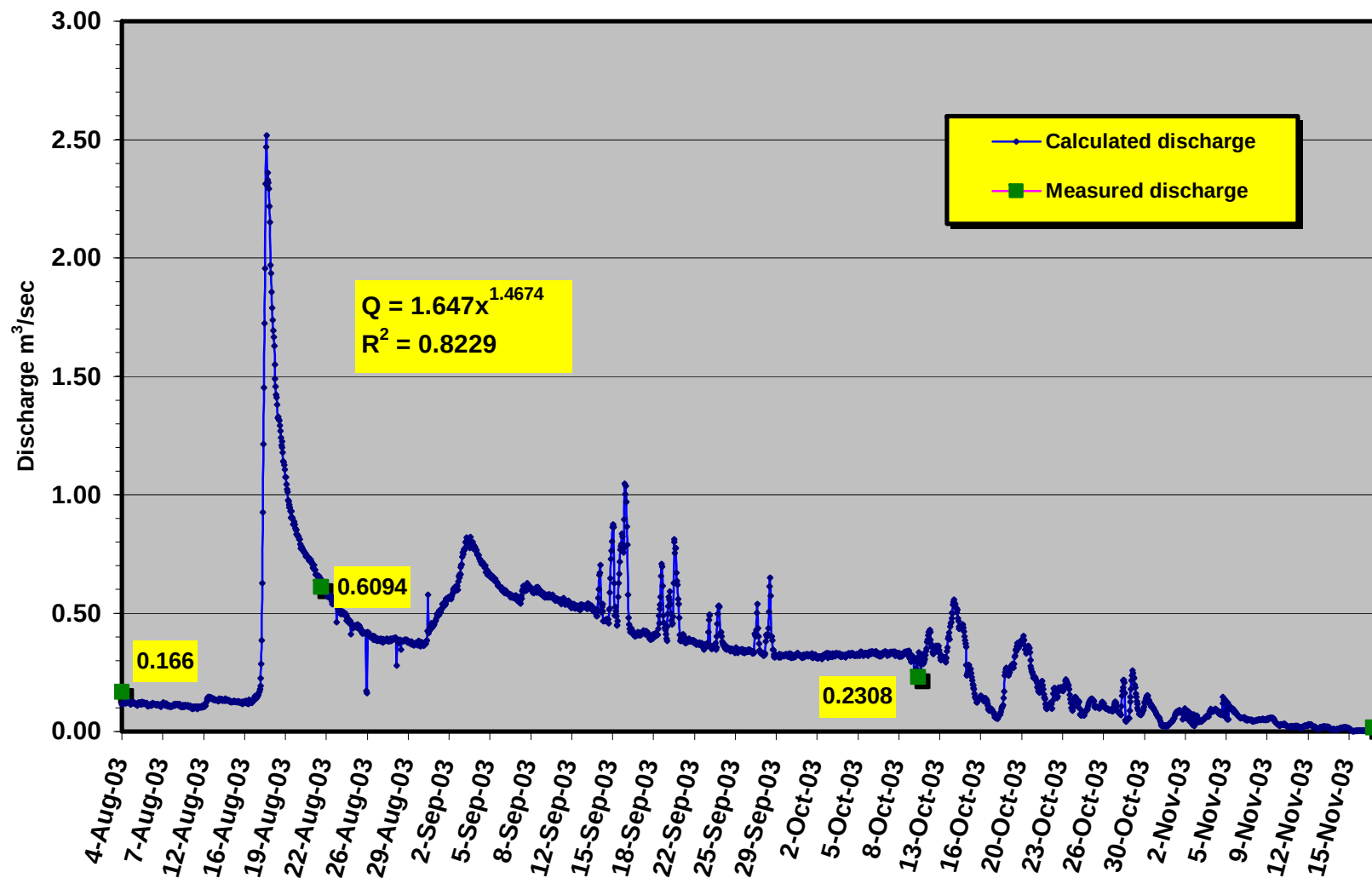


Figure 5
KV_7 Christal Creek at Hanson Lake Road
March to November 2004

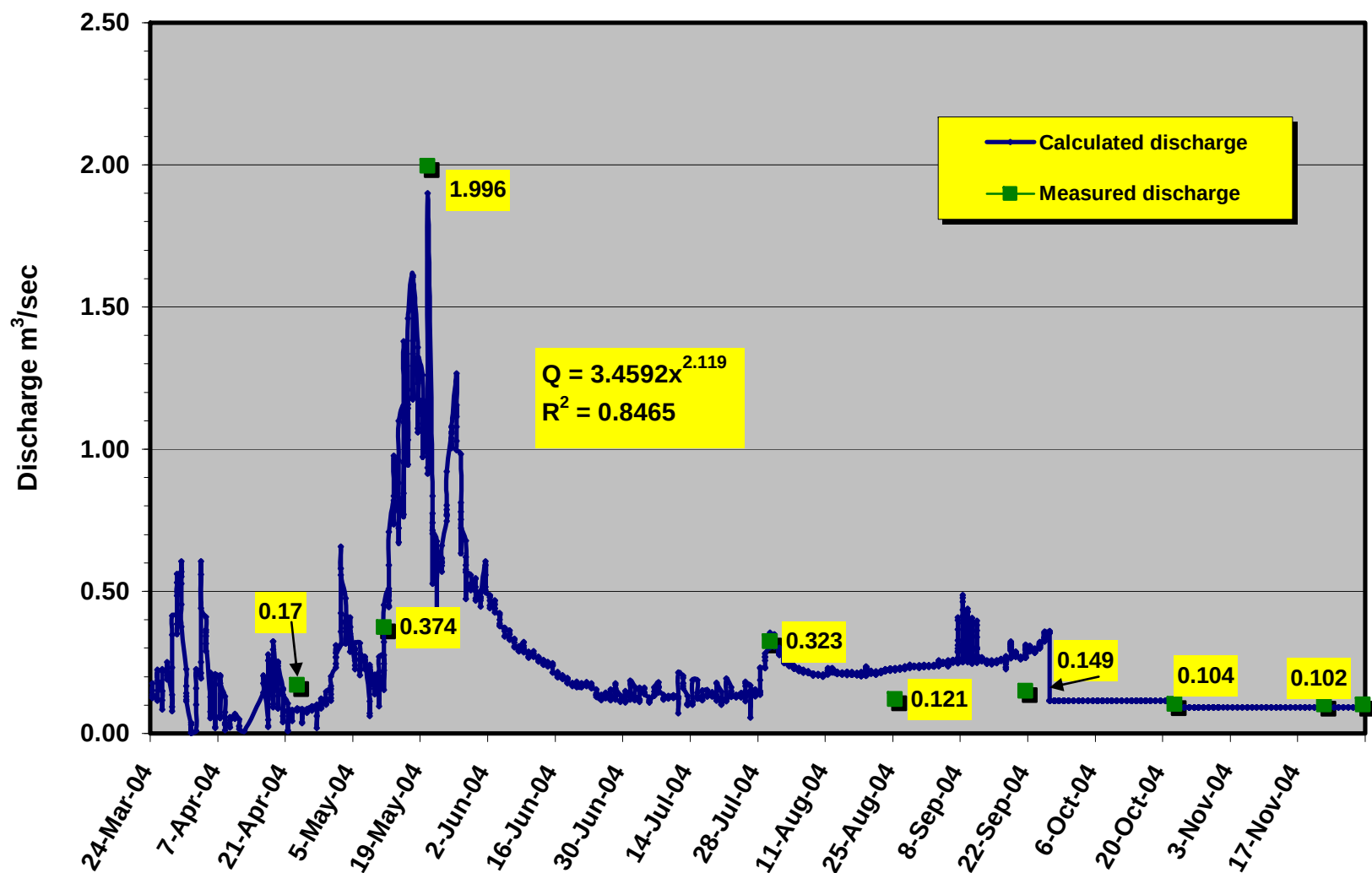
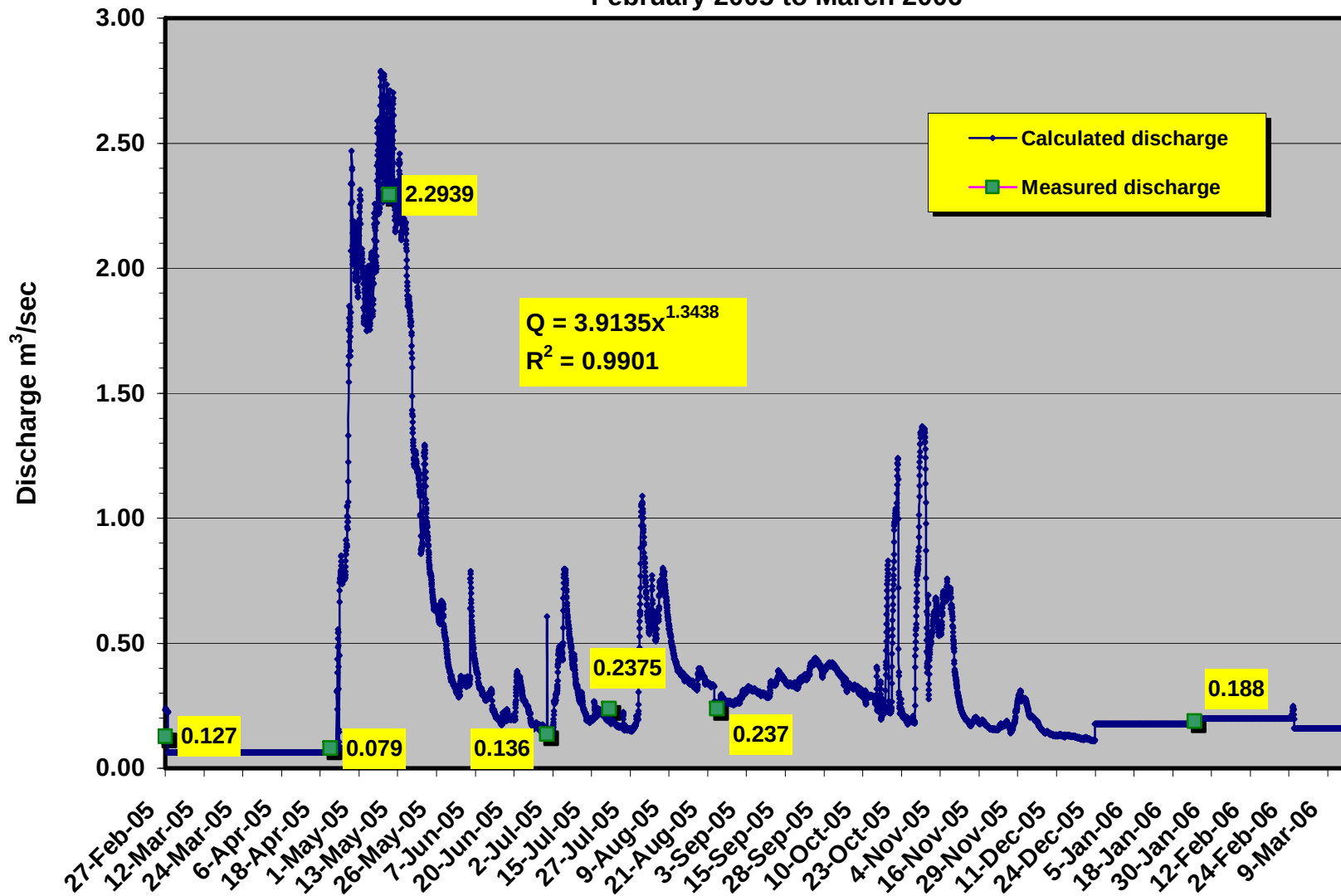
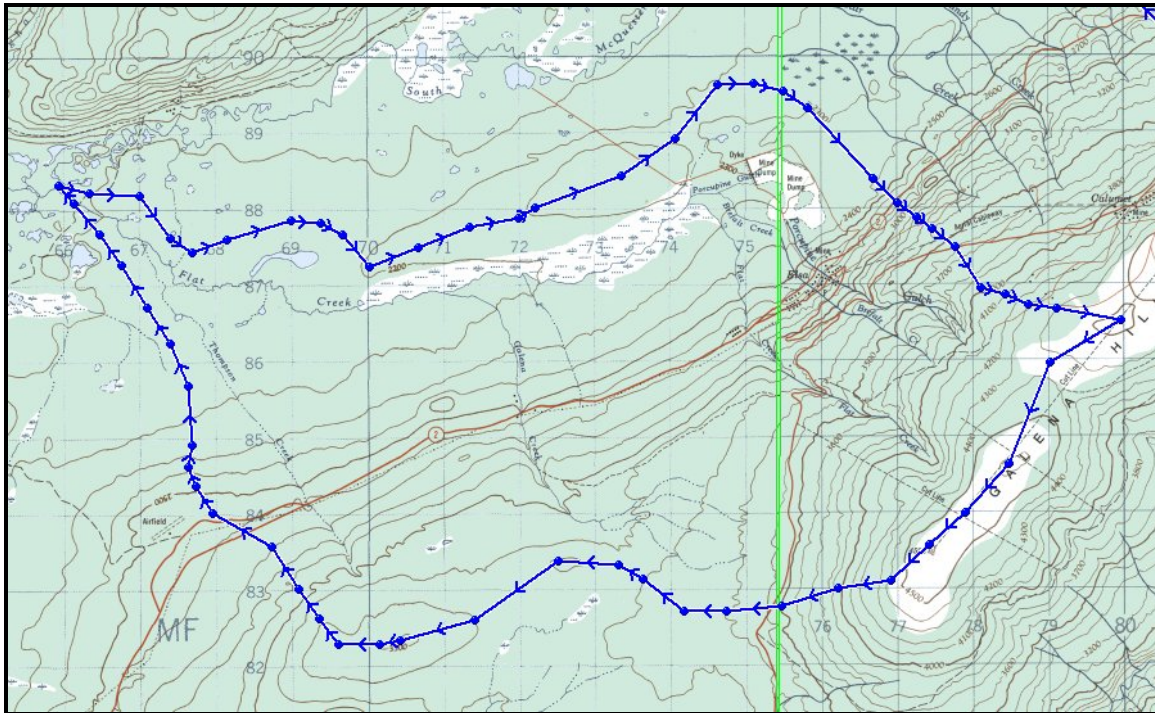


Figure 6
KV_7 Christal Creek at Hanson Lake Road Calculated Discharge
February 2005 to March 2006



4.2.3 Flat Creek upstream South McQuesten River

Flat Creek drains the Elsa town site and the west side of Galena Hill. Ditch work along the road to Galkeno 300 performed in 2005 has altered the catchment slightly. A staff gauge was installed by LES at the Shanghai Road Crossing in 1994, but this location proved to be unreliable. A new installation was completed near the mouth of Flat Creek in 1996. In 2003 the gauge was found to be in good condition.

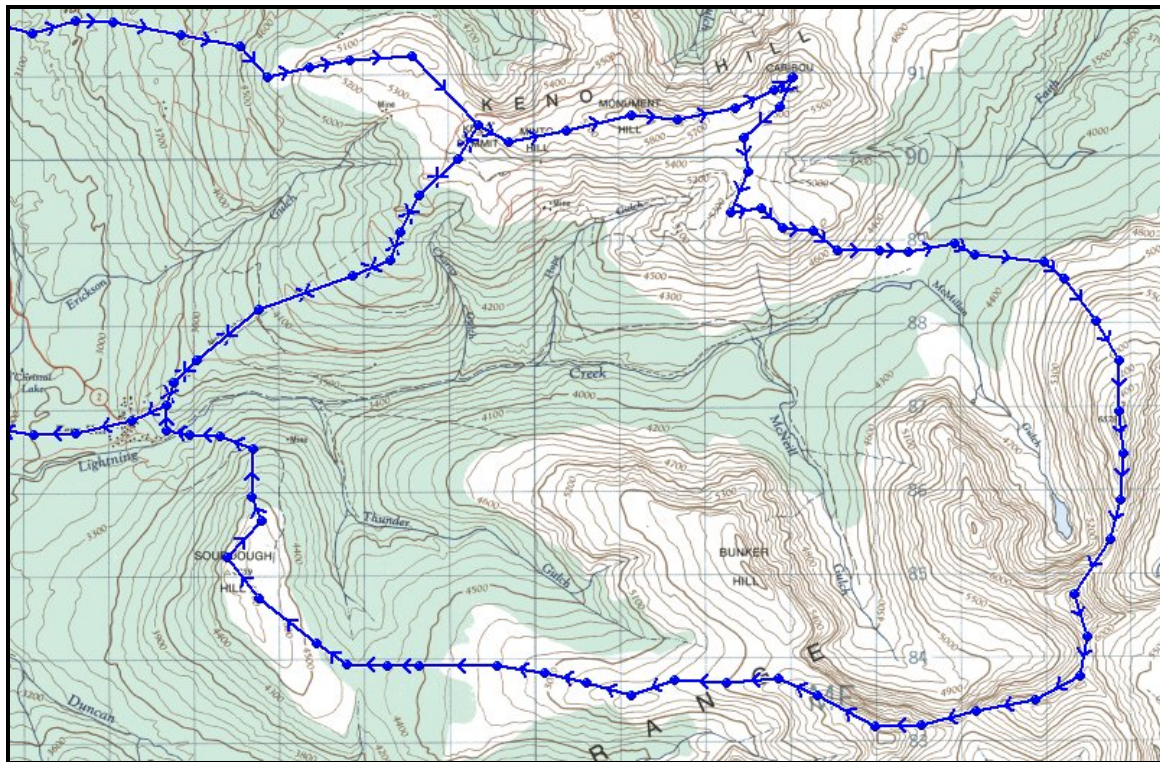


Flat Creek Basin

The site was cleared, grubbed out and the access trail improved. On July 30, 2004 a PT2X system was installed at the staff gauge and recorded stage from July 30, 2004 to the latest download on March 16, 2006. The gauge was surveyed relative to an established datum four times over the last three years and has not moved more than $+0.001\text{m}$. Figure 7 shows the calculated discharge of Flat Creek to October 2005. A failed attempt was made to download the logger in March 2006, but at -40° , the field computer refused to cooperate. Again, caution should be used in interpreting the data because of poor R^2 value of the rating curve. Flat Creek presented a peak freshet flood flow of about $3.5\text{ m}^3/\text{sec}$ resulting in a unit discharge of 61 L/sec/km^2 . The lowest flow measurements at KV-9 were in the $0.117\text{ m}^3/\text{sec}$ on January 24, 2006 and only $0.023\text{ m}^3/\text{sec}$ on March 14, 2006. The latter is the lowest measured discharge at this station over the period of record.

4.2.4 Lightning Creek at Keno City

This gauge site was first installed in 1994, and was destroyed by a slide and flooding in 1995, and refurbished in 1996. In 2003 the gauge was found to be in good condition, and was surveyed relative to bench marks. In July 2004, an INW PT2X sensor and datalogger was installed at the staff gauge. Figure 8 shows the discharge in Lightning Creek from July 2004 to March 2006. The gauge has been surveyed four times since 2003. In 2005 it was noted that the sensor had shifted, and corrections have been made to the record to reflect this. The gauge zero has remained constant and the cross section has not shifted. Lightning Creek presented a whopping $6.9 \text{ m}^3/\text{sec}$ in late May 2005 resulting in a unit discharge at that time of $119 \text{ L}/\text{sec}/\text{km}^2$. The discharge of $0.063 \text{ m}^3/\text{sec}$ measured on February 27, 2005 is the lowest measured discharge in the study period.



Lightning Creek at Keno City Watershed

Figure 7
KV_9 Flat Creek Upstream of South McQuesten Calculated Discharge
July 2004 to October 2005

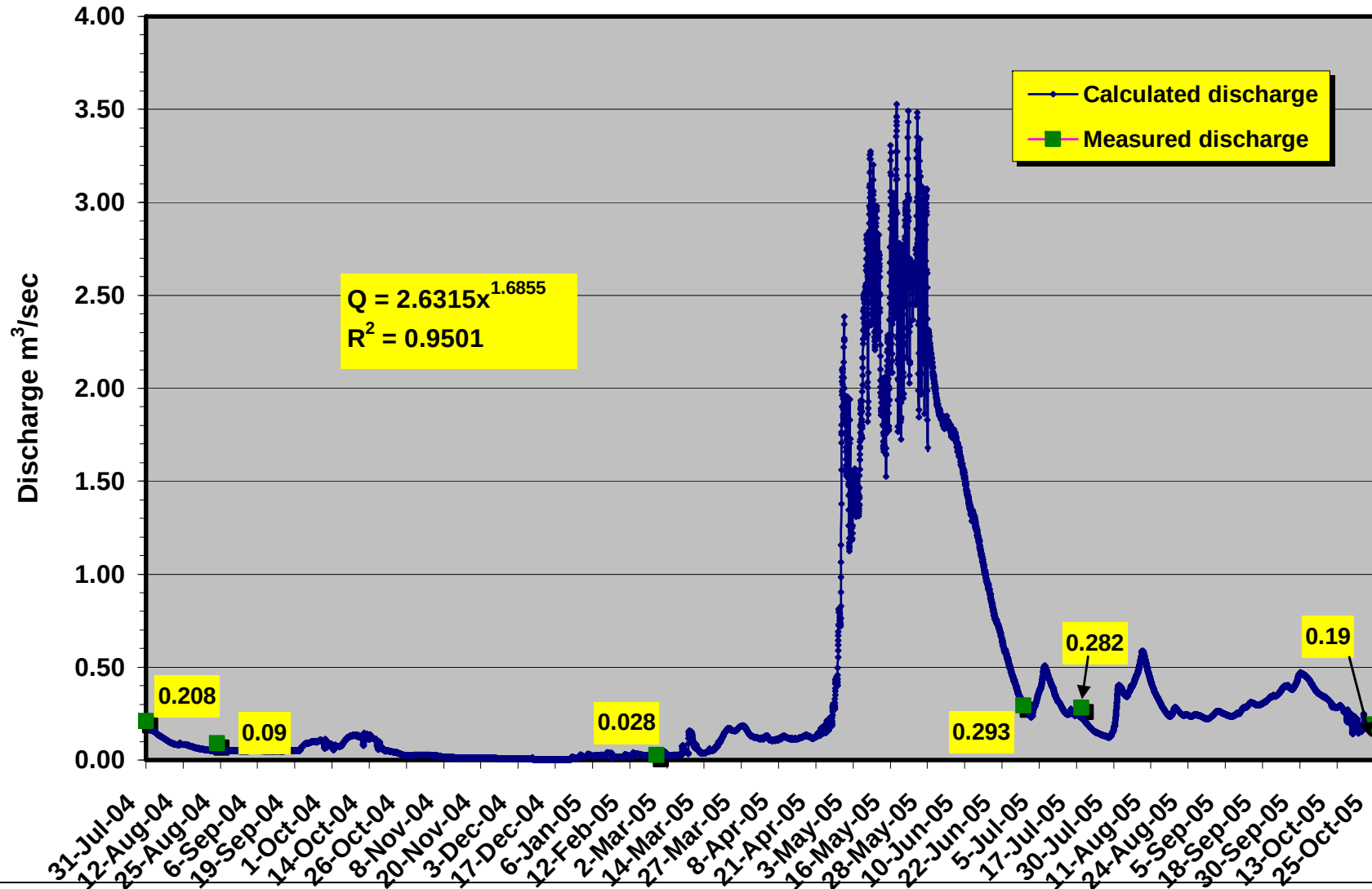
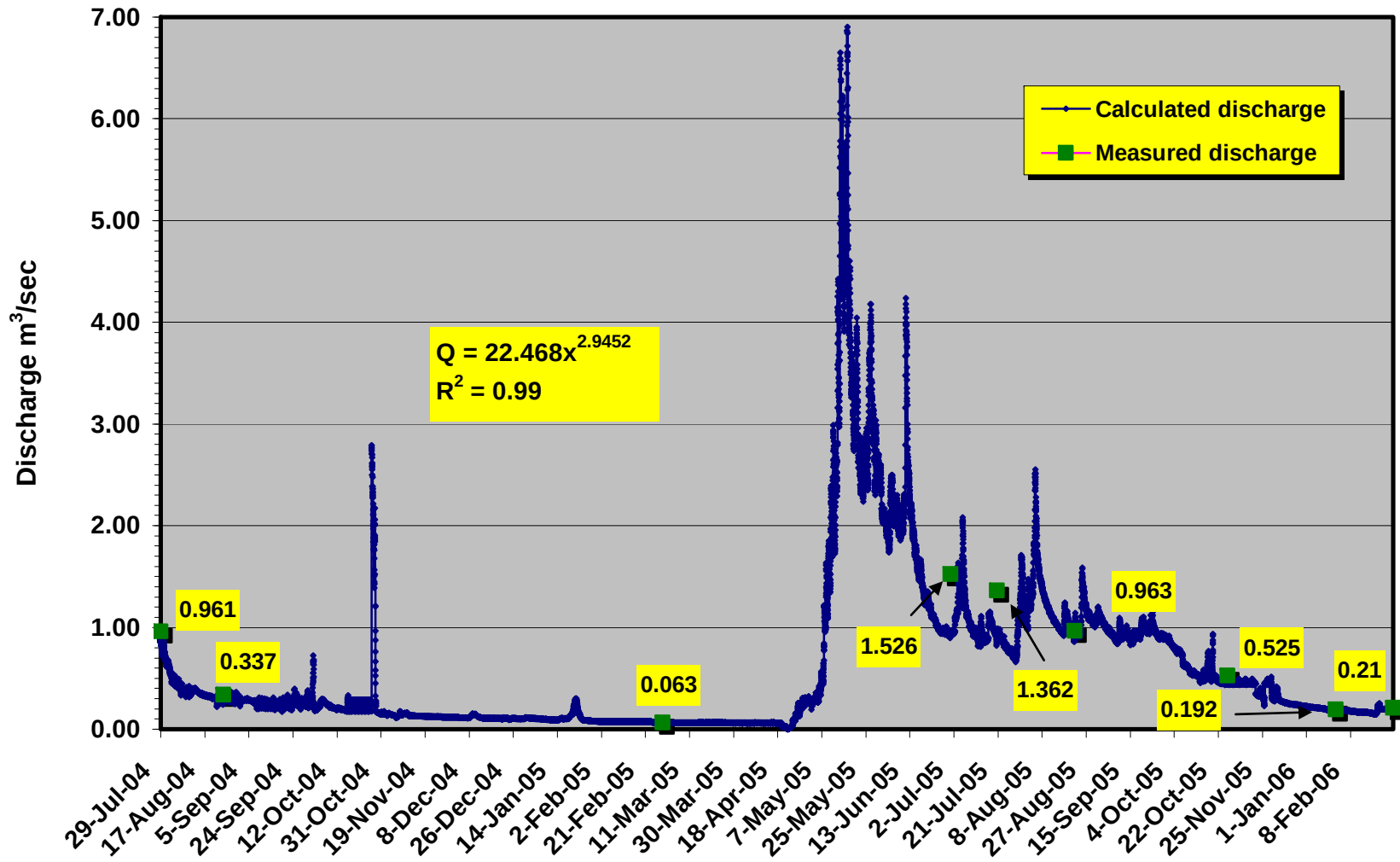


Figure 8
KV_41 Lightning Creek at Keno City Calculated Discharge
July 2004 to March 2006



4.3 Stream Sediment Analysis

4.3.1 Data from the 2005 Survey

The results for the stream sediment analysis are presented in Appendix C (Volume Two). Six of the 32 metals analyzed were examined in detail because of their potential toxicity to aquatic systems. The means of the triplicates for each of these metals were tabulated and compared to the CCME (1999) interim freshwater sediment quality guidelines (ISQG) and to the probable effects level (PEL) (Table 8). Generally concentrations greater than the PEL have a 50% incidence of creating adverse biological effects. Note that guidelines have yet to be developed for selenium.

TABLE 8						
SUMMARY OF STREAM SEDIMENT METAL CONCENTRATIONS, 2005						
STATION NUMBER	MEAN CONCENTRATION (ug/g)					
	ARSENIC	CADMIUM	COPPER	LEAD	SELENIUM	ZINC
KV-1	16.8 (2.2)	2.1 (0.5)	20.7 (4.3)	15.7 (3.2)	<0.50	385 (50)
KV-2	282 (318)	43.8 (62)	55.7 (33)	1217 (1662)	1.00	2432 (3069)
KV-3	113 (8.0)	12.8 (1.5)	36.4 (4.7)	475 (57)	<0.50	1010 (87)
KC-4	167 (34)	15.9 (1.9)	46.7 (7.0)	1188 (498)	<0.50	1170 (53)
KV-5	45.4 (21)	3.0 (2.9)	28.5 (4.9)	117 (120)	<0.50	307 (247)
KV-6	1386 (377)	130 (13)	93.9 (1.1)	7700 (486)	5.8 (0.7)	8337 (1077)
KV-7	185 (42)	40.5 (25)	42.8 (3.8)	902 (449)	5.3 (4.2)	4710 (2826)
KV-8	516 (116)	67.7 (10.2)	62.4 (8.3)	2350 (568)	2.5 (0.6)	4943 (480)
KV-9	396 (43)	41.9 (4.9)	146.7 (19)	6667 (645)	3.7 (1.1)	2477 (139)
KV-37	100 (26)	1.1 (0.3)	33.2 (5.1)	39.4 (8.4)	<0.50	104 (17)
KV-38	501 (42)	45.6 (23)	61.9 (3.8)	1172 (202)	<0.50	3503 (1656)
KV-41	50.5 (17)	2.7 (1.0)	20.1 (1.8)	72 (21)	<0.50	228 (68)
ISQG	5.9	0.6	35.7	35.0		123
PEL	17.0	3.5	197.0	91.3		315
Note: ISQG = Interim freshwater Sediment Quality Guidelines (exceedences italicized) PEL = Probable Effects Level (exceedences italicized and in bold) (standard deviation for that data set)						

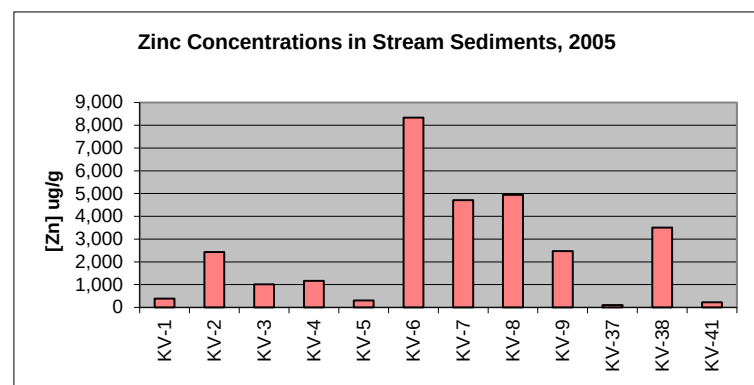
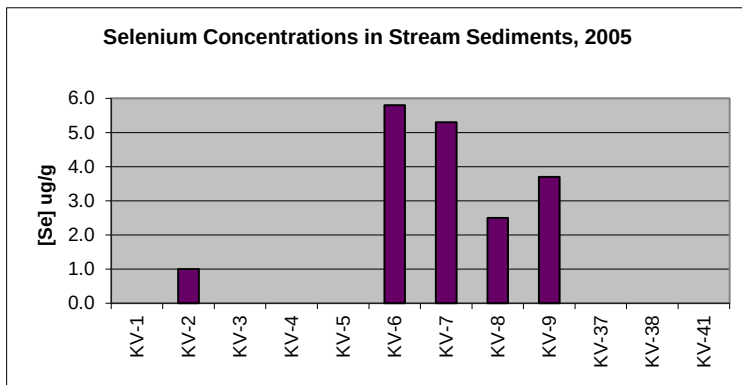
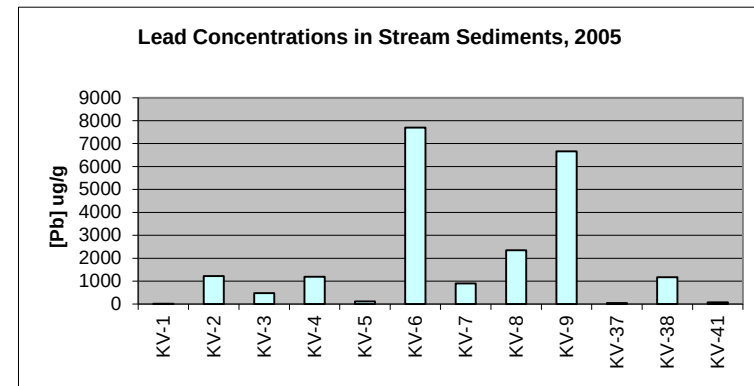
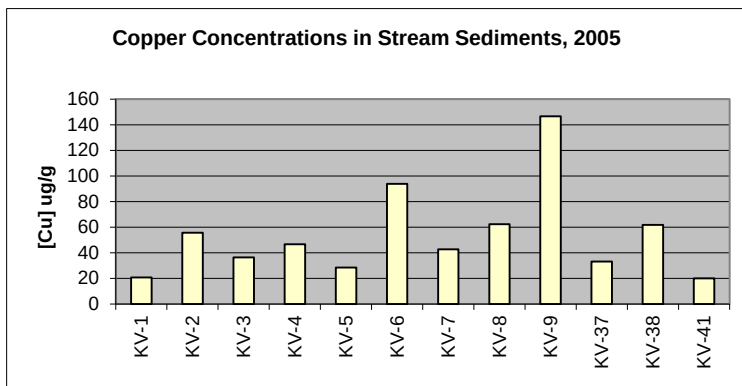
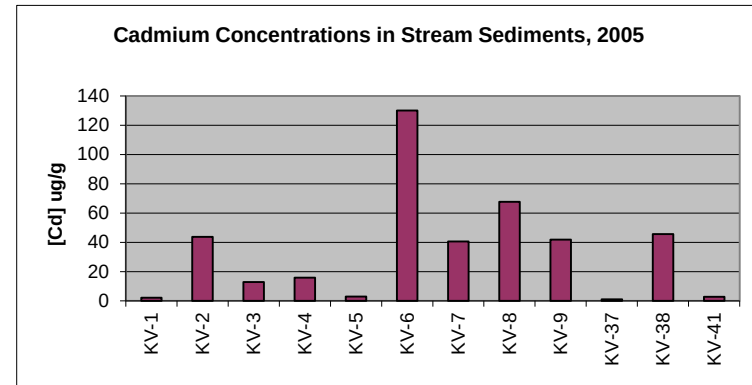
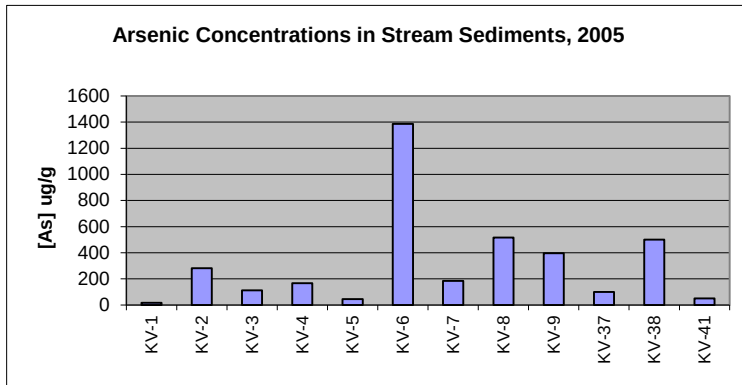
The stream sediments at KV-6, Christal Creek u/s of the Keno Highway, had the highest mean concentrations of all the examined metals except for copper, where Flat Creek, KV-9, had the greatest concentration. The mean concentrations of arsenic were high and exceeded the PEL at all sites with the exception of KV-1. The ISQG guideline for cadmium was exceeded at KV-1, KV-5, KV-37 and KV-41. The PEL for cadmium was also exceeded at the remaining 10 sites. All sites met the PEL for concentrations of copper in the stream sediments, with the sediments at KV-1, KV-5, KV-37 and KV-41 also meeting the ISQG guideline. The ISQG for lead was met in the stream sediments at KV-1 and exceeded at KV-37 and KV-41. The PEL for lead was generally grossly exceeded at the other sites. The concentration of zinc in the stream sediments at KV-37 was the only site to meet the ISQG guideline. The stream sediments at KV-5 and KV-41 exceeded the ISQG with the other sites often greatly exceeding the PEL for zinc.

Low concentrations of selenium were detected in the sediments at half of the sites, mainly occurring in the stream sediments of Christal and Flat Creeks. Curiously in 2004, selenium was not detected at these sites, but only detected in the stream sediments of the South McQuesten River (Laberge Environmental Services, 2005). Environment Protection (Whitehorse) maintains a database on metal concentrations in stream sediments throughout the Yukon. Of 658 detectable levels, the mean for selenium was 2.4 ug/g, ranging from 0.1 to 38.8 ug/g. The concentrations documented in the Keno Valley study area straddled the Yukon mean.

To further interpret the sediment data, each parameter has been graphed (Figure 9). Concentrations of all the metals were considerably greater in the sediments at KV-6, Christal Creek upstream of the Keno Highway, than at the other sites. Christal Creek at KV-6 lies downstream of the old tailings from the old Mackeno mill, and drains Christal Lake, a long term receptor for wastewater from Galkeno 900.

High concentrations of lead were also evident at KV-9, Flat Creek at the mouth, which has been the receiving water for effluent from the tailings facility for the past few decades. The South McQuesten River appears to be impacted by these sources of lead with significant increases at the sites downstream of the confluences of Christal and Flat Creeks (KV-2 and KV-4 respectively). Although concentrations in the stream sediments decrease downstream on the South McQuesten River, levels of lead at KV-5 (9 km d/s of Flat Creek) are greater than the PEL and are much higher than background levels at KV-1.

Figure 9 CONCENTRATIONS OF METALS IN THE STREAM SEDIMENTS AT EACH SITE, AUGUST 2005



An extremely high concentration of zinc was documented at KV-6, reflecting the influence of the old tailings deposited in this area. Concentrations decreased down Christal Creek. There appears to be a spatial impact to the receiving environment of the South McQuesten River, however zinc is naturally present in this watershed and concentrations downstream at KV-5 are very similar to the background level at KV-1.

Cadmium is geochemically similar to zinc and the concentrations of cadmium in the stream sediments followed the same trend as concentrations of zinc.

With the exception of KV-6 and KV-9, the copper concentrations were fairly similar throughout the study area.

There does appear to be an impact to the sediment quality of the South McQuesten River downstream of the confluences of Christal and Flat Creeks for each of the metals. With the exception of lead mentioned earlier, the stream sediment quality has recovered downstream where the concentrations of the examined metals at KV-5 were near the background levels.

Within the Lightning Creek drainage, the highest concentrations were documented at KV-38 near Thunder Gulch. As described in Section 2.0, this site was moved 700 m upstream of the established site due to destruction by placer mining. KV-38 is located 2 km downstream of Hope Gulch, which has fairly high concentrations of water borne metals (refer to Table 4). Metal levels in the stream sediments downstream at KV-41 were very similar to the upstream site, KV-37, indicating very little overall impact to Lightning Creek.

4.3.2 Comparison with past Sediment Surveys

Stream sediments have been collected at several of these sites over the past 20 years; in 1985 (Davidge and Mackenzie-Grieve, 1989), in 1990 (Environmental Protection, 1995), in 1994 by consultants for UKHM, in 1997 (Laberge Environmental Services, 1997) and in 2004 (Laberge Environmental Services, 2005). These data have been compared to the present study in Table 9 and have been graphed in Figure 10. Selenium has not been examined as it was not analyzed in the earlier studies. Data for all sites has been tabulated but only those sites with a significant data set have been graphed.

TABLE 9
COMPARISONS OF METALS IN STREAM SEDIMENTS
FROM 1985, 1990, 1994, 1997, 2004 AND 2005 AT KENO VALLEY

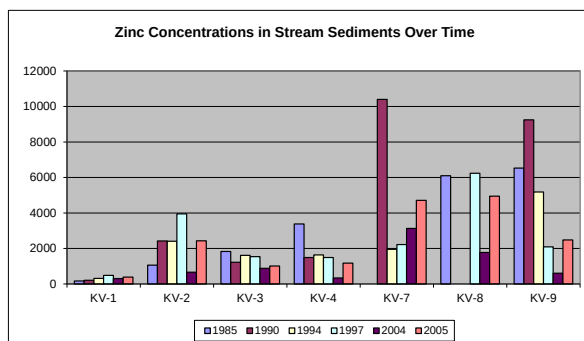
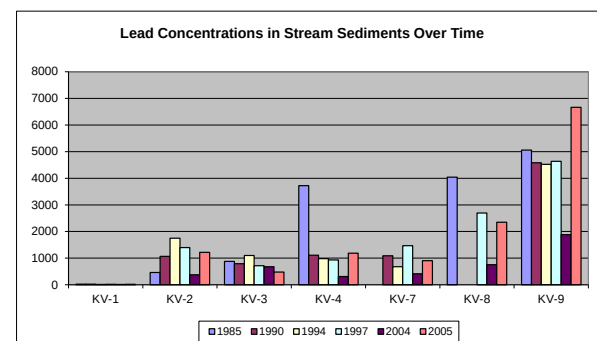
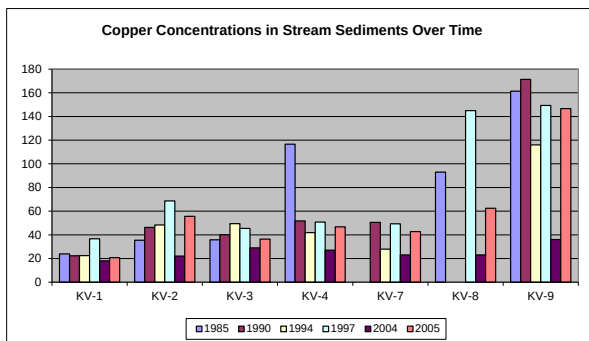
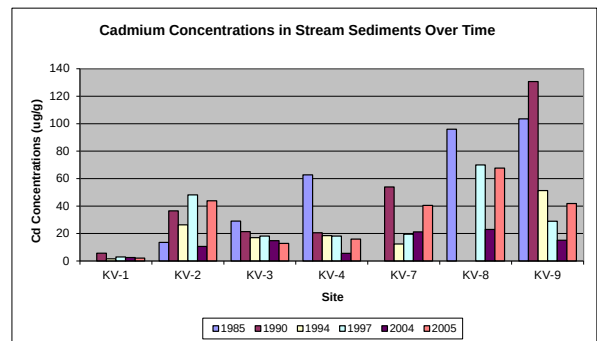
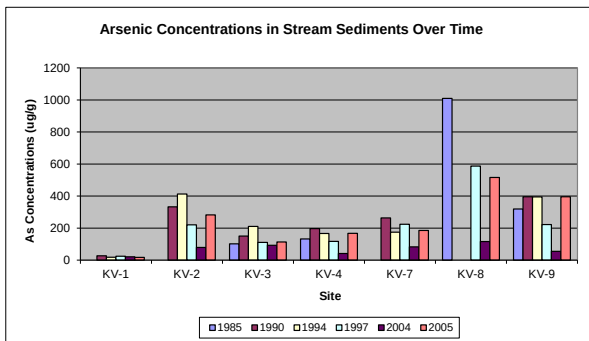
METAL	YEAR	KV-1	KV-2	KV-3	KV-4	KV-7	KV-8	KV-9	KV-37	KV-38	KV-41
ARSENIC (mg/kg)	1985	<8	99	102	132	---	1010	319			
	1990	27	333	150	197	263	---	396			
	1994	18	413	210	166	174	---	395			
	1997	25	220	111	117	224	587	222			
	2004	21	79	93	41	83	116	55	56	72	35
	2005	17	282	113	167	185	516	396	100	501	51
CADMIUM (mg/kg)	1985	0.6	13.5	29.1	62.8	---	96	103.5			
	1990	5.7	36.5	21.4	20.6	53.9	---	130.7			
	1994	1.6	26.3	17.0	18.5	12.4	---	51.3			
	1997	2.9	48.1	18.2	18.1	19.5	70	28.9			
	2004	2.5	10.6	14.8	5.6	21.2	23	15.1	0.5	10.8	4.0
	2005	2.1	43.8	12.8	15.9	40.5	67.7	41.9	1.1	45.6	2.7
COPPER (mg/kg)	1985	24	35	36	117	---	93	161			
	1990	22	46	40	52	51	---	171			
	1994	22	48	49	42	28	---	116			
	1997	37	69	45	51	49	145	149			
	2004	18	22	29	27	23	23	36	20	29	22
	2005	21	56	36	47	43	62	147	33	62	20
LEAD (mg/kg)	1985	24	463	877	3720	---	4040	5060			
	1990	22	1069	791	1110	1088	---	4580			
	1994	10	1750	1100	980	680	---	4520			
	1997	16	1397	717	930	1469	2697	4637			
	2004	12	377	677	310	413	755	1883	27	223	77
	2005	15.7	1217	475	1188	902	2350	6667	39	1172	72
ZINC (mg/kg)	1985	169	1060	1830	3380	---	6100	6530			
	1990	212	2423	1220	1490	10400	---	9247			
	1994	310	2410	1610	1640	1950	---	5180			
	1997	486	3950	1540	1487	2217	6237	2090			
	2004	303	659	885	342	3130	1773	605	62	535	226
	2005	385	2432	1010	1170	4710	4943	2477	104	3503	228
Note: Values for 1985, 1990, 1997, 2004 and 2005 are the mean for triplicate samples, the values for 1994 are for one composite sample.											

Typically, concentrations were greater in 2005 than in 2004. Several of the sample sets had a high spread of concentrations as indicated by the standard deviations (Table 8). For example, KV-2B had unusually high concentrations of metals (Appendix C) which increased the mean substantially. This is reflected in the standard deviation where it frequently was greater than the mean concentration.

Concentrations in 2004 were significantly lower than in the other studies. For several parameters the lowest concentrations documented to date were noted at most of the sites.

Concentrations of the examined metals in the stream sediments at the upstream site KV-1 and at KV-3 appear to be relatively stable over time. Levels have tended to fluctuate at the other sites.

FIGURE 10 METAL CONCENTRATIONS IN STREAM SEDIMENTS OVER TIME



Concentrations were typically the highest in the sediments at KV-9 (Flat Creek). The zinc concentrations in the sediments at the Christal Creek sites, KV-7 and KV-8, and the Flat Creek site, KV-9, were similar and averaged in the range of 4,000 to 5,000 ppm for the study period.

Although there appeared to be a decreasing trend towards lower metal concentrations in the stream sediments throughout the study area in 2004, a substantial increase was noted at most sites during the 2005 sampling. Metals in sediment are difficult to interpret since levels can vary widely as a function of natural mineralization of local soils in a give watershed. Annual sediment monitoring should continue to determine if bedload materials are being transported downstream from point sources on Christal and Flat Creeks.

4.4 Benthic Invertebrates

To fully assess the water and sediment quality, benthic invertebrate monitoring was conducted in the summer of 2005. The aquatic environment provides the medium for many or all life stages of numerous species of benthic invertebrates. The quality of this medium will determine the abundance, variety, and presence or absence of various pollution sensitive organisms. The substrate provides habitat for benthic organisms and contaminated stream sediments can have substantial effects on biological activity. Concentrations of many metals were well above the PEL guideline for the protection of aquatic life. To determine if these high concentrations are bioavailable and compromising aquatic life, benthic invertebrate sampling was undertaken.

4.4.1 Results of the 2005 Survey

Five phyla were found in the study area: Arthropoda, Mollusca, Annelida, Nematoda and Coelenterata. A total of 140,421 individual invertebrates, representing 109 different taxonomic groups, were identified within these phyla. These data are presented in Appendix D (Volume Two).

4.4.1.1 Abundance and Taxonomic Richness

Triplicate samples for benthic invertebrates were collected at each site with attempts made to collect samples representative of that site. The number of organisms of the triplicates was

summed to give a total abundance value for that site. The abundance values ranged from a low of 1,074 individuals at KV-7 (Christal Creek u/s of the Hanson Road) to 38,321 individuals at KV-41, Lightning Creek at Keno (Table 10).

As a measure of community diversity, the number of taxonomic groups identified from species to phylum at each site was tallied. The diversity ranged from 28 different taxonomic groups identified at KV-6, Christal Creek u/s Keno Road, to 58 different taxonomic groups identified at KV-2, South McQuesten River near the pumphouse. Population numbers and diversity are displayed graphically in Figure 11.

The communities on the South McQuesten River were relatively similar in terms of numbers and diversity. The communities at KV-3 and KV-4 appeared slightly depressed but had fully recovered downstream at KV-5 to levels similar to the upstream background site KV-1.

The community at the upstream site on Christal Creek, KV-6, had a large population but had low diversity. Populations were depressed downstream on Christal Creek. The benthic population is providing a food source however, as grayling fry were observed at KV-8 in June 2005. There may have been more benthic invertebrates within the baskets at KV-7, but some organisms may have been lost during the retrieval process. At some point between July 20th and August 23rd a log had become entangled in the rope securing the baskets to shore. This caused the baskets to become bunched up together near the right bank and difficulty was encountered in separating and retrieving the baskets.

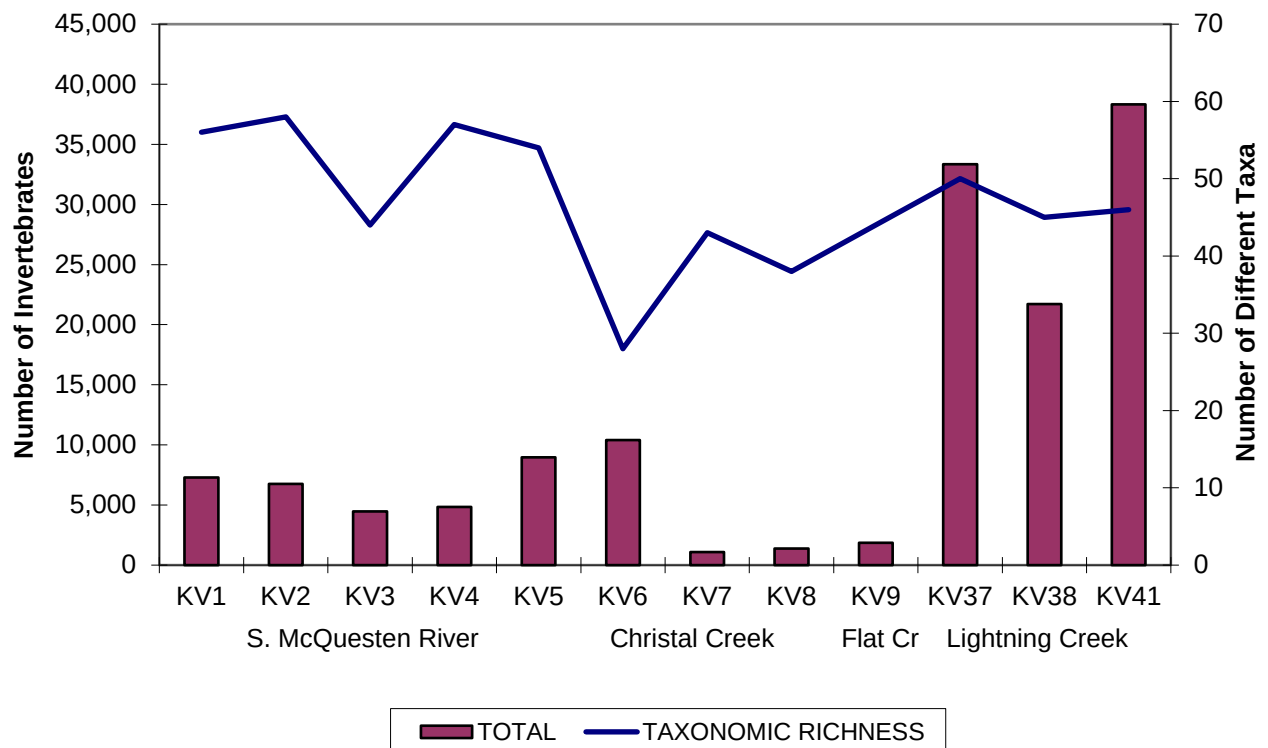
Populations were very large and diverse at all sites on Lightning Creek. Occasionally a site will have a very large population, but in the author's experience of benthic monitoring over the past 20 years, it is unusual to have high populations throughout a whole watershed in Yukon streams. Based on numbers, Lightning Creek appears to be a productive stream. Supporting this assumption is the observation of several adult grayling in the pool near KV-37 in June 2005.

Many variables contribute to invertebrate productivity, such as water temperature, air temperature, rainfall, canopy cover, substrate type and size, stream depth and velocity, as well as water and sediment quality. The life cycles of various organisms can dictate population size if an emergence is captured during the time of sampling.

TABLE 10 BENTHIC INVERTEBRATE DATA, 2005

WATERSHED	SITE #	TOTAL	TAXONOMIC RICHNESS
S. McQuesten River	KV1	7,290	56
	KV2	6,766	58
	KV3	4,464	44
	KV4	4,838	57
	KV5	8,963	54
Christal Creek	KV6	10,391	28
	KV7	1,074	43
	KV8	1,375	38
Flat Creek	KV9	1,856	44
Lightning Creek	KV37	33,360	50
	KV38	21,721	45
	KV41	38,321	46

Figure 11 BENTHIC DATA PER WATERSHED



4.4.1.2 Distribution

The composition of the benthos communities was displayed as a percentage of the major taxonomic groups for each station (Table 11). Based on this, taxa were classified with respect to their dominance within the community (Table 12).

Diptera (true flies) was the dominant or co-dominant group at all of the sites. Ephemeroptera (mayflies) shared dominance at KV-1 and Plecoptera (stoneflies) shared dominance at KV-9, KV-38 and KV-41. Plecoptera or Ephemeroptera were usually subdominant at the other sites, however Ephemeroptera was rare at all of the Christal Creek sites.

Diptera is often the dominant order of aquatic communities. Dipterans are one of the most abundant insect orders, comprising more aquatic families than any other aquatic insect order (Clifford, 1991). Many dipterans can have several generations per year, even in the north, further increasing the likelihood of their collection at sites.

The dominant single species collected throughout the study area was *Zapada sp.*, a Plecoptera, representing 21.1% of the total number of invertebrates collected (Appendix D). Seasonal growth patterns of nymphs in far northwestern streams suggest short-term hatching of eggs in late summer (Danks and Downes, 1997). *Zapada* have semivoltine lifecycles, meaning that their life spans are two or more years. Nymphs are shredders of leaf litter (Merritt and Cummins, 1988). The high populations of *Zapada* at all of the sites could be due to the late summer/early autumn timing of sampling which provided an abundant input of leaf litter from riparian shrubs and trees, and, coincided with the capture of the emergence of recent hatches.

The next three most abundant species belonged to the order Diptera; Chironomidae larvae (18.3%), *Simulium sp* larvae, a genus of the family Simuliidae (13.8%) and *Diamesa sp*, a genus of the family Chironomidae (12.6%). Chironomids occur in most types of aquatic ecosystems and their range is more extensive than any other group. They have a high range of tolerance to a wide variety of environmental conditions (Merritt and Cummins, 1988).

TABLE 11 THE PERCENTAGE OF COMPOSITION OF DIFFERENT TAXONOMIC GROUPS AT EACH STATION

TAXONOMIC GROUP	KV1	KV2	KV3	KV4	KV5	KV6	KV7	KV8	KV9	KV37	KV38	KV41
Ephemeroptera (mayflies)	27.4	8.9	15.0	15.8	15.2	0.8	0.7	0.2	0.4	3.4	7.7	1.5
Plecoptera (stoneflies)	6.0	11.7	12.4	12.6	5.4	6.8	26.4	7.6	50.4	12.9	32.0	42.7
Trichoptera (caddisflies)	3.0	5.5	3.2	4.9	8.4	2.7	9.1	4.8	6.6	0.2	0.6	2.6
Diptera (true flies)	59.7	69.3	64.8	58.7	67.2	89.0	56.9	81.0	39.6	81.1	57.4	47.1
Hydracarina (water mites)	3.3	3.7	4.4	7.3	3.5	0.5	0.8	2.2	0.3	2.3	2.0	5.6
Other *	0.7	0.9	0.2	0.7	0.4	0.3	6.1	4.3	2.7	0.1	0.4	0.5

* Other includes one or more of the following taxonomic groups:

Homoptera	Oligochaeta	Colembola	Gastropoda
Hemiptera	Copepoda	Coleoptera	Hydracarina
Thysanoptera	Aranae	Hymenoptera	
Coelenterata	Cladocera	Nematoda	

TABLE 12 TAXONOMIC DISTRIBUTION OF BENTHIC INVERTEBRATES					
SITE	LOCATION	DOMINANT (≥25%)	SUBDOMINANT (10% to 24.9%)	COMMON (1.0% to 9.9%)	RARE (0.1% to 0.9%)
KV-1	South McQuesten River upstream Christal Creek	Diptera Ephemeroptera		Plecoptera Hydracarina Trichoptera	Other
KV-2	South McQuesten River near Pumphouse	Diptera	Plecoptera	Ephemeroptera Trichoptera Hydracarina	Other
KV-3	South McQuesten R upstream Flat Creek	Diptera	Ephemeroptera Plecoptera	Hydracarina Trichoptera	Other
KV-4	South McQuesten R downstream Flat Cr	Diptera	Ephemeroptera Plecoptera	Hydracarina Trichoptera	Other
KV-5	South McQuesten River 9 km downstream Flat Cr	Diptera	Ephemeroptera	Trichoptera Plecoptera Hydracarina	Other
KV-6	Christal Creek ustream Keno Highway	Diptera		Plecoptera Trichoptera	Ephemeroptera Hydracarina Other
KV-7	Christal Creek u/s Hanson Road x-ing	Diptera	Plecoptera	Trichoptera Other	Hydracarina Ephemeroptera
KV-8	Christal Creek near mouth	Diptera		Plecoptera Trichoptera Hydracarina Other	Ephemeroptera
KV-9	Flat Creek near mouth	Plecoptera Diptera		Trichoptera Other	Ephemeroptera Hydracarina
KV-37	Lightning Cr u/s Hope Gulch	Diptera	Plecoptera	Ephemeroptera Hydracarina	Trichoptera Other
KV-38	Lightning Cr u/s Thunder Gulch	Diptera Plecoptera		Ephemeroptera Hydracarina	Trichoptera Other
KV-41	Lightning Creek at Keno	Diptera Plecoptera		Hydracarina Trichoptera Ephemeroptera	Other

Plecoptera (stoneflies), Ephemeroptera (mayflies) and Trichoptera (caddisflies) are sensitive to most types of pollution (Rosenberg and Resh, 1993). Lehmkuhl (1979) has identified several groups within these insect orders that have a very low tolerance to chemical pollution and thus can be used as indicator organisms. Thirteen taxa (eight taxa within Plecoptera, three taxa within Ephemeroptera and two taxa within Trichoptera) were identified in the Keno Valley study area (Table 13).

Three sites on the South McQuesten River, KV-1, KV-4 and KV-5, had the greatest number of sensitive taxa present with 11 out of the possible 13. The sites on Christal Creek, KV-6, KV-7 and KV-8, had the lowest number with five or six sensitive taxa present. There was no representation from any of the sensitive Ephemeroptera groups at any of the Christal Creek sites. There were only seven sensitive taxa identified at Flat Creek, KV-9, and again no sensitive mayflies were present. The sites on Lightning Creek had good representation ranging from 8 to 10 sensitive

groups present. The background site, KV-37, had the lowest number in the Lightning Creek drainage.

TABLE 13 Presence (+) and Absence (-) of Sensitive Taxa in the Keno Valley Study Area, 2005												
Sensitive Taxa	S. McQuesten River					Christal Creek			Flat Cr	Lightning Creek		
	KV-1	KV-2	KV-3	KV-4	KV-5	KV-6	KV-7	KV-8	KV-9	KV-37	KV-38	KV-41
Plecoptera												
Nemouridae	+	+	+	+	+	+	+	+	+	+	+	+
Perlodidae	+	-	+	+	-	+	-	+	+	+	+	+
Capniidae	+	+	+	+	+	-	+	+	+	+	+	+
Taeniopterigidae	+	-	+	+	+	+	+	+	+	+	+	+
Leuctridae	-	-	-	-	-	-	+	-	-	-	-	-
Chloroperlidae	+	+	-	+	+	+	+	+	+	-	+	+
Perlidae	+	+	+	+	+	-	-	-	-	-	-	-
Pteronarcyidae	+	+	+	+	+	-	-	-	-	-	-	-
Ephemeroptera												
Epeorus	-	-	-	-	+	-	-	-	-	+	+	+
Ephemerellidae	+	+	+	+	+	-	-	-	-	+	+	+
Rhithrogena	+	+	+	+	+	-	-	-	-	+	+	+
Trichoptera												
Rhyacophilidae	+	+	+	+	+	+	+	+	+	+	+	+
Brachycentridae	+	+	+	+	+	-	-	-	+	-	+	-
Total # of sensitive taxa:	11	9	10	11	11	5	6	6	7	8	10	9
After Lehmkuhl (1979)												

It would appear that the high concentrations of metals documented in the water column and the stream sediments in the Christal Creek and Flat Creek drainages (see Sections 4.1 and 4.3) are impacting the health of the benthos communities at these sites. Several metals grossly exceeded the CCME guidelines for the protection of freshwater biota at these sites. In addition, the concentrations of several metals in the stream sediments were well above the PEL and it is evident that some adverse effects are occurring.

The communities within the South McQuesten River watershed appear healthy and robust. Concentrations of water borne metals were generally fairly low, however zinc and cadmium slightly exceeded the CCME guidelines at most of the South McQuesten River sites. The concentrations of metals in the stream sediments were considerably lower than those documented in Christal and Flat Creeks, however there were occasions where the PEL was exceeded (arsenic, cadmium, lead and zinc). The high number of sensitive taxa recorded at all of the sites on the South McQuesten River would tend to indicate that the metals are probably not in a bioavailable form. The communities on Lightning Creek had diverse and very high populations with good

representation of sensitive taxa. Water quality and stream sediment concentrations were relatively similar to those of the South McQuesten River, and do not appear to be causing any adverse effects to the benthos communities.

4.4.2 Comparisons with Past Studies

Benthic invertebrate samples have been collected sporadically from several sites, dating back to 1975. Environmental Protection Service carried out biological monitoring in the study area in 1975, 1985 and 1990. As a requirement under license number Y1N85-02RI, benthic fauna sampling was conducted annually at four sites, between 1986 and 1990. In 1994, Laberge Environmental Services completed a biological monitoring program in the Keno Valley study area. All of these studies used “artificial” substrate samplers with a colonization period of five to six weeks, and triplicates were done per site. As the same methodology was employed throughout, legitimate comparisons can be undertaken.

Very few sites were sampled on each occasion. These were tabulated along with the infrequently sampled upstream sites (Table 14). Abundance at these sites was graphed in Figure 12.

There is a data gap for several years for the upstream sites, KV-1 and KV-6. Only KV-1 (South McQuesten River u/s of Christal Creek) represents a true background site. Populations were very low here in the first years of sampling but were far greater in recent years. It is not known why populations were so depressed in 1975 and 1985. Populations at Flat Creek (KV-9) and South McQuesten River d/s of Flat Creek (KV-4) were depressed during the latter years of operation of the mine (operations ceased in 1989). Populations at both sites appear to have recovered somewhat in 1994 and 2005. Populations fluctuated at South McQuesten River u/s of Flat Creek (KV-3) over time with higher populations documented during the recent surveys. Populations increased significantly in Christal Creek near the Keno highway (KV-6) in recent studies as well.

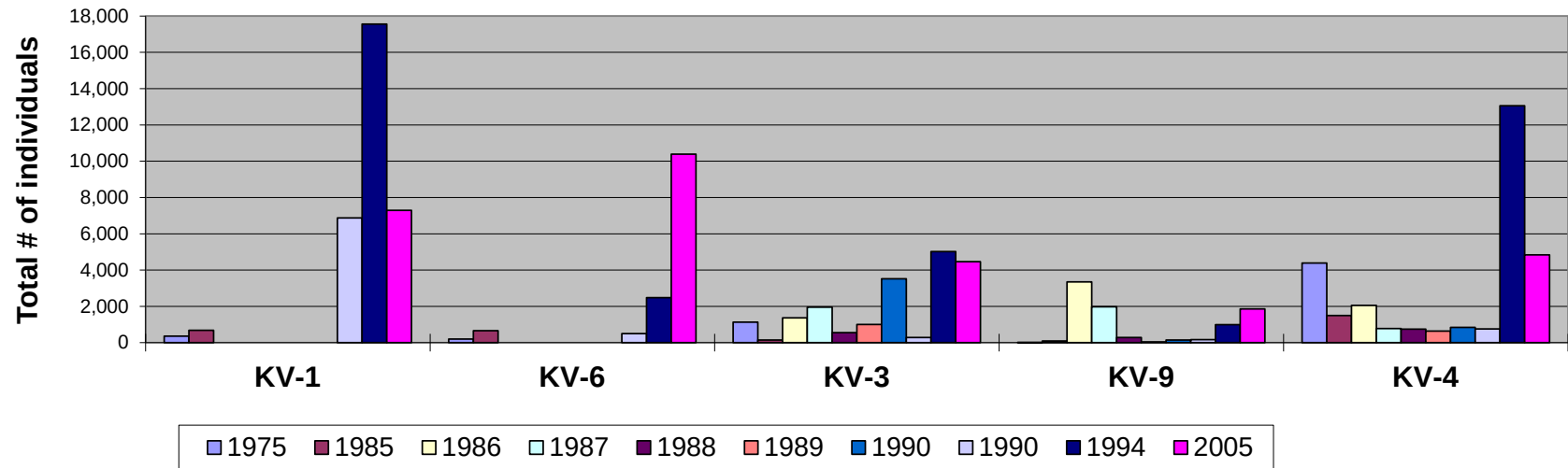
Generally diversity has increased over time, notably at KV-4, South McQuesten River d/s of Flat Creek. The site on Christal Creek, KV-6 was the only site that saw a decrease in diversity since the previous study.

TABLE 14 HISTORICAL BENTHIC DATA FOR SELECTED SITES IN THE KENO VALLEY STUDY AREA

STUDY	YEAR	S. McQuesten R. u/s Christal KV-1			Christal Cr at Keno Rd X-ing KV-6			S. McQuesten R u/s Flat Cr KV-3			Flat Cr u/s S. McQuesten R KV-9			S. McQuesten R d/s Flat Cr KV-4		
Study	Year	Total # of individuals	Total taxa	Dominance and %	Total # of individuals	Total taxa	Dominance and %	Total # of individuals	Total taxa	Dominance and %	Total # of individuals	Total taxa	Dominance and %	Total # of individuals	Total taxa	Dominance and %
EPS	1975	357	21	D 81.8	197	16	D 77.7	1129	24	D 87.9	8	5	D 62.5	4390	15	D 98.5
EPS	1985	683	26	D 76.3	655	31	D 74.2	140	20	D 32.9, P 25.7	95	14	D 42.1, P 41.1	1492	25	D 92.8
N. BIOMES	1986							1370	46	D 67.9	3343	22	D 80.7	2056	34	D 64.1
N. BIOMES	1987							1955	43	D 74.4	1976	26	P 59.4, D 36.2	775	37	D 46.5
Leverson	1988							551	36	D 44.5	282	20	D 50.3 P 42.2	740	35	D 40.6, E 27.7
Burns	1989							996	39	D 43.9, P 28.0	33	10	D 51.5	636	20	P 75.6
Burns	1990							3516	55	D 89.4	143	12	P 72.7	841	45	D 71.2
EPS	1990	6876	62	D 86.6	496	41	D 40.7, P 34.7	285	41	D 28.4, P 26.3	166	24	H 46.4, P 31.3	755	42	D 58.8
LES	1994	17557	46	D 89.6	2478	46	D 48.3, O 36.3	5016	40	D 67.5	991	36	O 53.7, D 36.6	13053	48	D 89.9
LES	2005	7290	56	D 59.7, E 27.4	10391	28	D 89.0	4464	44	D 64.8	1856	44	P 50.4, D 39.6	4838	57	D 58.7

D = Diptera E = Ephemeroptera P = Plecoptera O = Oligochaeta H = Homoptera

FIGURE 12 Abundance Over Time Per Site



Diptera has usually been the dominant order at all of the sites over time. Plecoptera shared dominance at KV-3, South McQuesten River u/s Flat Creek, on several occasions. The community at Flat Creek at the mouth, KV-9, saw the greatest shift in dominance over the years. Homoptera (true bugs) and Oligochaeta (aquatic earthworms) have shared dominance here during some of the surveys. Based on the numbers, diversity and the composition of the community, Flat Creek is the most impacted site of those examined in Table 14.

Except for the EPS study in 1975, benthic invertebrates have not been collected using artificial substrate samplers from Lightning Creek. In 1975, benthic fauna was collected from sites upstream and downstream of Thunder Gulch. The upstream site corresponds to KV-38 and had a population of 526 in 1975. This is far lower than the population documented in 2005 where a total of 21,721 individuals were collected. The composition of both communities was similar though, with Diptera as the dominant group.

In summary, with the limited data available, it appears that benthic populations were negatively affected during the years of mine operation, and have significantly recovered since. Without corresponding data from the background site (KV-1) during this time period it can not be stated definitively if this was a result of mining, or if natural regional conditions caused the depressed populations.

5.0 RECOMMENDATIONS

Water quality monitoring during the current study shows persistent high zinc levels in the Christal Creek drainage. The South McQuesten River appears to be able to absorb this loading as concentrations upstream of the confluence with Christal Creek are relatively similar to those at the downstream site, KV-5, located 9 km downstream of the Flat Creek confluence. However, monitoring of the receiving waters should continue with a frequency of at least four times per year, including freshet, summer, autumn and late winter low flow. This would encompass all seasons and flow regimes. Monitoring should include all mine drainage inputs and pathways on an annual basis at minimum.

Analysis of the stream sediments displayed an increase over the 2004 data. Annual monitoring should continue in order to obtain a greater confidence in any trends.

Benthic invertebrate populations were robust and healthy in the South McQuesten River and Lightning Creek drainages. The benthic communities within the Christal Creek drainage were depressed (at KV-7 and KV-8) and were far less diverse than in the other two drainages. Fewer sensitive insects, especially mayflies were collected here. Although the current study was the first occasion that benthic fauna was collected in 12 years, it is recommended that benthic monitoring be conducted on a biannual basis, with the next study scheduled for the summer of 2007.

To fully assess the health and productivity of the receiving waters a fisheries study should be undertaken. White Mountain Environmental Consulting conducted an in-depth fish resources study in the Keno Valley in 1994. Fish habitat was assessed and the utilization of this habitat was monitored. Fish tissue samples were also collected for metal analysis. A similar study is recommended for 2006. Utilization of Arctic grayling was observed in the Lightning and Christal Creeks drainages in 2005 and further investigation should be undertaken. The increased zinc loading experienced by Christal Creek resulting from the Galkeno 300 fugitive flow since 2003 could have an impact on the fisheries. Grayling spawn in the South McQuesten River and rear in Christal Creek, as far upstream as the Hanson Lake bridge (WMEC, 1995). The South McQuesten River is also home for salmon spawners.

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APPENDIX A

PHOTOGRAPHS



Photo #1: New site at KV-38. Clear, high velocity water. July 20, 2005



Photo #2: Artificial substrate baskets installed at KV-8 on July 20, 2005.



Photo #3: McLeod vein looking north towards Christal Lake and Keno City, July 21, 2005.



Photo #4: Collecting water samples from Silver King decant, July 19, 2005.



Photo # 5: Log entangled with the baskets at KV-7 by the left bank. August 23, 2005.



Photo # 6: Washing benthic invertebrate samples at KV-7. August 23, 2005.



Photo #7: Large Stoneflies were commonly retrieved from the baskets in the South McQuesten River. August 22, 2005.



Photo #8: Arctic grayling fry at KV-8, Christal Creek near the mouth. June 30, 2005.

APPENDIX B

WATER QUALITY

ANALYTICAL RESULTS FOR WORKORDERS:

717838 – JUNE 2005

717807 – JUNE 2005

725927 – JULY 2005

725928 – JULY 2005

739506 – AUGUST 2005

772855 – OCTOBER 2005

810439 – JANUARY 2006

810154 – JANUARY 2006

828319 – MARCH 2006

828349 – MARCH 2006



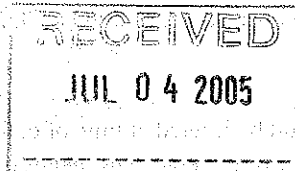
NORWEST LABS

INFORMATION SHEET WATERS

CONTROL NUMBER

W 51474

RESULTS & INVOICE TO:		COPY OF RESULTS TO:		WORK ORDER NO.	
COMPANY: L.E.S.		COMPANY:		392659	
ADDRESS: Box 21072		ADDRESS:		DATE STAMP	
CITY/TOWN: Whitehorse		CITY/TOWN:			
PROVINCE:		PROVINCE:			
POSTAL CODE:		POSTAL CODE:			
ATTENTION: BONNIE BURNS		ATTENTION:			
PHONE: 867 668 6838		PHONE:			
FAX:		FAX:			
CELL: La.berge@internorth.com		CELL:			



PURCHASE ORDER NO.:	PROJECT REF.: KEND VALLEY RECEIVING WATER	REF./QUOTE NO.:

DATE SAMPLED: 29 06 05	NUMBER OF SAMPLES: 03	WATER: 03	LIQ WASTE: 1	OTHER (SPECIFY):

SPECIAL INSTRUCTIONS (SEE OVER FOR IMPORTANT SAMPLE INFORMATION INSTRUCTIONS AND ANALYSIS CODES)		RUSH (UPON FILLING IN THIS SECTION THE CLIENT ACCEPTS THAT SURCHARGES WILL BE ATTACHED TO THE ANALYSIS) NORWEST AUTHORIZATION NAME: _____ DATE: _____ RUSH DATE REQUIRED: ☐ D ☐ M ☐ Y TIME: ☐ HR. ☐ MIN.		CLIENT NO.: _____ LP: _____ COMPLETION DATE: ☐ D ☐ M ☐ Y	
QA REPORT ☐					

SAMPLE CUSTODY	SAMPLED BY: KEN NORDIN	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY: DS
	COMPANY: LES	COMPANY:	COMPANY:	COMPANY: NWLS
	DATE: 7.1.05	DATE:	DATE:	DATE: July 4/05

SITE I.D.	SAMPLE DESCRIPTION	OTHER	ANALYSIS PACKAGE CODES (USE CODES LISTED ON THE REVERSE OF THIS SHEET)	LAB CODING
1	~~KV-1 South McQuosten u/s~~	-	TOTAL, DISSOLVED ICP METALS	
2	KV-3 South McQ. u/s Flat	-	PH, COND., ALK, SO4	
3	KV-9 Flat Creek	-	TSS, HARDNESS	
4	KV-41 Lightning Creek @ Keno	-		
5		-		
6		-		
7		-		
8		-		
9		-		
10		-		
11		-		
12		-		
13		-		
14		-		
15		-		

AGRI-FOOD ENVIRONMENTAL

ENERGY RESOURCE

EDMONTON PH. (403) 438-5522 FAX (403) 434-8586
 CALGARY PH. (403) 291-2022 FAX (403) 291-2021
 LETHBRIDGE PH. (403) 329-9266 FAX (403) 327-8527
 WINNIPEG PH. (204) 982-8630 FAX (204) 275-6019

EDMONTON PH. (403) 454-1504 FAX (403) 451-4022
 CALGARY PH. (403) 291-3024 FAX (403) 250-2819
 GRANDE PRAIRIE PH. (403) 532-8709 FAX (403) 539-0611
 FORT ST. JOHN PH. (250) 785-2731 FAX (250) 785-7092
 ESTEVAN PH. (306) 634-7218 FAX (306) 634-4101

NOTE: Please complete this form in its entirety to ensure correct testing and reporting requirements.

ACCREDITED BY THE STANDARDS COUNCIL OF CANADA FOR SPECIFIC TESTS.



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley Receiving Water
Name:
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392659
Control Number: W 51474
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717838

Contact	Company	Address									
Bonnie Burns Web Email Notification	Laberge Environmental Services	Box 21072, 1-405 Ogilvie Street Whitehorse, YT Y1A 6P7 Phone: (867) 668-6838 Email: laberge@internorth.com									
<table><tr><th><u>Copies</u></th><th><u>Delivery Strategy</u></th><th><u>Format</u></th></tr><tr><td>1</td><td>Post</td><td></td></tr><tr><td>1</td><td>Email - Single Report</td><td>PDF</td></tr></table>		<u>Copies</u>	<u>Delivery Strategy</u>	<u>Format</u>	1	Post		1	Email - Single Report	PDF	Fax: (867) 667-6956
<u>Copies</u>	<u>Delivery Strategy</u>	<u>Format</u>									
1	Post										
1	Email - Single Report	PDF									
Ken Nordin Web x Email Notification x	Laberge Environmental Services	Box 21072, 1-405 Ogilvie Street Whitehorse, YT Y1A 6P7 Phone: (867) 668-6838 Email: laberge@internorth.com									
<table><tr><th><u>Copies</u></th><th><u>Delivery Strategy</u></th><th><u>Format</u></th></tr></table>		<u>Copies</u>	<u>Delivery Strategy</u>	<u>Format</u>	Fax: (867) 667-6956						
<u>Copies</u>	<u>Delivery Strategy</u>	<u>Format</u>									

NOTE: **P** indicates a preliminary report is required

NOTE: **A** indicates report is delivered using automated delivery

_____ # OF PAGES IN THIS TRANSMISSION

Report Transmission Notes

Agreement Notes

Lot Notes

Sample Notes:

Notes to Clients

Lot Notes:

Some total metal results were less than dissolved metal results for sample 392659-1,2,3. The results were REchecked. HL. July 08 2005.

Sample Notes:

Batch Notes:

Method Notes:

Method Result Notes:

Reports associated with this Lot

Id/Format/Reported Date

717838 Env2 3 Smp & DL

Id/Format/Reported Date

Id/Format/Reported Date

Comment:

See Methodology and Notes page of Analytical Report for all comments pertaining to this report.

If this report transmission is not satisfactory, please send report requirements to the address at the top of this page.



Sample Custody

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley Receiving Water
Name:
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392659
Control Number: W 51474
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717838

Sample Disposal Date: Aug 07, 2005

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the upper right of this page.

_____ **Extend Sample Storage Until** _____ **(MM/DD/YY)**

The following charges apply to extended sample storage:

Storage for 1 to 5 samples per month	\$ 10.00
Storage for 6 to 20 samples per month	\$ 15.00
Storage for 21 to 50 samples per month	\$ 30.00
Storage for 51 to 200 samples per month	\$ 60.00
Storage for more than 200 samples per month	\$ 110.00

_____ **Return Sample, collect, to the address below via:**

_____ Greyhound
_____ Loomis
_____ Purolator
_____ Other (Specify) _____

Name: _____
Company: _____
Address: _____

Phone: _____
Fax: _____
Signature: _____

If no other arrangements have been made, samples will be disposed of on Aug 07, 2005.



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley Receiving Water
Name:
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392659
Control Number: W 51474
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717838

Page: 1 of 4

		NWL Number		392659-1	392659-2	392659-3
		Sample Date		Jun 29, 2005	Jun 29, 2005	Jun 29, 2005
		Sample Location		KV-3	KV-9	KV-41
		Sample Description		KV-3 / South McQ. u/s Flat	KV-9 / Flat Creek	KV-41 / Lightning Creek @ Keno
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Dissolved						
Silicon	Dissolved	mg/L	<0.05	2.62	2.46	0.05
Sulfur	Dissolved	mg/L	1.8	46.8	10.8	0.3
Aluminum	Dissolved	mg/L	0.065	<0.005	0.013	0.005
Antimony	Dissolved	mg/L	<0.0002	0.0013	0.0003	0.0002
Arsenic	Dissolved	mg/L	0.0016	0.0020	0.0020	0.0002
Barium	Dissolved	mg/L	0.052	0.068	0.040	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00010	0.00036	0.00015	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0002	<0.0001	<0.0001	0.0001
Copper	Dissolved	mg/L	0.001	0.001	<0.001	0.001
Lead	Dissolved	mg/L	0.0004	0.0020	0.0001	0.0001
Lithium	Dissolved	mg/L	0.004	0.004	0.001	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0047	0.0006	<0.0005	0.0005
Selenium	Dissolved	mg/L	0.0004	<0.0002	0.0005	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.180	0.207	0.068	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0010	0.0026	0.001	0.0005
Uranium	Dissolved	mg/L	0.0006	0.001	<0.0005	0.0005
Vanadium	Dissolved	mg/L	0.0002	0.0002	<0.0001	0.0001
Zinc	Dissolved	mg/L	0.015	0.036	0.017	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	41.0	86.9	21.0	0.2
Iron	Total	mg/L	0.2	<0.1	0.4	0.1
Magnesium	Total	mg/L	12.4	22.6	3.8	0.1
Manganese	Total	mg/L	0.070	0.045	0.058	0.005
Potassium	Total	mg/L	<0.4	<0.4	<0.4	0.4



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley Receiving Water
Name:
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392659
Control Number: W 51474
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717838

Page: 2 of 4

		NWL Number	392659-1	392659-2	392659-3	
		Sample Date	Jun 29, 2005	Jun 29, 2005	Jun 29, 2005	
		Sample Location	KV-3	KV-9	KV-41	
		Sample Description	KV-3 / South McQ. u/s Flat	KV-9 / Flat Creek	KV-41 / Lightning Creek @ Keno	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Silicon	Total	mg/L	2.00	2.57	2.79	0.05
Sodium	Total	mg/L	1.1	2.0	0.5	0.4
Sulfur	Total	mg/L	17.6	44.1	10.9	0.3
Aluminum	Total	mg/L	0.118	<0.005	0.230	0.005
Antimony	Total	mg/L	0.0003	0.0014	0.0003	0.0002
Arsenic	Total	mg/L	0.0018	0.0023	0.0032	0.0002
Barium	Total	mg/L	0.056	0.070	0.051	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00018	0.00043	0.00022	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	0.0006	0.0005
Cobalt	Total	mg/L	0.0003	<0.0001	0.0004	0.0001
Copper	Total	mg/L	0.002	0.002	0.001	0.001
Lead	Total	mg/L	0.0022	0.0086	0.0013	0.0001
Lithium	Total	mg/L	0.004	0.004	0.001	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0051	0.0007	0.001	0.0005
Selenium	Total	mg/L	0.0003	<0.0002	0.0004	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.180	0.216	0.067	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0023	0.0021	0.0067	0.0005
Uranium	Total	mg/L	0.0006	0.0011	<0.0005	0.0005
Vanadium	Total	mg/L	0.0002	<0.0001	0.0007	0.0001
Zinc	Total	mg/L	0.021	0.035	0.020	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	7	1
Routine Water						
pH	@ 25 °C	pH	7.87	7.76	7.70	
Electrical Conductivity	Water	uS/cm	315	625	181	1



Analytical Report

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Box 21072
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Attn: Bonnie Burns
Sampled By: Ken Nordin
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Project
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Page: 3 of 4

		NWL Number	392659-1	392659-2	392659-3
		Sample Date	Jun 29, 2005	Jun 29, 2005	Jun 29, 2005
		Sample Location	KV-3	KV-9	KV-41
		Sample Description	KV-3 / South McQ. u/s Flat	KV-9 / Flat Creek	KV-41 / Lightning Creek @ Keno
		Matrix	Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Detection Limit
Routine Water - Continued					
Calcium	Dissolved	mg/L	4.6	88.5	0.2
Magnesium	Dissolved	mg/L	1.4	23.0	0.1
Sodium	Dissolved	mg/L	<0.4	2.4	0.4
Potassium	Dissolved	mg/L	<0.4	0.5	0.4
Iron	Dissolved	mg/L	<0.01	0.02	0.01
Manganese	Dissolved	mg/L	<0.005	0.032	0.007
Sulfate (SO ₄)	Dissolved	mg/L	54	143	0.1
Hydroxide	Water	mg/L	<5	<5	5
Carbonate	Water	mg/L	<6	<6	5
Bicarbonate	Water	mg/L	130	209	5
T-Alkalinity	as CaCO ₃	mg/L	107	172	5
Hardness	Dissolved as CaCO ₃	mg/L	17	316	70

Approved by:

Bill Warning, B.Sc.
Lab Operations Manager



Methodology and Notes

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
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Attn: Bonnie Burns
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Project
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NWL Lot ID: 392659
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Page: 4 of 4

Method of Analysis:

MethodName	Reference	Method	Date Analysis Started	Location
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	7-Jul-05	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	6-Jul-05	Norwest Labs Surrey
Conductivity (Surrey)	APHA	* Conductivity - Laboratory Method, 2510 B	7-Jul-05	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	7-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	7-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	6-Jul-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	7-Jul-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	6-Jul-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	6-Jul-05	Norwest Labs Edmonton
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	5-Jul-05	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	7-Jul-05	Norwest Labs Surrey

* Norwest method(s) is based on reference method

References:

APHA Standard Methods for the Examination of Water and Wastewater
US EPA US Environmental Protection Agency Test Methods

Comments:

Some total metal results were less than dissolved metal results for sample 392659-1,2,3. The results were REchecked. HL. July 08 2005.

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



NORWEST LABS

Lot 392B36

Control Number E 193786

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice:	
Company:		Company: <u>ACG</u>		Mail invoice to this	
Address: Laberge Environmental Services QA/QC Report ☐		Address:		address for approval ☐	
P.O. Box 5111					
Whitehorse, Yukon, Y1A 4S3					
Attention: Ken Nordin		Report Result:		Report Result:	
Phone: (867) 668-1043		Fax ☐		Fax ☐	
Fax: (867) 667-6956		Mail ☒		Mail ☒	
Cell:		Courier ☐		Courier ☐	
e-mail: laberge@internorth.com		e-mail ☒		e-mail ☒	
		e-Service ☐		e-Service ☒	

Information to be included on Report and Invoice

Project ID: G300 Fugitive Flow
 Project Name: Investigation
 Project Location: Receiving waters
 Legal Location:
 PO#:
 Proj. Acct. Code:
 Agreement ID: 17654

RUSH

Please contact the laboratory to confirm rush dates and times before submitting samples.

Upon filling out this section, client accepts that surcharges will be attached to this analysis

Required on: all analyses ☐ or ☐

Date Required: _____

Signature: _____

Norwest Authorization: _____

Sample Custody (Please Print)

Relinquished by: Ken Nordin

Company LES Signature [Signature]

I authorize Norwest Labs to proceed with the work indicated on this form:

Date: _____

Initial: _____

Received by: ☐ Coolers

Waybill ☒ Date: _____ Boxes

Company JUL 04 2005 Time: _____ Samples

Received By: _____ Date: _____

Company: _____ Time: _____

Special Instructions / Comments

☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

2005

	Sample Identification	Location	Depth			Date / Time Sampled	Matrix	Sampling Method	Number of Containers	Enter tests above (✓ relevant samples below)									
			IN	CM	M					TOTAL M.	DISS. M.	ALK	SO4	PH	COND	TSS	HARD.		
1	S. McQ. v/s Christal	KV-1	—			6.30	H2O	GRAB	3										
2	S. McQ. @ PH Pond	KV-2	—			6.30			3										
3	S. McQ. 9 km DIS Flat	KV-5	—			6.29			3										
4	Christal v/s keno Hwy	KV-6	—			6.30			3										
5	Christal @ H.L. Rd	KV-7	—			6.30			3										
6	Christal @ mouth	KV-8	—			6.30			3										
7	Christal site (A)	(A)	—			6.30			3										
8	Christal site (C)	(C)	—			6.30			3										
9	Christal site (D)	(D)	—			6.30			3										
10	CULVERT #4	#4	—			7.1			3										
11	G300 ADIT		—			6.30			3										
12	S. McQ. @ Haggart		—			6.29			3										
13	DUP-1		—			6.30			2										
14	FILTER BLANK		—			6.30			1										
15	Valley TP #3		—			6.30													

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.

Accredited by the Standards Council of Canada for specific tests

Page 1 of 1

NW1008 (08/03)



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392636
Control Number: E 193786
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717807

Contact	Company	Address
Scott Keeseey Web Email Notification	Access Mining Consultants Ltd.	# 3 Calcite Business Centre, 151 Industrial Road Whitehorse, YT Y1A 2V3 Phone: (867) 668-6463 Email: scott@accessconsulting.ca
		Fax: (867) 667-6680
<u>Copies Delivery Strategy</u>		<u>Format</u>
	1 Post	
A	1 Email - Single Report	PDF
A	1 Email - Single Report	Standard List

NOTE: **P** indicates a preliminary report is required

NOTE: **A** indicates report is delivered using automated delivery

_____ # OF PAGES IN THIS TRANSMISSION

Report Transmission Notes

Agreement Notes

Lot Notes

Sample Notes:

Notes to Clients

Lot Notes:

Some total metal results were less than dissolved metal results for sample 392636-2,3,13. The dissolved metal results were rechecked and no more samples for redigestion. HL. July 08 2005.

Some total metal results were less than dissolved metal results for sample 392636-4,7,9 and 10. The results were checked and are within the method uncertainty. HL. July 08 2005.

Some total metal results were less than dissolved metal results for sample 392636-5,6,8,11,12,15. The samples results were redigested and results were rechecked. HL. July 08 2005.

Sample Notes:

Batch Notes:

Method Notes:

Method Result Notes:

Reports associated with this Lot

Id/Format/Reported Date

717807 Env2 3 Smp & DL

Id/Format/Reported Date

Id/Format/Reported Date

Comment:

See Methodology and Notes page of Analytical Report for all comments pertaining to this report.

If this report transmission is not satisfactory, please send report requirements to the address at the top of this page.



Report Transmission Cover Page

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Whitehorse, YT, Canada
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Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392636
Control Number: E 193786
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717807

7/8/05

717807 08-Jul-2005



Sample Custody

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
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Fax: (604) 514-3323

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Company: LES

Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392636
Control Number: E 193786
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717807

Sample Disposal Date: Aug 07, 2005

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the upper right of this page.

_____ **Extend Sample Storage Until** _____ **(MM/DD/YY)**

The following charges apply to extended sample storage:

Storage for 1 to 5 samples per month	\$ 10.00
Storage for 6 to 20 samples per month	\$ 15.00
Storage for 21 to 50 samples per month	\$ 30.00
Storage for 51 to 200 samples per month	\$ 60.00
Storage for more than 200 samples per month	\$ 110.00

_____ **Return Sample, collect, to the address below via:**

_____ Greyhound
_____ Loomis
_____ Purolator
_____ Other (Specify) _____

Name: _____
Company: _____
Address: _____

Phone: _____
Fax: _____
Signature: _____

If no other arrangements have been made, samples will be disposed of on Aug 07, 2005.



Analytical Report

Norwest Labs
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Phone: (604) 514-3322
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Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392636
Control Number: E 193786
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717807

Page: 1 of 18

		NWL Number		392636-1	392636-2	392636-3
		Sample Date		Jun 30, 2005	Jun 30, 2005	Jun 29, 2005
		Sample Description		KV-1 / S. McQ u/s Christal	KV-2 / S. McQ @ PH Pond	KV-5 / S. McQ 9 km d/s Flat
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Dissolved						
Silicon	Dissolved	mg/L	<0.5	1.84	1.99	0.05
Sulfur	Dissolved	mg/L	14	18.7	18.9	0.3
Aluminum	Dissolved	mg/L	0.094	0.076	0.059	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.001	0.0011	0.0025	0.0002
Barium	Dissolved	mg/L	0.048	0.051	0.054	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00006	0.00010	0.00010	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0003	0.0002	0.0001	0.0001
Copper	Dissolved	mg/L	0.001	0.001	0.001	0.001
Lead	Dissolved	mg/L	<0.0001	0.0002	0.0005	0.0001
Lithium	Dissolved	mg/L	0.004	0.004	0.004	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0061	0.0052	0.0042	0.0005
Selenium	Dissolved	mg/L	0.0005	0.0004	0.0004	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.182	0.178	0.184	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.001	0.0011	0.0011	0.0005
Uranium	Dissolved	mg/L	<0.0005	0.0006	0.0006	0.0005
Vanadium	Dissolved	mg/L	0.0002	0.0003	0.0004	0.0001
Zinc	Dissolved	mg/L	0.014	0.015	0.013	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	37.7	39.7	41.8	0.2
Iron	Total	mg/L	0.2	0.3	0.2	0.1
Magnesium	Total	mg/L	11.8	12.2	12.6	0.1
Manganese	Total	mg/L	0.056	0.060	0.060	0.005
Potassium	Total	mg/L	<0.4	<0.4	<0.4	0.4
Silicon	Total	mg/L	1.84	1.97	2.05	0.05



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
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Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392636
Control Number: E 193786
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717807

Page: 2 of 18

		NWL Number	392636-1	392636-2	392636-3	
		Sample Date	Jun 30, 2005	Jun 30, 2005	Jun 29, 2005	
		Sample Description	KV-1 / S. McQ u/s Christal	KV-2 / S. McQ @ PH Pond	KV-5 / S. McQ 9 km d/s Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Sodium	Total	mg/L	1.1	1.1	1.2	0.4
Sulfur	Total	mg/L	16.6	17.0	17.4	0.3
Aluminum	Total	mg/L	0.164	0.195	0.116	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0011	0.0014	0.0028	0.0002
Barium	Total	mg/L	0.050	0.054	0.058	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00012	0.00018	0.00015	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0005	0.0006	0.0002	0.0001
Copper	Total	mg/L	0.002	0.002	0.002	0.001
Lead	Total	mg/L	0.0002	0.0014	0.0026	0.0001
Lithium	Total	mg/L	0.004	0.004	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0070	0.0062	0.0051	0.0005
Selenium	Total	mg/L	0.0005	0.0003	0.0003	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.186	0.180	0.189	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0028	0.0041	0.0021	0.0005
Uranium	Total	mg/L	0.0006	0.0006	0.0006	0.0005
Vanadium	Total	mg/L	0.0003	0.0004	0.0003	0.0001
Zinc	Total	mg/L	0.020	0.026	0.019	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	3	4	<2	1
Routine Water						
pH	@ 25 °C	pH	7.66	8.05	7.71	
Electrical Conductivity	Water	uS/cm	311	327	334	1
Calcium	Dissolved	mg/L	38	40.2	43.2	0.2
Magnesium	Dissolved	mg/L	11	12.1	12.8	0.1



Analytical Report

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3 Calcite Business Centre
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Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
Location:
LSD:
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Page: 3 of 18

		NWL Number	392636-1	392636-2	392636-3	
		Sample Date	Jun 30, 2005	Jun 30, 2005	Jun 29, 2005	
		Sample Description	KV-1 / S. McQ u/s Christal	KV-2 / S. McQ @ PH Pond	KV-5 / S. McQ 9 km d/s Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Sodium	Dissolved	mg/L	1.5	0.9	1	0.4
Potassium	Dissolved	mg/L	0.5	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	<0.10	0.03	0.05	0.01
Manganese	Dissolved	mg/L	<0.05	0.038	0.038	0.005
Sulfate (SO4)	Dissolved	mg/L	51	55	50	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	116	124	129	5
T-Alkalinity	as CaCO3	mg/L	95	102	106	5
Hardness	Dissolved as CaCO3	mg/L	140	150	161	



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Page: 4 of 18

		NWL Number		392636-4	392636-5	392636-6
		Sample Date		Jun 30, 2005	Jun 30, 2005	Jun 30, 2005
		Sample Description		KV-6 / Christal u/s Keno Hwy	KV-7 / Christal @ H.L. Rd.	KV-8 / Christal @ Mouth
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Dissolved						
Silicon	Dissolved	mg/L	1.57	2.50	2.28	0.05
Sulfur	Dissolved	mg/L	90.8	60.4	61.4	0.3
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	0.0006	0.0003	0.0004	0.0002
Arsenic	Dissolved	mg/L	0.0039	0.0018	0.0023	0.0002
Barium	Dissolved	mg/L	0.063	0.056	0.052	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00146	0.00106	0.00109	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0002	<0.0001	<0.0001	0.0001
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	0.0029	0.0003	0.0003	0.0001
Lithium	Dissolved	mg/L	0.011	0.005	0.006	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0031	0.0014	0.0013	0.0005
Selenium	Dissolved	mg/L	0.0008	0.0008	0.0006	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.215	0.223	0.219	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0055	0.0035	0.0035	0.0005
Uranium	Dissolved	mg/L	0.0049	0.0024	0.0022	0.0005
Vanadium	Dissolved	mg/L	0.0004	0.0002	0.0002	0.0001
Zinc	Dissolved	mg/L	0.229	0.184	0.196	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	114	88.6	89.9	0.2
Iron	Total	mg/L	1.6	<0.1	0.1	0.1
Magnesium	Total	mg/L	22.6	18.7	18.8	0.1
Manganese	Total	mg/L	0.891	0.101	0.074	0.005
Potassium	Total	mg/L	<0.4	<0.4	<0.4	0.4
Silicon	Total	mg/L	2.42	2.49	2.30	0.05



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NWL Lot ID: 392636
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Report Number: 717807

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		NWL Number	392636-4	392636-5	392636-6	
		Sample Date	Jun 30, 2005	Jun 30, 2005	Jun 30, 2005	
		Sample Description	KV-6 / Christal u/s Keno Hwy	KV-7 / Christal @ H.L. Rd.	KV-8 / Christal @ Mouth	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Sodium	Total	mg/L	1.2	1.2	1.2	0.4
Sulfur	Total	mg/L	85.2	56.1	57.0	0.3
Aluminum	Total	mg/L	0.452	0.008	<0.005	0.005
Antimony	Total	mg/L	0.0025	0.0003	0.0004	0.0002
Arsenic	Total	mg/L	0.0261	0.0019	0.0024	0.0002
Barium	Total	mg/L	0.076	0.055	0.053	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00527	0.00118	0.00120	0.00001
Chromium	Total	mg/L	0.0009	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0008	<0.0001	<0.0001	0.0001
Copper	Total	mg/L	0.003	<0.001	<0.001	0.001
Lead	Total	mg/L	0.120	0.0010	0.0013	0.0001
Lithium	Total	mg/L	0.010	0.005	0.005	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0053	0.0015	0.0014	0.0005
Selenium	Total	mg/L	0.0007	0.0007	0.0006	0.0002
Silver	Total	mg/L	0.0013	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.229	0.226	0.232	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0172	0.0030	0.0032	0.0005
Uranium	Total	mg/L	0.0055	0.0024	0.0023	0.0005
Vanadium	Total	mg/L	0.0014	0.0002	0.0001	0.0001
Zinc	Total	mg/L	0.438	0.191	0.214	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	36	<2	<2	1
Routine Water						
pH	@ 25 °C	pH	7.84	8.10	8.11	
Electrical Conductivity	Water	uS/cm	752	618	616	1
Calcium	Dissolved	mg/L	117	90.7	89.8	0.2
Magnesium	Dissolved	mg/L	22.4	18.9	18.7	0.1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
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Phone: (604) 514-3322
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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392636
Control Number: E 193786
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717807

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		NWL Number	392636-4	392636-5	392636-6
		Sample Date	Jun 30, 2005	Jun 30, 2005	Jun 30, 2005
		Sample Description	KV-6 / Christal u/s Keno Hwy	KV-7 / Christal @ H.L. Rd.	KV-8 / Christal @ Mouth
		Matrix	Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Detection Limit
Routine Water - Continued					
Sodium	Dissolved	mg/L	0.9	1	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	0.03	0.02	0.01
Manganese	Dissolved	mg/L	0.271	0.100	0.005
Sulfate (SO4)	Dissolved	mg/L	250	186	0.1
Hydroxide	Water	mg/L	<5	<5	5
Carbonate	Water	mg/L	<6	<6	5
Bicarbonate	Water	mg/L	128	153	5
T-Alkalinity	as CaCO3	mg/L	105	125	5
Hardness	Dissolved as CaCO3	mg/L	384	304	301



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Report Number: 717807

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		NWL Number	392636-7	392636-8	392636-9	
		Sample Date	Jun 30, 2005	Jun 30, 2005	Jun 30, 2005	
		Sample Description	(A) / Christal Site (A)	(C) / Christal Site (C)	(D) / Christal Site (D)	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Dissolved						
Silicon	Dissolved	mg/L	2.00	2.93	1.98	0.05
Sulfur	Dissolved	mg/L	103	261	105	0.3
Aluminum	Dissolved	mg/L	0.014	<0.005	0.007	0.005
Antimony	Dissolved	mg/L	0.0005	<0.0002	0.0005	0.0002
Arsenic	Dissolved	mg/L	0.0034	0.0006	0.0030	0.0002
Barium	Dissolved	mg/L	0.063	0.029	0.059	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00099	0.00443	0.00098	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0002	<0.0001	0.0002	0.0001
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	0.0011	<0.0001	0.001	0.0001
Lithium	Dissolved	mg/L	0.01	0.011	0.01	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0027	0.0122	0.0027	0.0005
Selenium	Dissolved	mg/L	0.0006	0.0006	0.0006	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.277	0.544	0.285	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0063	0.0156	0.0066	0.0005
Uranium	Dissolved	mg/L	0.0046	0.0011	0.0046	0.0005
Vanadium	Dissolved	mg/L	0.0004	0.0003	0.0003	0.0001
Zinc	Dissolved	mg/L	0.178	2.38	0.209	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	131	277	135	0.2
Iron	Total	mg/L	0.4	0.2	0.4	0.1
Magnesium	Total	mg/L	24.2	42.2	25.0	0.1
Manganese	Total	mg/L	0.315	0.015	0.297	0.005
Potassium	Total	mg/L	<0.4	0.6	<0.4	0.4
Silicon	Total	mg/L	2.25	3.11	2.19	0.05
Sodium	Total	mg/L	1.3	1.7	1.4	0.4



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Project
ID: G300 Fugitive Flow Investigati
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		NWL Number	392636-7	392636-8	392636-9	
		Sample Date	Jun 30, 2005	Jun 30, 2005	Jun 30, 2005	
		Sample Description	(A) / Christal Site (A)	(C) / Christal Site (C)	(D) / Christal Site (D)	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Sulfur	Total	mg/L	98.6	249	103	0.3
Aluminum	Total	mg/L	0.093	0.106	0.079	0.005
Antimony	Total	mg/L	0.0005	<0.0002	0.0004	0.0002
Arsenic	Total	mg/L	0.0042	0.0012	0.0041	0.0002
Barium	Total	mg/L	0.063	0.027	0.059	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00160	0.00487	0.00169	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0012	0.0001	0.0003	0.0001
Copper	Total	mg/L	0.001	0.001	0.001	0.001
Lead	Total	mg/L	0.0052	0.0008	0.0048	0.0001
Lithium	Total	mg/L	0.010	0.013	0.010	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0029	0.0119	0.0030	0.0005
Selenium	Total	mg/L	0.0006	0.0005	0.0006	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.282	0.569	0.296	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0065	0.0138	0.0071	0.0005
Uranium	Total	mg/L	0.0051	0.0014	0.0050	0.0005
Vanadium	Total	mg/L	0.0004	0.0004	0.0004	0.0001
Zinc	Total	mg/L	0.196	2.50	0.246	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	6	10	8	1
Routine Water						
pH	@ 25 °C	pH	8.02	7.78	8.03	
Electrical Conductivity	Water	uS/cm	823	1530	852	1
Calcium	Dissolved	mg/L	128	269	131	0.2
Magnesium	Dissolved	mg/L	24.0	41.3	24.4	0.1
Sodium	Dissolved	mg/L	1.1	1.4	1.1	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4



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Company: LES

Project
ID: G300 Fugitive Flow Investigati
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		NWL Number	392636-7	392636-8	392636-9	
		Sample Date	Jun 30, 2005	Jun 30, 2005	Jun 30, 2005	
		Sample Description	(A) / Christal Site (A)	(C) / Christal Site (C)	(D) / Christal Site (D)	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Iron	Dissolved	mg/L	0.06	<0.01	0.06	0.01
Manganese	Dissolved	mg/L	0.294	<0.005	0.276	0.005
Sulfate (SO4)	Dissolved	mg/L	260	260	300	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	144	96	148	5
T-Alkalinity	as CaCO3	mg/L	118	79	121	5
Hardness	Dissolved as CaCO3	mg/L	418	843	428	



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		NWL Number	392636-10	392636-11	392636-12	
		Sample Date	Jul 01, 2005	Jun 30, 2005	Jun 29, 2005	
		Sample Description	#4 / Culvert # 4	G 300 Adit	S. McQ @ Haggart	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Dissolved						
Silicon	Dissolved	mg/L	2.98	4.38	2.47	0.05
Sulfur	Dissolved	mg/L	289	344	18.1	0.3
Aluminum	Dissolved	mg/L	<0.005	0.008	0.035	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	0.0003	0.0002
Arsenic	Dissolved	mg/L	0.0005	0.0350	0.0034	0.0002
Barium	Dissolved	mg/L	0.023	0.01	0.052	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	0.004	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00554	0.787	0.00007	0.00001
Chromium	Dissolved	mg/L	<0.0005	0.0006	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0002	0.114	<0.0001	0.0001
Copper	Dissolved	mg/L	<0.001	0.011	0.001	0.001
Lead	Dissolved	mg/L	<0.0001	0.0004	0.0007	0.0001
Lithium	Dissolved	mg/L	0.008	0.024	0.005	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0098	0.395	0.0028	0.0005
Selenium	Dissolved	mg/L	0.0004	0.0005	0.0004	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.578	0.290	0.199	0.001
Thallium	Dissolved	mg/L	<0.00005	0.00120	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0178	0.0159	0.001	0.0005
Uranium	Dissolved	mg/L	0.0012	<0.0005	0.0007	0.0005
Vanadium	Dissolved	mg/L	0.0004	<0.0001	0.0002	0.0001
Zinc	Dissolved	mg/L	1.91	145	0.022	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	306	182	44.2	0.2
Iron	Total	mg/L	0.3	27.0	0.2	0.1
Magnesium	Total	mg/L	51.9	39.3	13.1	0.1
Manganese	Total	mg/L	0.332	156	0.111	0.005
Potassium	Total	mg/L	0.6	0.6	0.5	0.4
Silicon	Total	mg/L	3.32	4.75	2.67	0.05
Sodium	Total	mg/L	1.9	1.5	1.4	0.4



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Project
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LSD:
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Acct. Code:

NWL Lot ID: 392636
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Date Received: Jul 04, 2005
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		NWL Number		392636-10	392636-11	392636-12
		Sample Date		Jul 01, 2005	Jun 30, 2005	Jun 29, 2005
		Sample Description		#4 / Culvert # 4	G 300 Adit	S. McQ @ Haggart
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Sulfur	Total	mg/L	280	325	18.5	0.3
Aluminum	Total	mg/L	0.164	0.362	0.051	0.005
Antimony	Total	mg/L	<0.0002	0.0011	0.0003	0.0002
Arsenic	Total	mg/L	0.0009	0.224	0.0037	0.0002
Barium	Total	mg/L	0.021	0.008	0.060	0.001
Beryllium	Total	mg/L	<0.0001	0.0002	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	0.004	<0.002	0.002
Cadmium	Total	mg/L	0.00572	0.802	0.00010	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0005	0.104	0.0001	0.0001
Copper	Total	mg/L	0.001	0.033	0.001	0.001
Lead	Total	mg/L	0.0006	0.0575	0.0015	0.0001
Lithium	Total	mg/L	0.009	0.028	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0095	0.379	0.0029	0.0005
Selenium	Total	mg/L	0.0006	0.0006	0.0003	0.0002
Silver	Total	mg/L	<0.0001	0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.571	0.272	0.194	0.001
Thallium	Total	mg/L	<0.00005	0.00109	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0177	0.0134	0.0011	0.0005
Uranium	Total	mg/L	0.0017	0.0008	0.0007	0.0005
Vanadium	Total	mg/L	0.0005	<0.0001	0.0002	0.0001
Zinc	Total	mg/L	1.91	133	0.012	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	11	52	<2	1
Routine Water						
pH	@ 25 °C	pH	7.57	5.53	7.83	
Electrical Conductivity	Water	uS/cm	1530	1760	358	1
Calcium	Dissolved	mg/L	299	180	41.1	0.2
Magnesium	Dissolved	mg/L	51.6	39.7	12.4	0.1
Sodium	Dissolved	mg/L	1.8	1.2	1.1	0.4
Potassium	Dissolved	mg/L	0.5	<0.4	<0.4	0.4



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		NWL Number	392636-10	392636-11	392636-12	
		Sample Date	Jul 01, 2005	Jun 30, 2005	Jun 29, 2005	
		Sample Description	#4 / Culvert # 4	G 300 Adit	S. McQ @ Haggart	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Iron	Dissolved	mg/L	<0.01	11.0	0.07	0.01
Manganese	Dissolved	mg/L	0.302	167	0.095	0.005
Sulfate (SO4)	Dissolved	mg/L	810	1020	52	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	102	27	133	5
T-Alkalinity	as CaCO3	mg/L	84	22	109	5
Hardness	Dissolved as CaCO3	mg/L	959	614	154	



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		NWL Number	392636-13	392636-14	392636-15	
		Sample Date	Jun 30, 2005	Jun 30, 2005	Jun 30, 2005	
		Sample Description	Dup - 1	Filter Blank	Valley TP # 3	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Dissolved						
Silicon	Dissolved	mg/L	2.02	0.16	0.20	0.05
Sulfur	Dissolved	mg/L	107	0.3	65.3	0.3
Aluminum	Dissolved	mg/L	0.007	<0.005	0.013	0.005
Antimony	Dissolved	mg/L	0.0005	<0.0002	0.0150	0.0002
Arsenic	Dissolved	mg/L	0.0030	<0.0002	0.0081	0.0002
Barium	Dissolved	mg/L	0.060	<0.001	0.026	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	0.008	0.002
Cadmium	Dissolved	mg/L	0.00103	<0.00001	0.00012	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0002	<0.0001	0.0002	0.0001
Copper	Dissolved	mg/L	<0.001	<0.001	0.002	0.001
Lead	Dissolved	mg/L	0.001	<0.0001	0.0096	0.0001
Lithium	Dissolved	mg/L	0.012	<0.001	0.005	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0026	<0.0005	0.0032	0.0005
Selenium	Dissolved	mg/L	0.0006	<0.0002	<0.0002	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.296	<0.001	0.244	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	0.00006	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0059	<0.0005	0.0038	0.0005
Uranium	Dissolved	mg/L	0.0047	<0.0005	0.0007	0.0005
Vanadium	Dissolved	mg/L	0.0002	<0.0001	0.0001	0.0001
Zinc	Dissolved	mg/L	0.215	0.001	0.012	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Routine Water						
pH	@ 25 °C	pH	-	-	7.91	
Electrical Conductivity	Water	uS/cm	-	-	540	1
Calcium	Dissolved	mg/L	130	<0.2	61.1	0.2
Magnesium	Dissolved	mg/L	24.4	<0.1	22.8	0.1
Sodium	Dissolved	mg/L	1.1	1.2	3.8	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	0.05	<0.01	0.05	0.01



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392636
Control Number: E 193786
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717807

Page: 14 of 18

		NWL Number	392636-13	392636-14	392636-15
		Sample Date	Jun 30, 2005	Jun 30, 2005	Jun 30, 2005
		Sample Description	Dup - 1	Filter Blank	Valley TP # 3
		Matrix	Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Detection Limit
Routine Water - Continued					
Manganese	Dissolved	mg/L	0.305	0.018	0.033
Sulfate (SO4)	Dissolved	mg/L	-	-	208
Hydroxide	Water	mg/L	-	-	<5
Carbonate	Water	mg/L	-	-	<6
Bicarbonate	Water	mg/L	-	-	61
T-Alkalinity	as CaCO3	mg/L	-	-	50
Hardness	Dissolved as CaCO3	mg/L	-	-	246



Analytical Report

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Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
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NWL Lot ID: 392636
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Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717807

Page: 15 of 18

		NWL Number		392636-13	392636-15
		Sample Date		Jun 30, 2005	Jun 30, 2005
		Sample Description		Dup - 1	Valley TP # 3
		Matrix		Water - General	Water - General
Analyte		Units	Results	Results	Detection Limit
Metals Total					
Calcium	Total	mg/L	137	62.1	0.2
Iron	Total	mg/L	0.2	0.1	0.1
Magnesium	Total	mg/L	25.4	23.0	0.1
Manganese	Total	mg/L	0.307	0.097	0.005
Potassium	Total	mg/L	<0.4	0.5	0.4
Silicon	Total	mg/L	2.09	0.25	0.05
Sodium	Total	mg/L	1.4	3.9	0.4
Sulfur	Total	mg/L	102	64.4	0.3
Aluminum	Total	mg/L	0.021	0.020	0.005
Antimony	Total	mg/L	0.0004	0.0142	0.0002
Arsenic	Total	mg/L	0.0035	0.0080	0.0002
Barium	Total	mg/L	0.058	0.028	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	0.008	0.002
Cadmium	Total	mg/L	0.00153	0.00026	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0003	0.0003	0.0001
Copper	Total	mg/L	0.001	0.002	0.001
Lead	Total	mg/L	0.0033	0.0249	0.0001
Lithium	Total	mg/L	0.011	0.005	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0028	0.0036	0.0005
Selenium	Total	mg/L	0.0006	<0.0002	0.0002
Silver	Total	mg/L	<0.0001	0.0001	0.0001
Strontium	Total	mg/L	0.298	0.242	0.001
Thallium	Total	mg/L	<0.00005	0.00007	0.00005
Tin	Total	mg/L	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0045	0.0028	0.0005
Uranium	Total	mg/L	0.0050	0.0008	0.0005
Vanadium	Total	mg/L	0.0002	0.0002	0.0001
Zinc	Total	mg/L	0.230	0.024	0.001
Zirconium	Total	mg/L	<0.001	<0.001	0.001



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 Fugitive Flow Investigati
Name: Receiving Waters
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 392636
Control Number: E 193786
Date Received: Jul 04, 2005
Date Reported: Jul 08, 2005
Report Number: 717807

Page: 16 of 18

NWL Number 392636-15
Sample Date Jun 30, 2005
Sample Description Valley TP # 3
Matrix Water - General

Analyte	Units	Results	Results	Results	Detection Limit
Physical and Aggregate Properties					
Solids	Total Suspended	mg/L	2		1

Approved by:

Bill Warning, B.Sc.
Lab Operations Manager



Methodology and Notes

Norwest Labs
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NWL Lot ID: 392636
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Page: 17 of 18

Method of Analysis:

MethodName	Reference	Method	Date Analysis Started	Location
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	7-Jul-05	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	6-Jul-05	Norwest Labs Surrey
Conductivity (Surrey)	APHA	* Conductivity - Laboratory Method, 2510 B	7-Jul-05	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	7-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	6-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	7-Jul-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	6-Jul-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	7-Jul-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	6-Jul-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	7-Jul-05	Norwest Labs Edmonton
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	5-Jul-05	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	7-Jul-05	Norwest Labs Surrey

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



Methodology and Notes

Norwest Labs
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Page: 18 of 18

* Norwest method(s) is based on reference method

References:

APHA	Standard Methods for the Examination of Water and Wastewater
US EPA	US Environmental Protection Agency Test Methods

Comments:

Some total metal results were less than dissolved metal results for sample 392636-2,3,13 . The dissolved metal results were rechecked and no more samples for redigestion. HL. July 08 2005.

Some total metal results were less than dissolved metal results for sample 392636-4,7,9 and 10. The results were checked and are within the method uncertainty. HL. July 08 2005.

Some total metal results were less than dissolved metal results for sample 392636-5,6,8,11,12,15. The samples results were redigested and results were rechecked. HL. July 08 2005.

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



NORWEST LABS

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Lot 397206

Control Number E 22500

Billing Address:		Copy of Report To:		Copy of invoice:	
Company: <u>LES</u>		Company: <u>ACG</u>		Mail invoice to this	
Address: <u>Box 21072</u>		Address:		address for approval ☐	
<u>Whitehorse Y.T.</u>					
<u>Y1A6P7</u>					
Attention: <u>Bonnie Burns</u>		Attention: <u>SCOTT KEESEY</u>		Report Result:	
Phone: <u>867 668 6838</u>		Phone:		Fax ☐	
Fax:		Fax:		Mail ☐	
Cell:		Cell:		Courier ☐	
e-mail: <u>Loberge@internorth.com</u>		e-mail:		e-mail ☐	
QA/QC Report ☒		Report Result:		e-service ☒	
Fax ☐		Fax ☐			
Mail ☒		Mail ☐			
Courier ☐		Courier ☐			
e-mail ☒		e-mail ☐			
e-service ☐		e-service ☒			

Information to be included on Report and Invoice

Project ID: KVRW
Project Name: KEND VALLEY
Project Location: RECEIVING WATER
Legal Location:
PO#:
Proj. Acct. Code:
Agreement ID:

RUSH

Please contact the laboratory to confirm rush dates and times before submitting samples.

Upon filling out this section, client accepts that surcharges will be attached to this analysis
Required on: all analyses or as indicated

Date Required: _____

Signature: _____

Norwest Authorization: _____

Sample Custody (Please Print)

Relinquished by: KEN NORDIN

Company LES Signature [Signature]
I authorize Norwest Labs to proceed with the work indicated on this form:

Date:

Initial:

Received by: ☐ Coolers

Waybill # Date ☐ Boxes

Company Time ☐ Samples

Special Instructions / Comments

☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

- ULTRA TRACE LOW DETECTION LIMIT METALS
- METALS THIS PAGE FIELD FILTERED / PRESERVED

* Smp 5 container says LES-47.
called Ken 07/25/05

July, 2005

140 GRAB

	Sample Identification	Location	Depth IN CM M	Date / Time Sampled	Matrix	Sampling Method	Number of Containers	Enter tests above (✓ relevant samples below)										
								ALK	PH	COND	HARD	AMMONIA	NITRATE	NITRITE	TSS	DISS. MET	TOTAL MET	
1	Flat Creek U/S S.MQ	KV-9	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2	S.MQ. U/S Flat CK	KV-3	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3	S.MQ. 300m DIS Flat	KV-4	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4	SILVER KING DEWANT	KV-14	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
5	POPCUPINE DIV. DITCH	KV-47	—	Container marked LES 47			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
6	HUSKY	LES-77	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
7	HUSKY SW	LES-14	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
8	2 NO CASH 500	LES-20	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
9	Valley Tailings Dam #3	KV-12	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
10	RUBY ADIT	LES-19	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11	BERMINGHAM ADIT	LES-18	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
12	CHARITY GULCH	KV-40	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
13	HOPE GULCH	KV-39	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
14	LIGHTNING @ KEND	KV-41	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
15	LIGHTNING U/S HOPE	KV-37	—				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.

Accredited by the Standards Council of Canada for specific tests

Page 1 of 2
##



NORWEST LABS

Lot 397206

Control Number E 220920

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company: <u>LES</u>		Company: <u>ACG</u>		Mail invoice to this ☐	
Address:		Address:		address for approval ☐	
QA/QC Report ☐		Report Result:		Report Result:	
Attention: <u>Bonnie Burns</u>		Fax ☐		Fax ☐	
Phone:		Mail ☒		Mail ☐	
Fax:		Courier ☐		Courier ☐	
Cell:		e-mail ☒		e-mail ☐	
e-mail:		e-Service ☐		e-service ☒	

Information to be included on Report and Invoice Project ID: Project Name: <u>KVRW</u> Project Location: Legal Location: PO#: Proj. Acct. Code: Agreement ID:	RUSH Please contact the laboratory to confirm rush dates and times before submitting samples. Upon filling out this section, client accepts that surcharges will be attached to this analysis Required on: all analyses <u>or</u> as indicated ☐ <u>or</u> ☐ Date Required: _____ Signature: _____ Norwest Authorization: _____	Sample Custody (Please Print) Relinquished by: <u>KEN NOEDIN</u> Company <u>LES</u> Signature <u>Kent</u> I authorize Norwest Labs to proceed with the work indicated on this form: Date: _____ Initial: _____ Received by: ☐ Coolers Waybill # _____ Date ☐ Boxes Company _____ Time ☐ Samples

Special Instructions / Comments ☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

** No set of samples rec'd for dup-1 and filter blank. Called Ken + left mess. Have soil sample marked NCC-2. 07/25/05*

- ONLY 1-3 ARE FIELD FILTERED + PRESERVED. FOR ALL REMAINING, DISS. METALS, FILTER FROM 250 ML BOTTLE

July '05 HND GRAB

Sample Identification	Location	Depth IN CM M	Date / Time Sampled	Matrix	Sampling Method	Number of Containers	Enter tests above (✓ relevant samples below)											
							ALK	PH	COND	HARD	AMMONIA	NITRATE	NITRITE	TSS	DISC. MET.	TOTAL MET.	METALS IN SED.	
1 LIGHTNING V/STHUNDER	KV-38	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2 DUP-1, BLIND	DUP-1	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3 FILTER BLANK	FB-2	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4 KEND 700 ADIT	LES-36	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
5 ONEK ADIT	KV-45	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
6 MC. D. SEEP		-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
7 G 900 DECANT	KV-32	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
8 G 900 ADIT	KV-31	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
9 NO CASH 500 @ HWY	LES-21	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10 NO CASH 35m DIS	NCC-1	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11 NO CASH 500m DIS	NCC-2	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12 NO CASH 850m DIS	NCC-3	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13 NO CASH 1.4 km DIS	NCC-4	-				4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14 Blind Duplicate	DUP-1	-				1												✓
15 FILTER BLANK	FB-2	-				1												✓

NW1006 (08/03)



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Contact	Company	Address									
Bonnie Burns Web Email Notification	Laberge Environmental Services	Box 21072, 1-405 Ogilvie Street Whitehorse, YT Y1A 6P7 Phone: (867) 668-6838 Email: laberge@internorth.com									
<table><tr><th><u>Copies</u></th><th><u>Delivery Strategy</u></th><th><u>Format</u></th></tr><tr><td>1</td><td>Post</td><td></td></tr><tr><td>1</td><td>Email - Single Report</td><td>PDF</td></tr></table>		<u>Copies</u>	<u>Delivery Strategy</u>	<u>Format</u>	1	Post		1	Email - Single Report	PDF	Fax: (867) 667-6956
<u>Copies</u>	<u>Delivery Strategy</u>	<u>Format</u>									
1	Post										
1	Email - Single Report	PDF									
Ken Nordin Web x Email Notification x	Laberge Environmental Services	Box 21072, 1-405 Ogilvie Street Whitehorse, YT Y1A 6P7 Phone: (867) 668-6838 Email: laberge@internorth.com									
<table><tr><th><u>Copies</u></th><th><u>Delivery Strategy</u></th><th><u>Format</u></th></tr></table>		<u>Copies</u>	<u>Delivery Strategy</u>	<u>Format</u>	Fax: (867) 667-6956						
<u>Copies</u>	<u>Delivery Strategy</u>	<u>Format</u>									

NOTE: **P** indicates a preliminary report is required

NOTE: **A** indicates report is delivered using automated delivery

_____ # OF PAGES IN THIS TRANSMISSION

Report Transmission Notes

Agreement Notes

Lot Notes

Sample Notes:

Notes to Clients

Lot Notes:

No set of samples rec'd for Dup-1, Blind or Filter Blank. Also sample marked KV-47 on the COC is marked LES-47 on the sample container. Called Ken to advise, left a message.

Also the soils will be added to the end of the WO and there is a sample marked NCC-2 with no analysis marked.

There is one one litre plastic with no markings on it.

Some total metal results were less than dissolved metal results for lot 397206. The samples were redigested and results were checked. HL. August 03 2005.

Sample Notes:

Batch Notes:

Method Notes:

Method Result Notes:



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Reports associated with this Lot

Id/Format/Reported Date

725927 Env2 3 Smp & DL

Id/Format/Reported Date

Id/Format/Reported Date

Comment:

See Methodology and Notes page of Analytical Report for all comments pertaining to this report.

If this report transmission is not satisfactory, please send report requirements to the address at the top of this page.

7/29/05

725927 29-Jul-2005

8/3/2005 3:07:20PM



Sample Custody

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
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Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Sample Disposal Date: Sep 02, 2005

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the upper right of this page.

_____ **Extend Sample Storage Until** _____ **(MM/DD/YY)**

The following charges apply to extended sample storage:

Storage for 1 to 5 samples per month	\$ 10.00
Storage for 6 to 20 samples per month	\$ 15.00
Storage for 21 to 50 samples per month	\$ 30.00
Storage for 51 to 200 samples per month	\$ 60.00
Storage for more than 200 samples per month	\$ 110.00

_____ **Return Sample, collect, to the address below via:**

_____ Greyhound
_____ Loomis
_____ Purolator
_____ Other (Specify) _____

Name: _____
Company: _____
Address: _____

Phone: _____
Fax: _____
Signature: _____

If no other arrangements have been made, samples will be disposed of on Sep 02, 2005.



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 1 of 32

		NWL Number		397206-1	397206-2	397206-3
		Sample Description		KV-9 / Flat Creek U/S S. MQ	KV-3 / S. McQ U/S Flat Creek	KV-4 / S. McQ 300m D/S Flat
		Matrix	Water - General	Water - General	Water - General	Water - General
Analyte	Units	Results	Results	Results	Detection Limit	
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.003	0.01	0.009	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	2.81	1.94	2.04	0.05
Sulfur	Dissolved	mg/L	43.8	19.7	22.3	0.3
Aluminum	Dissolved	mg/L	0.006	0.091	0.104	0.005
Antimony	Dissolved	mg/L	0.0011	<0.0002	0.0003	0.0002
Arsenic	Dissolved	mg/L	0.0035	0.0019	0.0020	0.0002
Barium	Dissolved	mg/L	0.058	0.057	0.058	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00053	0.00014	0.00015	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	<0.0001	0.0002	0.0002	0.0001
Copper	Dissolved	mg/L	0.003	0.002	0.005	0.001
Lead	Dissolved	mg/L	0.0120	0.0012	0.0010	0.0001
Lithium	Dissolved	mg/L	0.004	0.004	0.004	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	0.0048	0.0040	0.0005
Selenium	Dissolved	mg/L	<0.0002	0.0005	0.0004	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.207	0.179	0.188	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0029	0.0015	0.0014	0.0005
Uranium	Dissolved	mg/L	0.001	0.0007	0.0007	0.0005
Vanadium	Dissolved	mg/L	0.0005	0.0003	0.0004	0.0001
Zinc	Dissolved	mg/L	0.045	0.020	0.022	0.001
Subsample	Field Filtered	Yes	Yes	Yes		
Metals Total						
Calcium	Total	mg/L	87.7	44.2	48.3	0.2
Iron	Total	mg/L	0.2	0.2	0.2	0.1
Magnesium	Total	mg/L	23.1	13.6	14.5	0.1
Manganese	Total	mg/L	0.068	0.057	0.056	0.005
Potassium	Total	mg/L	<0.4	<0.4	<0.4	0.4



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 2 of 32

		NWL Number		397206-1	397206-2	397206-3
		Sample Description		KV-9 / Flat Creek U/S S. MQ	KV-3 / S. McQ U/S Flat Creek	KV-4 / S. McQ 300m D/S Flat
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Silicon	Total	mg/L	2.90	2.01	2.11	0.05
Sodium	Total	mg/L	2.1	1.3	1.4	0.4
Sulfur	Total	mg/L	44.7	19.6	22.2	0.3
Aluminum	Total	mg/L	0.018	0.114	0.098	0.005
Antimony	Total	mg/L	0.0012	<0.0002	0.0003	0.0002
Arsenic	Total	mg/L	0.0036	0.0021	0.0022	0.0002
Barium	Total	mg/L	0.060	0.058	0.057	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00056	0.00019	0.00023	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	<0.0001	0.0002	0.0002	0.0001
Copper	Total	mg/L	0.003	0.002	0.002	0.001
Lead	Total	mg/L	0.0139	0.0014	0.0025	0.0001
Lithium	Total	mg/L	0.005	0.004	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.001	0.0058	0.0052	0.0005
Selenium	Total	mg/L	<0.0002	0.0004	0.0004	0.0002
Silver	Total	mg/L	0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.217	0.185	0.185	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0050	0.0014	0.0013	0.0005
Uranium	Total	mg/L	0.0010	0.0007	0.0008	0.0005
Vanadium	Total	mg/L	0.0002	0.0003	0.0002	0.0001
Zinc	Total	mg/L	0.048	0.024	0.025	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<1	4	1
Routine Water						
pH	@ 25 °C	pH	7.49	7.72	7.88	
Electrical Conductivity	Water	uS/cm	602	340	361	1
Calcium	Dissolved	mg/L	85.1	42.9	48.4	0.2
Magnesium	Dissolved	mg/L	22.8	13.5	14.7	0.1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 3 of 32

		NWL Number		397206-1	397206-2	397206-3
		Sample Description		KV-9 / Flat Creek U/S S. MQ	KV-3 / S. McQ U/S Flat Creek	KV-4 / S. McQ 300m D/S Flat
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Sodium	Dissolved	mg/L	2.2	1.4	1.5	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	0.06	0.07	0.07	0.01
Manganese	Dissolved	mg/L	0.040	0.048	0.044	0.005
Nitrate - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	237	137	146	5
T-Alkalinity	as CaCO3	mg/L	194	112	120	5
Hardness	Dissolved as CaCO3	mg/L	307	162	181	



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 4 of 32

		NWL Number	397206-4	397206-5	397206-6	
		Sample Description	KV-14 / Silver King Decant	KV-47 / Porcupine Div. Ditch	LES-77 / Husky	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.119	0.059	0.43	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	4.04	3.34	8.29	0.05
Sulfur	Dissolved	mg/L	152	90.6	254	0.3
Aluminum	Dissolved	mg/L	0.020	<0.005	4.97	0.005
Antimony	Dissolved	mg/L	0.0147	0.0004	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0022	0.0016	0.0066	0.0002
Barium	Dissolved	mg/L	0.012	0.046	0.021	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	0.0009	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.003	0.004	0.002	0.002
Cadmium	Dissolved	mg/L	0.00386	0.00137	0.0360	0.00001
Chromium	Dissolved	mg/L	<0.0005	0.0006	0.0043	0.0005
Cobalt	Dissolved	mg/L	0.0149	0.0003	0.0531	0.0001
Copper	Dissolved	mg/L	0.005	<0.001	0.220	0.001
Lead	Dissolved	mg/L	0.0002	0.0005	0.0646	0.0001
Lithium	Dissolved	mg/L	0.018	0.009	0.025	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0539	<0.0005	0.127	0.0005
Selenium	Dissolved	mg/L	0.0003	0.0003	0.0004	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.338	0.338	0.290	0.001
Thallium	Dissolved	mg/L	0.00332	<0.00005	0.00034	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0083	0.0052	0.0122	0.0005
Uranium	Dissolved	mg/L	0.0013	0.0013	0.0029	0.0005
Vanadium	Dissolved	mg/L	0.0003	0.0003	<0.0001	0.0001
Zinc	Dissolved	mg/L	0.156	0.206	2.49	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	182	123	141	0.2
Iron	Total	mg/L	3.0	0.3	48.7	0.1
Magnesium	Total	mg/L	38.0	25.7	43.8	0.1
Manganese	Total	mg/L	3.16	0.855	28.5	0.005
Potassium	Total	mg/L	1.6	0.5	0.6	0.4



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 5 of 32

		NWL Number	397206-4	397206-5	397206-6	
		Sample Description	KV-14 / Silver King Decant	KV-47 / Porcupine Div. Ditch	LES-77 / Husky	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Silicon	Total	mg/L	4.39	3.06	7.69	0.05
Sodium	Total	mg/L	2.2	1.6	1.4	0.4
Sulfur	Total	mg/L	153	81.1	226	0.3
Aluminum	Total	mg/L	0.025	0.009	6.22	0.005
Antimony	Total	mg/L	0.0167	0.0004	0.0006	0.0002
Arsenic	Total	mg/L	0.0103	0.0022	0.0726	0.0002
Barium	Total	mg/L	0.012	0.046	0.022	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	0.0010	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.004	0.003	0.002	0.002
Cadmium	Total	mg/L	0.00858	0.00198	0.0368	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	0.0056	0.0005
Cobalt	Total	mg/L	0.0182	0.0003	0.0521	0.0001
Copper	Total	mg/L	0.005	<0.001	0.250	0.001
Lead	Total	mg/L	0.0003	0.0017	0.0844	0.0001
Lithium	Total	mg/L	0.025	0.011	0.032	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0710	0.0018	0.137	0.0005
Selenium	Total	mg/L	0.0004	0.0003	0.0007	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	0.0018	0.0001
Strontium	Total	mg/L	0.358	0.330	0.274	0.001
Thallium	Total	mg/L	0.00401	<0.00005	0.00038	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0079	0.0051	0.0112	0.0005
Uranium	Total	mg/L	0.0016	0.0013	0.0030	0.0005
Vanadium	Total	mg/L	0.0002	0.0001	0.0005	0.0001
Zinc	Total	mg/L	0.453	0.237	3.05	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	6	<2	129	1
Routine Water						
pH	@ 25 °C	pH	7.44	7.90	3.08	
Electrical Conductivity	Water	uS/cm	1100	864	1570	1
Calcium	Dissolved	mg/L	180	135	164	0.2
Magnesium	Dissolved	mg/L	38.4	28.6	50.8	0.1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 6 of 32

		NWL Number	397206-4	397206-5	397206-6	
		Sample Description	KV-14 / Silver King Decant	KV-47 / Porcupine Div. Ditch	LES-77 / Husky	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Sodium	Dissolved	mg/L	2.1	1.8	1.7	0.4
Potassium	Dissolved	mg/L	1.3	<0.4	0.4	0.4
Iron	Dissolved	mg/L	0.06	0.04	26.0	0.01
Manganese	Dissolved	mg/L	3.08	0.939	32.9	0.005
Nitrate - N	Dissolved	mg/L	<0.03	0.06	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	191	253	<5	5
T-Alkalinity	as CaCO3	mg/L	157	208	<5	5
Hardness	Dissolved as CaCO3	mg/L	607	454	618	



Analytical Report

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Surrey, BC. V3S 8P8
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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 7 of 32

		NWL Number	397206-7	397206-8	397206-9	
		Sample Description	LES-14 / Husky SW	LES-20 / No Cash 500 KV-12 / Valley Tailings	Dam # 3	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.099	0.027	0.016	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	5.27	2.66	0.17	0.05
Sulfur	Dissolved	mg/L	123	142	74.5	0.3
Aluminum	Dissolved	mg/L	0.031	0.021	0.007	0.005
Antimony	Dissolved	mg/L	0.0039	0.0018	0.0111	0.0002
Arsenic	Dissolved	mg/L	0.0112	0.0043	0.0078	0.0002
Barium	Dissolved	mg/L	0.029	0.003	0.021	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.015	0.002	0.005	0.002
Cadmium	Dissolved	mg/L	0.0165	0.146	0.00029	0.00001
Chromium	Dissolved	mg/L	0.0007	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0055	0.0097	0.0002	0.0001
Copper	Dissolved	mg/L	0.004	0.009	0.003	0.001
Lead	Dissolved	mg/L	0.0010	0.0008	0.0164	0.0001
Lithium	Dissolved	mg/L	0.021	0.024	0.007	0.001
Molybdenum	Dissolved	mg/L	0.002	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0308	0.0644	0.0028	0.0005
Selenium	Dissolved	mg/L	<0.0002	0.0015	<0.0002	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.485	0.203	0.254	0.001
Thallium	Dissolved	mg/L	0.00060	0.00062	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0066	0.0080	0.0046	0.0005
Uranium	Dissolved	mg/L	0.0027	0.0059	0.0007	0.0005
Vanadium	Dissolved	mg/L	0.0004	0.0002	0.0001	0.0001
Zinc	Dissolved	mg/L	0.889	19.2	0.016	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	169	160	55.8	0.2
Iron	Total	mg/L	0.9	2.3	0.1	0.1
Magnesium	Total	mg/L	50.3	22.2	27.5	0.1
Manganese	Total	mg/L	2.32	13.7	0.056	0.005
Potassium	Total	mg/L	2.5	0.5	<0.4	0.4



Analytical Report

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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 8 of 32

		NWL Number		397206-7	397206-8	397206-9
		Sample Description		LES-14 / Husky SW	LES-20 / No Cash 500 KV-12 / Valley Tailings	Dam # 3
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Silicon	Total	mg/L	5.59	2.72	0.16	0.05
Sodium	Total	mg/L	5.1	0.9	5.4	0.4
Sulfur	Total	mg/L	118	139	69.8	0.3
Aluminum	Total	mg/L	0.259	0.116	0.012	0.005
Antimony	Total	mg/L	0.0040	0.0028	0.0108	0.0002
Arsenic	Total	mg/L	0.0187	0.0164	0.0086	0.0002
Barium	Total	mg/L	0.031	0.003	0.020	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.017	<0.002	0.005	0.002
Cadmium	Total	mg/L	0.0186	0.162	0.00026	0.00001
Chromium	Total	mg/L	0.0006	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0059	0.0097	0.0002	0.0001
Copper	Total	mg/L	0.005	0.027	0.003	0.001
Lead	Total	mg/L	0.0099	0.0293	0.0231	0.0001
Lithium	Total	mg/L	0.029	0.028	0.006	0.001
Molybdenum	Total	mg/L	0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0365	0.0709	0.0036	0.0005
Selenium	Total	mg/L	<0.0002	0.0014	<0.0002	0.0002
Silver	Total	mg/L	0.0001	0.0003	<0.0001	0.0001
Strontium	Total	mg/L	0.475	0.199	0.247	0.001
Thallium	Total	mg/L	0.00068	0.00069	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0145	0.0074	0.0040	0.0005
Uranium	Total	mg/L	0.0029	0.0069	0.0006	0.0005
Vanadium	Total	mg/L	0.001	0.0001	0.0002	0.0001
Zinc	Total	mg/L	1.12	27.7	0.014	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	5	10	<2	1
Routine Water						
pH	@ 25 °C	pH	7.69	7.47	7.21	
Electrical Conductivity	Water	uS/cm	1150	992	551	1
Calcium	Dissolved	mg/L	177	167	58.7	0.2
Magnesium	Dissolved	mg/L	53.1	23.3	28.7	0.1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number		397206-7	397206-8	397206-9
		Sample Description		LES-14 / Husky SW	LES-20 / No Cash 500 KV-12 / Valley Tailings	Dam # 3
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Sodium	Dissolved	mg/L	5.3	0.9	0.9	0.4
Potassium	Dissolved	mg/L	2.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	0.13	0.04	0.07	0.01
Manganese	Dissolved	mg/L	2.49	14.1	0.063	0.005
Nitrate - N	Dissolved	mg/L	0.08	<0.03	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	9	5
Bicarbonate	Water	mg/L	381	149	33	5
T-Alkalinity	as CaCO3	mg/L	313	122	41	5
Hardness	Dissolved as CaCO3	mg/L	662	512	264	



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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number		397206-10	397206-11	397206-12
		Sample Description		LES-19 / Ruby Adit	LES-18 / Bermingham Adit	KV-40 / Charity Gulch
		Matrix	Water - General	Water - General	Water - General	Detection Limit
Analyte	Units	Results	Results	Results		
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.017	0.006	<0.002	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	3.62	3.82	2.95	0.05
Sulfur	Dissolved	mg/L	41.4	16.4	40.5	0.3
Aluminum	Dissolved	mg/L	0.015	0.011	<0.005	0.005
Antimony	Dissolved	mg/L	0.0026	0.0019	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0021	0.0303	0.0008	0.0002
Barium	Dissolved	mg/L	0.006	0.003	0.066	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00591	0.204	0.00004	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0019	0.0003	<0.0001	0.0001
Copper	Dissolved	mg/L	0.001	0.004	<0.001	0.001
Lead	Dissolved	mg/L	0.0003	0.0014	0.0001	0.0001
Lithium	Dissolved	mg/L	0.015	0.011	0.002	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0137	0.0028	<0.0005	0.0005
Selenium	Dissolved	mg/L	0.0013	0.0016	0.0013	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.093	0.080	0.158	0.001
Thallium	Dissolved	mg/L	0.00016	0.00007	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0022	0.001	0.0024	0.0005
Uranium	Dissolved	mg/L	0.0013	<0.0005	<0.0005	0.0005
Vanadium	Dissolved	mg/L	0.0002	0.0002	<0.0001	0.0001
Zinc	Dissolved	mg/L	0.486	6.0	0.005	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	76.9	34.1	42.6	0.2
Iron	Total	mg/L	15.1	0.4	<0.1	0.1
Magnesium	Total	mg/L	12.8	7.7	11.7	0.1
Manganese	Total	mg/L	4.91	1.66	0.006	0.005
Potassium	Total	mg/L	<0.4	<0.4	<0.4	0.4



Analytical Report

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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number		397206-10	397206-11	397206-12	
		Sample Description		LES-19 / Ruby Adit	LES-18 / Bermingham Adit	KV-40 / Charity Gulch	
		Matrix		Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Total - Continued							
Silicon	Total	mg/L	5.32	3.82	2.91	0.05	
Sodium	Total	mg/L	0.9	0.6	0.8	0.4	
Sulfur	Total	mg/L	39.7	15.6	39.4	0.3	
Aluminum	Total	mg/L	1.26	0.158	0.008	0.005	
Antimony	Total	mg/L	0.0199	0.0020	<0.0002	0.0002	
Arsenic	Total	mg/L	0.192	0.0463	0.0009	0.0002	
Barium	Total	mg/L	0.030	0.005	0.064	0.001	
Beryllium	Total	mg/L	0.0004	<0.0001	<0.0001	0.0001	
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Total	mg/L	0.004	<0.002	<0.002	0.002	
Cadmium	Total	mg/L	0.0485	0.206	0.00004	0.00001	
Chromium	Total	mg/L	0.0026	<0.0005	<0.0005	0.0005	
Cobalt	Total	mg/L	0.0108	0.0003	<0.0001	0.0001	
Copper	Total	mg/L	0.026	0.005	<0.001	0.001	
Lead	Total	mg/L	0.484	0.0254	0.0001	0.0001	
Lithium	Total	mg/L	0.015	0.010	0.002	0.001	
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Total	mg/L	0.0372	0.0036	0.0008	0.0005	
Selenium	Total	mg/L	0.0017	0.0015	0.0014	0.0002	
Silver	Total	mg/L	0.0170	0.0008	<0.0001	0.0001	
Strontium	Total	mg/L	0.100	0.076	0.154	0.001	
Thallium	Total	mg/L	0.00042	0.00008	<0.00005	0.00005	
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001	
Titanium	Total	mg/L	0.0251	0.0072	0.0021	0.0005	
Uranium	Total	mg/L	0.0022	<0.0005	<0.0005	0.0005	
Vanadium	Total	mg/L	0.0015	0.0005	<0.0001	0.0001	
Zinc	Total	mg/L	2.76	5.13	0.003	0.001	
Zirconium	Total	mg/L	0.001	<0.001	<0.001	0.001	
Physical and Aggregate Properties							
Solids	Total Suspended	mg/L	27	10	<2	1	
Routine Water							
pH	@ 25 °C	pH	7.62	6.80	7.72		
Electrical Conductivity	Water	uS/cm	478	292	347	1	
Calcium	Dissolved	mg/L	75.8	37.3	43.7	0.2	
Magnesium	Dissolved	mg/L	12.8	8.3	12.0	0.1	



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number	397206-10	397206-11	397206-12	
		Sample Description	LES-19 / Ruby Adit	LES-18 / Bermingham Adit	KV-40 / Charity Gulch	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Sodium	Dissolved	mg/L	0.9	0.7	0.8	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	0.01	<0.01	<0.01	0.01
Manganese	Dissolved	mg/L	1.05	1.61	0.008	0.005
Nitrate - N	Dissolved	mg/L	<0.03	<0.03	0.10	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	160	112	41	5
T-Alkalinity	as CaCO3	mg/L	132	92	34	5
Hardness	Dissolved as CaCO3	mg/L	242	130	159	



Analytical Report

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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number 397206-13		397206-14		397206-15	
		Sample Description KV-39 / Hope Gulch		KV-41 / Lightning @ Keno		KV-37 / Lightning U/S Hope	
		Matrix	Water - General	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit	
Inorganic Nonmetallic Parameters							
Ammonium - N	Dissolved	mg/L	0.003	0.021	<0.002	0.002	
Metals Dissolved							
Silicon	Dissolved	mg/L	2.83	2.66	2.40	0.05	
Sulfur	Dissolved	mg/L	20.6	11.6	8.2	0.3	
Aluminum	Dissolved	mg/L	<0.005	0.013	0.007	0.005	
Antimony	Dissolved	mg/L	0.0020	0.0003	<0.0002	0.0002	
Arsenic	Dissolved	mg/L	0.0092	0.0021	0.0025	0.0002	
Barium	Dissolved	mg/L	0.046	0.040	0.048	0.001	
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002	
Cadmium	Dissolved	mg/L	0.00366	0.00012	<0.00001	0.00001	
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Cobalt	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Copper	Dissolved	mg/L	0.003	0.002	<0.001	0.001	
Lead	Dissolved	mg/L	0.0017	0.0003	<0.0001	0.0001	
Lithium	Dissolved	mg/L	0.002	0.002	<0.001	0.001	
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Dissolved	mg/L	0.0006	<0.0005	<0.0005	0.0005	
Selenium	Dissolved	mg/L	0.0008	0.0006	0.0004	0.0002	
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Strontium	Dissolved	mg/L	0.113	0.070	0.056	0.001	
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Titanium	Dissolved	mg/L	0.0013	0.0011	0.0006	0.0005	
Uranium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Vanadium	Dissolved	mg/L	0.0001	0.0001	0.0001	0.0001	
Zinc	Dissolved	mg/L	0.286	0.014	<0.001	0.001	
Subsample	Field Filtered		Yes	Yes	Yes		
Metals Total							
Calcium	Total	mg/L	32.3	22.8	15.7	0.2	
Iron	Total	mg/L	<0.1	2.6	<0.1	0.1	
Magnesium	Total	mg/L	5.7	4.3	2.9	0.1	
Manganese	Total	mg/L	<0.005	0.113	0.010	0.005	
Potassium	Total	mg/L	<0.4	0.4	<0.4	0.4	



Analytical Report

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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number		397206-13	397206-14	397206-15
		Sample Description		KV-39 / Hope Gulch	KV-41 / Lightning @ Keno	KV-37 / Lightning U/S Hope
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Silicon	Total	mg/L	2.82	4.48	2.42	0.05
Sodium	Total	mg/L	0.9	0.8	0.5	0.4
Sulfur	Total	mg/L	20.3	11.4	8.0	0.3
Aluminum	Total	mg/L	0.008	1.12	0.029	0.005
Antimony	Total	mg/L	0.0019	0.0005	<0.0002	0.0002
Arsenic	Total	mg/L	0.0091	0.0267	0.0029	0.0002
Barium	Total	mg/L	0.045	0.065	0.048	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	0.003	0.002	0.002
Cadmium	Total	mg/L	0.00350	0.00023	<0.00001	0.00001
Chromium	Total	mg/L	<0.0005	0.0021	<0.0005	0.0005
Cobalt	Total	mg/L	<0.0001	0.0020	<0.0001	0.0001
Copper	Total	mg/L	<0.001	0.006	<0.001	0.001
Lead	Total	mg/L	0.0025	0.0166	0.0002	0.0001
Lithium	Total	mg/L	0.003	0.003	<0.001	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0010	0.0040	<0.0005	0.0005
Selenium	Total	mg/L	0.0007	0.0006	0.0005	0.0002
Silver	Total	mg/L	<0.0001	0.0003	<0.0001	0.0001
Strontium	Total	mg/L	0.108	0.074	0.057	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0014	0.0483	0.001	0.0005
Uranium	Total	mg/L	<0.0005	0.0005	<0.0005	0.0005
Vanadium	Total	mg/L	<0.0001	0.0034	0.0002	0.0001
Zinc	Total	mg/L	0.271	0.033	0.001	0.001
Zirconium	Total	mg/L	<0.001	0.002	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	32	3	1
Routine Water						
pH	@ 25 °C	pH	7.78	7.23	6.98	
Electrical Conductivity	Water	uS/cm	249	183	138	1
Calcium	Dissolved	mg/L	33.1	22.9	15.8	0.2
Magnesium	Dissolved	mg/L	5.9	4.1	3.0	0.1



Analytical Report

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Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number	397206-13	397206-14	397206-15	
		Sample Description	KV-39 / Hope Gulch	KV-41 / Lightning @ Keno	KV-37 / Lightning U/S Hope	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Sodium	Dissolved	mg/L	0.9	0.7	0.5	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	<0.01	<0.01	0.02	0.01
Manganese	Dissolved	mg/L	0.008	0.015	0.009	0.005
Nitrate - N	Dissolved	mg/L	0.05	0.03	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	58	51	34	5
T-Alkalinity	as CaCO3	mg/L	47	42	28	5
Hardness	Dissolved as CaCO3	mg/L	110	74	52	



Analytical Report

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Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
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NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number		397206-16	397206-17	397206-18
		Sample Description		KV-38 / Lightning U/S Thunder	LES-36 / Keno 700 Adit	KV-45 / Onek Adit
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.003	<0.002	0.019	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	2.59	3.22	5.14	0.05
Sulfur	Dissolved	mg/L	11.2	44.0	180	0.3
Aluminum	Dissolved	mg/L	0.007	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	0.0003	0.0044	0.0041	0.0002
Arsenic	Dissolved	mg/L	0.0028	0.0381	0.0024	0.0002
Barium	Dissolved	mg/L	0.050	0.012	0.006	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	0.002	0.002
Cadmium	Dissolved	mg/L	0.00028	0.0153	0.931	0.00001
Chromium	Dissolved	mg/L	<0.0005	0.0223	0.0082	0.0005
Cobalt	Dissolved	mg/L	<0.0001	<0.0001	0.0126	0.0001
Copper	Dissolved	mg/L	<0.001	0.001	0.001	0.001
Lead	Dissolved	mg/L	0.0002	0.0047	0.0013	0.0001
Lithium	Dissolved	mg/L	0.001	0.003	0.019	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	0.0052	0.0243	0.0005
Selenium	Dissolved	mg/L	0.0006	0.0009	<0.0002	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.071	0.220	0.249	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	0.00006	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0007	0.0016	0.0090	0.0005
Uranium	Dissolved	mg/L	<0.0005	0.0023	<0.0005	0.0005
Vanadium	Dissolved	mg/L	<0.0001	<0.0001	0.001	0.0001
Zinc	Dissolved	mg/L	0.030	1.49	59.8	0.001
Subsample	Field Filtered		Yes	-	-	
Metals Total						
Calcium	Total	mg/L	19.8	86.2	204	0.2
Iron	Total	mg/L	<0.1	<0.1	0.8	0.1
Magnesium	Total	mg/L	3.7	11.7	21.8	0.1
Manganese	Total	mg/L	0.007	0.038	7.74	0.005
Potassium	Total	mg/L	<0.4	<0.4	0.7	0.4



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number	397206-16	397206-17	397206-18	
		Sample Description	KV-38 / Lightning U/S Thunder	LES-36 / Keno 700 Adit	KV-45 / Onek Adit	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Silicon	Total	mg/L	2.59	3.18	5.28	0.05
Sodium	Total	mg/L	0.6	1.6	1.2	0.4
Sulfur	Total	mg/L	11.2	42.8	177	0.3
Aluminum	Total	mg/L	0.016	0.009	0.030	0.005
Antimony	Total	mg/L	0.0003	0.0043	0.0046	0.0002
Arsenic	Total	mg/L	0.0032	0.0380	0.0415	0.0002
Barium	Total	mg/L	0.048	0.012	0.007	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.01	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.003	0.004	<0.2	0.002
Cadmium	Total	mg/L	0.00025	0.0143	1.38	0.00001
Chromium	Total	mg/L	<0.0005	0.0246	0.0099	0.0005
Cobalt	Total	mg/L	<0.0001	<0.0001	0.0142	0.0001
Copper	Total	mg/L	<0.001	0.002	0.006	0.001
Lead	Total	mg/L	0.0005	0.0047	0.0117	0.0001
Lithium	Total	mg/L	0.001	0.005	<0.1	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0005	0.0074	0.0338	0.0005
Selenium	Total	mg/L	0.0006	0.0008	<0.0002	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	0.0005	0.0001
Strontium	Total	mg/L	0.072	0.236	0.278	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	0.00008	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0007	0.0018	0.0065	0.0005
Uranium	Total	mg/L	<0.0005	0.0027	0.0008	0.0005
Vanadium	Total	mg/L	0.0001	<0.0001	<0.0001	0.0001
Zinc	Total	mg/L	0.030	1.66	74.7	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	36	1
Routine Water						
pH	@ 25 °C	pH	7.62	7.84	7.18	
Electrical Conductivity	Water	uS/cm	166	534	1180	1
Calcium	Dissolved	mg/L	20.0	89.5	211	0.2
Magnesium	Dissolved	mg/L	3.7	12.5	22.8	0.1



Analytical Report

Norwest Labs
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Phone: (604) 514-3322
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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number	397206-16	397206-17	397206-18	
		Sample Description	KV-38 / Lightning U/S Thunder	LES-36 / Keno 700 Adit	KV-45 / Onek Adit	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Sodium	Dissolved	mg/L	0.7	1.8	1.3	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	0.7	0.4
Iron	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Manganese	Dissolved	mg/L	0.006	0.036	7.86	0.005
Nitrate - N	Dissolved	mg/L	<0.03	0.20	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	42	181	239	5
T-Alkalinity	as CaCO3	mg/L	35	148	196	5
Hardness	Dissolved as CaCO3	mg/L	65	275	620	



Analytical Report

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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number		397206-19	397206-20	397206-21	
		Sample Description		Mc D - Seep / Mc. D. Seep	KV-32 / G 900 Decant	KV-31 / G 900 Adit	
		Matrix		Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit	
Inorganic Nonmetallic Parameters							
Ammonium - N	Dissolved	mg/L	0.027	0.022	0.046	0.002	
Metals Dissolved							
Silicon	Dissolved	mg/L	5.78	3.71	4.2	0.05	
Sulfur	Dissolved	mg/L	53.0	333	349	0.3	
Aluminum	Dissolved	mg/L	<0.005	<0.005	0.006	0.005	
Antimony	Dissolved	mg/L	0.0011	0.0018	0.0022	0.0002	
Arsenic	Dissolved	mg/L	0.0025	0.0404	0.0547	0.0002	
Barium	Dissolved	mg/L	0.021	0.005	0.008	0.001	
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Dissolved	mg/L	0.002	<0.002	0.002	0.002	
Cadmium	Dissolved	mg/L	0.00195	0.00005	0.00109	0.00001	
Chromium	Dissolved	mg/L	0.0027	0.0019	0.0018	0.0005	
Cobalt	Dissolved	mg/L	0.0039	0.0143	0.0260	0.0001	
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Lead	Dissolved	mg/L	0.0006	<0.0001	0.0004	0.0001	
Lithium	Dissolved	mg/L	0.012	0.036	0.046	0.001	
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Dissolved	mg/L	0.0079	0.114	0.164	0.0005	
Selenium	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002	
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Strontium	Dissolved	mg/L	0.170	0.535	0.476	0.001	
Thallium	Dissolved	mg/L	0.00010	<0.00005	<0.00005	0.00005	
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Titanium	Dissolved	mg/L	0.0030	0.0141	0.0159	0.0005	
Uranium	Dissolved	mg/L	<0.0005	0.0076	0.0075	0.0005	
Vanadium	Dissolved	mg/L	0.0001	0.0008	0.0020	0.0001	
Zinc	Dissolved	mg/L	0.192	0.016	1.28	0.001	
Metals Total							
Calcium	Total	mg/L	75.3	406	411	0.2	
Iron	Total	mg/L	2.6	<0.1	1.6	0.1	
Magnesium	Total	mg/L	14.0	38.8	39.2	0.1	
Manganese	Total	mg/L	0.772	8.99	19.2	0.005	
Potassium	Total	mg/L	<0.4	0.7	0.6	0.4	
Silicon	Total	mg/L	6.48	3.75	4.22	0.05	



Analytical Report

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Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number		397206-19	397206-20	397206-21	
		Sample Description		Mc D - Seep / Mc. D. Seep	KV-32 / G 900 Decant	KV-31 / G 900 Adit	
		Matrix		Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Total - Continued							
Sodium	Total	mg/L	1.3	1.7	1.7	0.4	
Sulfur	Total	mg/L	51.5	324	322	0.3	
Aluminum	Total	mg/L	0.421	0.007	0.029	0.005	
Antimony	Total	mg/L	0.0015	0.0018	0.0025	0.0002	
Arsenic	Total	mg/L	0.0208	0.0436	0.0861	0.0002	
Barium	Total	mg/L	0.026	0.006	0.009	0.001	
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.001	0.0001	
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Total	mg/L	0.004	0.006	<0.02	0.002	
Cadmium	Total	mg/L	0.00175	0.00009	0.00108	0.00001	
Chromium	Total	mg/L	0.0034	0.0019	0.0014	0.0005	
Cobalt	Total	mg/L	0.0046	0.0176	0.0293	0.0001	
Copper	Total	mg/L	0.002	<0.001	<0.001	0.001	
Lead	Total	mg/L	0.0012	0.0003	0.0016	0.0001	
Lithium	Total	mg/L	0.019	0.094	0.06	0.001	
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Total	mg/L	0.0120	0.162	0.215	0.0005	
Selenium	Total	mg/L	0.0002	0.0002	<0.0002	0.0002	
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Strontium	Total	mg/L	0.184	0.590	0.504	0.001	
Thallium	Total	mg/L	0.00014	<0.00005	<0.00005	0.00005	
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001	
Titanium	Total	mg/L	0.0166	0.0117	0.0120	0.0005	
Uranium	Total	mg/L	<0.0005	0.0096	0.0111	0.0005	
Vanadium	Total	mg/L	0.0012	0.0008	0.0001	0.0001	
Zinc	Total	mg/L	0.206	0.028	5.50	0.001	
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001	
Physical and Aggregate Properties							
Solids	Total Suspended	mg/L	18	<2	25	1	
Routine Water							
pH	@ 25 °C	pH	6.65	7.82	6.73		
Electrical Conductivity	Water	uS/cm	484	1860	1910	1	
Calcium	Dissolved	mg/L	75.4	416	442	0.2	
Magnesium	Dissolved	mg/L	14.1	39.8	43	0.1	
Sodium	Dissolved	mg/L	1.4	1.8	1.7	0.4	



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number		397206-19	397206-20	397206-21
		Sample Description		Mc D - Seep / Mc. D. Seep	KV-32 / G 900 Decant	KV-31 / G 900 Adit
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Potassium	Dissolved	mg/L	<0.4	0.5	0.5	0.4
Iron	Dissolved	mg/L	<0.01	<0.01	<0.10	0.01
Manganese	Dissolved	mg/L	0.734	9.01	20.7	0.005
Nitrate - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	115	254	284	5
T-Alkalinity	as CaCO3	mg/L	94	209	233	5
Hardness	Dissolved as CaCO3	mg/L	246	1200	1280	



Analytical Report

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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 22 of 32

		NWL Number 397206-22		397206-23		397206-24	
		Sample Description LES-21 / No Cash 500		NCC-1 / No Cash 35		NCC-2 / No Cash 500	
		@ Hwy		m D/S		m D/S	
		Matrix	Water - General	Water - General	Water - General	Water - General	
Analyte	Units	Results	Results	Results	Detection Limit		
Inorganic Nonmetallic Parameters							
Ammonium - N	Dissolved	mg/L	0.007	0.006	0.005	0.002	
Metals Dissolved							
Silicon	Dissolved	mg/L	3.21	3.14	3.30	0.05	
Sulfur	Dissolved	mg/L	113	111	116	0.3	
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005	
Antimony	Dissolved	mg/L	0.0016	0.0015	0.0012	0.0002	
Arsenic	Dissolved	mg/L	0.0013	0.0011	0.0008	0.0002	
Barium	Dissolved	mg/L	0.029	0.029	0.041	0.001	
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002	
Cadmium	Dissolved	mg/L	0.0461	0.0440	0.0216	0.00001	
Chromium	Dissolved	mg/L	0.0022	0.0014	0.0008	0.0005	
Cobalt	Dissolved	mg/L	0.0026	0.0025	0.0010	0.0001	
Copper	Dissolved	mg/L	0.003	0.002	0.001	0.001	
Lead	Dissolved	mg/L	0.0005	0.0002	0.0002	0.0001	
Lithium	Dissolved	mg/L	0.014	0.014	0.012	0.001	
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Dissolved	mg/L	0.0193	0.0179	0.0083	0.0005	
Selenium	Dissolved	mg/L	0.0011	0.001	0.0010	0.0002	
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Strontium	Dissolved	mg/L	0.226	0.222	0.325	0.001	
Thallium	Dissolved	mg/L	0.00017	0.00017	0.00008	0.00005	
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Titanium	Dissolved	mg/L	0.0058	0.0061	0.0062	0.0005	
Uranium	Dissolved	mg/L	0.0038	0.0037	0.0041	0.0005	
Vanadium	Dissolved	mg/L	0.0002	0.0003	0.0004	0.0001	
Zinc	Dissolved	mg/L	5.54	4.96	2.06	0.001	
Metals Total							
Calcium	Total	mg/L	144	142	154	0.2	
Iron	Total	mg/L	0.8	1.3	0.3	0.1	
Magnesium	Total	mg/L	23.0	23.0	27.1	0.1	
Manganese	Total	mg/L	4.02	3.98	1.58	0.005	
Potassium	Total	mg/L	0.5	0.6	0.7	0.4	
Silicon	Total	mg/L	3.51	4.02	3.58	0.05	



Analytical Report

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Report to: Laberge Environmental Services
Box 21072
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Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 23 of 32

		NWL Number		397206-22	397206-23	397206-24	
		Sample Description		LES-21 / No Cash 500	NCC-1 / No Cash 35	NCC-2 / No Cash 500	
				@ Hwy	m D/S	m D/S	
		Matrix	Water - General	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Total - Continued							
Sodium	Total	mg/L	1.1	1.1	1.5	0.4	
Sulfur	Total	mg/L	112	113	116	0.3	
Aluminum	Total	mg/L	0.184	0.458	0.118	0.005	
Antimony	Total	mg/L	0.0016	0.0016	0.0011	0.0002	
Arsenic	Total	mg/L	0.0048	0.0062	0.0016	0.0002	
Barium	Total	mg/L	0.037	0.038	0.045	0.001	
Beryllium	Total	mg/L	<0.001	<0.001	<0.001	0.0001	
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Total	mg/L	<0.02	<0.02	<0.02	0.002	
Cadmium	Total	mg/L	0.0478	0.0435	0.0198	0.00001	
Chromium	Total	mg/L	0.0024	0.0021	0.0007	0.0005	
Cobalt	Total	mg/L	0.0029	0.0033	0.0012	0.0001	
Copper	Total	mg/L	0.008	0.009	0.003	0.001	
Lead	Total	mg/L	0.0052	0.0112	0.0015	0.0001	
Lithium	Total	mg/L	0.02	0.02	0.02	0.001	
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Total	mg/L	0.0249	0.0267	0.0127	0.0005	
Selenium	Total	mg/L	0.0009	0.0010	0.0010	0.0002	
Silver	Total	mg/L	<0.0001	0.0002	<0.0001	0.0001	
Strontium	Total	mg/L	0.240	0.245	0.356	0.001	
Thallium	Total	mg/L	0.00022	0.00024	0.0001	0.00005	
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001	
Titanium	Total	mg/L	0.0092	0.0211	0.0095	0.0005	
Uranium	Total	mg/L	0.0045	0.0045	0.0050	0.0005	
Vanadium	Total	mg/L	0.0006	0.0016	0.0006	0.0001	
Zinc	Total	mg/L	4.76	5.06	2.33	0.001	
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001	
Physical and Aggregate Properties							
Solids	Total Suspended	mg/L	9	18	7	1	
Routine Water							
pH	@ 25 °C	pH	7.91	7.82	7.86		
Electrical Conductivity	Water	uS/cm	834	805	858	1	
Calcium	Dissolved	mg/L	142	139	151	0.2	
Magnesium	Dissolved	mg/L	23.3	22.9	27.5	0.1	
Sodium	Dissolved	mg/L	1.1	1.2	1.6	0.4	



Analytical Report

Norwest Labs
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Phone: (604) 514-3322
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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number 397206-22		397206-23	397206-24	
		Sample Description LES-21 / No Cash 500		NCC-1 / No Cash 35	NCC-2 / No Cash 500	
		@ Hwy		m D/S	m D/S	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Potassium	Dissolved	mg/L	<0.4	0.4	0.6	0.4
Iron	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Manganese	Dissolved	mg/L	3.96	3.83	1.56	0.005
Nitrate - N	Dissolved	mg/L	0.07	0.07	0.08	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	145	146	168	5
T-Alkalinity	as CaCO3	mg/L	119	119	138	5
Hardness	Dissolved as CaCO3	mg/L	451	442	491	

		NWL Number 397206-25		397206-26	
		Sample Description NCC-3 / No Cash		NCC-4 / No Cash 1.4	
		850m D/S		km D/S	
		Matrix	Water - General	Water - General	
Analyte		Units	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters					
Ammonium - N	Dissolved	mg/L	0.009	0.002	0.002
Physical and Aggregate Properties					
Solids	Total Suspended	mg/L	2	10	1



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Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number		397206-25	397206-26	397206-27
		Sample Description		NCC-3 / No Cash 850m D/S	NCC-4 / No Cash 1.4 km D/S	Dup-1 / Blind Duplicate
		Matrix	Water - General	Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total						
Calcium	Total	mg/L	149	145	211	0.2
Iron	Total	mg/L	0.1	0.2	0.4	0.1
Magnesium	Total	mg/L	27.2	26.9	22.3	0.1
Manganese	Total	mg/L	0.829	0.361	7.93	0.005
Potassium	Total	mg/L	0.6	0.5	0.6	0.4
Silicon	Total	mg/L	3.34	3.26	5.30	0.05
Sodium	Total	mg/L	1.5	1.5	1.2	0.4
Sulfur	Total	mg/L	114	110	179	0.3
Aluminum	Total	mg/L	0.014	0.042	0.011	0.005
Antimony	Total	mg/L	0.0009	0.0007	0.0032	0.0002
Arsenic	Total	mg/L	0.0009	0.0006	0.0207	0.0002
Barium	Total	mg/L	0.046	0.046	0.007	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.01	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.004	0.004	<0.2	0.002
Cadmium	Total	mg/L	0.00877	0.00195	1.32	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0006	0.0001	0.0145	0.0001
Copper	Total	mg/L	0.001	<0.001	0.002	0.001
Lead	Total	mg/L	0.0003	0.0004	0.0038	0.0001
Lithium	Total	mg/L	0.019	0.018	<0.1	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0065	0.0038	0.0329	0.0005
Selenium	Total	mg/L	0.0006	0.0006	0.0004	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.378	0.373	0.267	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	0.00007	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0056	0.0063	0.0078	0.0005
Uranium	Total	mg/L	0.0041	0.0034	<0.0005	0.0005
Vanadium	Total	mg/L	0.0002	0.0003	0.0001	0.0001
Zinc	Total	mg/L	1.34	0.626	67.2	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001



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Box 21072
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Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number	397206-25	397206-26	397206-28		
		Sample Description	NCC-3 / No Cash 850m D/S	NCC-4 / No Cash 1.4 km D/S	FB-2 / Filter Blank		
		Matrix	Water - General	Water - General	Water - General		
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Dissolved							
Silicon	Dissolved	mg/L	3.25	3.09	<0.05	0.05	
Sulfur	Dissolved	mg/L	116	109	0.3	0.3	
Aluminum	Dissolved	mg/L	<0.005	<0.005	0.008	0.005	
Antimony	Dissolved	mg/L	0.0012	0.0007	0.0004	0.0002	
Arsenic	Dissolved	mg/L	0.0007	0.0005	<0.0002	0.0002	
Barium	Dissolved	mg/L	0.044	0.044	0.004	0.001	
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002	
Cadmium	Dissolved	mg/L	0.0100	0.00080	0.00088	0.00001	
Chromium	Dissolved	mg/L	0.0012	0.0008	0.0040	0.0005	
Cobalt	Dissolved	mg/L	0.0006	<0.0001	<0.0001	0.0001	
Copper	Dissolved	mg/L	0.008	<0.001	0.178	0.001	
Lead	Dissolved	mg/L	0.0002	<0.0001	0.0266	0.0001	
Lithium	Dissolved	mg/L	0.012	0.011	<0.001	0.001	
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Dissolved	mg/L	0.0038	0.0013	<0.0005	0.0005	
Selenium	Dissolved	mg/L	0.0006	0.0004	<0.0002	0.0002	
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Strontium	Dissolved	mg/L	0.357	0.348	0.001	0.001	
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	
Tin	Dissolved	mg/L	<0.001	<0.001	0.002	0.001	
Titanium	Dissolved	mg/L	0.0063	0.0060	<0.0005	0.0005	
Uranium	Dissolved	mg/L	0.0036	0.0028	<0.0005	0.0005	
Vanadium	Dissolved	mg/L	0.0004	0.0014	<0.0001	0.0001	
Zinc	Dissolved	mg/L	1.17	0.527	0.087	0.001	
Routine Water							
pH	@ 25 °C	pH	7.47	7.68	-		
Electrical Conductivity	Water	uS/cm	886	848	-	1	
Calcium	Dissolved	mg/L	150	145	0.5	0.2	
Magnesium	Dissolved	mg/L	28.2	27.7	<0.1	0.1	
Sodium	Dissolved	mg/L	1.6	1.6	<0.4	0.4	
Potassium	Dissolved	mg/L	0.6	0.4	<0.4	0.4	
Iron	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01	
Manganese	Dissolved	mg/L	0.835	0.330	0.005	0.005	



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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

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		NWL Number	397206-25	397206-26	397206-28	
		Sample Description	NCC-3 / No Cash 850m D/S	NCC-4 / No Cash 1.4 km D/S	FB-2 / Filter Blank	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Nitrate - N	Dissolved	mg/L	0.05	<0.03	-	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	-	0.03
Hydroxide	Water	mg/L	<5	<5	-	5
Carbonate	Water	mg/L	<6	<6	-	5
Bicarbonate	Water	mg/L	180	180	-	5
T-Alkalinity	as CaCO3	mg/L	147	147	-	5
Hardness	Dissolved as CaCO3	mg/L	492	477	-	



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Sampled By: Ken Nordin
Company: LES

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ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
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Report Number: 725927

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		NWL Number		397206-29	397206-30	397206-32
		Sample Description		LES-21 / No Cash 500 @ Hwy	NCC-1 / No Cash 35 m D/S	NCC-3 / No Cash 850m D/S
		Matrix		Soil - general	Soil - general	Soil - general
Analyte		Units	Results	Results	Results	Detection Limit
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	15500	14400	8490	1
Antimony	Strong Acid Extractable	ug/g	<1	<1	2	3
Arsenic	Strong Acid Extractable	ug/g	29.1	34.9	42.3	0.7
Barium	Strong Acid Extractable	ug/g	358	334	141	.4
Beryllium	Strong Acid Extractable	ug/g	0.609	0.609	0.29	0.02
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	3
Cadmium	Strong Acid Extractable	ug/g	97.8	112	25.8	0.1
Calcium	Strong Acid Extractable	ug/g	14800	17400	8220	1
Chromium	Strong Acid Extractable	ug/g	26.3	24.8	16.2	0.2
Cobalt	Strong Acid Extractable	ug/g	20.3	18.6	10.2	0.2
Copper	Strong Acid Extractable	ug/g	62.4	79.2	35.2	0.2
Iron	Strong Acid Extractable	ug/g	27700	27900	22700	0.4
Lead	Strong Acid Extractable	ug/g	93.0	112	249	1
Lithium	Strong Acid Extractable	ug/g	17.5	16.4	12.6	0.3
Magnesium	Strong Acid Extractable	ug/g	4140	4160	4470	10
Manganese	Strong Acid Extractable	ug/g	4500	4200	3000	0.1
Molybdenum	Strong Acid Extractable	ug/g	3.8	4.0	1.7	0.2
Nickel	Strong Acid Extractable	ug/g	69.9	76.8	29.0	0.5
Phosphorus	Strong Acid Extractable	ug/g	884	874	947	2
Potassium	Strong Acid Extractable	ug/g	668	666	492	4
Selenium	Strong Acid Extractable	ug/g	<0.5	<0.5	<0.5	1
Silicon	Strong Acid Extractable	ug/g	270	206	221	0.5
Silver	Strong Acid Extractable	ug/g	1.3	1.6	7.18	0.8
Sodium	Strong Acid Extractable	ug/g	86	90	61	10
Strontium	Strong Acid Extractable	ug/g	42.6	44.9	31.6	0.01
Sulfur	Strong Acid Extractable	ug/g	1240	1360	1030	2
Thallium	Strong Acid Extractable	ug/g	5.6	5.2	3.2	1
Tin	Strong Acid Extractable	ug/g	<0.5	<0.5	<0.5	1
Titanium	Strong Acid Extractable	ug/g	133	136	163	0.2
Uranium	Strong Acid Extractable	ug/g	57	52	40	10
Vanadium	Strong Acid Extractable	ug/g	45.6	42.5	26.4	0.4
Zinc	Strong Acid Extractable	ug/g	5540	5830	1900	0.1
Zirconium	Strong Acid Extractable	ug/g	4.2	4.9	3.2	0.2



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Project
ID: KVRW
Name: Keno Valley Receiving Water
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LSD:
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NWL Lot ID: 397206
Control Number: E 225068
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NWL Number 397206-33
Sample Description NCC-4 / No Cash 1.4
km D/S
Matrix Soil - general

Analyte		Units	Results	Results	Detection Limit
Metals Strong Acid Digestion					
Aluminum	Strong Acid Extractable	ug/g	12100		1
Antimony	Strong Acid Extractable	ug/g	<1		3
Arsenic	Strong Acid Extractable	ug/g	34.4		0.7
Barium	Strong Acid Extractable	ug/g	272		.4
Beryllium	Strong Acid Extractable	ug/g	0.504		0.02
Bismuth	Strong Acid Extractable	ug/g	<1		3
Cadmium	Strong Acid Extractable	ug/g	46.2		0.1
Calcium	Strong Acid Extractable	ug/g	14400		1
Chromium	Strong Acid Extractable	ug/g	23.6		0.2
Cobalt	Strong Acid Extractable	ug/g	13.0		0.2
Copper	Strong Acid Extractable	ug/g	74.2		0.2
Iron	Strong Acid Extractable	ug/g	30500		0.4
Lead	Strong Acid Extractable	ug/g	136		1
Lithium	Strong Acid Extractable	ug/g	17.0		0.3
Magnesium	Strong Acid Extractable	ug/g	5120		10
Manganese	Strong Acid Extractable	ug/g	3100		0.1
Molybdenum	Strong Acid Extractable	ug/g	2.1		0.2
Nickel	Strong Acid Extractable	ug/g	48.7		0.5
Phosphorus	Strong Acid Extractable	ug/g	825		2
Potassium	Strong Acid Extractable	ug/g	828		4
Selenium	Strong Acid Extractable	ug/g	<0.5		1
Silicon	Strong Acid Extractable	ug/g	267		0.5
Silver	Strong Acid Extractable	ug/g	3.6		0.8
Sodium	Strong Acid Extractable	ug/g	110		10
Strontium	Strong Acid Extractable	ug/g	49.0		0.01
Sulfur	Strong Acid Extractable	ug/g	1970		2
Thallium	Strong Acid Extractable	ug/g	3.8		1
Tin	Strong Acid Extractable	ug/g	0.59		1
Titanium	Strong Acid Extractable	ug/g	109		0.2
Uranium	Strong Acid Extractable	ug/g	40		10
Vanadium	Strong Acid Extractable	ug/g	34.5		0.4
Zinc	Strong Acid Extractable	ug/g	3100		0.1
Zirconium	Strong Acid Extractable	ug/g	4.6		0.2



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Name: Keno Valley Receiving Water
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LSD:
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Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
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Approved by:

Bill Warning, B.Sc.
Lab Operations Manager



Methodology and Notes

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Method of Analysis:

MethodName	Reference	Method	Date Analysis Started	Location
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	27-Jul-05	Norwest Labs Surrey
Ammonium-N in Water (color Surrey)	APHA	* Automated Phenate Method, 4500-NH3 G	26-Jul-05	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	30-Jul-05	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	30-Jul-05	Norwest Labs Surrey
Conductivity (Surrey)	APHA	* Conductivity - Laboratory Method, 2510 B	27-Jul-05	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	29-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	29-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	28-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	29-Jul-05	Norwest Labs Edmonton
Metals SemiTrace (Strong Acid Leachable) in solids (Surrey)	US EPA	Metals & Trace Elements by ICP-AES, 6010B	27-Jul-05	Norwest Labs Surrey
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	28-Jul-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	29-Jul-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	28-Jul-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	29-Jul-05	Norwest Labs Edmonton
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	26-Jul-05	Norwest Labs Surrey
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	27-Jul-05	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	27-Jul-05	Norwest Labs Surrey

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

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Methodology and Notes

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Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Ken Nordin
Company: LES

Project
ID: KVRW
Name: Keno Valley Receiving Water
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397206
Control Number: E 225068
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725927

Page: 32 of 32

* Norwest method(s) is based on reference method

References:

APHA	Standard Methods for the Examination of Water and Wastewater
US EPA	US Environmental Protection Agency Test Methods

Comments:

No set of samples rec'd for Dup-1, Blind or Filter Blank. Also sample marked KV-47 on the COC is marked LES-47 on the sample container. Called Ken to advise, left a message.

Also the soils will be added to the end of the WO and there is a sample marked NCC-2 with no analysis marked.

There is one one litre plastic with no markings on it.

Some total metal results were less than dissolved metal results for lot 397206. The samples were redigested and results were checked. HL. August 03 2005.

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



NORWEST LABS

Control Number **E 225070**

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company: ACG	QA/QC Report ☒	Company: LES	Mail invoice to this address for approval ☐		
Address: #3 Calcite 151 Industrial Road Whitehorse Y1A 2V3		Address: Box 21072 Whitehorse YT			
Attention: scott Keesey	Report Result:	Attention: Bonnie Burns	Report Result:		
Phone:	Fax ☐	Phone: 867 668 6838	Fax ☐		
Fax:	Mail ☒	Fax:	Mail ☒		
Cell:	Courier ☐	Cell:	Courier ☐		
e-mail: scott@accessconsulting.ca	e-mail ☒	e-mail: Labuge@internorth	e-mail ☒		
	e-Service ☒		e-Service ☐		

Information to be included on Report and Invoice

Project ID: **G300 RW**
Project Name: **FUGITIVE FLOW INVESTIGATION - RECEIVING WATER**
Project Location:
Legal Location:
PO#:
Proj. Acct. Code:
Agreement ID:

RUSH

Please contact the laboratory to confirm rush dates and times before submitting samples.

Upon filling out this section, client accepts that surcharges will be attached to this analysis
Required on: all analyses or as indicated ☐ or ☐

Date Required: _____
Signature: _____
Norwest Authorization: _____

Sample Custody (Please Print)

Relinquished by: **TEN NORDIN**
Company **LES** Signature **[Signature]**
I authorize Norwest Labs to proceed with the work indicated on this form:
Date: _____
Initial: _____
Received by: ☐ Coolers
Waybill # _____ Date ☐ Boxes
Company **LES** Time **05P01:54** ☒ Samples

Special Instructions / Comments

☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

- ULTRA TRACE LOW DETECTION LIMIT METALS.
- METALS FIELD FILTERED AND PRESERVED

JULY 2005

GRAB

	Sample Identification	Location	Depth IN CM M	Date / Time Sampled	Matrix	Sampling Method	Number of Containers	Enter tests above (✓ relevant samples below)									
								ALK	PH	COND	HARD	AMMONIA	NITRATE	NITRITE	TSS	DISS MET.	TOTAL MET.
1	S-McQ. v/s Christal	KV-1		July 20			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	S-McQ. @ PH Pond	KV-2		July 18			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	S-McQ. 9 K DIS Flat	KV-5		July 19			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	Christal v/s Keno Hwy	KV-6		July 20			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	Christal @ HL Road	KV-7		20			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	Christal @ mouth	KV-8		20			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7	Christal site A	(A)		20			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	Christal site D	(D)		20			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9	Culvert #4	#4		21			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10	G300 ADIT			21			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11	G300 DECANT			21			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12	FILTER BLANK	FB-1		20			1									✓	
13	DUP-2, Blind	DUP-2		21			1									✓	✓
14	S-McQ. @ Haggart Bridge			19			4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
15																	

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.

Accredited by the Standards Council of Canada for specific tests

Page 1 of 1
##



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Contact	Company	Address
Scott Keeseey Web Email Notification	Access Mining Consultants Ltd.	# 3 Calcite Business Centre, 151 Industrial Road Whitehorse, YT Y1A 2V3 Phone: (867) 668-6463 Email: scott@accessconsulting.ca
		Fax: (867) 667-6680
<u>Copies Delivery Strategy</u>		<u>Format</u>
	1 Post	
A	1 Email - Single Report	PDF
A	1 Email - Single Report	Standard List

NOTE: **P** indicates a preliminary report is required

NOTE: **A** indicates report is delivered using automated delivery

_____ # OF PAGES IN THIS TRANSMISSION

Report Transmission Notes

Agreement Notes

Lot Notes

Sample Notes:

Notes to Clients

Lot Notes:

Sample Notes:

Batch Notes:

Method Notes:

Method Result Notes:

Reports associated with this Lot

Id/Format/Reported Date

725928 Env2 3 Smp & DL

Id/Format/Reported Date

Id/Format/Reported Date

Comment:

See Methodology and Notes page of Analytical Report for all comments pertaining to this report.

If this report transmission is not satisfactory, please send report requirements to the address at the top of this page.

7/29/05

725928 29-Jul-2005

8/3/2005 12:11:27PM



Sample Custody

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Sample Disposal Date: Sep 02, 2005

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the upper right of this page.

_____ **Extend Sample Storage Until** _____ **(MM/DD/YY)**

The following charges apply to extended sample storage:

Storage for 1 to 5 samples per month	\$ 10.00
Storage for 6 to 20 samples per month	\$ 15.00
Storage for 21 to 50 samples per month	\$ 30.00
Storage for 51 to 200 samples per month	\$ 60.00
Storage for more than 200 samples per month	\$ 110.00

_____ **Return Sample, collect, to the address below via:**

_____ Greyhound
_____ Loomis
_____ Purolator
_____ Other (Specify) _____

Name: _____
Company: _____
Address: _____

Phone: _____
Fax: _____
Signature: _____

If no other arrangements have been made, samples will be disposed of on Sep 02, 2005.



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 1 of 18

		NWL Number	397205-1	397205-2	397205-3	
		Sample Date	Jul 20, 2005	Jul 18, 2005	Jul 19, 2005	
		Sample Location	KV_1	KV_2	KV_5	
		Sample Description	S.McQ. u/s Christal	S.McQ. PH Pond	S.McQ. 9K D/S Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.008	0.006	0.008	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	1.80	1.96	2.15	0.05
Sulfur	Dissolved	mg/L	18.8	20.2	19.3	0.3
Aluminum	Dissolved	mg/L	0.129	0.117	0.080	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0012	0.0017	0.0039	0.0002
Barium	Dissolved	mg/L	0.048	0.055	0.059	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00012	0.00018	0.00015	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0005	0.0004	0.0002	0.0001
Copper	Dissolved	mg/L	0.002	0.002	0.002	0.001
Lead	Dissolved	mg/L	0.0002	0.0011	0.0015	0.0001
Lithium	Dissolved	mg/L	0.004	0.004	0.004	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0070	0.0061	0.0038	0.0005
Selenium	Dissolved	mg/L	0.0003	0.0004	0.0004	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.177	0.179	0.188	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0016	0.0016	0.0017	0.0005
Uranium	Dissolved	mg/L	0.0006	0.0007	0.0007	0.0005
Vanadium	Dissolved	mg/L	0.0003	0.0003	0.0003	0.0001
Zinc	Dissolved	mg/L	0.020	0.026	0.019	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	40.9	43.0	44.9	0.2
Iron	Total	mg/L	0.2	0.2	0.2	0.1
Magnesium	Total	mg/L	12.9	13.1	13.3	0.1
Manganese	Total	mg/L	0.051	0.058	0.054	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 2 of 18

		NWL Number	397205-1	397205-2	397205-3	
		Sample Date	Jul 20, 2005	Jul 18, 2005	Jul 19, 2005	
		Sample Location	KV_1	KV_2	KV_5	
		Sample Description	S.McQ. u/s Christal	S.McQ. PH Pond	S.McQ. 9K D/S Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	<0.4	<0.4	0.4	0.4
Silicon	Total	mg/L	1.85	2.00	2.18	0.05
Sodium	Total	mg/L	1.6	1.4	1.4	0.4
Sulfur	Total	mg/L	18.6	19.4	18.5	0.3
Aluminum	Total	mg/L	0.162	0.150	0.107	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	0.0002	0.0002
Arsenic	Total	mg/L	0.0013	0.0018	0.0039	0.0002
Barium	Total	mg/L	0.051	0.057	0.061	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.007	0.004	0.004	0.002
Cadmium	Total	mg/L	0.00012	0.00020	0.00017	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0005	0.0004	0.0002	0.0001
Copper	Total	mg/L	0.002	0.002	0.002	0.001
Lead	Total	mg/L	0.0002	0.0012	0.0016	0.0001
Lithium	Total	mg/L	0.005	0.005	0.005	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0079	0.0066	0.0045	0.0005
Selenium	Total	mg/L	0.0006	0.0004	0.0004	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.189	0.188	0.193	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0017	0.0020	0.0020	0.0005
Uranium	Total	mg/L	0.0006	0.0007	0.0008	0.0005
Vanadium	Total	mg/L	0.0003	0.0003	0.0004	0.0001
Zinc	Total	mg/L	0.020	0.028	0.019	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	4	1
Routine Water						
pH	@ 25 °C	pH	7.94	4.89	4.85	
Electrical Conductivity	Water	uS/cm	311	331	344	1



Analytical Report

Norwest Labs
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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 3 of 18

		NWL Number	397205-1	397205-2	397205-3	
		Sample Date	Jul 20, 2005	Jul 18, 2005	Jul 19, 2005	
		Sample Location	KV_1	KV_2	KV_5	
		Sample Description	S.McQ. u/s Christal	S.McQ. PH Pond	S.McQ. 9K D/S Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	41.4	44.7	47.4	0.2
Magnesium	Dissolved	mg/L	12.9	13.6	14.0	0.1
Sodium	Dissolved	mg/L	1.4	1.4	1.4	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	0.08	0.07	0.11	0.01
Manganese	Dissolved	mg/L	0.037	0.043	0.043	0.005
Nitrate - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	126	145	159	5
T-Alkalinity	as CaCO ₃	mg/L	104	119	130	5
Hardness	Dissolved as CaCO ₃	mg/L	156	168	176	



Analytical Report

Norwest Labs
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151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 4 of 18

		NWL Number	397205-4	397205-5	397205-6	
		Sample Date	Jul 20, 2005	Jul 20, 2005	Jul 20, 2005	
		Sample Location	KV_6	KV_7	KV_8	
		Sample Description	Christal u/s Keno Hwy	Christal @ HL Road	Christal @ Mouth	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.01	<0.002	<0.002	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	2.28	2.67	2.44	0.05
Sulfur	Dissolved	mg/L	80.3	63.0	62.6	0.3
Aluminum	Dissolved	mg/L	0.052	0.019	0.008	0.005
Antimony	Dissolved	mg/L	0.0008	0.0003	0.0003	0.0002
Arsenic	Dissolved	mg/L	0.0123	0.0024	0.0028	0.0002
Barium	Dissolved	mg/L	0.063	0.052	0.048	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00327	0.00212	0.00171	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0003	0.0002	<0.0001	0.0001
Copper	Dissolved	mg/L	0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	0.0488	0.0016	0.0013	0.0001
Lithium	Dissolved	mg/L	0.007	0.005	0.005	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0019	0.0016	0.0007	0.0005
Selenium	Dissolved	mg/L	0.0008	0.0005	0.0005	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.201	0.220	0.219	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0065	0.0044	0.0040	0.0005
Uranium	Dissolved	mg/L	0.0054	0.0022	0.0020	0.0005
Vanadium	Dissolved	mg/L	0.0004	0.0002	0.0001	0.0001
Zinc	Dissolved	mg/L	0.308	0.282	0.242	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	104	94.6	94.0	0.2
Iron	Total	mg/L	0.7	0.2	0.1	0.1
Magnesium	Total	mg/L	21.5	19.8	19.3	0.1
Manganese	Total	mg/L	0.428	0.354	0.149	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
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Phone: (604) 514-3322
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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 5 of 18

		NWL Number	397205-4	397205-5	397205-6	
		Sample Date	Jul 20, 2005	Jul 20, 2005	Jul 20, 2005	
		Sample Location	KV_6	KV_7	KV_8	
		Sample Description	Christal u/s Keno Hwy	Christal @ HL Road	Christal @ Mouth	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	<0.4	<0.4	0.6	0.4
Silicon	Total	mg/L	2.60	2.70	2.47	0.05
Sodium	Total	mg/L	1.2	1.3	1.3	0.4
Sulfur	Total	mg/L	78.2	61.0	62.8	0.3
Aluminum	Total	mg/L	0.179	0.042	0.013	0.005
Antimony	Total	mg/L	0.0013	0.0003	0.0004	0.0002
Arsenic	Total	mg/L	0.0153	0.0024	0.0028	0.0002
Barium	Total	mg/L	0.065	0.063	0.051	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.005	0.011	0.005	0.002
Cadmium	Total	mg/L	0.00365	0.00224	0.00182	0.00001
Chromium	Total	mg/L	0.0007	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0003	0.0006	<0.0001	0.0001
Copper	Total	mg/L	0.002	0.001	<0.001	0.001
Lead	Total	mg/L	0.0586	0.0018	0.0014	0.0001
Lithium	Total	mg/L	0.010	0.009	0.008	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0033	0.0022	0.0017	0.0005
Selenium	Total	mg/L	0.0008	0.0008	0.0007	0.0002
Silver	Total	mg/L	0.0005	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.212	0.252	0.229	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0081	0.0044	0.0040	0.0005
Uranium	Total	mg/L	0.0059	0.0024	0.0023	0.0005
Vanadium	Total	mg/L	0.0006	0.0004	0.0003	0.0001
Zinc	Total	mg/L	0.389	0.318	0.282	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	80	2	<2	1
Routine Water						
pH	@ 25 °C	pH	4.68	4.99	8.00	
Electrical Conductivity	Water	uS/cm	690	609	609	1



Analytical Report

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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

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		NWL Number		397205-4	397205-5	397205-6
		Sample Date		Jul 20, 2005	Jul 20, 2005	Jul 20, 2005
		Sample Location		KV_6	KV_7	KV_8
		Sample Description		Christal u/s Keno Hwy	Christal @ HL Road	Christal @ Mouth
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	110	96.0	95.7	0.2
Magnesium	Dissolved	mg/L	22.5	20.0	19.9	0.1
Sodium	Dissolved	mg/L	1.3	1.3	1.3	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	0.4	0.4
Iron	Dissolved	mg/L	0.07	0.05	0.04	0.01
Manganese	Dissolved	mg/L	0.338	0.355	0.144	0.005
Nitrate - N	Dissolved	mg/L	0.07	0.07	0.05	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	159	176	176	5
T-Alkalinity	as CaCO ₃	mg/L	130	144	145	5
Hardness	Dissolved as CaCO ₃	mg/L	367	322	321	



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Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

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		NWL Number	397205-7	397205-8	397205-9	
		Sample Date	Jul 20, 2005	Jul 20, 2005	Jul 21, 2005	
		Sample Location	A	D	#4	
		Sample Description	Christal Site A	Christal Site D	Culvert #4	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.025	0.025	0.047	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	2.55	2.52	3.19	0.05
Sulfur	Dissolved	mg/L	98.6	110	303	0.3
Aluminum	Dissolved	mg/L	0.038	0.154	0.042	0.005
Antimony	Dissolved	mg/L	0.0004	0.0004	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0050	0.0060	0.0012	0.0002
Barium	Dissolved	mg/L	0.058	0.063	0.048	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00191	0.00388	0.0378	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0003	0.0008	0.0041	0.0001
Copper	Dissolved	mg/L	<0.001	0.002	<0.001	0.001
Lead	Dissolved	mg/L	0.0063	0.0080	0.0003	0.0001
Lithium	Dissolved	mg/L	0.009	0.009	0.01	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0016	0.0034	0.0164	0.0005
Selenium	Dissolved	mg/L	0.0007	0.0007	0.0004	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.264	0.287	0.575	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0070	0.0123	0.0154	0.0005
Uranium	Dissolved	mg/L	0.0048	0.0045	0.0014	0.0005
Vanadium	Dissolved	mg/L	0.0004	0.0008	0.0011	0.0001
Zinc	Dissolved	mg/L	0.237	0.483	3.79	0.001
Subsample	Field Filtered		Yes	Yes	No	
Metals Total						
Calcium	Total	mg/L	124	136	314	0.2
Iron	Total	mg/L	0.4	1.3	11.7	0.1
Magnesium	Total	mg/L	24.0	25.8	53.0	0.1
Manganese	Total	mg/L	0.369	1.15	20.1	0.005



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3 Calcite Business Centre
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Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

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		NWL Number	397205-7	397205-8	397205-9	
		Sample Date	Jul 20, 2005	Jul 20, 2005	Jul 21, 2005	
		Sample Location	A	D	#4	
		Sample Description	Christal Site A	Christal Site D	Culvert #4	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	0.5	0.6	1.5	0.4
Silicon	Total	mg/L	2.61	3.40	11.9	0.05
Sodium	Total	mg/L	1.5	1.5	2.3	0.4
Sulfur	Total	mg/L	96.9	111	317	0.3
Aluminum	Total	mg/L	0.103	0.635	6.04	0.005
Antimony	Total	mg/L	0.0005	0.0005	0.0008	0.0002
Arsenic	Total	mg/L	0.0052	0.0070	0.0283	0.0002
Barium	Total	mg/L	0.060	0.072	0.173	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	0.0002	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.005	0.005	0.007	0.002
Cadmium	Total	mg/L	0.00202	0.00428	0.0519	0.00001
Chromium	Total	mg/L	<0.0005	0.0011	0.0096	0.0005
Cobalt	Total	mg/L	0.0003	0.0010	0.0107	0.0001
Copper	Total	mg/L	0.001	0.004	0.028	0.001
Lead	Total	mg/L	0.0075	0.0099	0.0332	0.0001
Lithium	Total	mg/L	0.012	0.012	0.025	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	0.001	0.001
Nickel	Total	mg/L	0.0029	0.0055	0.0418	0.0005
Selenium	Total	mg/L	0.0007	0.0006	0.0009	0.0002
Silver	Total	mg/L	<0.0001	0.0001	0.0007	0.0001
Strontium	Total	mg/L	0.272	0.305	0.628	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	0.00014	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0066	0.0239	0.196	0.0005
Uranium	Total	mg/L	0.0053	0.0052	0.0024	0.0005
Vanadium	Total	mg/L	0.0004	0.0018	0.0167	0.0001
Zinc	Total	mg/L	0.284	0.616	5.41	0.001
Zirconium	Total	mg/L	<0.001	<0.001	0.004	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	4	33	382	1
Routine Water						
pH	@ 25 °C	pH	7.97	7.99	4.62	
Electrical Conductivity	Water	uS/cm	787	829	1630	1



Analytical Report

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3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

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		NWL Number	397205-7	397205-8	397205-9	
		Sample Date	Jul 20, 2005	Jul 20, 2005	Jul 21, 2005	
		Sample Location	A	D	#4	
		Sample Description	Christal Site A	Christal Site D	Culvert #4	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	129	140	315	0.2
Magnesium	Dissolved	mg/L	24.9	26.6	51.8	0.1
Sodium	Dissolved	mg/L	1.5	1.5	2.1	0.4
Potassium	Dissolved	mg/L	<0.4	0.4	0.5	0.4
Iron	Dissolved	mg/L	0.11	0.06	<0.01	0.01
Manganese	Dissolved	mg/L	0.363	1.13	19.8	0.005
Nitrate - N	Dissolved	mg/L	0.08	0.09	0.32	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	168	160	110	5
T-Alkalinity	as CaCO ₃	mg/L	138	131	90	5
Hardness	Dissolved as CaCO ₃	mg/L	425	459	1000	



Analytical Report

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3 Calcite Business Centre
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Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

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		NWL Number	397205-10	397205-11	397205-12		
		Sample Date	Jul 21, 2005	Jul 21, 2005	Jul 20, 2005		
		Sample Location			FB_1		
		Sample Description	G300 Adit	G300 Decant	Filter Blank		
		Matrix	Water - General	Water - General	Water - General		
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Dissolved							
Silicon	Dissolved	mg/L	4.68	2.60	<0.05	0.05	
Sulfur	Dissolved	mg/L	348	336	<0.3	0.3	
Aluminum	Dissolved	mg/L	0.086	<0.005	0.012	0.005	
Antimony	Dissolved	mg/L	0.001	<0.0002	<0.0002	0.0002	
Arsenic	Dissolved	mg/L	0.167	0.0146	<0.0002	0.0002	
Barium	Dissolved	mg/L	0.008	0.008	<0.001	0.001	
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002	
Cadmium	Dissolved	mg/L	0.437	0.298	0.00001	0.00001	
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Cobalt	Dissolved	mg/L	0.0878	0.0396	<0.0001	0.0001	
Copper	Dissolved	mg/L	0.012	<0.001	<0.001	0.001	
Lead	Dissolved	mg/L	0.0218	0.0008	0.0002	0.0001	
Lithium	Dissolved	mg/L	0.020	0.019	<0.001	0.001	
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Dissolved	mg/L	0.311	0.0692	<0.0005	0.0005	
Selenium	Dissolved	mg/L	0.0003	0.0004	<0.0002	0.0002	
Silver	Dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	
Strontium	Dissolved	mg/L	0.273	0.448	0.001	0.001	
Thallium	Dissolved	mg/L	0.00083	0.00074	<0.00005	0.00005	
Tin	Dissolved	mg/L	<0.001	<0.001	0.001	0.001	
Titanium	Dissolved	mg/L	0.0086	0.0084	<0.0005	0.0005	
Uranium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Vanadium	Dissolved	mg/L	<0.0001	0.0001	0.0001	0.0001	
Zinc	Dissolved	mg/L	135	19.7	0.006	0.001	
Subsample	Field Filtered		Yes	Yes	Yes		
Routine Water							
pH	@ 25 °C	pH	5.79	7.74	-		
Electrical Conductivity	Water	uS/cm	1720	1780	-	1	
Calcium	Dissolved	mg/L	199	297	1.1	0.2	
Magnesium	Dissolved	mg/L	41.3	39.7	<0.1	0.1	
Sodium	Dissolved	mg/L	1.6	1.6	<0.4	0.4	
Potassium	Dissolved	mg/L	0.5	0.5	<0.4	0.4	



Analytical Report

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3 Calcite Business Centre
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Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

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		NWL Number		397205-10	397205-11	397205-12
		Sample Date		Jul 21, 2005	Jul 21, 2005	Jul 20, 2005
		Sample Location				FB_1
		Sample Description		G300 Adit	G300 Decant	Filter Blank
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Iron	Dissolved	mg/L	23.8	0.02	<0.01	0.01
Manganese	Dissolved	mg/L	168	160	<0.005	0.005
Nitrate - N	Dissolved	mg/L	0.05	0.06	-	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	-	0.03
Hydroxide	Water	mg/L	<5	<5	-	5
Carbonate	Water	mg/L	<6	<6	-	5
Bicarbonate	Water	mg/L	50	166	-	5
T-Alkalinity	as CaCO ₃	mg/L	41	136	-	5
Hardness	Dissolved as CaCO ₃	mg/L	666	904	-	



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Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

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		NWL Number		397205-10	397205-11	397205-13
		Sample Date		Jul 21, 2005	Jul 21, 2005	Jul 21, 2005
		Sample Location				DUP_2
		Sample Description		G300 Adit	G300 Decant	DUP_2, Blind
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total						
Calcium	Total	mg/L	195	287	42.7	0.2
Iron	Total	mg/L	29.4	0.3	0.1	0.1
Magnesium	Total	mg/L	40.5	38.8	12.8	0.1
Manganese	Total	mg/L	151	149	0.094	0.005
Potassium	Total	mg/L	0.6	0.6	<0.4	0.4
Silicon	Total	mg/L	4.73	2.64	1.91	0.05
Sodium	Total	mg/L	1.6	1.6	1.2	0.4
Sulfur	Total	mg/L	341	334	20.2	0.3
Aluminum	Total	mg/L	0.121	0.006	0.104	0.005
Antimony	Total	mg/L	0.001	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.181	0.0161	0.0016	0.0002
Barium	Total	mg/L	0.007	0.007	0.054	0.001
Beryllium	Total	mg/L	0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.008	0.007	0.005	0.002
Cadmium	Total	mg/L	0.868	0.438	0.00015	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.106	0.0465	0.0002	0.0001
Copper	Total	mg/L	0.014	<0.001	0.002	0.001
Lead	Total	mg/L	0.0267	0.0011	0.0004	0.0001
Lithium	Total	mg/L	0.035	0.036	0.005	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.402	0.0901	0.0058	0.0005
Selenium	Total	mg/L	0.0004	0.0004	0.0003	0.0002
Silver	Total	mg/L	0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.290	0.466	0.187	0.001
Thallium	Total	mg/L	0.00097	0.00096	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0134	0.0132	0.0009	0.0005
Uranium	Total	mg/L	0.0006	<0.0005	0.0007	0.0005
Vanadium	Total	mg/L	<0.0001	0.0002	0.0002	0.0001
Zinc	Total	mg/L	175	28.4	0.021	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001



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Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

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		NWL Number	397205-10	397205-11	397205-14
		Sample Date	Jul 21, 2005	Jul 21, 2005	Jul 19, 2005
		Sample Description	G300 Adit	G300 Decant	S.McQ @ Haggart Bridge
		Matrix	Water - General	Water - General	Water - General
Analyte	Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters					
Ammonium - N	Dissolved	mg/L	0.12	0.099	0.009
Physical and Aggregate Properties					
Solids	Total Suspended	mg/L	42	11	<2



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 14 of 18

NWL Number 397205-14
Sample Date Jul 19, 2005
Sample Description S.McQ @ Haggart
Bridge
Matrix Water - General

Analyte		Units	Results	Results	Detection Limit
Metals Dissolved					
Silicon	Dissolved	mg/L	3.11		0.05
Sulfur	Dissolved	mg/L	18.4		0.3
Aluminum	Dissolved	mg/L	0.045		0.005
Antimony	Dissolved	mg/L	0.0004		0.0002
Arsenic	Dissolved	mg/L	0.0045		0.0002
Barium	Dissolved	mg/L	0.057		0.001
Beryllium	Dissolved	mg/L	<0.0001		0.0001
Bismuth	Dissolved	mg/L	<0.0005		0.0005
Boron	Dissolved	mg/L	<0.002		0.002
Cadmium	Dissolved	mg/L	0.00007		0.00001
Chromium	Dissolved	mg/L	<0.0005		0.0005
Cobalt	Dissolved	mg/L	<0.0001		0.0001
Copper	Dissolved	mg/L	0.001		0.001
Lead	Dissolved	mg/L	0.001		0.0001
Lithium	Dissolved	mg/L	0.004		0.001
Molybdenum	Dissolved	mg/L	<0.001		0.001
Nickel	Dissolved	mg/L	0.0019		0.0005
Selenium	Dissolved	mg/L	0.0003		0.0002
Silver	Dissolved	mg/L	<0.0001		0.0001
Strontium	Dissolved	mg/L	0.196		0.001
Thallium	Dissolved	mg/L	<0.00005		0.00005
Tin	Dissolved	mg/L	<0.001		0.001
Titanium	Dissolved	mg/L	0.0017		0.0005
Uranium	Dissolved	mg/L	0.0008		0.0005
Vanadium	Dissolved	mg/L	0.0002		0.0001
Zinc	Dissolved	mg/L	0.006		0.001
Subsample	Field Filtered		Yes		
Metals Total					
Calcium	Total	mg/L	40.7		0.2
Iron	Total	mg/L	0.2		0.1
Magnesium	Total	mg/L	12.2		0.1
Manganese	Total	mg/L	0.054		0.005
Potassium	Total	mg/L	0.6		0.4
Silicon	Total	mg/L	2.99		0.05



Analytical Report

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#104, 19575-55 A Ave.
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Phone: (604) 514-3322
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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 15 of 18

NWL Number 397205-14
Sample Date Jul 19, 2005
Sample Description S.McQ @ Haggart
Bridge
Matrix Water - General

Analyte		Units	Results	Results	Detection Limit
Metals Total - Continued					
Sodium	Total	mg/L	1.4		0.4
Sulfur	Total	mg/L	17.6		0.3
Aluminum	Total	mg/L	0.062		0.005
Antimony	Total	mg/L	0.0004		0.0002
Arsenic	Total	mg/L	0.0045		0.0002
Barium	Total	mg/L	0.058		0.001
Beryllium	Total	mg/L	<0.0001		0.0001
Bismuth	Total	mg/L	<0.0005		0.0005
Boron	Total	mg/L	0.006		0.002
Cadmium	Total	mg/L	0.00006		0.00001
Chromium	Total	mg/L	<0.0005		0.0005
Cobalt	Total	mg/L	<0.0001		0.0001
Copper	Total	mg/L	0.001		0.001
Lead	Total	mg/L	0.0010		0.0001
Lithium	Total	mg/L	0.005		0.001
Molybdenum	Total	mg/L	<0.001		0.001
Nickel	Total	mg/L	0.0025		0.0005
Selenium	Total	mg/L	0.0003		0.0002
Silver	Total	mg/L	<0.0001		0.0001
Strontium	Total	mg/L	0.200		0.001
Thallium	Total	mg/L	<0.00005		0.00005
Tin	Total	mg/L	<0.001		0.001
Titanium	Total	mg/L	0.0015		0.0005
Uranium	Total	mg/L	0.0008		0.0005
Vanadium	Total	mg/L	0.0003		0.0001
Zinc	Total	mg/L	0.009		0.001
Zirconium	Total	mg/L	<0.001		0.001
Routine Water					
pH	@ 25 °C	pH	7.91		
Electrical Conductivity	Water	uS/cm	333		1
Calcium	Dissolved	mg/L	44.6		0.2
Magnesium	Dissolved	mg/L	13.0		0.1
Sodium	Dissolved	mg/L	1.6		0.4
Potassium	Dissolved	mg/L	0.5		0.4



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company: LES

Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 16 of 18

NWL Number 397205-14
Sample Date Jul 19, 2005
Sample Description S.McQ @ Haggart
Bridge
Matrix Water - General

Analyte		Units	Results	Results	Detection Limit
Routine Water - Continued					
Iron	Dissolved	mg/L	0.08		0.01
Manganese	Dissolved	mg/L	0.100		0.005
Nitrate - N	Dissolved	mg/L	0.03		0.03
Nitrite - N	Dissolved	mg/L	<0.03		0.03
Hydroxide	Water	mg/L	<5		5
Carbonate	Water	mg/L	<6		5
Bicarbonate	Water	mg/L	159		5
T-Alkalinity	as CaCO3	mg/L	130		5
Hardness	Dissolved as CaCO3	mg/L	165		

Approved by:

Bill Warning, B.Sc.
Lab Operations Manager



Methodology and Notes

Norwest Labs
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Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
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NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 17 of 18

Method of Analysis:

MethodName	Reference	Method	Date Analysis Started	Location
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	26-Jul-05	Norwest Labs Surrey
Ammonium-N in Water (color Surrey)	APHA	* Automated Phenate Method, 4500-NH3 G	26-Jul-05	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	29-Jul-05	Norwest Labs Surrey
Conductivity (Surrey)	APHA	* Conductivity - Laboratory Method, 2510 B	27-Jul-05	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	29-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	29-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	27-Jul-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	28-Jul-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	27-Jul-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	27-Jul-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	28-Jul-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	27-Jul-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	28-Jul-05	Norwest Labs Edmonton
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	26-Jul-05	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	27-Jul-05	Norwest Labs Surrey

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



Methodology and Notes

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
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Project
ID: G300 RW
Name: Fugitive Flow
Location: Investigation - Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 397205
Control Number: E 225070
Date Received: Jul 25, 2005
Date Reported: Aug 03, 2005
Report Number: 725928

Page: 18 of 18

* Norwest method(s) is based on reference method

References:

APHA
US EPA

Standard Methods for the Examination of Water and Wastewater
US Environmental Protection Agency Test Methods

Comments:

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



NORWEST LABS

Lot- 404439

Control Number E 229620

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company: Laberge Environmental Services		Company: ACG		Mail invoice to this ☐	
Address: P.O. 21072		Address:		address for approval ☐	
1-405 Ogilvie Street					
Whitehorse, Yukon, Y1A 6P7					
Attention: Bonnie Burns		Attention: Scott K		Report Result: ☐	
Phone: (867) 668-6838		Phone:		Fax ☐	
Fax: (867) 667-6956		Fax:		Mail ☐	
Cell:		Cell:		Courier ☐	
e-mail: laberge@internorth.com		e-mail:		e-mail ☐	
QA/QC Report ☐		Report Result:		e-service ☒	
Fax ☐					
Mail ☒					
Courier ☐					
e-mail ☒					
e-Service ☐					

Information to be included on Report and Invoice Project ID: KVRW Project Name: Keno Valley Project Location: Receiving Water Legal Location: PO#: Proj. Acct. Code: Agreement ID: 66943	RUSH Please contact the laboratory to confirm rush dates and times before submitting samples. Upon filling out this section, client accepts that surcharges will be attached to this analysis Required on: all analyses ☐ or ☐ Date Required: _____ Signature: _____ Norwest Authorization: _____	Sample Custody (Please Print) Relinquished by: Bonnie Burns Company LES Signature B Burns I authorize Norwest Labs to proceed with the work indicated on this form: Date: _____ Initial: _____ Received by: ☐ Coolers Waybill # _____ Date ☐ Boxes Company _____ Time ☐ Samples
	Special Instructions / Comments ☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information) - Dissolved metals have <u>not</u> been filtered or preserved. Total metals have been preserved - ultra trace low detection limits	

Sample Identification	Location	Depth IN CM M	Date / Time Sampled	Matrix	Sampling Method	Number of Containers	Enter tests above (✓ relevant samples below)										
							ALK	PH	COND	HARD	AMMONIA	NITRATE	NITRITE	PO4	TSS	DISS. METALS	TOTAL METALS
1 S. McQuesten u/s Christal	KV-1	-	Aug 23	H2O		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2 S. McQuesten @ Pump house	KV-2	-	Aug 21	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3 S. McQuesten u/s Flat	KV-3	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4 S. McQuesten d/s Flat	KV-4	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5 S. McQuesten 9 km d/s Flat	KV-5	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6 Christal Cr @ Keno Hwy	KV-6	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7 Christal Cr u/s Hanson Br.	KV-7	-	Aug 23	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8 Christal Cr @ mouth	KV-8	-	Aug 23	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9 Flat Cr. @ mouth	KV-9	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10 Lightning Cr. u/s Hope	KV-37	-	Aug 23	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11 Highway Cr u/s Thunders Creek	KV-38	-	Aug 23	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12 Lightning Cr @ Keno	KV-41	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13 Duplicate	Dup	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14		-															
15		-															

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.

Accredited by the Standards Council of Canada for specific tests

Page 1 of 4
##

NWLC008 (08/03)



Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis

See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company: Laberge Environmental Services		Company:		Mail invoice to this ☐	
Address: P.O. 21072		Address:		address for approval ☐	
1-405 Ogilvie Street					
Whitehorse, Yukon, Y1A 6P7					
Attention: Bonnie Burns		Attention:		Report Result: ☐	
Phone: (867) 668-6838		Phone:		Fax ☐	
Fax: (867) 667-6956		Fax:		Mail ☐	
Cell:		Cell:		Courier ☐	
e-mail: laberge@internorth.com		e-mail:		e-mail ☐	
QA/QC Report ☐		Report Result: ☐		e-service ☐	
Fax ☐					
Mail ☒					
Courier ☐					
e-mail ☒					
e-Service ☐					

RECEIVED
AUG 26 2005

Information to be included on Report and Invoice Project ID: Project Name: Project Location: Legal Location: PO#: Proj. Acct. Code: Agreement ID: 66943	RUSH Please contact the laboratory to confirm rush dates and times before submitting samples. Upon filling out this section, client accepts that surcharges will be attached to this analysis Required on: all analyses or as indicated ☐ or ☐ Date Required: _____ Signature: _____ Norwest Authorization: _____	Sample Custody (Please Print) Relinquished by: <u>Bonnie Burns</u> Company <u>LES</u> Signature <u>B.B. Burns</u> I authorize Norwest Labs to proceed with the work indicated on this form: Date: _____ Initial: _____ Received by: ☐ Coolers Waybill # _____ Date ☐ Boxes Company _____ Time ☐ Samples

Special Instructions / Comments ☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

Dry + sieve = #100 mesh, analyze the portion passing the #100 mesh for ICP metals using detection limits for CCME guidelines.

	Sample Identification	Location	Depth			Date / Time Sampled	Matrix	Sampling Method	Enter tests above (✓ relevant samples below)											
			IN	CM	M															
1	KV-1A						Sail													
2	KV-1B						"													
3	KV-1C						"													
4	KV-2A						"													
5	KV-2B						"													
6	KV-2C						"													
7	KV-3A						"													
8	KV-3B						"													
9	KV-3C						"													
10	KV-4A						"													
11	KV-4B						"													
12	KV-4C						"													
13	KV-5A						"													
14	KV-5B						"													
15	KV-5C						"													

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.

Accredited by the Standards Council of Canada for specific tests



Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company:	Laberge Environmental Services	Company:		Mail invoice to this	☐
Address:	P.O. 21072	Address:		address for approval	☐
	1-405 Ogilvie Street				
	Whitehorse, Yukon, Y1A 6P7				
Attention:	Bonnie Burns	Attention:		Report Result:	
Phone:	(867) 668-6838	Phone:		Fax	☐
Fax:	(867) 667-6956	Fax:		Mail	☐
Cell:		Cell:		Courier	☐
e-mail:	laberge@internorth.com	e-mail:		e-mail	☐
				e-service	☐

Report Result:
Fax ☐
Mail ☒
Courier ☐
e-mail ☒
e-Service ☐

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AUG 26 2005

Report Result:
Fax ☐
Mail ☐
Courier ☐
e-mail ☐
e-service ☐

Information to be included on Report and Invoice

Project ID:
Project Name:
Project Location:
Legal Location:
PO#:
Proj. Acct. Code:
Agreement ID: **66943**

RUSH

Please contact the laboratory to confirm rush dates and times before submitting samples.

Upon filling out this section, client accepts that surcharges will be attached to this analysis

Required on: all analyses **or** as indicated

☐ **or** ☐

Date Required: _____

Signature: _____

Norwest Authorization: _____

Sample Custody (Please Print)

Relinquished by: Bonnie Burns
Company LES Signature [Signature]

I authorize Norwest Labs to proceed with the work indicated on this form:

Date:

Initial:

Received by: ☐ Coolers

Waybill # Date ☐ Boxes

Company Time ☐ Samples

Received By: Date:

Company: Time:

Special Instructions / Comments

☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

See page 2

	Sample Identification	Location	Depth			Date / Time Sampled	Matrix	Sampling Method	↓	Enter tests above (✓ relevant samples below)											
			IN	CM	M																
1	KV-6A						Soil		1	✓											
2	KV-6B						"		1	✓											
3	KV-6C						"		1	✓											
4	KV-7A						"		1	✓											
5	KV-7B						"		1	✓											
6	KV-7C						"		1	✓											
7	KV-8A						"		1	✓											
8	KV-8B						"		1	✓											
9	KV-8C						"		1	✓											
10	KV-9A						"		1	✓											
11	KV-9B						"		1	✓											
12	KV-9C						"		1	✓											
13	KV-37A						"		1	✓											
14	KV-37B						"		1	✓											
15	KV-37C						"		1	✓											

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.
Accredited by the Standards Council of Canada for specific tests

Page 3 of 4
##



NORWEST LABS

Control Number **E 229623**

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company: Laberge Environmental Services		Company:		Mail invoice to this ☐	
Address: P.O. 21072		Address:		address for approval ☐	
1-405 Ogilvie Street					
Whitehorse, Yukon, Y1A 6P7					
Attention: Bonnie Burns		Attention:		Report Result:	
Phone: (867) 668-6838		Phone:		Fax ☐	
Fax: (867) 667-6956		Fax:		Mail ☐	
Cell:		Cell:		Courier ☐	
e-mail: laberge@internorth.com		e-mail:		e-mail ☐	
				e-service ☐	

RECEIVED
AUG 26 2005

Information to be included on Report and Invoice	RUSH	Sample Custody (Please Print)
	Please contact the laboratory to confirm rush dates and times before submitting samples.	
Project ID:	Upon filling out this section, client accepts that	Relinquished by:
Project Name:	surcharges will be attached to this analysis	Company _____ Signature _____
Project Location:	Required on: all analyses ☐ or ☐	I authorize Norwest Labs to proceed with the work indicated on this form:
Legal Location:	Date Required: _____	Date: _____
PO#:	Signature: _____	Initial: _____
Proj. Acct. Code:	Norwest Authorization: _____	Received by: ☐ Coolers
Agreement ID: 66943		Waybill # _____ Date ☐ Boxes

Special Instructions / Comments	☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)
<i>See page 2</i>	

	Sample Identification	Location	Depth			Date / Time Sampled	Matrix	Sampling Method	Number of Containers	Enter tests above (✓ relevant samples below)											
			IN	CM	M																
1	KV-38A						Soil		1	✓											
2	KV-38B						"		1	✓											
3	KV-38C						"		1	✓											
4	KV-41A						"		1	✓											
5	KV-41B						"		1	✓											
6	KV-41C						"		1	✓											
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Contact	Company	Address									
Bonnie Burns Web Email Notification	Laberge Environmental Services	Box 21072, 1-405 Ogilvie Street Whitehorse, YT Y1A 6P7 Phone: (867) 668-6838 Email: laberge@internorth.com									
<table><tr><th>Copies</th><th>Delivery Strategy</th><th>Format</th></tr><tr><td>1</td><td>Post</td><td></td></tr><tr><td>1</td><td>Email - Single Report</td><td>PDF</td></tr></table>		Copies	Delivery Strategy	Format	1	Post		1	Email - Single Report	PDF	Fax: (867) 667-6956
Copies	Delivery Strategy	Format									
1	Post										
1	Email - Single Report	PDF									
Ken Nordin Web x Email Notification x	Laberge Environmental Services	Box 21072, 1-405 Ogilvie Street Whitehorse, YT Y1A 6P7 Phone: (867) 668-6838 Email: laberge@internorth.com									
<table><tr><th>Copies</th><th>Delivery Strategy</th><th>Format</th></tr></table>		Copies	Delivery Strategy	Format	Fax: (867) 667-6956						
Copies	Delivery Strategy	Format									

NOTE: **P** indicates a preliminary report is required

NOTE: **A** indicates report is delivered using automated delivery

_____ # OF PAGES IN THIS TRANSMISSION

Report Transmission Notes

Agreement Notes

Lot Notes

Sample Notes:

Notes to Clients

Lot Notes:

Sample Notes:

Batch Notes:

Method Notes:

Method Result Notes:

Reports associated with this Lot

Id/Format/Reported Date
739506 Env2 3 Smp & DL

Id/Format/Reported Date

Id/Format/Reported Date

Comment:

See Methodology and Notes page of Analytical Report for all comments pertaining to this report.

If this report transmission is not satisfactory, please send report requirements to the address at the top of this page.



Sample Custody

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Sample Disposal Date: Oct 06, 2005

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the upper right of this page.

_____ **Extend Sample Storage Until** _____ **(MM/DD/YY)**

The following charges apply to extended sample storage:

Storage for 1 to 5 samples per month	\$ 10.00
Storage for 6 to 20 samples per month	\$ 15.00
Storage for 21 to 50 samples per month	\$ 30.00
Storage for 51 to 200 samples per month	\$ 60.00
Storage for more than 200 samples per month	\$ 110.00

_____ **Return Sample, collect, to the address below via:**

_____ Greyhound
_____ Loomis
_____ Purolator
_____ Other (Specify) _____

Name: _____
Company: _____
Address: _____

Phone: _____
Fax: _____
Signature: _____

If no other arrangements have been made, samples will be disposed of on Oct 06, 2005.



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 1 of 30

		NWL Number	404439-1	404439-2	404439-3	
		Sample Date	Aug 23, 2005	Aug 21, 2005	Aug 22, 2005	
		Sample Description	KV-1 / S. McQuesten u/s Christal	KV-2 / S. McQuesten @ Pumphouse	KV-3 / S. McQuesten u/s Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.003	<0.002	0.003	0.002
Phosphate-P	Total Reactive	mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Silicon	Dissolved	mg/L	1.94	2.16	2.14	0.05
Sulfur	Dissolved	mg/L	21.6	25.3	24.9	0.3
Aluminum	Dissolved	mg/L	0.076	0.062	0.046	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0014	0.0018	0.0021	0.0002
Barium	Dissolved	mg/L	0.052	0.058	0.062	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00009	0.00018	0.00018	0.00001
Chromium	Dissolved	mg/L	0.0006	0.0006	0.0006	0.0005
Cobalt	Dissolved	mg/L	0.0004	0.0003	0.0002	0.0001
Copper	Dissolved	mg/L	0.002	0.001	0.001	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	0.0001	0.0001
Lithium	Dissolved	mg/L	0.005	0.004	0.004	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0061	0.0048	0.0045	0.0005
Selenium	Dissolved	mg/L	0.0006	0.0005	0.0006	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.204	0.191	0.192	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Uranium	Dissolved	mg/L	0.0006	0.0007	0.0007	0.0005
Vanadium	Dissolved	mg/L	0.0016	0.0018	0.0018	0.0001
Zinc	Dissolved	mg/L	0.013	0.026	0.024	0.001
Metals Total						
Calcium	Total	mg/L	44.3	48.0	49.0	0.2
Iron	Total	mg/L	0.2	0.2	0.2	0.1
Magnesium	Total	mg/L	14.2	14.8	15.1	0.1
Manganese	Total	mg/L	0.196	0.066	0.072	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 2 of 30

		NWL Number		404439-1	404439-2	404439-3
		Sample Date		Aug 23, 2005	Aug 21, 2005	Aug 22, 2005
		Sample Description		KV-1 / S. McQuesten u/s Christal	KV-2 / S. McQuesten @ Pumphouse	KV-3 / S. McQuesten u/s Flat
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	0.4	<0.4	<0.4	0.4
Silicon	Total	mg/L	1.90	2.03	2.07	0.05
Sodium	Total	mg/L	1.4	1.4	1.4	0.4
Sulfur	Total	mg/L	21.0	22.7	22.7	0.3
Aluminum	Total	mg/L	0.138	0.097	0.080	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0015	0.0017	0.0019	0.0002
Barium	Total	mg/L	0.051	0.055	0.058	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00012	0.00027	0.00025	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0005	0.0004	0.0003	0.0001
Copper	Total	mg/L	0.002	0.002	0.001	0.001
Lead	Total	mg/L	0.0003	0.0006	0.0013	0.0001
Lithium	Total	mg/L	0.005	0.004	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0060	0.0054	0.0050	0.0005
Selenium	Total	mg/L	0.0008	0.0006	0.0005	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.188	0.178	0.181	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0018	0.0015	0.0013	0.0005
Uranium	Total	mg/L	0.0008	0.0008	0.0008	0.0005
Vanadium	Total	mg/L	0.0003	0.0002	0.0002	0.0001
Zinc	Total	mg/L	0.031	0.040	0.038	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	<2	1
Routine Water						
pH	@ 25 °C	pH	7.99	7.59	8.04	
Electrical Conductivity	Water	uS/cm	332	369	366	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 3 of 30

		NWL Number	404439-1	404439-2	404439-3	
		Sample Date	Aug 23, 2005	Aug 21, 2005	Aug 22, 2005	
		Sample Description	KV-1 / S. McQuesten u/s Christal	KV-2 / S. McQuesten @ Pumphouse	KV-3 / S. McQuesten u/s Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	44.9	48.9	50.1	0.2
Magnesium	Dissolved	mg/L	15.4	16.0	16.3	0.1
Sodium	Dissolved	mg/L	1.3	1.3	1.5	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	0.4	0.4
Iron	Dissolved	mg/L	0.03	0.03	0.04	0.01
Manganese	Dissolved	mg/L	0.028	0.041	0.043	0.005
Nitrate - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	131	145	143	5
T-Alkalinity	as CaCO3	mg/L	107	119	118	5
Hardness	Dissolved as CaCO3	mg/L	175	188	192	



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 4 of 30

		NWL Number	404439-4	404439-5	404439-6	
		Sample Date	Aug 22, 2005	Aug 22, 2005	Aug 22, 2005	
		Sample Description	KV-4 / S. McQuesten d/s Flat	KV-5 / S. McQuesten 9km d/s Flat	KV-6 / Christal Cr @ Keno Hwy	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	<0.002	0.002	0.004	0.002
Phosphate-P	Total Reactive	mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Silicon	Dissolved	mg/L	2.31	2.36	2.92	0.05
Sulfur	Dissolved	mg/L	28.8	23.1	74.3	0.3
Aluminum	Dissolved	mg/L	0.037	0.036	<0.005	0.005
Antimony	Dissolved	mg/L	0.0003	0.0002	0.0004	0.0002
Arsenic	Dissolved	mg/L	0.0022	0.0041	0.0038	0.0002
Barium	Dissolved	mg/L	0.058	0.065	0.057	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.002	0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00021	0.00014	0.00123	0.00001
Chromium	Dissolved	mg/L	0.0008	0.0007	0.0007	0.0005
Cobalt	Dissolved	mg/L	0.0002	0.0001	<0.0001	0.0001
Copper	Dissolved	mg/L	0.002	0.002	0.001	0.001
Lead	Dissolved	mg/L	0.0002	0.0002	0.0014	0.0001
Lithium	Dissolved	mg/L	0.005	0.004	0.008	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0048	0.0029	0.0022	0.0005
Selenium	Dissolved	mg/L	0.0006	0.0004	0.0009	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.198	0.200	0.194	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	<0.0005	<0.0005	0.0033	0.0005
Uranium	Dissolved	mg/L	0.0007	0.0007	0.0041	0.0005
Vanadium	Dissolved	mg/L	0.0022	0.0019	0.0017	0.0001
Zinc	Dissolved	mg/L	0.027	0.018	0.231	0.001
Metals Total						
Calcium	Total	mg/L	55.1	51.2	98.5	0.2
Iron	Total	mg/L	0.2	0.2	3.5	0.1
Magnesium	Total	mg/L	16.3	15.3	19.7	0.1
Manganese	Total	mg/L	0.063	0.058	1.95	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 5 of 30

		NWL Number	404439-4	404439-5	404439-6	
		Sample Date	Aug 22, 2005	Aug 22, 2005	Aug 22, 2005	
		Sample Description	KV-4 / S. McQuesten d/s Flat	KV-5 / S. McQuesten 9km d/s Flat	KV-6 / Christal Cr @ Keno Hwy	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	<0.4	<0.4	0.4	0.4
Silicon	Total	mg/L	2.24	2.25	3.45	0.05
Sodium	Total	mg/L	1.4	1.4	1.3	0.4
Sulfur	Total	mg/L	26.0	21.5	71.3	0.3
Aluminum	Total	mg/L	0.064	0.068	0.489	0.005
Antimony	Total	mg/L	0.0003	0.0002	0.0032	0.0002
Arsenic	Total	mg/L	0.0022	0.0041	0.0499	0.0002
Barium	Total	mg/L	0.055	0.059	0.083	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00028	0.00018	0.0106	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	0.0011	0.0005
Cobalt	Total	mg/L	0.0002	0.0002	0.0016	0.0001
Copper	Total	mg/L	0.001	0.002	0.007	0.001
Lead	Total	mg/L	0.0024	0.0017	0.406	0.0001
Lithium	Total	mg/L	0.005	0.004	0.008	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0040	0.0035	0.0052	0.0005
Selenium	Total	mg/L	0.0007	0.0005	0.0013	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	0.0019	0.0001
Strontium	Total	mg/L	0.180	0.182	0.176	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0016	0.0016	0.0192	0.0005
Uranium	Total	mg/L	0.0008	0.0009	0.0048	0.0005
Vanadium	Total	mg/L	0.0002	0.0002	0.0017	0.0001
Zinc	Total	mg/L	0.038	0.059	0.709	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<3	8	1
Routine Water						
pH	@ 25 °C	pH	7.44	8.17	7.96	
Electrical Conductivity	Water	uS/cm	412	385	646	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 6 of 30

		NWL Number	404439-4	404439-5	404439-6
		Sample Date	Aug 22, 2005	Aug 22, 2005	Aug 22, 2005
		Sample Description	KV-4 / S. McQuesten d/s Flat	KV-5 / S. McQuesten 9km d/s Flat	KV-6 / Christal Cr @ Keno Hwy
		Matrix	Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Detection Limit
Routine Water - Continued					
Calcium	Dissolved	mg/L	57.2	51.7	105
Magnesium	Dissolved	mg/L	17.7	16.2	21.5
Sodium	Dissolved	mg/L	1.5	1.4	1.0
Potassium	Dissolved	mg/L	<0.4	0.4	<0.4
Iron	Dissolved	mg/L	0.03	0.05	0.02
Manganese	Dissolved	mg/L	0.038	0.033	0.195
Nitrate - N	Dissolved	mg/L	<0.03	<0.03	0.05
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03
Hydroxide	Water	mg/L	<5	<5	<5
Carbonate	Water	mg/L	<6	<6	<6
Bicarbonate	Water	mg/L	159	154	139
T-Alkalinity	as CaCO3	mg/L	130	127	114
Hardness	Dissolved as CaCO3	mg/L	216	196	351



Analytical Report

Norwest Labs
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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 7 of 30

		NWL Number		404439-7	404439-8	404439-9
		Sample Date		Aug 23, 2005	Aug 23, 2005	Aug 22, 2005
		Sample Description		KV-7 / Christal Cr u/s Hanson Br.	KV-8 / Christal Cr @ Mouth	KV-9 / Flat Cr. @ Mouth
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Phosphate-P	Total Reactive	mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Silicon	Dissolved	mg/L	3.32	3.00	2.88	0.05
Sulfur	Dissolved	mg/L	61.4	60.2	39.1	0.3
Aluminum	Dissolved	mg/L	0.006	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	0.0003	0.0003	0.0008	0.0002
Arsenic	Dissolved	mg/L	0.0019	0.0022	0.0029	0.0002
Barium	Dissolved	mg/L	0.055	0.052	0.046	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	0.002	0.002
Cadmium	Dissolved	mg/L	0.00183	0.00194	0.00039	0.00001
Chromium	Dissolved	mg/L	0.0007	0.0007	0.0009	0.0005
Cobalt	Dissolved	mg/L	0.0004	0.0002	<0.0001	0.0001
Copper	Dissolved	mg/L	0.001	0.001	0.002	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	0.0020	0.0001
Lithium	Dissolved	mg/L	0.006	0.006	0.004	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium	Dissolved	mg/L	0.0008	0.0009	0.0002	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.219	0.213	0.191	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0027	0.0034	<0.0005	0.0005
Uranium	Dissolved	mg/L	0.0018	0.0020	0.0008	0.0005
Vanadium	Dissolved	mg/L	0.0020	0.0019	0.0028	0.0001
Zinc	Dissolved	mg/L	0.356	0.351	0.038	0.001
Metals Total						
Calcium	Total	mg/L	88.2	87.6	78.4	0.2
Iron	Total	mg/L	0.4	0.3	<0.1	0.1
Magnesium	Total	mg/L	18.8	18.8	20.9	0.1
Manganese	Total	mg/L	0.553	0.386	0.042	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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		NWL Number		404439-7	404439-8	404439-9
		Sample Date		Aug 23, 2005	Aug 23, 2005	Aug 22, 2005
		Sample Description		KV-7 / Christal Cr u/s Hanson Br.	KV-8 / Christal Cr @ Mouth	KV-9 / Flat Cr. @ Mouth
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	<0.4	<0.4	<0.4	0.4
Silicon	Total	mg/L	3.00	2.91	2.70	0.05
Sodium	Total	mg/L	1.2	1.1	1.7	0.4
Sulfur	Total	mg/L	56.0	54.6	36.7	0.3
Aluminum	Total	mg/L	0.085	0.050	0.006	0.005
Antimony	Total	mg/L	0.0002	0.0003	0.0009	0.0002
Arsenic	Total	mg/L	0.0028	0.0028	0.0027	0.0002
Barium	Total	mg/L	0.055	0.050	0.043	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00294	0.00279	0.00039	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0007	0.0004	<0.0001	0.0001
Copper	Total	mg/L	0.001	<0.001	0.002	0.001
Lead	Total	mg/L	0.0022	0.0023	0.0058	0.0001
Lithium	Total	mg/L	0.006	0.005	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0019	0.0012	<0.0005	0.0005
Selenium	Total	mg/L	0.0007	0.0009	0.0004	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.204	0.197	0.184	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0046	0.0038	0.0019	0.0005
Uranium	Total	mg/L	0.0022	0.0021	0.0009	0.0005
Vanadium	Total	mg/L	0.0005	0.0002	0.0001	0.0001
Zinc	Total	mg/L	0.710	0.564	0.043	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	10	3	<2	1
Routine Water						
pH	@ 25 °C	pH	7.86	8.13	8.00	
Electrical Conductivity	Water	uS/cm	586	584	565	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 9 of 30

		NWL Number	404439-7	404439-8	404439-9	
		Sample Date	Aug 23, 2005	Aug 23, 2005	Aug 22, 2005	
		Sample Description	KV-7 / Christal Cr u/s Hanson Br.	KV-8 / Christal Cr @ Mouth	KV-9 / Flat Cr. @ Mouth	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	93.8	93.0	83.3	0.2
Magnesium	Dissolved	mg/L	20.7	20.6	23.1	0.1
Sodium	Dissolved	mg/L	1	0.9	1.6	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	<0.01	<0.01	0.04	0.01
Manganese	Dissolved	mg/L	0.481	0.329	0.024	0.005
Nitrate - N	Dissolved	mg/L	0.06	0.06	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	159	168	203	5
T-Alkalinity	as CaCO3	mg/L	131	137	167	5
Hardness	Dissolved as CaCO3	mg/L	320	317	303	



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 10 of 30

		NWL Number	404439-10	404439-11	404439-12	
		Sample Date	Aug 23, 2005	Aug 23, 2005	Aug 22, 2005	
		Sample Description	KV-37 / Lighting Cr. u/s Hope	KV-38 / Lighting Cr. u/s Thunder Creek	KV-41 / Lighting Cr. @ Keno	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	<0.002	<0.002	0.006	0.002
Phosphate-P	Total Reactive	mg/L	<0.005	<0.005	0.007	0.005
Metals Dissolved						
Silicon	Dissolved	mg/L	2.68	3.17	3.24	0.05
Sulfur	Dissolved	mg/L	10.5	14.1	14.4	0.3
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	<0.0002	0.0003	0.0003	0.0002
Arsenic	Dissolved	mg/L	0.0024	0.0030	0.0023	0.0002
Barium	Dissolved	mg/L	0.053	0.055	0.043	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00003	0.00029	0.00007	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Lithium	Dissolved	mg/L	<0.001	0.001	0.002	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium	Dissolved	mg/L	0.0005	0.0007	0.0008	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.062	0.077	0.078	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0006	0.0007	0.0007	0.0005
Uranium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Vanadium	Dissolved	mg/L	0.0004	0.0006	0.0007	0.0001
Zinc	Dissolved	mg/L	0.002	0.029	0.006	0.001
Metals Total						
Calcium	Total	mg/L	17.9	23	25.5	0.2
Iron	Total	mg/L	<0.1	<0.5	4.6	0.1
Magnesium	Total	mg/L	3.3	4	5.0	0.1
Manganese	Total	mg/L	0.009	<0.02	0.173	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 11 of 30

		NWL Number	404439-10	404439-11	404439-12	
		Sample Date	Aug 23, 2005	Aug 23, 2005	Aug 22, 2005	
		Sample Description	KV-37 / Lighting Cr. u/s Hope	KV-38 / Lighting Cr. u/s Thunder Creek	KV-41 / Lighting Cr. @ Keno	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	<0.4	<2	<0.4	0.4
Silicon	Total	mg/L	2.50	2.7	6.56	0.05
Sodium	Total	mg/L	0.5	<2	0.7	0.4
Sulfur	Total	mg/L	10	13	13.0	0.3
Aluminum	Total	mg/L	0.015	<0.02	1.80	0.005
Antimony	Total	mg/L	<0.0002	<0.001	0.0007	0.0002
Arsenic	Total	mg/L	0.0022	0.002	0.0290	0.0002
Barium	Total	mg/L	0.051	0.054	0.091	0.001
Beryllium	Total	mg/L	<0.0001	<0.0005	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.002	<0.0005	0.0005
Boron	Total	mg/L	<0.002	<0.01	<0.002	0.002
Cadmium	Total	mg/L	<0.00001	0.00028	0.00031	0.00001
Chromium	Total	mg/L	<0.0005	<0.002	0.0038	0.0005
Cobalt	Total	mg/L	<0.0001	<0.0005	0.0024	0.0001
Copper	Total	mg/L	<0.001	<0.005	0.008	0.001
Lead	Total	mg/L	0.0001	<0.0005	0.0316	0.0001
Lithium	Total	mg/L	<0.001	<0.005	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.005	<0.001	0.001
Nickel	Total	mg/L	<0.0005	<0.0025	0.0044	0.0005
Selenium	Total	mg/L	0.0005	<0.001	0.0007	0.0002
Silver	Total	mg/L	<0.0001	<0.0005	0.0009	0.0001
Strontium	Total	mg/L	0.060	0.078	0.075	0.001
Thallium	Total	mg/L	<0.00005	<0.0002	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.005	<0.001	0.001
Titanium	Total	mg/L	0.001	<0.002	0.0899	0.0005
Uranium	Total	mg/L	<0.0005	<0.002	0.0006	0.0005
Vanadium	Total	mg/L	<0.0001	<0.0005	0.0060	0.0001
Zinc	Total	mg/L	0.002	0.03	0.040	0.001
Zirconium	Total	mg/L	<0.001	<0.005	0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	62	1
Routine Water						
pH	@ 25 °C	pH	7.73	7.70	7.89	
Electrical Conductivity	Water	uS/cm	164	189	201	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 12 of 30

		NWL Number	404439-10	404439-11	404439-12	
		Sample Date	Aug 23, 2005	Aug 23, 2005	Aug 22, 2005	
		Sample Description	KV-37 / Lighting Cr. u/s Hope	KV-38 / Lighting Cr. u/s Thunder Creek	KV-41 / Lighting Cr. @ Keno	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	15.7	19.8	23.2	0.2
Magnesium	Dissolved	mg/L	3.3	4.1	4.5	0.1
Sodium	Dissolved	mg/L	0.5	0.8	0.4	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Manganese	Dissolved	mg/L	0.005	<0.005	0.012	0.005
Nitrate - N	Dissolved	mg/L	<0.03	0.04	0.04	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	37	42	54	5
T-Alkalinity	as CaCO3	mg/L	30	34	44	5
Hardness	Dissolved as CaCO3	mg/L	53	66	76	



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 13 of 30

NWL Number 404439-13
Sample Date Aug 22, 2005
Sample Description Dup / Duplicate
Matrix Water - General

Analyte		Units	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters					
Ammonium - N	Dissolved	mg/L	0.002		0.002
Phosphate-P	Total Reactive	mg/L	<0.005		0.005
Metals Dissolved					
Silicon	Dissolved	mg/L	2.57		0.05
Sulfur	Dissolved	mg/L	23.5		0.3
Aluminum	Dissolved	mg/L	0.034		0.005
Antimony	Dissolved	mg/L	0.0002		0.0002
Arsenic	Dissolved	mg/L	0.0041		0.0002
Barium	Dissolved	mg/L	0.063		0.001
Beryllium	Dissolved	mg/L	<0.0001		0.0001
Bismuth	Dissolved	mg/L	<0.0005		0.0005
Boron	Dissolved	mg/L	<0.002		0.002
Cadmium	Dissolved	mg/L	0.00011		0.00001
Chromium	Dissolved	mg/L	0.0008		0.0005
Cobalt	Dissolved	mg/L	0.0001		0.0001
Copper	Dissolved	mg/L	0.002		0.001
Lead	Dissolved	mg/L	0.0002		0.0001
Lithium	Dissolved	mg/L	0.004		0.001
Molybdenum	Dissolved	mg/L	<0.001		0.001
Nickel	Dissolved	mg/L	0.0040		0.0005
Selenium	Dissolved	mg/L	0.0006		0.0002
Silver	Dissolved	mg/L	<0.0001		0.0001
Strontium	Dissolved	mg/L	0.202		0.001
Thallium	Dissolved	mg/L	<0.00005		0.00005
Tin	Dissolved	mg/L	<0.001		0.001
Titanium	Dissolved	mg/L	0.0012		0.0005
Uranium	Dissolved	mg/L	0.0008		0.0005
Vanadium	Dissolved	mg/L	0.0020		0.0001
Zinc	Dissolved	mg/L	0.016		0.001
Metals Total					
Calcium	Total	mg/L	53		0.2
Iron	Total	mg/L	8		0.1
Magnesium	Total	mg/L	15		0.1
Manganese	Total	mg/L	0.08		0.005
Potassium	Total	mg/L	<4		0.4



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 14 of 30

NWL Number 404439-13
Sample Date Aug 22, 2005
Sample Description Dup / Duplicate
Matrix Water - General

Analyte		Units	Results	Results	Detection Limit
Metals Total - Continued					
Silicon	Total	mg/L	2.4		0.05
Sodium	Total	mg/L	<4		0.4
Sulfur	Total	mg/L	23		0.3
Aluminum	Total	mg/L	<0.05		0.005
Antimony	Total	mg/L	<0.002		0.0002
Arsenic	Total	mg/L	0.003		0.0002
Barium	Total	mg/L	0.06		0.001
Beryllium	Total	mg/L	<0.001		0.0001
Bismuth	Total	mg/L	<0.005		0.0005
Boron	Total	mg/L	<0.02		0.002
Cadmium	Total	mg/L	0.00012		0.00001
Chromium	Total	mg/L	0.006		0.0005
Cobalt	Total	mg/L	0.003		0.0001
Copper	Total	mg/L	<0.01		0.001
Lead	Total	mg/L	<0.001		0.0001
Lithium	Total	mg/L	<0.01		0.001
Molybdenum	Total	mg/L	<0.01		0.001
Nickel	Total	mg/L	<0.0050		0.0005
Selenium	Total	mg/L	<0.002		0.0002
Silver	Total	mg/L	<0.001		0.0001
Strontium	Total	mg/L	0.19		0.001
Thallium	Total	mg/L	<0.0005		0.00005
Tin	Total	mg/L	<0.01		0.001
Titanium	Total	mg/L	<0.005		0.0005
Uranium	Total	mg/L	<0.005		0.0005
Vanadium	Total	mg/L	0.002		0.0001
Zinc	Total	mg/L	0.02		0.001
Zirconium	Total	mg/L	<0.01		0.001
Physical and Aggregate Properties					
Solids	Total Suspended	mg/L	6		1
Routine Water					
pH	@ 25 °C	pH	8.21		
Electrical Conductivity	Water	uS/cm	381		1
Calcium	Dissolved	mg/L	51.9		0.2
Magnesium	Dissolved	mg/L	16.3		0.1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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NWL Number 404439-13
Sample Date Aug 22, 2005
Sample Description Dup / Duplicate
Matrix Water - General

Analyte		Units	Results	Results	Detection Limit
Routine Water - Continued					
Sodium	Dissolved	mg/L	1.9		0.4
Potassium	Dissolved	mg/L	0.6		0.4
Iron	Dissolved	mg/L	0.05		0.01
Manganese	Dissolved	mg/L	0.034		0.005
Nitrate - N	Dissolved	mg/L	<0.03		0.03
Nitrite - N	Dissolved	mg/L	<0.03		0.03
Hydroxide	Water	mg/L	<5		5
Carbonate	Water	mg/L	<6		5
Bicarbonate	Water	mg/L	143		5
T-Alkalinity	as CaCO3	mg/L	117		5
Hardness	Dissolved as CaCO3	mg/L	197		



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
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		NWL Number	404439-14	404439-15	404439-16	
		Sample Description	KV-1A	KV-1B	KV-1C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8600	8380	9590	1
Antimony	Strong Acid Extractable	ug/g	<1	<1	<1	1
Arsenic	Strong Acid Extractable	ug/g	17.0	14.6	18.9	0.5
Barium	Strong Acid Extractable	ug/g	141	132	170	0.05
Beryllium	Strong Acid Extractable	ug/g	0.35	0.34	0.40	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	1.8	1.8	2.6	0.05
Calcium	Strong Acid Extractable	ug/g	7420	6940	8900	0.5
Chromium	Strong Acid Extractable	ug/g	18.1	18.9	28.4	0.1
Cobalt	Strong Acid Extractable	ug/g	16.0	14.9	18.0	0.1
Copper	Strong Acid Extractable	ug/g	18.4	18.0	25.7	0.1
Iron	Strong Acid Extractable	ug/g	19500	18500	19700	0.2
Lead	Strong Acid Extractable	ug/g	12.2	18.4	16.5	0.5
Lithium	Strong Acid Extractable	ug/g	14.1	13.7	14.7	0.5
Magnesium	Strong Acid Extractable	ug/g	5040	4910	5100	2
Manganese	Strong Acid Extractable	ug/g	686	612	848	0.05
Mercury	Strong Acid Extractable	ug/g	0.039	0.032	0.044	0.003
Molybdenum	Strong Acid Extractable	ug/g	0.78	0.74	0.81	0.2
Nickel	Strong Acid Extractable	ug/g	58.2	56.0	72.2	0.3
Phosphorus	Strong Acid Extractable	ug/g	864	794	860	1
Potassium	Strong Acid Extractable	ug/g	659	663	861	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	121	128	137	0.5
Silver	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.3
Sodium	Strong Acid Extractable	ug/g	107	104	128	0.5
Strontium	Strong Acid Extractable	ug/g	32.7	30.8	39.8	0.03
Thallium	Strong Acid Extractable	ug/g	<0.5	<0.5	<0.5	0.5
Tin	Strong Acid Extractable	ug/g	5.67	15.0	7.37	0.5
Titanium	Strong Acid Extractable	ug/g	268	266	297	0.05
Vanadium	Strong Acid Extractable	ug/g	25.9	25.2	27.9	0.2
Zinc	Strong Acid Extractable	ug/g	371	343	440	0.03
Zirconium	Strong Acid Extractable	ug/g	3.5	3.4	4.0	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.3	7.4	7.9	0.5



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Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

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		NWL Number	404439-17	404439-18	404439-19	
		Sample Description	KV-2A	KV-2B	KV-2C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	9520	7140	9470	1
Antimony	Strong Acid Extractable	ug/g	<1	97.8	15	1
Arsenic	Strong Acid Extractable	ug/g	51.4	645	151	0.5
Barium	Strong Acid Extractable	ug/g	193	120	377	0.05
Beryllium	Strong Acid Extractable	ug/g	0.40	0.32	0.40	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	3.9	115	12.6	0.05
Calcium	Strong Acid Extractable	ug/g	6140	7580	18100	0.5
Chromium	Strong Acid Extractable	ug/g	24.6	17.9	28.1	0.1
Cobalt	Strong Acid Extractable	ug/g	9.82	9.85	15.4	0.1
Copper	Strong Acid Extractable	ug/g	27.3	91.2	48.7	0.1
Iron	Strong Acid Extractable	ug/g	24600	52300	35500	0.2
Lead	Strong Acid Extractable	ug/g	125	3130	397	0.5
Lithium	Strong Acid Extractable	ug/g	14.6	10.6	14.3	0.5
Magnesium	Strong Acid Extractable	ug/g	4520	5320	7450	2
Manganese	Strong Acid Extractable	ug/g	1360	16800	4420	0.05
Mercury	Strong Acid Extractable	ug/g	0.0570	0.262	0.103	0.003
Molybdenum	Strong Acid Extractable	ug/g	0.84	2.5	2.4	0.2
Nickel	Strong Acid Extractable	ug/g	32.3	35.9	58.7	0.3
Phosphorus	Strong Acid Extractable	ug/g	924	732	847	1
Potassium	Strong Acid Extractable	ug/g	734	572	620	3
Selenium	Strong Acid Extractable	ug/g	<0.50	1.0	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	162	180	190	0.5
Silver	Strong Acid Extractable	ug/g	1.9	28.4	7.68	0.3
Sodium	Strong Acid Extractable	ug/g	115	103	259	0.5
Strontium	Strong Acid Extractable	ug/g	34.2	26.9	49.2	0.03
Thallium	Strong Acid Extractable	ug/g	<0.5	5.53	2.4	0.5
Tin	Strong Acid Extractable	ug/g	5.68	7.32	10.7	0.5
Titanium	Strong Acid Extractable	ug/g	227	233	279	0.05
Vanadium	Strong Acid Extractable	ug/g	30.3	24.1	31.4	0.2
Zinc	Strong Acid Extractable	ug/g	382	5960	953	0.03
Zirconium	Strong Acid Extractable	ug/g	3.2	4.0	4.1	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	8.6	7.9	8.6	0.5



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Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

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		NWL Number	404439-20	404439-21	404439-22	
		Sample Description	KV-3A	KV-3B	KV-3C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	9600	7980	8970	1
Antimony	Strong Acid Extractable	ug/g	14	17	17	1
Arsenic	Strong Acid Extractable	ug/g	121	105	114	0.5
Barium	Strong Acid Extractable	ug/g	192	136	166	0.05
Beryllium	Strong Acid Extractable	ug/g	0.41	0.33	0.37	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	12.8	11.3	14.3	0.05
Calcium	Strong Acid Extractable	ug/g	10000	8080	7520	0.5
Chromium	Strong Acid Extractable	ug/g	24.8	15.0	17.7	0.1
Cobalt	Strong Acid Extractable	ug/g	16.0	11.2	13.0	0.1
Copper	Strong Acid Extractable	ug/g	41.4	32.1	35.6	0.1
Iron	Strong Acid Extractable	ug/g	27600	24800	26500	0.2
Lead	Strong Acid Extractable	ug/g	511	409	504	0.5
Lithium	Strong Acid Extractable	ug/g	14.8	12.3	13.6	0.5
Magnesium	Strong Acid Extractable	ug/g	5440	5010	5160	2
Manganese	Strong Acid Extractable	ug/g	3830	3750	3850	0.05
Mercury	Strong Acid Extractable	ug/g	0.0697	0.0560	0.0619	0.003
Molybdenum	Strong Acid Extractable	ug/g	1.2	0.86	1.0	0.2
Nickel	Strong Acid Extractable	ug/g	63.3	44.1	53.5	0.3
Phosphorus	Strong Acid Extractable	ug/g	825	767	824	1
Potassium	Strong Acid Extractable	ug/g	744	556	673	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	136	154	150	0.5
Silver	Strong Acid Extractable	ug/g	5.98	5.35	6.56	0.3
Sodium	Strong Acid Extractable	ug/g	102	97.0	105	0.5
Strontium	Strong Acid Extractable	ug/g	35.6	27.2	30.3	0.03
Thallium	Strong Acid Extractable	ug/g	1.6	1.7	1.9	0.5
Tin	Strong Acid Extractable	ug/g	6.31	2.6	2.3	0.5
Titanium	Strong Acid Extractable	ug/g	198	244	255	0.05
Vanadium	Strong Acid Extractable	ug/g	27.8	25.3	27.3	0.2
Zinc	Strong Acid Extractable	ug/g	1060	910	1060	0.03
Zirconium	Strong Acid Extractable	ug/g	3.7	3.2	3.4	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	8.2	8.4	8.1	0.5



Analytical Report

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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
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		NWL Number	404439-23	404439-24	404439-25	
		Sample Description	KV-4A	KV-4B	KV-4C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8040	8000	8760	1
Antimony	Strong Acid Extractable	ug/g	42	40	20	1
Arsenic	Strong Acid Extractable	ug/g	186	187	128	0.5
Barium	Strong Acid Extractable	ug/g	161	176	155	0.05
Beryllium	Strong Acid Extractable	ug/g	0.34	0.35	0.38	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	16.8	13.7	17.1	0.05
Calcium	Strong Acid Extractable	ug/g	7000	7390	7180	0.5
Chromium	Strong Acid Extractable	ug/g	15.5	15.8	16.6	0.1
Cobalt	Strong Acid Extractable	ug/g	10.0	9.72	13.3	0.1
Copper	Strong Acid Extractable	ug/g	48.9	52.3	38.8	0.1
Iron	Strong Acid Extractable	ug/g	29400	30700	25800	0.2
Lead	Strong Acid Extractable	ug/g	1440	1510	614	0.5
Lithium	Strong Acid Extractable	ug/g	11.4	11.6	12.8	0.5
Magnesium	Strong Acid Extractable	ug/g	4820	5250	4830	2
Manganese	Strong Acid Extractable	ug/g	4100	4200	3390	0.05
Mercury	Strong Acid Extractable	ug/g	0.107	0.120	0.0940	0.003
Molybdenum	Strong Acid Extractable	ug/g	1.0	1.0	1.0	0.2
Nickel	Strong Acid Extractable	ug/g	37.0	33.6	51.4	0.3
Phosphorus	Strong Acid Extractable	ug/g	770	761	810	1
Potassium	Strong Acid Extractable	ug/g	631	590	700	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	108	95.8	128	0.5
Silver	Strong Acid Extractable	ug/g	15.1	15.4	8.17	0.3
Sodium	Strong Acid Extractable	ug/g	100	99.5	109	0.5
Strontium	Strong Acid Extractable	ug/g	22.1	20.9	26.0	0.03
Thallium	Strong Acid Extractable	ug/g	2.6	2.5	1.7	0.5
Tin	Strong Acid Extractable	ug/g	2.9	2.9	3.7	0.5
Titanium	Strong Acid Extractable	ug/g	233	234	211	0.05
Vanadium	Strong Acid Extractable	ug/g	25.6	27.4	25.7	0.2
Zinc	Strong Acid Extractable	ug/g	1190	1110	1210	0.03
Zirconium	Strong Acid Extractable	ug/g	3.1	2.9	3.1	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.9	8.0	7.3	0.5



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		NWL Number	404439-26	404439-27	404439-28	
		Sample Description	KV-5A	KV-5B	KV-5C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8420	8600	9940	1
Antimony	Strong Acid Extractable	ug/g	6.3	<1	<1	1
Arsenic	Strong Acid Extractable	ug/g	63.9	49.7	22.7	0.5
Barium	Strong Acid Extractable	ug/g	178	168	176	0.05
Beryllium	Strong Acid Extractable	ug/g	0.36	0.39	0.42	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	6.31	2.0	0.67	0.05
Calcium	Strong Acid Extractable	ug/g	7200	3930	3840	0.5
Chromium	Strong Acid Extractable	ug/g	16.2	17.4	21.2	0.1
Cobalt	Strong Acid Extractable	ug/g	10.7	9.29	7.73	0.1
Copper	Strong Acid Extractable	ug/g	25.9	25.4	34.2	0.1
Iron	Strong Acid Extractable	ug/g	22200	21900	22600	0.2
Lead	Strong Acid Extractable	ug/g	252	77.0	21.2	0.5
Lithium	Strong Acid Extractable	ug/g	13.0	13.1	16.3	0.5
Magnesium	Strong Acid Extractable	ug/g	4770	3880	4610	2
Manganese	Strong Acid Extractable	ug/g	2360	947	272	0.05
Mercury	Strong Acid Extractable	ug/g	0.045	0.042	0.0717	0.003
Molybdenum	Strong Acid Extractable	ug/g	0.78	1.2	0.96	0.2
Nickel	Strong Acid Extractable	ug/g	38.3	28.0	27.9	0.3
Phosphorus	Strong Acid Extractable	ug/g	769	818	907	1
Potassium	Strong Acid Extractable	ug/g	653	652	771	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	112	136	137	0.5
Silver	Strong Acid Extractable	ug/g	2.4	<0.3	<0.29	0.3
Sodium	Strong Acid Extractable	ug/g	94.7	93.5	114	0.5
Strontium	Strong Acid Extractable	ug/g	29.6	24.6	26.3	0.03
Thallium	Strong Acid Extractable	ug/g	1.0	<0.5	<0.5	0.5
Tin	Strong Acid Extractable	ug/g	1.0	1.3	2.9	0.5
Titanium	Strong Acid Extractable	ug/g	246	248	262	0.05
Vanadium	Strong Acid Extractable	ug/g	26.8	28.6	30.5	0.2
Zinc	Strong Acid Extractable	ug/g	588	205	127	0.03
Zirconium	Strong Acid Extractable	ug/g	3.1	4.1	4.4	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.8	7.5	7.5	0.5



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		NWL Number	404439-29	404439-30	404439-31	
		Sample Description	KV-6A	KV-6B	KV-6C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8990	7430	8180	1
Antimony	Strong Acid Extractable	ug/g	81.0	102	87.7	1
Arsenic	Strong Acid Extractable	ug/g	1140	1820	1200	0.5
Barium	Strong Acid Extractable	ug/g	98.8	37.2	91.3	0.05
Beryllium	Strong Acid Extractable	ug/g	0.36	0.30	0.33	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	120	144	126	0.05
Calcium	Strong Acid Extractable	ug/g	9620	7570	9220	0.5
Chromium	Strong Acid Extractable	ug/g	17.4	14.4	17.2	0.1
Cobalt	Strong Acid Extractable	ug/g	19.3	20.9	21.4	0.1
Copper	Strong Acid Extractable	ug/g	93.1	93.5	95.2	0.1
Iron	Strong Acid Extractable	ug/g	54000	69200	55000	0.2
Lead	Strong Acid Extractable	ug/g	7370	8260	7470	0.5
Lithium	Strong Acid Extractable	ug/g	13.0	10.5	11.9	0.5
Magnesium	Strong Acid Extractable	ug/g	4940	3870	4380	2
Manganese	Strong Acid Extractable	ug/g	25400	32700	28100	0.05
Mercury	Strong Acid Extractable	ug/g	0.206	0.253	0.214	0.003
Molybdenum	Strong Acid Extractable	ug/g	3.1	3.2	3.4	0.2
Nickel	Strong Acid Extractable	ug/g	63.6	78.4	71.8	0.3
Phosphorus	Strong Acid Extractable	ug/g	699	630	679	1
Potassium	Strong Acid Extractable	ug/g	717	538	621	3
Selenium	Strong Acid Extractable	ug/g	5.09	5.98	6.36	0.5
Silicon	Strong Acid Extractable	ug/g	146	154	126	0.5
Silver	Strong Acid Extractable	ug/g	10.0	19.7	26.3	0.3
Sodium	Strong Acid Extractable	ug/g	99.8	75.4	86.4	0.5
Strontium	Strong Acid Extractable	ug/g	28.8	23.3	28.7	0.03
Thallium	Strong Acid Extractable	ug/g	9.76	12.6	10.8	0.5
Tin	Strong Acid Extractable	ug/g	4.8	4.9	4.2	0.5
Titanium	Strong Acid Extractable	ug/g	150	118	135	0.05
Vanadium	Strong Acid Extractable	ug/g	27.8	24.7	26.3	0.2
Zinc	Strong Acid Extractable	ug/g	7690	9580	7740	0.03
Zirconium	Strong Acid Extractable	ug/g	3.9	3.8	3.6	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.6	7.9	8.1	0.5



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		NWL Number	404439-32	404439-33	404439-34	
		Sample Description	KV-7A	KV-7B	KV-7C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	7220	9040	7870	1
Antimony	Strong Acid Extractable	ug/g	19	7.1	6.2	1
Arsenic	Strong Acid Extractable	ug/g	234	160	162	0.5
Barium	Strong Acid Extractable	ug/g	268	292	605	0.05
Beryllium	Strong Acid Extractable	ug/g	0.30	0.40	0.33	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	29.1	22.8	69.6	0.05
Calcium	Strong Acid Extractable	ug/g	11100	11200	16000	0.5
Chromium	Strong Acid Extractable	ug/g	13.9	17.7	37.9	0.1
Cobalt	Strong Acid Extractable	ug/g	12.2	12.0	26.3	0.1
Copper	Strong Acid Extractable	ug/g	40.1	41.1	47.1	0.1
Iron	Strong Acid Extractable	ug/g	29800	26000	28200	0.2
Lead	Strong Acid Extractable	ug/g	1420	675	612	0.5
Lithium	Strong Acid Extractable	ug/g	10.9	13.7	12.0	0.5
Magnesium	Strong Acid Extractable	ug/g	5720	5820	5970	2
Manganese	Strong Acid Extractable	ug/g	12800	4560	25000	0.05
Mercury	Strong Acid Extractable	ug/g	0.121	0.0780	0.0762	0.003
Molybdenum	Strong Acid Extractable	ug/g	2.8	2.4	7.19	0.2
Nickel	Strong Acid Extractable	ug/g	47.3	41.6	107	0.3
Phosphorus	Strong Acid Extractable	ug/g	910	915	887	1
Potassium	Strong Acid Extractable	ug/g	518	762	606	3
Selenium	Strong Acid Extractable	ug/g	2.3	<0.50	8.27	0.5
Silicon	Strong Acid Extractable	ug/g	112	122	89.9	0.5
Silver	Strong Acid Extractable	ug/g	15.0	4.7	4.9	0.3
Sodium	Strong Acid Extractable	ug/g	82.0	107	84.7	0.5
Strontium	Strong Acid Extractable	ug/g	33.0	34.4	52.8	0.03
Thallium	Strong Acid Extractable	ug/g	5.14	2.6	10.4	0.5
Tin	Strong Acid Extractable	ug/g	1.8	0.95	15.9	0.5
Titanium	Strong Acid Extractable	ug/g	178	178	135	0.05
Vanadium	Strong Acid Extractable	ug/g	25.0	28.4	24.8	0.2
Zinc	Strong Acid Extractable	ug/g	3710	2520	7900	0.03
Zirconium	Strong Acid Extractable	ug/g	2.9	3.1	3.0	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.5	7.6	7.6	0.5



Analytical Report

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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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		NWL Number	404439-35	404439-36	404439-37	
		Sample Description	KV-8A	KV-8B	KV-8C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8670	9460	8010	1
Antimony	Strong Acid Extractable	ug/g	33	33	53.0	1
Arsenic	Strong Acid Extractable	ug/g	402	513	633	0.5
Barium	Strong Acid Extractable	ug/g	271	232	267	0.05
Beryllium	Strong Acid Extractable	ug/g	0.33	0.40	0.33	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	67.2	57.8	78.2	0.05
Calcium	Strong Acid Extractable	ug/g	7460	8580	6810	0.5
Chromium	Strong Acid Extractable	ug/g	19.6	18.6	17.4	0.1
Cobalt	Strong Acid Extractable	ug/g	15.0	12.8	16.9	0.1
Copper	Strong Acid Extractable	ug/g	52.9	67.4	67.0	0.1
Iron	Strong Acid Extractable	ug/g	40700	37400	47700	0.2
Lead	Strong Acid Extractable	ug/g	1950	2100	3000	0.5
Lithium	Strong Acid Extractable	ug/g	13.4	15.1	12.3	0.5
Magnesium	Strong Acid Extractable	ug/g	4670	4970	4390	2
Manganese	Strong Acid Extractable	ug/g	15500	4860	19300	0.05
Mercury	Strong Acid Extractable	ug/g	0.118	0.148	0.143	0.003
Molybdenum	Strong Acid Extractable	ug/g	3.2	2.4	3.4	0.2
Nickel	Strong Acid Extractable	ug/g	47.7	47.8	49.4	0.3
Phosphorus	Strong Acid Extractable	ug/g	812	770	828	1
Potassium	Strong Acid Extractable	ug/g	558	653	488	3
Selenium	Strong Acid Extractable	ug/g	2.0	<0.50	2.9	0.5
Silicon	Strong Acid Extractable	ug/g	90.0	69.4	90.8	0.5
Silver	Strong Acid Extractable	ug/g	17.7	13.4	24.2	0.3
Sodium	Strong Acid Extractable	ug/g	76.9	92.3	72.2	0.5
Strontium	Strong Acid Extractable	ug/g	30.8	30.1	28.9	0.03
Thallium	Strong Acid Extractable	ug/g	6.02	3.5	7.82	0.5
Tin	Strong Acid Extractable	ug/g	5.05	3.1	5.88	0.5
Titanium	Strong Acid Extractable	ug/g	148	138	142	0.05
Vanadium	Strong Acid Extractable	ug/g	26.6	27.4	25.7	0.2
Zinc	Strong Acid Extractable	ug/g	4930	4470	5430	0.03
Zirconium	Strong Acid Extractable	ug/g	3.3	3.5	3.5	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.8	7.6	7.8	0.5



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Report to: Laberge Environmental Services
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1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
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		NWL Number	404439-38	404439-39	404439-40	
		Sample Description	KV-9A	KV-9B	KV-9C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	6680	6050	6550	1
Antimony	Strong Acid Extractable	ug/g	132	107	124	1
Arsenic	Strong Acid Extractable	ug/g	440	354	393	0.5
Barium	Strong Acid Extractable	ug/g	412	416	353	0.05
Beryllium	Strong Acid Extractable	ug/g	0.35	0.32	0.34	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	41.7	37.1	46.9	0.05
Calcium	Strong Acid Extractable	ug/g	5810	5100	5390	0.5
Chromium	Strong Acid Extractable	ug/g	14.2	12.9	14.4	0.1
Cobalt	Strong Acid Extractable	ug/g	11.4	9.74	10.8	0.1
Copper	Strong Acid Extractable	ug/g	157	125	158	0.1
Iron	Strong Acid Extractable	ug/g	57500	47800	55800	0.2
Lead	Strong Acid Extractable	ug/g	6650	6030	7320	0.5
Lithium	Strong Acid Extractable	ug/g	9.18	8.74	8.89	0.5
Magnesium	Strong Acid Extractable	ug/g	3610	3360	3500	2
Manganese	Strong Acid Extractable	ug/g	26500	19200	22500	0.05
Mercury	Strong Acid Extractable	ug/g	0.319	0.265	0.314	0.003
Molybdenum	Strong Acid Extractable	ug/g	1.8	1.8	1.5	0.2
Nickel	Strong Acid Extractable	ug/g	36.9	29.5	32.3	0.3
Phosphorus	Strong Acid Extractable	ug/g	558	535	560	1
Potassium	Strong Acid Extractable	ug/g	497	402	527	3
Selenium	Strong Acid Extractable	ug/g	4.9	2.7	3.4	0.5
Silicon	Strong Acid Extractable	ug/g	115	123	109	0.5
Silver	Strong Acid Extractable	ug/g	24.5	34.3	17.5	0.3
Sodium	Strong Acid Extractable	ug/g	63.8	61.4	64.7	0.5
Strontium	Strong Acid Extractable	ug/g	23.7	22.7	22.9	0.03
Thallium	Strong Acid Extractable	ug/g	10.9	8.34	9.66	0.5
Tin	Strong Acid Extractable	ug/g	9.79	15.0	7.48	0.5
Titanium	Strong Acid Extractable	ug/g	85.4	85.1	106	0.05
Vanadium	Strong Acid Extractable	ug/g	24.7	23.0	24.7	0.2
Zinc	Strong Acid Extractable	ug/g	2630	2360	2440	0.03
Zirconium	Strong Acid Extractable	ug/g	2.4	2.2	2.5	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.4	7.9	7.4	0.5



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Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

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ID: KVRW
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		NWL Number	404439-41	404439-42	404439-43	
		Sample Description	KV-37A	KV-37B	KV-37C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	11200	11500	9690	1
Antimony	Strong Acid Extractable	ug/g	<1	<1	<1	1
Arsenic	Strong Acid Extractable	ug/g	130	89.0	81.1	0.5
Barium	Strong Acid Extractable	ug/g	193	177	142	0.05
Beryllium	Strong Acid Extractable	ug/g	0.39	0.41	0.33	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	1.3	1.2	0.78	0.05
Calcium	Strong Acid Extractable	ug/g	2440	2400	1750	0.5
Chromium	Strong Acid Extractable	ug/g	22.4	22.0	18.7	0.1
Cobalt	Strong Acid Extractable	ug/g	10.0	9.70	7.89	0.1
Copper	Strong Acid Extractable	ug/g	35.4	36.8	27.4	0.1
Iron	Strong Acid Extractable	ug/g	25100	22800	19500	0.2
Lead	Strong Acid Extractable	ug/g	47.0	40.4	30.8	0.5
Lithium	Strong Acid Extractable	ug/g	14.5	14.9	12.3	0.5
Magnesium	Strong Acid Extractable	ug/g	3110	3200	2750	2
Manganese	Strong Acid Extractable	ug/g	676	394	386	0.05
Mercury	Strong Acid Extractable	ug/g	0.038	0.039	0.028	0.003
Molybdenum	Strong Acid Extractable	ug/g	1.3	1.1	0.84	0.2
Nickel	Strong Acid Extractable	ug/g	28.2	28.5	23.9	0.3
Phosphorus	Strong Acid Extractable	ug/g	790	761	639	1
Potassium	Strong Acid Extractable	ug/g	363	381	303	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	122	106	127	0.5
Silver	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.3
Sodium	Strong Acid Extractable	ug/g	44.0	46.7	37.4	0.5
Strontium	Strong Acid Extractable	ug/g	17.6	17.5	13.3	0.03
Thallium	Strong Acid Extractable	ug/g	<0.5	<0.5	<0.5	0.5
Tin	Strong Acid Extractable	ug/g	4.7	0.65	<0.5	0.5
Titanium	Strong Acid Extractable	ug/g	83.6	86.5	99.1	0.05
Vanadium	Strong Acid Extractable	ug/g	27.8	28.8	24.3	0.2
Zinc	Strong Acid Extractable	ug/g	114	113	84.2	0.03
Zirconium	Strong Acid Extractable	ug/g	1.1	1.1	1.0	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	6.9	7.1	6.5	0.5



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Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
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NWL Lot ID: 404439
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		NWL Number	404439-44	404439-45	404439-46	
		Sample Description	KV-38A	KV-38B	KV-38C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	6720	5860	8500	1
Antimony	Strong Acid Extractable	ug/g	32	39	26	1
Arsenic	Strong Acid Extractable	ug/g	503	543	458	0.5
Barium	Strong Acid Extractable	ug/g	85.0	70.7	154	0.05
Beryllium	Strong Acid Extractable	ug/g	0.26	0.25	0.35	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	57.4	59.9	19.6	0.05
Calcium	Strong Acid Extractable	ug/g	2770	3410	2940	0.5
Chromium	Strong Acid Extractable	ug/g	15.1	10.8	16.4	0.1
Cobalt	Strong Acid Extractable	ug/g	9.28	9.07	10.8	0.1
Copper	Strong Acid Extractable	ug/g	59.7	66.3	59.6	0.1
Iron	Strong Acid Extractable	ug/g	29300	27800	28400	0.2
Lead	Strong Acid Extractable	ug/g	966	1180	1370	0.5
Lithium	Strong Acid Extractable	ug/g	8.34	7.38	11.3	0.5
Magnesium	Strong Acid Extractable	ug/g	3190	3190	3450	2
Manganese	Strong Acid Extractable	ug/g	3340	3080	2300	0.05
Mercury	Strong Acid Extractable	ug/g	0.286	0.295	0.222	0.003
Molybdenum	Strong Acid Extractable	ug/g	3.0	2.9	2.4	0.2
Nickel	Strong Acid Extractable	ug/g	25.5	24.0	28.2	0.3
Phosphorus	Strong Acid Extractable	ug/g	762	786	879	1
Potassium	Strong Acid Extractable	ug/g	260	259	351	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	127	120	135	0.5
Silver	Strong Acid Extractable	ug/g	30.0	34.0	25.9	0.3
Sodium	Strong Acid Extractable	ug/g	26.3	24.2	38.7	0.5
Strontium	Strong Acid Extractable	ug/g	13.5	14.6	17.7	0.03
Thallium	Strong Acid Extractable	ug/g	1.7	1.2	0.96	0.5
Tin	Strong Acid Extractable	ug/g	2.6	2.5	3.2	0.5
Titanium	Strong Acid Extractable	ug/g	230	216	148	0.05
Vanadium	Strong Acid Extractable	ug/g	21.5	19.8	25.0	0.2
Zinc	Strong Acid Extractable	ug/g	4300	4610	1600	0.03
Zirconium	Strong Acid Extractable	ug/g	2.5	2.7	1.8	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	6.5	6.8	7.6	0.5



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		NWL Number	404439-47	404439-48	404439-49	
		Sample Description	KV-41A	KV-41B	KV-41C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8130	6840	6950	1
Antimony	Strong Acid Extractable	ug/g	<1	<1	<1	1
Arsenic	Strong Acid Extractable	ug/g	35.5	47.5	68.5	0.5
Barium	Strong Acid Extractable	ug/g	130	100	111	0.05
Beryllium	Strong Acid Extractable	ug/g	0.32	0.25	0.27	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	1.7	2.8	3.7	0.05
Calcium	Strong Acid Extractable	ug/g	2250	2000	2130	0.5
Chromium	Strong Acid Extractable	ug/g	16.1	14.0	14.9	0.1
Cobalt	Strong Acid Extractable	ug/g	7.20	6.54	7.20	0.1
Copper	Strong Acid Extractable	ug/g	21.2	18.0	21.0	0.1
Iron	Strong Acid Extractable	ug/g	17000	15500	17000	0.2
Lead	Strong Acid Extractable	ug/g	48.2	82.0	86.4	0.5
Lithium	Strong Acid Extractable	ug/g	9.58	8.72	8.49	0.5
Magnesium	Strong Acid Extractable	ug/g	2810	2550	2530	2
Manganese	Strong Acid Extractable	ug/g	409	504	633	0.05
Mercury	Strong Acid Extractable	ug/g	0.022	0.022	0.028	0.003
Molybdenum	Strong Acid Extractable	ug/g	0.98	0.87	0.92	0.2
Nickel	Strong Acid Extractable	ug/g	18.5	17.1	18.0	0.3
Phosphorus	Strong Acid Extractable	ug/g	562	543	590	1
Potassium	Strong Acid Extractable	ug/g	367	276	312	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	114	130	109	0.5
Silver	Strong Acid Extractable	ug/g	<0.3	0.4	2.1	0.3
Sodium	Strong Acid Extractable	ug/g	52.7	41.2	43.2	0.5
Strontium	Strong Acid Extractable	ug/g	15.4	13.0	13.6	0.03
Thallium	Strong Acid Extractable	ug/g	<0.5	<0.5	<0.5	0.5
Tin	Strong Acid Extractable	ug/g	<0.5	0.88	<0.5	0.5
Titanium	Strong Acid Extractable	ug/g	240	230	276	0.05
Vanadium	Strong Acid Extractable	ug/g	26.2	22.0	23.8	0.2
Zinc	Strong Acid Extractable	ug/g	162	225	297	0.03
Zirconium	Strong Acid Extractable	ug/g	2.0	2.3	2.5	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.5	7.1	7.6	0.5



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Approved by:

Bill Warning, B.Sc.
Lab Operations Manager



Methodology and Notes

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Method of Analysis:

MethodName	Reference	Method	Date Analysis Started	Location
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	30-Aug-05	Norwest Labs Surrey
Ammonium-N in Water (color Surrey)	APHA	* Automated Phenate Method, 4500-NH3 G	29-Aug-05	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	30-Aug-05	Norwest Labs Surrey
Conductivity (Surrey)	APHA	* Conductivity - Laboratory Method, 2510 B	31-Aug-05	Norwest Labs Surrey
Metals (Strong Acid Leachable) in soils	B.C. Ministry of WLAP	* Strong Acid Leachable Metals (SALM) in Soil, V 1.0, SALM	31-Aug-05	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	31-Aug-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	30-Aug-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	30-Aug-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	30-Aug-05	Norwest Labs Edmonton
pH and EC in Soil - 1:2 (Surrey)	McKeague	* 1:2 Soil:Water Ratio, 4.12	30-Aug-05	Norwest Labs Surrey
pH and EC in Soil - 1:2 (Surrey)	McKeague	* 1:2 Soil:Water Ratio, 4.12	31-Aug-05	Norwest Labs Surrey
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	29-Aug-05	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	29-Aug-05	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	30-Aug-05	Norwest Labs Surrey

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



Methodology and Notes

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 30 of 30

* Norwest method(s) is based on reference method

References:

APHA	Standard Methods for the Examination of Water and Wastewater
B.C. Ministry of WLAP	B.C. Ministry of Water, Land and Air Protection
McKeague	Manual on Soil Sampling and Methods of Analysis
US EPA	US Environmental Protection Agency Test Methods

Comments:

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



NORWEST LABS

Control Number **E 191020**

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company: <u>ACG</u>		Company: <u>LES</u>		Mail invoice to this ☐	
Address: <u>#3 Calcite CTE</u>		Address:		address for approval ☐	
<u>151 Industrial Road</u>					
<u>Whitehorse YIA 2V3</u>					
Attention: <u>Scott Keesey</u>		Attention: <u>BONNIE BURNS</u>		Report Result: ☐	
Phone: <u>867 668 6463</u>		Phone:		Fax ☐	
Fax:		Fax:		Mail ☐	
Cell:		Cell:		Courier ☐	
e-mail: <u>Scott@accessconsulting.ca</u>		e-mail: <u>Laberge@internorth.com</u>		e-mail ☒	
QA/QC Report ☒		Report Result:		e-service ☐	
Fax ☒		Fax ☐			
Mail ☒		Mail ☐			
Courier ☐		Courier ☐			
e-mail ☒		e-mail ☒			
e-service ☒		e-service ☐			

Information to be included on Report and Invoice	RUSH	Please contact the laboratory to confirm rush dates and times before submitting samples.	Sample Custody (Please Print)
	Upon filling out this section, client accepts that surcharges will be attached to this analysis		Relinquished by: <u>LES</u>
	Required on: all analyses or as indicated ☐ or ☐		Company: _____ Signature: <u>[Signature]</u>
	Date Required: _____		I authorize Norwest Labs to proceed with the work indicated on this form:
	Signature: _____		Date: _____
Agreement ID: _____	Norwest Authorization: _____		Initial: _____
Project ID: <u>G300 RW</u>			Received by: <u>Debra 11:30</u> ☐ Coolers
Project Name: <u>G300 Receiving H₂O</u>			Waybill # <u>9002</u> Date: <u>100</u> ☐ Boxes
Project Location: <u>Keno Valley</u>			Company: <u>LES</u> Time: <u>11:30</u> ☐ Samples
Legal Location: _____			Received By: _____ Date: _____
PO#: _____			Company: _____ Time: _____

Special Instructions / Comments ☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

metals preserved HNO₃
dissolved metals (TW21) field filtered & preserved

	Sample Identification	Location	Depth IN CM M	Date / Time Sampled	Matrix	Sampling Method	Number of Containers	Enter tests above (✓ relevant samples below)									
								ALK	PH COND	AMMONIA	N 3/2	TSS	TW 21F	TW 22			
1	S. McQ v/s Christal	KV-1	—	Oct. 25-27	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓			
2	S. McQ @ PH Pond	KV-2	—				3	✓	✓	✓	✓	✓	✓	✓			
3	S. McQ 9K DIS Flat	KV-5	—				3	✓	✓	✓	✓	✓	✓	✓			
4	Christal v/s Hwy	KV-6	—				3	✓	✓	✓	✓	✓	✓	✓			
5	Christal @ HL Road	KV-7	—				3	✓	✓	✓	✓	✓	✓	✓			
6	Christal @ mouth	KV-B	—				3	✓	✓	✓	✓	✓	✓	✓			
7	Christal site A	(A)	—				3	✓	✓	✓	✓	✓	✓	✓			
8	Christal site D	(D)	—				3	✓	✓	✓	✓	✓	✓	✓			
9	Culvert #4	#4	—				3	✓	✓	✓	✓	✓	✓	✓			
10	Field Filter Blank	FB	—				1	✓					✓				
11	Blind Duplicate	DUP-1	—				1	✓					✓				
12	G300 Adit	G300A	—				3	✓	✓	✓	✓	✓	✓	✓			
13	G300 Decant	G300D	—				3	✓	✓	✓	✓	✓	✓	✓			
14			—														
15			—														

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.

Accredited by the Standards Council of Canada for specific tests

Page 1 of 1
##

NW1008 (08/03)



Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of Invoice:	
Company: <i>LES</i>		Company: <i>ACG</i>		Mail invoice to this	
Address: <i>Box 21072</i>		Address:		address for approval	
<i>Whitehorse Y.T.</i>					
<i>Y1A 6P7</i>					
Attention: <i>Bonnie Burns</i>		Report Result:		Report Result:	
Phone: <i>867 668 6838</i>		Fax ☐		Fax ☐	
Fax:		Mail ☒		Mail ☐	
Cell:		Courier ☐		Courier ☐	
e-mail: <i>Laberge@internorth.com</i>		e-mail ☒		e-mail ☒	
		e-Service ☐		e-service ☒	

Information to be included on Report and Invoice	RUSH Please contact the laboratory to confirm rush dates and times before submitting samples.	Sample Custody (Please Print)
Project ID: <u>KVRW</u> Project Name: <u>Keno Valley Receiving H2O</u> Project Location: Legal Location: PO#: Proj. Acct. Code: Agreement ID:	Upon filling out this section, client accepts that surcharges will be attached to this analysis Required on: all analyses or as indicated ☐ or ☐ Date Required: _____ Signature: _____ Norwest Authorization: _____	Relinquished by: <u>KEN NORDIN</u> Company <u>LES</u> Signature <u>[Signature]</u> I authorize Norwest Labs to proceed with the work indicated on this form: Date: _____ Initial: _____ Received by: ☐ Coolers Waybill # _____ Date ☐ Boxes

[illegible]

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.
Accredited by the Standards Council of Canada for specific tests

NW1 008 (08/03)



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H20
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

Contact	Company	Address												
Scott Keeseey Web x Email Notification	Access Mining Consultants Ltd.	# 3 Calcite Business Centre, 151 Industrial Road Whitehorse, YT Y1A 2V3 Phone: (867) 668-6463 Fax: (867) 667-6680 Email: scott@accessconsulting.ca												
<table><tr><th>Copies</th><th>Delivery Strategy</th><th>Format</th></tr><tr><td>1</td><td>Post</td><td></td></tr><tr><td>A 1</td><td>Email - Single Report</td><td>PDF</td></tr><tr><td>A 1</td><td>Email - Single Report</td><td>Standard List</td></tr></table>		Copies	Delivery Strategy	Format	1	Post		A 1	Email - Single Report	PDF	A 1	Email - Single Report	Standard List	
Copies	Delivery Strategy	Format												
1	Post													
A 1	Email - Single Report	PDF												
A 1	Email - Single Report	Standard List												
xxxTravis xxxRitchie Web x Email Notification	Access Mining Consultants Ltd.	# 3 Calcite Business Centre, 151 Industrial Road Whitehorse, YT Y1A 2V3 Phone: (867) 668-6463 Fax: (867) 667-6680 Email: travis@accessconsulting.ca												
<table><tr><th>Copies</th><th>Delivery Strategy</th><th>Format</th></tr></table>		Copies	Delivery Strategy	Format										
Copies	Delivery Strategy	Format												

NOTE: **P** indicates a preliminary report is required

NOTE: **A** indicates report is delivered using automated delivery

_____ # OF PAGES IN THIS TRANSMISSION

Report Transmission Notes

Agreement Notes

Lot Notes

Sample Notes:

Notes to Clients

Lot Notes:

2 bottles were sent to EDM for metals on sample #16 but it is not indicated which is for dissolved and which is for total. The 2 bottles are reassigned as extra samples (bottle A and B, Samples 18 and 19, respectively). The bottles as received, were analyzed for both dissolved and total metals.

Sample Notes:

Batch Notes:

Method Notes:

Method Result Notes:

Reports associated with this Lot

Id/Format/Reported Date

772855 Env2 3 Smp & DL

Id/Format/Reported Date

Id/Format/Reported Date



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H20
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

Comment:

See Methodology and Notes page of Analytical Report for all comments pertaining to this report.

If this report transmission is not satisfactory, please send report requirements to the address at the top of this page.

11/4/05

772855 04-Nov-2005



Sample Custody

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

Sample Disposal Date: Dec 09, 2005

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the upper right of this page.

_____ **Extend Sample Storage Until** _____ **(MM/DD/YY)**

The following charges apply to extended sample storage:

Storage for 1 to 5 samples per month	\$ 10.00
Storage for 6 to 20 samples per month	\$ 15.00
Storage for 21 to 50 samples per month	\$ 30.00
Storage for 51 to 200 samples per month	\$ 60.00
Storage for more than 200 samples per month	\$ 110.00

_____ **Return Sample, collect, to the address below via:**

_____ Greyhound
_____ Loomis
_____ Purolator
_____ Other (Specify) _____

Name: _____
Company: _____
Address: _____

Phone: _____
Fax: _____
Signature: _____

If no other arrangements have been made, samples will be disposed of on Dec 09, 2005.



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

Page: 1 of 22

		NWL Number	420065-1	420065-2	420065-3	
		Sample Description	S.McQ u/s Christal / KV-1 / Sampled Oct 25-Oct-27	S.McQ @ PH Pond / KV-2 / Sampled Oct 25-Oct-27	S.McQ 9K Dis Flat / KV-5 / Sampled Oct 25-Oct-27	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.014	0.015	0.018	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	2.10	2.26	2.45	0.05
Sulfur	Dissolved	mg/L	22.7	24.2	23.7	0.3
Aluminum	Dissolved	mg/L	0.033	0.028	0.029	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0009	0.0013	0.0030	0.0002
Barium	Dissolved	mg/L	0.052	0.058	0.064	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00014	0.00020	0.00017	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0007	0.0005	0.0003	0.0001
Copper	Dissolved	mg/L	0.001	0.001	0.001	0.001
Lead	Dissolved	mg/L	<0.0001	0.0001	0.0003	0.0001
Lithium	Dissolved	mg/L	0.004	0.004	0.004	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0079	0.0067	0.0052	0.0005
Selenium	Dissolved	mg/L	0.0004	0.0005	0.0005	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.222	0.215	0.222	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0015	0.0016	0.0016	0.0005
Uranium	Dissolved	mg/L	0.0008	0.0008	0.0008	0.0005
Vanadium	Dissolved	mg/L	0.0002	0.0003	0.0004	0.0001
Zinc	Dissolved	mg/L	0.034	0.041	0.033	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	50.1	53.1	53.9	0.2
Iron	Total	mg/L	0.2	0.2	0.3	0.1
Magnesium	Total	mg/L	15.0	15.4	15.1	0.1
Manganese	Total	mg/L	0.069	0.079	0.078	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

Page: 2 of 22

		NWL Number	420065-1	420065-2	420065-3	
		Sample Description	S.McQ u/s Christal / KV-1 / Sampled Oct 25-Oct-27	S.McQ @ PH Pond / KV-2 / Sampled Oct 25-Oct-27	S.McQ 9K Dis Flat / KV-5 / Sampled Oct 25-Oct-27	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	0.8	0.7	0.6	0.4
Silicon	Total	mg/L	2.13	2.23	2.34	0.05
Sodium	Total	mg/L	2.0	1.8	1.8	0.4
Sulfur	Total	mg/L	22.6	24.2	22.4	0.3
Aluminum	Total	mg/L	0.142	0.130	0.097	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0011	0.0016	0.0039	0.0002
Barium	Total	mg/L	0.054	0.059	0.062	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.003	0.003	0.003	0.002
Cadmium	Total	mg/L	0.00019	0.00024	0.00020	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0010	0.0009	0.0006	0.0001
Copper	Total	mg/L	0.008	0.002	0.002	0.001
Lead	Total	mg/L	0.0001	0.0007	0.0013	0.0001
Lithium	Total	mg/L	0.006	0.006	0.005	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0103	0.0089	0.0069	0.0005
Selenium	Total	mg/L	0.0007	0.0006	0.0005	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.236	0.234	0.234	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0036	0.0036	0.0026	0.0005
Uranium	Total	mg/L	0.0007	0.0008	0.0008	0.0005
Vanadium	Total	mg/L	0.0004	0.0004	0.0004	0.0001
Zinc	Total	mg/L	0.049	0.058	0.049	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	4	4	4	1
Routine Water						
pH	@ 25 °C	pH	7.84	7.80	7.89	
Electrical Conductivity	Water	uS/cm	369	390	406	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
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Page: 3 of 22

		NWL Number	420065-1	420065-2	420065-3	
		Sample Description	S.McQ u/s Christal / KV-1 / Sampled Oct 25-Oct-27	S.McQ @ PH Pond / KV-2 / Sampled Oct 25-Oct-27	S.McQ 9K Dis Flat / KV-5 / Sampled Oct 25-Oct-27	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	49.0	53.5	55.3	0.2
Magnesium	Dissolved	mg/L	14.9	15.6	15.8	0.1
Sodium	Dissolved	mg/L	2.0	1.9	2.0	0.4
Potassium	Dissolved	mg/L	0.6	0.6	0.6	0.4
Iron	Dissolved	mg/L	0.05	0.06	0.08	0.01
Manganese	Dissolved	mg/L	0.060	0.066	0.067	0.005
Nitrate - N	Dissolved	mg/L	<0.03	0.04	0.05	0.03
Nitrate and Nitrite - N	Dissolved	mg/L	<0.06	0.04	0.05	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	140	158	163	5
T-Alkalinity	as CaCO3	mg/L	115	130	134	5



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
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Phone: (604) 514-3322
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Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

Page: 4 of 22

		NWL Number	420065-4	420065-5	420065-6	
		Sample Description	Christal u/s hwy / KV-6 / Sampled Oct 25-Oct-27	Christal @ HL Road / KV-7 / Sampled Oct 25-Oct-27	Christal @ mouth / KV-8 / Sampled Oct 25-Oct-27	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.013	0.009	0.008	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	2.93	3.24	3.17	0.05
Sulfur	Dissolved	mg/L	42.1	63.3	62.9	0.3
Aluminum	Dissolved	mg/L	0.006	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	<0.0002	0.0002	0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0009	0.0015	0.0018	0.0002
Barium	Dissolved	mg/L	0.039	0.051	0.047	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.005	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00060	0.00093	0.00136	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	<0.0001	0.0001	<0.0001	0.0001
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	0.0004	0.0004	0.0002	0.0001
Lithium	Dissolved	mg/L	0.006	0.006	0.005	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0012	0.001	0.0007	0.0005
Selenium	Dissolved	mg/L	0.0005	0.001	0.0008	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.164	0.236	0.233	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0028	0.0041	0.0039	0.0005
Uranium	Dissolved	mg/L	0.0024	0.0023	0.0022	0.0005
Vanadium	Dissolved	mg/L	0.0004	0.0004	0.0002	0.0001
Zinc	Dissolved	mg/L	0.118	0.377	0.274	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	115	103	99.7	0.2
Iron	Total	mg/L	0.3	<0.1	0.1	0.1
Magnesium	Total	mg/L	19.9	20.0	19.5	0.1
Manganese	Total	mg/L	0.326	0.213	0.135	0.005



Analytical Report

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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

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		NWL Number		420065-4	420065-5	420065-6
		Sample Description		Christal u/s hwy / KV-6 / Sampled Oct 25-Oct-27	Christal @ HL Road / KV-7 / Sampled Oct 25-Oct-27	Christal @ mouth / KV-8 / Sampled Oct 25-Oct-27
		Matrix		Water	Water	Water
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	0.4	0.4	0.4	0.4
Silicon	Total	mg/L	3.50	3.11	3.00	0.05
Sodium	Total	mg/L	1.5	1.5	1.4	0.4
Sulfur	Total	mg/L	77.7	63.9	59.9	0.3
Aluminum	Total	mg/L	0.063	0.014	0.014	0.005
Antimony	Total	mg/L	0.0005	0.0002	0.0002	0.0002
Arsenic	Total	mg/L	0.0076	0.0020	0.0024	0.0002
Barium	Total	mg/L	0.058	0.054	0.049	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.003	0.003	0.003	0.002
Cadmium	Total	mg/L	0.00173	0.00108	0.00148	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0005	0.0004	0.0003	0.0001
Copper	Total	mg/L	0.001	<0.001	<0.001	0.001
Lead	Total	mg/L	0.0247	0.0004	0.0008	0.0001
Lithium	Total	mg/L	0.012	0.008	0.008	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0039	0.0028	0.0023	0.0005
Selenium	Total	mg/L	0.0011	0.0012	0.0011	0.0002
Silver	Total	mg/L	0.0002	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.229	0.276	0.260	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0089	0.0062	0.0060	0.0005
Uranium	Total	mg/L	0.0051	0.0027	0.0025	0.0005
Vanadium	Total	mg/L	0.0004	0.0004	0.0003	0.0001
Zinc	Total	mg/L	0.322	0.356	0.388	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	2	<2	<2	1
Routine Water						
pH	@ 25 °C	pH	7.62	7.96	7.89	
Electrical Conductivity	Water	uS/cm	704	641	637	1



Analytical Report

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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

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		NWL Number	420065-4	420065-5	420065-6	
		Sample Description	Christal u/s hwy / KV-6 / Sampled Oct 25-Oct-27	Christal @ HL Road / KV-7 / Sampled Oct 25-Oct-27	Christal @ mouth / KV-8 / Sampled Oct 25-Oct-27	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	69.7	103	101	0.2
Magnesium	Dissolved	mg/L	13.1	20.3	19.9	0.1
Sodium	Dissolved	mg/L	3.3	1.4	1.5	0.4
Potassium	Dissolved	mg/L	1	0.4	<0.4	0.4
Iron	Dissolved	mg/L	0.02	0.03	0.03	0.01
Manganese	Dissolved	mg/L	0.119	0.208	0.132	0.005
Nitrate - N	Dissolved	mg/L	0.12	0.10	0.10	0.03
Nitrate and Nitrite - N	Dissolved	mg/L	0.12	0.10	0.10	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	152	176	175	5
T-Alkalinity	as CaCO3	mg/L	125	144	144	5



Analytical Report

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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

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		NWL Number	420065-7	420065-8	420065-9	
		Sample Description	Christal site A / A / Sampled Oct 25-Oct-27	Christal site D / D / Sampled Oct 25-Oct-27	Culvert #4 / #4 / Sampled Oct 25-Oct-27	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.019	0.017	0.025	0.002
Metals Dissolved						
Silicon	Dissolved	mg/L	3.54	3.46	2.47	0.05
Sulfur	Dissolved	mg/L	100	106	337	0.3
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	0.0002	0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0019	0.0017	0.0074	0.0002
Barium	Dissolved	mg/L	0.053	0.051	0.020	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00090	0.00165	0.0531	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0002	0.0004	0.0091	0.0001
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	0.0003	0.0002	<0.0001	0.0001
Lithium	Dissolved	mg/L	0.01	0.010	0.013	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0013	0.0024	0.0190	0.0005
Selenium	Dissolved	mg/L	0.0007	0.0009	0.0004	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.271	0.290	0.628	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	0.00008	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0063	0.0071	0.0194	0.0005
Uranium	Dissolved	mg/L	0.0042	0.0041	0.0005	0.0005
Vanadium	Dissolved	mg/L	0.0003	0.0002	0.0003	0.0001
Zinc	Dissolved	mg/L	0.209	0.430	8.2	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	136	144	346	0.2
Iron	Total	mg/L	0.2	0.3	10.0	0.1
Magnesium	Total	mg/L	23.2	24.4	51.6	0.1
Manganese	Total	mg/L	0.362	0.658	28.4	0.005



Analytical Report

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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

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		NWL Number	420065-7	420065-8	420065-9	
		Sample Description	Christal site A / A / Sampled Oct 25-Oct-27	Christal site D / D / Sampled Oct 25-Oct-27	Culvert #4 / #4 / Sampled Oct 25-Oct-27	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	0.4	0.4	0.5	0.4
Silicon	Total	mg/L	3.43	3.39	4.94	0.05
Sodium	Total	mg/L	1.8	1.7	2.2	0.4
Sulfur	Total	mg/L	97.5	106	327	0.3
Aluminum	Total	mg/L	0.034	0.036	0.790	0.005
Antimony	Total	mg/L	0.0002	0.0002	0.0004	0.0002
Arsenic	Total	mg/L	0.0027	0.0030	0.0668	0.0002
Barium	Total	mg/L	0.055	0.052	0.033	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.003	0.003	0.003	0.002
Cadmium	Total	mg/L	0.00122	0.00194	0.0772	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	0.0014	0.0005
Cobalt	Total	mg/L	0.0006	0.001	0.0433	0.0001
Copper	Total	mg/L	0.001	<0.001	0.007	0.001
Lead	Total	mg/L	0.0011	0.0017	0.0131	0.0001
Lithium	Total	mg/L	0.014	0.012	0.019	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0039	0.0052	0.192	0.0005
Selenium	Total	mg/L	0.0011	0.0010	0.0016	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	0.0001	0.0001
Strontium	Total	mg/L	0.314	0.321	0.737	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	0.00011	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0103	0.0103	0.0578	0.0005
Uranium	Total	mg/L	0.0049	0.0046	0.0030	0.0005
Vanadium	Total	mg/L	0.0004	0.0004	0.0045	0.0001
Zinc	Total	mg/L	0.353	0.830	50.8	0.001
Zirconium	Total	mg/L	<0.001	<0.001	0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	3	<2	151	1
Routine Water						
pH	@ 25 °C	pH	7.93	7.97	7.96	
Electrical Conductivity	Water	uS/cm	815	855	1780	1



Analytical Report

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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

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		NWL Number	420065-7	420065-8	420065-9	
		Sample Description	Christal site A / A / Sampled Oct 25-Oct-27	Christal site D / D / Sampled Oct 25-Oct-27	Culvert #4 / #4 / Sampled Oct 25-Oct-27	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	137	143	351	0.2
Magnesium	Dissolved	mg/L	23.5	24.4	51.9	0.1
Sodium	Dissolved	mg/L	1.8	1.8	2.2	0.4
Potassium	Dissolved	mg/L	0.4	0.4	<0.4	0.4
Iron	Dissolved	mg/L	0.05	0.04	<0.01	0.01
Manganese	Dissolved	mg/L	0.357	0.645	26.3	0.005
Nitrate - N	Dissolved	mg/L	0.11	0.13	0.25	0.03
Nitrate and Nitrite - N	Dissolved	mg/L	0.11	0.13	0.25	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	157	156	214	5
T-Alkalinity	as CaCO3	mg/L	129	128	176	5



Analytical Report

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3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

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		NWL Number		420065-10	420065-12	420065-13	
		Sample Description		Field Filter Blank / FB / Sampled Oct 25-Oct-27	G300 Adit / G300A / Sampled Oct 25-Oct-27	G300 Decant / G300D / Sampled Oct 25-Oct-27	
		Matrix		Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Dissolved							
Silicon	Dissolved	mg/L	2.37	4.74	3.24	0.05	
Sulfur	Dissolved	mg/L	3.3	380	379	0.3	
Aluminum	Dissolved	mg/L	0.011	0.047	<0.005	0.005	
Antimony	Dissolved	mg/L	<0.0002	0.0003	<0.0002	0.0002	
Arsenic	Dissolved	mg/L	<0.0002	0.116	0.0379	0.0002	
Barium	Dissolved	mg/L	0.022	0.008	0.009	0.001	
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Dissolved	mg/L	0.010	0.004	0.004	0.002	
Cadmium	Dissolved	mg/L	0.00002	0.432	0.331	0.00001	
Chromium	Dissolved	mg/L	<0.0005	0.0005	<0.0005	0.0005	
Cobalt	Dissolved	mg/L	<0.0001	0.114	0.0668	0.0001	
Copper	Dissolved	mg/L	<0.001	0.005	<0.001	0.001	
Lead	Dissolved	mg/L	<0.0001	0.0001	<0.0001	0.0001	
Lithium	Dissolved	mg/L	0.003	0.030	0.031	0.001	
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Dissolved	mg/L	<0.0005	0.406	0.144	0.0005	
Selenium	Dissolved	mg/L	<0.0002	<0.0002	0.0003	0.0002	
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Strontium	Dissolved	mg/L	0.123	0.260	0.503	0.001	
Thallium	Dissolved	mg/L	<0.00005	0.00105	0.00105	0.00005	
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Titanium	Dissolved	mg/L	<0.0005	0.0204	0.0197	0.0005	
Uranium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Vanadium	Dissolved	mg/L	0.0002	0.0001	0.0006	0.0001	
Zinc	Dissolved	mg/L	0.004	175	48.7	0.001	
Subsample	Field Filtered		Yes	Yes	Yes		
Routine Water							
pH	@ 25 °C	pH	-	6.00	7.40		
Electrical Conductivity	Water	uS/cm	-	1850	1960	1	
Calcium	Dissolved	mg/L	22.8	197	308	0.2	
Magnesium	Dissolved	mg/L	5.9	40.9	39.4	0.1	
Sodium	Dissolved	mg/L	5.4	1.8	1.7	0.4	
Potassium	Dissolved	mg/L	1.6	0.7	0.7	0.4	



Analytical Report

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Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

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		NWL Number		420065-10	420065-12	420065-13
		Sample Description		Field Filter Blank / FB / Sampled Oct 25-Oct-27	G300 Adit / G300A / Sampled Oct 25-Oct-27	G300 Decant / G300D / Sampled Oct 25-Oct-27
		Matrix		Water	Water	Water
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Iron	Dissolved	mg/L	0.01	25.9	<0.01	0.01
Manganese	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Nitrate - N	Dissolved	mg/L	-	0.05	0.05	0.03
Nitrate and Nitrite - N	Dissolved	mg/L	-	0.05	0.05	0.1
Hydroxide	Water	mg/L	-	<5	<5	5
Carbonate	Water	mg/L	-	<6	<6	5
Bicarbonate	Water	mg/L	-	61	356	5
T-Alkalinity	as CaCO3	mg/L	-	50	292	5



Analytical Report

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151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
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Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

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		NWL Number	420065-11	420065-12	420065-13	
		Sample Description	Blind Duplicate / DUP-1 / Sampled Oct 25-Oct-27	G300 Adit / G300A / Sampled Oct 25-Oct-27	G300 Decant / G300D / Sampled Oct 25-Oct-27	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total						
Calcium	Total	mg/L	116	191	307	0.2
Iron	Total	mg/L	<0.1	28.6	23.0	0.1
Magnesium	Total	mg/L	20.3	39.5	40.0	0.1
Manganese	Total	mg/L	0.246	<0.005	<0.005	0.005
Potassium	Total	mg/L	<0.4	0.6	0.7	0.4
Silicon	Total	mg/L	3.42	4.49	4.49	0.05
Sodium	Total	mg/L	1.5	1.5	1.5	0.4
Sulfur	Total	mg/L	77.5	361	366	0.3
Aluminum	Total	mg/L	0.009	0.165	0.196	0.005
Antimony	Total	mg/L	0.0002	0.0008	0.0008	0.0002
Arsenic	Total	mg/L	0.0022	0.230	0.188	0.0002
Barium	Total	mg/L	0.058	0.007	0.008	0.001
Beryllium	Total	mg/L	<0.0001	0.0001	0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.003	0.007	0.006	0.002
Cadmium	Total	mg/L	0.00123	0.416	0.397	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0004	0.168	0.138	0.0001
Copper	Total	mg/L	<0.001	0.009	0.025	0.001
Lead	Total	mg/L	0.0026	0.0322	0.0265	0.0001
Lithium	Total	mg/L	0.013	0.047	0.044	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0037	0.44	0.38	0.0005
Selenium	Total	mg/L	0.0012	0.0014	0.0016	0.0002
Silver	Total	mg/L	<0.0001	0.0002	0.0002	0.0001
Strontium	Total	mg/L	0.236	0.320	0.620	0.001
Thallium	Total	mg/L	<0.00005	0.00135	0.00127	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0072	0.0308	0.0487	0.0005
Uranium	Total	mg/L	0.0052	<0.0005	0.0007	0.0005
Vanadium	Total	mg/L	0.0003	0.0003	0.0048	0.0001
Zinc	Total	mg/L	0.308	162	137	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001



Analytical Report

Norwest Labs
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Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

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		NWL Number	420065-12	420065-13	420065-15	
		Sample Description	G300 Adit / G300A / Sampled Oct 25-Oct-27	G300 Decant / G300D / Sampled Oct 25-Oct-27	S.McQ D/S Flat / KV-4 / Sampled Oct 25-Oct-26	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.123	0.116	0.014	0.002
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	24	257	2	1



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LSD:
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		NWL Number		420065-14	420065-15	420065-17
		Sample Description		S.McQ u/s Flat / KV-3 / Sampled Oct 25-Oct-26	S.McQ D/S Flat / KV-4 / Sampled Oct 25-Oct-26	Lightning @ Keno / KV-41 / Sampled Oct 25-Oct-26
		Matrix		Water	Water	Water
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total						
Calcium	Total	mg/L	53.8	59.8	29.7	0.2
Iron	Total	mg/L	0.2	0.2	0.1	0.1
Magnesium	Total	mg/L	15.5	16.6	4.9	0.1
Manganese	Total	mg/L	0.116	0.102	0.019	0.005
Potassium	Total	mg/L	0.8	0.6	<0.4	0.4
Silicon	Total	mg/L	2.21	2.31	3.00	0.05
Sodium	Total	mg/L	1.9	1.9	2.4	0.4
Sulfur	Total	mg/L	23.5	27.1	15.4	0.3
Aluminum	Total	mg/L	0.125	0.104	0.077	0.005
Antimony	Total	mg/L	<0.0002	0.0002	0.0003	0.0002
Arsenic	Total	mg/L	0.0021	0.0021	0.0027	0.0002
Barium	Total	mg/L	0.062	0.064	0.053	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.003	0.003	<0.002	0.002
Cadmium	Total	mg/L	0.00025	0.00027	0.00017	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0008	0.0007	0.0002	0.0001
Copper	Total	mg/L	0.009	0.002	0.001	0.001
Lead	Total	mg/L	0.0012	0.0022	0.0007	0.0001
Lithium	Total	mg/L	0.007	0.006	0.002	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0097	0.0081	0.0008	0.0005
Selenium	Total	mg/L	0.0006	0.0006	0.0008	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.240	0.238	0.099	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0029	0.0034	0.0152	0.0005
Uranium	Total	mg/L	0.0008	0.0008	<0.0005	0.0005
Vanadium	Total	mg/L	0.0005	0.0004	0.0004	0.0001
Zinc	Total	mg/L	0.072	0.064	0.027	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001



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Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
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		NWL Number		420065-15	420065-16	420065-17
		Sample Description		S.McQ D/S Flat / KV-4 / Sampled Oct 25-Oct-26	Flat ck u/s S.McQ / KV-9 / Sampled Oct 25-Oct-26	Lightning @ Keno / KV-41 / Sampled Oct 25-Oct-26
		Matrix		Water	Water	Water
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water						
pH	@ 25 °C	pH	7.89	7.79	7.81	
Electrical Conductivity	Water	uS/cm	434	634	223	1
Calcium	Dissolved	mg/L	59.1	-	29.8	0.2
Magnesium	Dissolved	mg/L	16.5	-	5.0	0.1
Sodium	Dissolved	mg/L	1.8	-	0.9	0.4
Potassium	Dissolved	mg/L	0.5	-	<0.4	0.4
Iron	Dissolved	mg/L	0.06	-	0.01	0.01
Manganese	Dissolved	mg/L	0.278	-	0.069	0.005
Nitrate - N	Dissolved	mg/L	0.04	0.06	0.10	0.03
Nitrate and Nitrite - N	Dissolved	mg/L	0.04	0.06	0.10	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	162	231	59	5
T-Alkalinity	as CaCO3	mg/L	133	190	48	5



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Whitehorse, YT, Canada
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Attn: Scott Keesey
Sampled By: Les
Company:

Project
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Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
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		NWL Number 420065-15		420065-17		420065-18	
		Sample Description S.McQ D/S Flat / KV-4 / Sampled Oct 25-Oct-26		Lightning @ Keno / KV-41 / Sampled Oct 25-Oct-26		Flat ck u/s S.McQ / KV-9 (bottle A) / Samples Oct 25-Oct 26	
		Matrix	Water	Water	Water		
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Dissolved							
Silicon	Dissolved	mg/L	2.37	3.08	3.20	0.05	
Sulfur	Dissolved	mg/L	28.0	15.8	47.6	0.3	
Aluminum	Dissolved	mg/L	0.029	<0.005	<0.005	0.005	
Antimony	Dissolved	mg/L	<0.0002	0.0002	0.0007	0.0002	
Arsenic	Dissolved	mg/L	0.0014	0.0020	0.0018	0.0002	
Barium	Dissolved	mg/L	0.058	0.050	0.054	0.001	
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002	
Cadmium	Dissolved	mg/L	0.00025	0.00017	0.00043	0.00001	
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Cobalt	Dissolved	mg/L	0.0004	<0.0001	<0.0001	0.0001	
Copper	Dissolved	mg/L	0.001	<0.001	0.002	0.001	
Lead	Dissolved	mg/L	0.0004	0.0001	0.0111	0.0001	
Lithium	Dissolved	mg/L	0.005	0.002	0.005	0.001	
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Dissolved	mg/L	0.0057	<0.0005	0.0009	0.0005	
Selenium	Dissolved	mg/L	0.0004	0.0008	0.0002	0.0002	
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Strontium	Dissolved	mg/L	0.223	0.094	0.200	0.001	
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Titanium	Dissolved	mg/L	0.0018	0.0009	0.0037	0.0005	
Uranium	Dissolved	mg/L	0.0008	<0.0005	0.0010	0.0005	
Vanadium	Dissolved	mg/L	0.0002	0.0003	0.0002	0.0001	
Zinc	Dissolved	mg/L	0.051	0.025	0.049	0.001	
Subsample	Field Filtered		Yes	Yes	-		



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Attn: Scott Keesey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
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		NWL Number	420065-16	420065-17		
		Sample Description	Flat ck u/s S.McQ / KV-9 / Sampled Oct 25-Oct-26	Lightning @ Keno / KV-41 / Sampled Oct 25-Oct-26		
		Matrix	Water	Water		
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.027	<0.002		0.002
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	5		1



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Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
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Report Number: 772855

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		NWL Number		420065-18	420065-19		
		Sample Description		Flat ck u/s S.McQ / KV-9 (bottle A) / Samples Oct 25-Oct 26 Matrix	Flat ck u/s S.McQ / KV-9 (bottle B) / Samples Oct 25-Oct 26 Water		
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Total							
Calcium	Total	mg/L	97.1	94.2		0.2	
Iron	Total	mg/L	<0.1	0.2		0.1	
Magnesium	Total	mg/L	23.9	23.3		0.1	
Manganese	Total	mg/L	0.076	0.10		0.005	
Potassium	Total	mg/L	0.6	0.6		0.4	
Silicon	Total	mg/L	2.96	2.92		0.05	
Sodium	Total	mg/L	2.5	2.3		0.4	
Sulfur	Total	mg/L	49.3	48.6		0.3	
Aluminum	Total	mg/L	<0.005	0.018		0.005	
Antimony	Total	mg/L	0.0006	0.0008		0.0002	
Arsenic	Total	mg/L	0.0016	0.0028		0.0002	
Barium	Total	mg/L	0.050	0.051		0.001	
Beryllium	Total	mg/L	<0.0001	<0.0001		0.0001	
Bismuth	Total	mg/L	<0.0005	<0.0005		0.0005	
Boron	Total	mg/L	0.004	0.003		0.002	
Cadmium	Total	mg/L	0.00036	0.00048		0.00001	
Chromium	Total	mg/L	<0.0005	<0.0005		0.0005	
Cobalt	Total	mg/L	0.0001	0.0001		0.0001	
Copper	Total	mg/L	0.001	0.002		0.001	
Lead	Total	mg/L	0.0033	0.0125		0.0001	
Lithium	Total	mg/L	0.006	0.006		0.001	
Molybdenum	Total	mg/L	<0.001	<0.001		0.001	
Nickel	Total	mg/L	0.001	0.0009		0.0005	
Selenium	Total	mg/L	0.0002	<0.0002		0.0002	
Silver	Total	mg/L	<0.0001	0.0001		0.0001	
Strontium	Total	mg/L	0.214	0.212		0.001	
Thallium	Total	mg/L	<0.00005	<0.00005		0.00005	
Tin	Total	mg/L	<0.001	<0.001		0.001	
Titanium	Total	mg/L	0.0032	0.0035		0.0005	
Uranium	Total	mg/L	0.0011	0.0011		0.0005	
Vanadium	Total	mg/L	<0.0001	0.0002		0.0001	
Zinc	Total	mg/L	0.048	0.053		0.001	
Zirconium	Total	mg/L	<0.001	<0.001		0.001	



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Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
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		NWL Number		420065-18	420065-19		
		Sample Description		Flat ck u/s S.McQ / KV-9 (bottle A) / Samples Oct 25-Oct 26	Flat ck u/s S.McQ / KV-9 (bottle B) / Samples Oct 25-Oct 26		
		Matrix		Water	Water		
Analyte		Units	Results	Results	Results	Detection Limit	
Routine Water							
Calcium	Dissolved	mg/L	94.5	94.9		0.2	
Magnesium	Dissolved	mg/L	25.5	25.6		0.1	
Sodium	Dissolved	mg/L	2.1	2.1		0.4	
Potassium	Dissolved	mg/L	<0.4	0.5		0.4	
Iron	Dissolved	mg/L	0.05	0.22		0.01	
Manganese	Dissolved	mg/L	0.080	0.117		0.005	



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Name: G300 Receiving H2O
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NWL Number 420065-19
Sample Description Flat ck u/s S.McQ /
KV-9 (bottle B) /
Samples Oct 25-Oct
26
Matrix Water

Analyte		Units	Results	Results	Results	Detection Limit
Metals Dissolved						
Silicon	Dissolved	mg/L	3.30			0.05
Sulfur	Dissolved	mg/L	48.0			0.3
Aluminum	Dissolved	mg/L	<0.005			0.005
Antimony	Dissolved	mg/L	0.0008			0.0002
Arsenic	Dissolved	mg/L	0.0032			0.0002
Barium	Dissolved	mg/L	0.056			0.001
Beryllium	Dissolved	mg/L	<0.0001			0.0001
Bismuth	Dissolved	mg/L	<0.0005			0.0005
Boron	Dissolved	mg/L	<0.002			0.002
Cadmium	Dissolved	mg/L	0.00056			0.00001
Chromium	Dissolved	mg/L	<0.0005			0.0005
Cobalt	Dissolved	mg/L	<0.0001			0.0001
Copper	Dissolved	mg/L	0.002			0.001
Lead	Dissolved	mg/L	0.0126			0.0001
Lithium	Dissolved	mg/L	0.005			0.001
Molybdenum	Dissolved	mg/L	<0.001			0.001
Nickel	Dissolved	mg/L	<0.0005			0.0005
Selenium	Dissolved	mg/L	<0.0002			0.0002
Silver	Dissolved	mg/L	<0.0001			0.0001
Strontium	Dissolved	mg/L	0.199			0.001
Thallium	Dissolved	mg/L	<0.00005			0.00005
Tin	Dissolved	mg/L	<0.001			0.001
Titanium	Dissolved	mg/L	0.0037			0.0005
Uranium	Dissolved	mg/L	0.0011			0.0005
Vanadium	Dissolved	mg/L	0.0002			0.0001
Zinc	Dissolved	mg/L	0.055			0.001

Approved by:

Marie England
Consulting Scientist



Methodology and Notes

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Method of Analysis:

MethodName	Reference	Method	Date Analysis Started	Location
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	2-Nov-05	Norwest Labs Surrey
Ammonium-N in Water (color Surrey)	APHA	* Automated Phenate Method, 4500-NH3 G	31-Oct-05	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	2-Nov-05	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	* Single-Column Ion Chromatography with Electronic Suppression, 4110 C	2-Nov-05	Norwest Labs Surrey
Conductivity (Surrey)	APHA	* Conductivity - Laboratory Method, 2510 B	2-Nov-05	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	2-Nov-05	Norwest Labs Edmonton
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	7-Nov-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	2-Nov-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	3-Nov-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	7-Nov-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	2-Nov-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	3-Nov-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	7-Nov-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	2-Nov-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	3-Nov-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	2-Nov-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	3-Nov-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	7-Nov-05	Norwest Labs Edmonton
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	1-Nov-05	Norwest Labs Surrey

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



Methodology and Notes

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Les
Company:

Project
ID: G300 RW
Name: G300 Receiving H2O
Location: Keno Valley
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 420065
Control Number: E 191020
Date Received: Oct 31, 2005
Date Reported: Nov 09, 2005
Report Number: 772855

Page: 22 of 22

Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	2-Nov-05	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	2-Nov-05	Norwest Labs Surrey

* Norwest method(s) is based on reference method

References:

APHA Standard Methods for the Examination of Water and Wastewater
US EPA US Environmental Protection Agency Test Methods

Comments:

2 bottles were sent to EDM for metals on sample #16 but it is not indicated which is for dissolved and which is for total. The 2 bottles are reassigned as extra samples (bottle A and B, Samples 18 and 19, respectively). The bottles as received, were analyzed for both dissolved and total metals.

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

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NORWEST LABS

Control Number **E 229570**

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of Invoice:	
Company: Laberge Environmental Services		Company: ACG		Mail Invoice to this address for approval ☐	
Address: P.O. 21872		Address:			
1-405 Ogilvie Street					
Whitehorse, Yukon, Y1A 6P7					
Attention:		Attention: SCOTT KEESEY		Report Result:	
Phone: (867) 668-1043		Phone:		Fax ☐	
Fax: (867) 667-6956		Fax:		Mail ☒	
Cell:		Cell:		Courier ☐	
e-mail: laberge@internorth.com		e-mail: LOT# 439337		e-mail ☒	
QA/QC Report ☐		Report Result:		e-service ☐	
Report Result:		Fax ☐			
Mail ☒					
Courier ☐					
e-mail ☒					
e-Service ☐					

Information to be included on Report and Invoice		RUSH Please contact the laboratory to confirm rush dates and times before submitting samples.		Sample Custody (Please Print)	
Project ID: KEND VALLEY		Upon filling out this section, client accepts that surcharges will be attached to this analysis		Relinquished by: KEN NORDIN	
Project Name: KEND VALLEY		Required on: all analyses or as indicated ☐ or ☐		Company: LES Signature: <i>[Signature]</i>	
Project Location: RECEIVING WATER		Date Required:		I authorize Norwest Labs to proceed with the work indicated on this form.	
Legal Location: (KVRW)		Signature:		Date: January 24, 2006	
PO#:		Norwest Authorization:		Initial: (10)	
Proj. Acct. Code:				Received by:	
Agreement ID:				Waybill #	
				Coolers ☐	
				Boxes ☐	
				Samples ☐	
				Date: JAN 27 2006	
				Time:	

Special Instructions / Comments ☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

Received By: **(ACG)**

Company: **ACG**

Time: **10:30**

Number of Containers: **3**

Enter tests above (✓ relevant samples below)

TOTAL	DISSOLVED	ALK	SDA	CL	BR	FI	PH	COND	TSS	HARD

JANUARY 2006

	Sample Identification	Location	Depth			Date / Time Sampled	Matrix	Sampling Method	Number of Containers	Enter tests above (✓ relevant samples below)									
			IN	CM	M														
1	Flatck u/s S McQ	KV-9	-	-	-		H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	S. McQuesten u/s Flat	KV-3	-	-	-		H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	S. McQuesten d/s Flat	KV-4	-	-	-		H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	Lightning ck @ Keno	KV-41	-	-	-		H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	Lightning ck u/s Thunder	KV-38	-	-	-		H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	Lightning ck u/s Hope	KV-37	-	-	-		H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.
Accredited by the Standards Council of Canada for specific tests

Page **1** of **1**
##

NWLD 06/01/03



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Ken Nordin
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley
Name: Keno Valley
Location: Receiving Water
LSD: (KVRW)
P.O.:
Acct. Code:

NWL Lot ID: 439337
Control Number: E 229570
Date Received: Jan 27, 2006
Date Reported: Feb 03, 2006
Report Number: 810439

Contact	Company	Address
Ken Nordin	Laberge Environmental Services	Box 21072, 1-405 Ogilvie Street Whitehorse, YT Y1A 6P7 Phone: (867) 668-6838 Email: laberge@internorth.com
Web x		
Email Notification x		Fax: (867) 667-6956
Copies Delivery Strategy Format		
	1 Post	
A	1 Email - Single Report	PDF
A	1 Email - Single Report	Standard List

NOTE: **P** indicates a preliminary report is required

NOTE: **A** indicates report is delivered using automated delivery

_____ # OF PAGES IN THIS TRANSMISSION

Report Transmission Notes

Agreement Notes

Lot Notes

Sample Notes:

Notes to Clients

Lot Notes:

Sample Notes:

Batch Notes:

Method Notes:

Method Result Notes:

Reports associated with this Lot

Id/Format/Reported Date

810439 Env2 3 Smp & DL

Id/Format/Reported Date

Id/Format/Reported Date

Comment:

See Methodology and Notes page of Analytical Report for all comments pertaining to this report.

If this report transmission is not satisfactory, please send report requirements to the address at the top of this page.

2/2/06

810439 02-Feb-2006

2/3/2006 11:52:05AM



Sample Custody

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Ken Nordin
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley
Name: Keno Valley
Location: Receiving Water
LSD: (KVRW)
P.O.:
Acct. Code:

NWL Lot ID: 439337
Control Number: E 229570
Date Received: Jan 27, 2006
Date Reported: Feb 03, 2006
Report Number: 810439

Sample Disposal Date: Mar 05, 2006

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the upper right of this page.

_____ **Extend Sample Storage Until** _____ (MM/DD/YY)

The following charges apply to extended sample storage:

Storage for 1 to 5 samples per month	\$ 10.00
Storage for 6 to 20 samples per month	\$ 15.00
Storage for 21 to 50 samples per month	\$ 30.00
Storage for 51 to 200 samples per month	\$ 60.00
Storage for more than 200 samples per month	\$ 110.00

_____ **Return Sample, collect, to the address below via:**

_____ Greyhound
_____ Loomis
_____ Purolator
_____ Other (Specify) _____

Name: _____
Company: _____
Address: _____

Phone: _____
Fax: _____
Signature: _____

If no other arrangements have been made, samples will be disposed of on Mar 05, 2006.



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Ken Nordin
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley
Name: Keno Valley
Location: Receiving Water
LSD: (KVRW)
P.O.:
Acct. Code:

NWL Lot ID: 439337
Control Number: E 229570
Date Received: Jan 27, 2006
Date Reported: Feb 03, 2006
Report Number: 810439

Page: 1 of 7

		NWL Number	439337-1	439337-2	439337-3	
		Sample Location	KV-9	KV-3	KV-4	
		Sample Description	KV-9 / Flat Ck U/S S.McQ	KV-3 / S.McQuesten U/S Flat	KV-4 / S.McQuesten D/S Flat	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Bromide		mg/L	<0.1	<0.1	<0.1	0.1
Metals Dissolved						
Silicon	Dissolved	mg/L	2.31	3.09	3.08	0.05
Sulfur	Dissolved	mg/L	41.7	29.6	30.1	0.3
Aluminum	Dissolved	mg/L	<0.005	0.007	0.006	0.005
Antimony	Dissolved	mg/L	0.0004	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0003	0.0011	0.0011	0.0002
Barium	Dissolved	mg/L	0.083	0.080	0.079	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	0.002	0.002	0.002
Cadmium	Dissolved	mg/L	0.00016	0.00015	0.00012	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	<0.0001	0.0001	0.0001	0.0001
Copper	Dissolved	mg/L	0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	0.0004	0.0004	0.0004	0.0001
Lithium	Dissolved	mg/L	0.002	0.005	0.005	0.001
Molybdenum	Dissolved	mg/L	<0.001	0.001	<0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	0.0041	0.0042	0.0005
Selenium	Dissolved	mg/L	0.0002	0.0005	0.0004	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.178	0.235	0.230	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0024	0.0019	0.0018	0.0005
Uranium	Dissolved	mg/L	0.0011	0.0009	0.0009	0.0005
Vanadium	Dissolved	mg/L	0.0001	0.0001	<0.0001	0.0001
Zinc	Dissolved	mg/L	0.020	0.037	0.036	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	95.8	63.5	66.7	0.2
Iron	Total	mg/L	<0.1	0.2	0.2	0.1
Magnesium	Total	mg/L	24.6	18.2	18.9	0.1
Manganese	Total	mg/L	0.036	0.075	0.076	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Ken Nordin
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley
Name: Keno Valley
Location: Receiving Water
LSD: (KVRW)
P.O.:
Acct. Code:

NWL Lot ID: 439337
Control Number: E 229570
Date Received: Jan 27, 2006
Date Reported: Feb 03, 2006
Report Number: 810439

Page: 2 of 7

		NWL Number	439337-1	439337-2	439337-3	
		Sample Location	KV-9	KV-3	KV-4	
		Sample Description	KV-9 / Flat Ck U/S S.McQ	KV-3 / S.McQuesten U/S Flat	KV-4 / S.McQuesten D/S Flat	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	0.6	0.7	0.7	0.4
Silicon	Total	mg/L	2.44	2.89	2.97	0.05
Sodium	Total	mg/L	2.2	2.6	2.7	0.4
Sulfur	Total	mg/L	47.0	29.2	30.4	0.3
Aluminum	Total	mg/L	<0.005	0.020	0.019	0.005
Antimony	Total	mg/L	0.0005	0.0003	<0.0002	0.0002
Arsenic	Total	mg/L	0.0006	0.0017	0.0017	0.0002
Barium	Total	mg/L	0.105	0.088	0.092	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.003	0.004	0.003	0.002
Cadmium	Total	mg/L	0.00020	0.00013	0.00015	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	<0.0001	0.0001	0.0001	0.0001
Copper	Total	mg/L	0.001	<0.001	0.001	0.001
Lead	Total	mg/L	0.0013	0.0012	0.0010	0.0001
Lithium	Total	mg/L	0.003	0.005	0.005	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	<0.0005	0.0049	0.0050	0.0005
Selenium	Total	mg/L	0.0004	0.0005	0.0005	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.216	0.243	0.244	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0031	0.0021	0.0020	0.0005
Uranium	Total	mg/L	0.0014	0.0011	0.0011	0.0005
Vanadium	Total	mg/L	<0.0001	0.0001	0.0001	0.0001
Zinc	Total	mg/L	0.022	0.040	0.038	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	<2	1
Routine Water						
pH	@ 25 °C	pH	8.13	7.89	7.71	
Electrical Conductivity	Water	uS/cm	682	494	503	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Ken Nordin
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley
Name: Keno Valley
Location: Receiving Water
LSD: (KVRW)
P.O.:
Acct. Code:

NWL Lot ID: 439337
Control Number: E 229570
Date Received: Jan 27, 2006
Date Reported: Feb 03, 2006
Report Number: 810439

Page: 3 of 7

		NWL Number	439337-1	439337-2	439337-3	
		Sample Location	KV-9	KV-3	KV-4	
		Sample Description	KV-9 / Flat Ck U/S S.McQ	KV-3 / S.McQuesten U/S Flat	KV-4 / S.McQuesten D/S Flat	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	82.7	62.9	65.0	0.2
Magnesium	Dissolved	mg/L	22.6	19.4	19.8	0.1
Sodium	Dissolved	mg/L	1.7	2.4	2.5	0.4
Potassium	Dissolved	mg/L	0.4	0.6	0.7	0.4
Iron	Dissolved	mg/L	<0.01	0.02	0.04	0.01
Manganese	Dissolved	mg/L	0.036	0.071	0.075	0.005
Chloride	Dissolved	mg/L	1.32	1.31	1.35	0.07
Fluoride	Dissolved	mg/L	0.06	0.11	0.08	0.04
Sulfate (SO4)	Dissolved	mg/L	151	93	94	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	249	186	179	5
P-Alkalinity	as CaCO3	mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	204	153	147	5
Hardness	Dissolved as CaCO3	mg/L	300	237	244	



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Ken Nordin
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley
Name: Keno Valley
Location: Receiving Water
LSD: (KVRW)
P.O.:
Acct. Code:

NWL Lot ID: 439337
Control Number: E 229570
Date Received: Jan 27, 2006
Date Reported: Feb 03, 2006
Report Number: 810439

Page: 4 of 7

		NWL Number	439337-4	439337-5	439337-6	
		Sample Location	KV-41	KV-38	KV-37	
		Sample Description	KV-41 / Lightning Ck @ Keno	KV-38 / Lightning Ck U/S Thunder	KV-37 / Lightning Ck U/S Hope	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Bromide		mg/L	<0.1	<0.1	<0.1	0.1
Metals Dissolved						
Silicon	Dissolved	mg/L	2.91	3.16	3.58	0.05
Sulfur	Dissolved	mg/L	15.6	12.0	6.9	0.3
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	0.0002	0.0003	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0021	0.0028	0.0027	0.0002
Barium	Dissolved	mg/L	0.062	0.069	0.062	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00011	0.00013	<0.00001	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	0.0004	0.0004	0.0004	0.0001
Lithium	Dissolved	mg/L	0.002	0.002	0.001	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium	Dissolved	mg/L	0.0011	0.0007	0.0005	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.109	0.103	0.070	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0012	0.0011	<0.0005	0.0005
Uranium	Dissolved	mg/L	0.0006	<0.0005	<0.0005	0.0005
Vanadium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Zinc	Dissolved	mg/L	0.020	0.020	0.004	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	31.8	23.4	16.6	0.2
Iron	Total	mg/L	<0.1	<0.1	<0.1	0.1
Magnesium	Total	mg/L	5.1	4.0	2.9	0.1
Manganese	Total	mg/L	0.005	<0.005	<0.005	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Ken Nordin
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley
Name: Keno Valley
Location: Receiving Water
LSD: (KVRW)
P.O.:
Acct. Code:

NWL Lot ID: 439337
Control Number: E 229570
Date Received: Jan 27, 2006
Date Reported: Feb 03, 2006
Report Number: 810439

Page: 5 of 7

		NWL Number	439337-4	439337-5	439337-6	
		Sample Location	KV-41	KV-38	KV-37	
		Sample Description	KV-41 / Lightning Ck @ Keno	KV-38 / Lightning Ck U/S Thunder	KV-37 / Lightning Ck U/S Hope	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	<0.4	<0.4	<0.4	0.4
Silicon	Total	mg/L	3.01	3.17	3.48	0.05
Sodium	Total	mg/L	1.0	1.1	1.0	0.4
Sulfur	Total	mg/L	15.7	11.6	6.7	0.3
Aluminum	Total	mg/L	0.028	<0.005	0.012	0.005
Antimony	Total	mg/L	0.0002	0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0022	0.0024	0.0030	0.0002
Barium	Total	mg/L	0.059	0.060	0.067	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00010	0.00010	<0.00001	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Copper	Total	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Total	mg/L	0.0009	0.0005	0.0004	0.0001
Lithium	Total	mg/L	0.002	0.001	<0.001	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium	Total	mg/L	0.0007	0.0005	0.0004	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.094	0.085	0.069	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0018	0.0008	0.0007	0.0005
Uranium	Total	mg/L	0.0006	<0.0005	<0.0005	0.0005
Vanadium	Total	mg/L	0.0001	<0.0001	<0.0001	0.0001
Zinc	Total	mg/L	0.016	0.014	0.004	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	2	<2	<2	1
Routine Water						
pH	@ 25 °C	pH	7.73	7.50	7.50	
Electrical Conductivity	Water	uS/cm	243	200	156	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Ken Nordin
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley
Name: Keno Valley
Location: Receiving Water
LSD: (KVRW)
P.O.:
Acct. Code:

NWL Lot ID: 439337
Control Number: E 229570
Date Received: Jan 27, 2006
Date Reported: Feb 03, 2006
Report Number: 810439

Page: 6 of 7

		NWL Number	439337-4	439337-5	439337-6
		Sample Location	KV-41	KV-38	KV-37
		Sample Description	KV-41 / Lightning Ck @ Keno	KV-38 / Lightning Ck U/S Thunder	KV-37 / Lightning Ck U/S Hope
		Matrix	Water	Water	Water
Analyte		Units	Results	Results	Detection Limit
Routine Water - Continued					
Calcium	Dissolved	mg/L	31.6	24.2	18.0
Magnesium	Dissolved	mg/L	5.0	4.2	2.9
Sodium	Dissolved	mg/L	1.1	1.7	1.1
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4
Iron	Dissolved	mg/L	<0.01	<0.01	0.03
Manganese	Dissolved	mg/L	<0.005	<0.005	0.006
Chloride	Dissolved	mg/L	<0.07	<0.07	1.87
Fluoride	Dissolved	mg/L	0.09	0.08	0.14
Sulfate (SO ₄)	Dissolved	mg/L	54	43	23.3
Hydroxide	Water	mg/L	<5	<5	<5
Carbonate	Water	mg/L	<6	<6	<6
Bicarbonate	Water	mg/L	66	54	21
P-Alkalinity	as CaCO ₃	mg/L	<5	<5	<5
T-Alkalinity	as CaCO ₃	mg/L	54	44	17
Hardness	Dissolved as CaCO ₃	mg/L	100	78	57

Approved by:

Bill Warning, B.Sc.
Lab Operations Manager



Methodology and Notes

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Ken Nordin
Sampled By: Ken Nordin
Company: LES

Project
ID: Keno Valley
Name: Keno Valley
Location: Receiving Water
LSD: (KVRW)
P.O.:
Acct. Code:

NWL Lot ID: 439337
Control Number: E 229570
Date Received: Jan 27, 2006
Date Reported: Feb 03, 2006
Report Number: 810439

Page: 7 of 7

Method of Analysis:

MethodName	Reference	Method	Date Analysis Started	Location
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	31-Jan-06	Norwest Labs Surrey
Anions (Routine) by Ion Chromatography	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	2-Feb-06	Norwest Labs Edmonton
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	2-Feb-06	Norwest Labs Surrey
Conductivity (Surrey)	APHA	* Conductivity - Laboratory Method, 2510 B	30-Jan-06	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	1-Feb-06	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	31-Jan-06	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	31-Jan-06	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	31-Jan-06	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	31-Jan-06	Norwest Labs Edmonton
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	30-Jan-06	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	31-Jan-06	Norwest Labs Surrey

* Norwest method(s) is based on reference method

References:

APHA Standard Methods for the Examination of Water and Wastewater
US EPA US Environmental Protection Agency Test Methods

Comments:

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



NORWEST LABS

LOT# 439146

Control Number E 191032

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice:	
Company: <u>ACG</u>		Company: <u>LES</u>		Mail invoice to this	
Address: <u>#8 Caliente Centre</u>		Address:		address for approval	
151 Industrial Rd					
Whitehorse YIA 2V3					
Attention: <u>Scott Kelsey</u>		Attention: <u>BONNIE BURNS</u>		Report Result:	
Phone:		Phone:		Fax:	
Fax:		Fax:		Mail:	
Cell:		Cell:		Courier:	
e-mail: <u>Scott@accessconsulting.ca</u>		e-mail: <u>Labnrg@internorth.com</u>		e-mail:	

Information to be included on Report and Invoice	RUSH	Sample Custody (Please Print)
	Please contact the laboratory to confirm rush dates and times before submitting samples.	Relinquished by: <u>KEN NORDIN</u>
Project ID: <u>KEND VALLEY</u>	Upon filling out this section, client accepts that	Company: <u>LES</u> Signature: <u>KEN</u>
Project Name: <u>Q300 RW</u>	surcharges will be attached to this analysis	I authorize Norwest Labs to proceed with the work indicated on this form.
Project Location:	Required on: all analyses or as indicated	Date:
Legal Location:	☐ or ☐	Initial:
PO#:	Date Required:	Received by: ☐ Coolers
Proj. Acct. Code:	Signature:	Waybill # Date ☐ Boxes
Agreement ID:	Norwest Authorization:	Company Time ☐ Samples

Special Instructions / Comments ☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

1. please filter for dissolved metals - blank up

2. no sample for dissolved metals

JANUARY
2006

Sample Identification	Location	Depth IN CM M	Date / Time Sampled	Matrix	Sampling Method	Enter tests above (✓ relevant samples below)									
						TOTAL	DISSOLVED	ALK	SDA	PHT	COND.	FTSS	HARD		
1 KV-1 South McQ v/s	KV-1	-	25	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
2 S. McQuesten @ P.H.P.	KV-2	-	24	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
3 S. McQuesten @ K.D.S.F.L.	KV-5	-	24	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
4 Christal @ v/s Hwy	KV-6	-	25	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
5 Christal @ H.R.D.	KV-7	-	25	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
6 Christal @ mouth	KV-8	-	25	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
7 Christal @ SITE (A)		-	25	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
8 Christal @ SITE (D)		-	25	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
9 CULVERT #4		-	26	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
10 BLIND DUPLICATE		-	26	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
11 FIELD BLANK		-	26	D.I.		2	✓	✓	✓	✓	✓	✓	✓		
12 Q300 ADIT		-	25	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
13 Q300 POND DECANT		-	25	H ₂ O	GRAB	3	✓	✓	✓	✓	✓	✓	✓		
14		-													
15		-													

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.
Accredited by the Standards Council of Canada for specific tests.

Page 1 of 1

NWLABS 800/361-1111



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

Contact	Company	Address												
Scott Keeseey Web x Email Notification	Access Mining Consultants Ltd.	# 3 Calcite Business Centre, 151 Industrial Road Whitehorse, YT Y1A 2V3 Phone: (867) 668-6463 Fax: (867) 667-6680 Email: scott@accessconsulting.ca												
<table><tr><th>Copies</th><th>Delivery Strategy</th><th>Format</th></tr><tr><td>1</td><td>Post</td><td></td></tr><tr><td>A 1</td><td>Email - Single Report</td><td>PDF</td></tr><tr><td>A 1</td><td>Email - Single Report</td><td>Standard List</td></tr></table>		Copies	Delivery Strategy	Format	1	Post		A 1	Email - Single Report	PDF	A 1	Email - Single Report	Standard List	
Copies	Delivery Strategy	Format												
1	Post													
A 1	Email - Single Report	PDF												
A 1	Email - Single Report	Standard List												
xxxTravis xxxRitchie Web x Email Notification	Access Mining Consultants Ltd.	# 3 Calcite Business Centre, 151 Industrial Road Whitehorse, YT Y1A 2V3 Phone: (867) 668-6463 Fax: (867) 667-6680 Email: travis@accessconsulting.ca												
<table><tr><th>Copies</th><th>Delivery Strategy</th><th>Format</th></tr></table>		Copies	Delivery Strategy	Format										
Copies	Delivery Strategy	Format												

NOTE: **P** indicates a preliminary report is required

NOTE: **A** indicates report is delivered using automated delivery

_____ # OF PAGES IN THIS TRANSMISSION

Report Transmission Notes

Agreement Notes

Lot Notes

Sample Notes:

Notes to Clients

Lot Notes:

Sample Notes:

1718146 Sample received unpreserved for total metals analysis. - BH

Batch Notes:

Method Notes:

Method Result Notes:

Reports associated with this Lot

Id/Format/Reported Date

810154 Env2QC 3 Smp & DL

Id/Format/Reported Date

Id/Format/Reported Date

Comment:

See Methodology and Notes page of Analytical Report for all comments pertaining to this report.

If this report transmission is not satisfactory, please send report requirements to the address at the top of this page.



Sample Custody

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

Sample Disposal Date: Mar 04, 2006

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the upper right of this page.

_____ **Extend Sample Storage Until** _____ **(MM/DD/YY)**

The following charges apply to extended sample storage:

Storage for 1 to 5 samples per month	\$ 10.00
Storage for 6 to 20 samples per month	\$ 15.00
Storage for 21 to 50 samples per month	\$ 30.00
Storage for 51 to 200 samples per month	\$ 60.00
Storage for more than 200 samples per month	\$ 110.00

_____ **Return Sample, collect, to the address below via:**

_____ Greyhound
_____ Loomis
_____ Purolator
_____ Other (Specify) _____

Name: _____
Company: _____
Address: _____

Phone: _____
Fax: _____
Signature: _____

If no other arrangements have been made, samples will be disposed of on Mar 04, 2006.



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

Page: 1 of 29

		NWL Number		439146-1	439146-2	439146-3
		Sample Date		Jan 25, 2006	Jan 24, 2006	Jan 24, 2006
		Sample Location		KV-1	KV-2	KV-5
		Sample Description		KV-1 South McQ - U/S	S.McQuesten @ PHP	S.McQuesten 9K D/S
						FI
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Dissolved						
Silicon	Dissolved	mg/L	3.03	2.86	3.22	0.05
Sulfur	Dissolved	mg/L	27.8	31.5	28.4	0.3
Aluminum	Dissolved	mg/L	0.008	0.008	0.005	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0012	0.0012	0.0018	0.0002
Barium	Dissolved	mg/L	0.083	0.079	0.089	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.003	0.003	0.002	0.002
Cadmium	Dissolved	mg/L	0.00012	0.00015	0.00012	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0002	0.0001	0.0001	0.0001
Copper	Dissolved	mg/L	0.001	<0.001	0.001	0.001
Lead	Dissolved	mg/L	0.0004	0.0004	0.0005	0.0001
Lithium	Dissolved	mg/L	0.006	0.005	0.004	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0079	0.0047	0.0031	0.0005
Selenium	Dissolved	mg/L	0.0004	0.0004	0.0004	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.292	0.236	0.240	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0018	0.0020	0.0018	0.0005
Uranium	Dissolved	mg/L	0.001	0.0009	0.001	0.0005
Vanadium	Dissolved	mg/L	<0.0001	0.0001	<0.0001	0.0001
Zinc	Dissolved	mg/L	0.040	0.038	0.030	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	60.6	60.7	60.8	0.2
Iron	Total	mg/L	0.4	0.1	0.2	0.1
Magnesium	Total	mg/L	18.6	17.5	17.3	0.1
Manganese	Total	mg/L	0.104	0.068	0.069	0.005
Potassium	Total	mg/L	0.8	0.7	0.7	0.4



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

Page: 2 of 29

		NWL Number		439146-1	439146-2	439146-3
		Sample Date		Jan 25, 2006	Jan 24, 2006	Jan 24, 2006
		Sample Location		KV-1	KV-2	KV-5
		Sample Description		KV-1 South McQ - U/S	S.McQuesten @ PHP	S.McQuesten 9K D/S
						FI
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Silicon	Total	mg/L	2.94	2.81	3.01	0.05
Sodium	Total	mg/L	3.1	2.5	2.7	0.4
Sulfur	Total	mg/L	27.0	28.5	25.7	0.3
Aluminum	Total	mg/L	0.090	0.022	0.018	0.005
Antimony	Total	mg/L	0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0019	0.0015	0.0040	0.0002
Barium	Total	mg/L	0.083	0.083	0.098	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.004	0.004	0.004	0.002
Cadmium	Total	mg/L	0.00019	0.00013	0.00012	0.00001
Chromium	Total	mg/L	0.0006	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0006	0.0001	0.0001	0.0001
Copper	Total	mg/L	0.002	<0.001	<0.001	0.001
Lead	Total	mg/L	0.0009	0.0007	0.001	0.0001
Lithium	Total	mg/L	0.005	0.005	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	0.001	0.001
Nickel	Total	mg/L	0.0085	0.0050	0.0037	0.0005
Selenium	Total	mg/L	0.0004	0.0006	0.0006	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.266	0.235	0.253	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0036	0.0019	0.0019	0.0005
Uranium	Total	mg/L	0.0010	0.0010	0.0011	0.0005
Vanadium	Total	mg/L	0.0002	<0.0001	0.0001	0.0001
Zinc	Total	mg/L	0.047	0.038	0.032	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	14	<2	<2	1
Routine Water						
pH	@ 25 °C	pH	7.68	7.78	7.91	
Electrical Conductivity	Water	uS/cm	465	485	486	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

Page: 3 of 29

		NWL Number	439146-1	439146-2	439146-3	
		Sample Date	Jan 25, 2006	Jan 24, 2006	Jan 24, 2006	
		Sample Location	KV-1	KV-2	KV-5	
		Sample Description	KV-1 South McQ - U/S	S.McQuesten @ PHP	S.McQuesten 9K D/S	
			FI			
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	62.2	64.4	63.4	0.2
Magnesium	Dissolved	mg/L	18.9	17.9	18.7	0.1
Sodium	Dissolved	mg/L	3.1	2.4	2.5	0.4
Potassium	Dissolved	mg/L	1	0.7	0.6	0.4
Iron	Dissolved	mg/L	0.05	0.03	0.04	0.01
Manganese	Dissolved	mg/L	0.067	0.074	0.076	0.005
Sulfate (SO4)	Dissolved	mg/L	92	103	110	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	180	185	195	5
P-Alkalinity	as CaCO3	mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	148	152	160	5
Hardness	Dissolved as CaCO3	mg/L	233	235	235	



Analytical Report

Norwest Labs
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Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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		NWL Number	439146-4	439146-5	439146-6		
		Sample Date	Jan 25, 2006	Jan 25, 2006	Jan 25, 2006		
		Sample Location	KV-6	KV-7	KV-8		
		Sample Description	Christal Ck U/S Hwy	Christal Ck @ HL Rd	Christal Ck @ Mouth		
		Matrix	Water	Water	Water		
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Dissolved							
Silicon	Dissolved	mg/L	3.90	3.52	1.37	0.05	
Sulfur	Dissolved	mg/L	89.1	84.3	67.1	0.3	
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005	
Antimony	Dissolved	mg/L	<0.0002	<0.0002	0.0004	0.0002	
Arsenic	Dissolved	mg/L	0.0016	0.0015	0.0022	0.0002	
Barium	Dissolved	mg/L	0.069	0.060	0.088	0.001	
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005	
Boron	Dissolved	mg/L	<0.002	<0.002	0.002	0.002	
Cadmium	Dissolved	mg/L	0.00053	0.00043	0.00087	0.00001	
Chromium	Dissolved	mg/L	<0.0005	<0.0005	0.0006	0.0005	
Cobalt	Dissolved	mg/L	0.0004	0.0002	0.0002	0.0001	
Copper	Dissolved	mg/L	<0.001	<0.001	0.001	0.001	
Lead	Dissolved	mg/L	0.0005	0.0005	0.0005	0.0001	
Lithium	Dissolved	mg/L	0.010	0.008	0.011	0.001	
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Nickel	Dissolved	mg/L	0.0014	0.0006	0.0010	0.0005	
Selenium	Dissolved	mg/L	0.001	0.001	0.0013	0.0002	
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	
Strontium	Dissolved	mg/L	0.214	0.283	0.423	0.001	
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005	
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001	
Titanium	Dissolved	mg/L	0.0053	0.0055	0.0079	0.0005	
Uranium	Dissolved	mg/L	0.0047	0.0033	0.0050	0.0005	
Vanadium	Dissolved	mg/L	0.0001	<0.0001	<0.0001	0.0001	
Zinc	Dissolved	mg/L	0.119	0.136	0.264	0.001	
Subsample	Field Filtered		Yes	Yes	Yes		
Metals Total							
Calcium	Total	mg/L	118	117	110	0.2	
Iron	Total	mg/L	0.2	0.2	0.1	0.1	
Magnesium	Total	mg/L	19.8	22.2	12.9	0.1	
Manganese	Total	mg/L	1.02	0.324	0.121	0.005	
Potassium	Total	mg/L	0.4	0.5	<0.4	0.4	
Silicon	Total	mg/L	3.71	3.43	1.98	0.05	



Analytical Report

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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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		NWL Number	439146-4	439146-5	439146-6	
		Sample Date	Jan 25, 2006	Jan 25, 2006	Jan 25, 2006	
		Sample Location	KV-6	KV-7	KV-8	
		Sample Description	Christal Ck U/S Hwy	Christal Ck @ HL Rd	Christal Ck @ Mouth	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Sodium	Total	mg/L	1.7	1.7	1.0	0.4
Sulfur	Total	mg/L	82.1	77.6	66.4	0.3
Aluminum	Total	mg/L	0.014	0.014	0.020	0.005
Antimony	Total	mg/L	0.0002	<0.0002	0.0006	0.0002
Arsenic	Total	mg/L	0.0030	0.0023	0.0018	0.0002
Barium	Total	mg/L	0.078	0.066	0.059	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.003	0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00084	0.00065	0.00071	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	0.001	0.0005
Cobalt	Total	mg/L	0.0004	0.0002	0.0001	0.0001
Copper	Total	mg/L	<0.001	<0.001	0.001	0.001
Lead	Total	mg/L	0.0049	0.0017	0.0034	0.0001
Lithium	Total	mg/L	0.010	0.008	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0024	0.0017	0.001	0.0005
Selenium	Total	mg/L	0.0010	0.0009	0.0004	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.228	0.288	0.240	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	0.001	0.001
Titanium	Total	mg/L	0.0060	0.0055	0.0049	0.0005
Uranium	Total	mg/L	0.0054	0.0037	0.0024	0.0005
Vanadium	Total	mg/L	0.0001	0.0001	<0.0001	0.0001
Zinc	Total	mg/L	0.123	0.142	0.165	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	4	1
Routine Water						
pH	@ 25 °C	pH	7.42	8.00	7.92	
Electrical Conductivity	Water	uS/cm	782	763	762	1
Calcium	Dissolved	mg/L	124	126	112	0.2
Magnesium	Dissolved	mg/L	20.5	22.6	12.7	0.1



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3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
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Report Number: 810154

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		NWL Number	439146-4	439146-5	439146-6	
		Sample Date	Jan 25, 2006	Jan 25, 2006	Jan 25, 2006	
		Sample Location	KV-6	KV-7	KV-8	
		Sample Description	Christal Ck U/S Hwy	Christal Ck @ HL Rd	Christal Ck @ Mouth	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Sodium	Dissolved	mg/L	1.6	1.6	1.0	0.4
Potassium	Dissolved	mg/L	0.4	0.5	<0.4	0.4
Iron	Dissolved	mg/L	0.04	<0.01	<0.01	0.01
Manganese	Dissolved	mg/L	1.10	0.348	0.122	0.005
Sulfate (SO4)	Dissolved	mg/L	297	340	340	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	163	187	188	5
P-Alkalinity	as CaCO3	mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	134	153	154	5
Hardness	Dissolved as CaCO3	mg/L	394	408	331	



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3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
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ID: Keno Valley
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NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
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Report Number: 810154

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		NWL Number	439146-7	439146-8	439146-9	
		Sample Date	Jan 25, 2006	Jan 25, 2006	Jan 26, 2006	
		Sample Description	Christal Ck @ Site A	Christal Ck @ Site D	Culvert #4	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Dissolved						
Silicon	Dissolved	mg/L	4.10	3.93	3.38	0.05
Sulfur	Dissolved	mg/L	104	112	358	0.3
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	<0.0002	0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0017	0.0015	0.0003	0.0002
Barium	Dissolved	mg/L	0.065	0.063	0.017	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00050	0.00061	0.00373	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0005	0.0004	<0.0001	0.0001
Copper	Dissolved	mg/L	0.004	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	0.0006	0.0006	0.0002	0.0001
Lithium	Dissolved	mg/L	0.011	0.012	0.016	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0016	0.0017	0.0043	0.0005
Selenium	Dissolved	mg/L	0.0006	0.0009	0.0005	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.288	0.309	0.743	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0066	0.0072	0.0245	0.0005
Uranium	Dissolved	mg/L	0.0048	0.0048	0.0053	0.0005
Vanadium	Dissolved	mg/L	<0.0001	0.0001	0.0001	0.0001
Zinc	Dissolved	mg/L	0.144	0.169	1.14	0.001
Subsample	Field Filtered		Yes	Yes	Yes	
Metals Total						
Calcium	Total	mg/L	127	141	395	0.2
Iron	Total	mg/L	0.5	0.4	<0.1	0.1
Magnesium	Total	mg/L	21.7	24.1	54.9	0.1
Manganese	Total	mg/L	0.902	0.916	<0.005	0.005
Potassium	Total	mg/L	0.5	0.5	0.4	0.4
Silicon	Total	mg/L	3.70	3.68	3.09	0.05
Sodium	Total	mg/L	1.7	2.0	2.1	0.4



Analytical Report

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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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		NWL Number		439146-7	439146-8	439146-9
		Sample Date		Jan 25, 2006	Jan 25, 2006	Jan 26, 2006
		Sample Description		Christal Ck @ Site A	Christal Ck @ Site D	Culvert #4
		Matrix		Water	Water	Water
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Sulfur	Total	mg/L	92.5	104	351	0.3
Aluminum	Total	mg/L	0.120	0.040	0.01	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0034	0.0033	0.0004	0.0002
Barium	Total	mg/L	0.070	0.071	0.019	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.002	0.003	<0.002	0.002
Cadmium	Total	mg/L	0.00086	0.00095	0.00414	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0005	0.0005	0.0002	0.0001
Copper	Total	mg/L	0.004	<0.001	<0.001	0.001
Lead	Total	mg/L	0.0036	0.0036	0.0001	0.0001
Lithium	Total	mg/L	0.010	0.011	0.015	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0024	0.0026	0.0066	0.0005
Selenium	Total	mg/L	0.0006	0.0008	0.0005	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.275	0.311	0.773	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0102	0.0076	0.0222	0.0005
Uranium	Total	mg/L	0.0050	0.0053	0.0057	0.0005
Vanadium	Total	mg/L	0.0004	0.0002	0.0001	0.0001
Zinc	Total	mg/L	0.135	0.164	1.18	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	9	6	<2	1
Routine Water						
pH	@ 25 °C	pH	7.55	7.62	7.44	
Electrical Conductivity	Water	uS/cm	871	895	2010	1
Calcium	Dissolved	mg/L	142	150	400	0.2
Magnesium	Dissolved	mg/L	24.8	25.1	60.4	0.1
Sodium	Dissolved	mg/L	1.7	2.1	2.2	0.4
Potassium	Dissolved	mg/L	0.5	0.5	0.5	0.4



Analytical Report

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3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
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NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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		NWL Number	439146-7	439146-8	439146-9	
		Sample Date	Jan 25, 2006	Jan 25, 2006	Jan 26, 2006	
		Sample Description	Christal Ck @ Site A	Christal Ck @ Site D	Culvert #4	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Iron	Dissolved	mg/L	0.04	0.03	<0.01	0.01
Manganese	Dissolved	mg/L	1.03	0.989	<0.005	0.005
Sulfate (SO4)	Dissolved	mg/L	1200	440	1250	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	173	171	154	5
P-Alkalinity	as CaCO3	mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	142	140	126	5
Hardness	Dissolved as CaCO3	mg/L	457	478	1250	



Analytical Report

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Control Number: E 191032
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		NWL Number	439146-10	439146-11	439146-12		
		Sample Date	Jan 26, 2006	Jan 26, 2006	Jan 25, 2006		
		Sample Description	Blind Duplicate	Field Blank	G300 Adit		
		Matrix	Water	Water	Water		
Analyte		Units	Results	Results	Results	Detection Limit	
Metals Dissolved							
Silicon	Dissolved	mg/L	3.43	<0.05	4.79	0.05	
Sulfur	Dissolved	mg/L	361	0.7	356	0.3	
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.05	0.005	
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.002	0.0002	
Arsenic	Dissolved	mg/L	0.0002	<0.0002	0.108	0.0002	
Barium	Dissolved	mg/L	0.017	<0.001	<0.01	0.001	
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.001	0.0001	
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.005	0.0005	
Boron	Dissolved	mg/L	<0.002	<0.002	<0.02	0.002	
Cadmium	Dissolved	mg/L	0.00376	<0.00001	0.283	0.00001	
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.005	0.0005	
Cobalt	Dissolved	mg/L	<0.0001	<0.0001	0.110	0.0001	
Copper	Dissolved	mg/L	<0.001	0.002	<0.01	0.001	
Lead	Dissolved	mg/L	0.0002	<0.0001	<0.001	0.0001	
Lithium	Dissolved	mg/L	0.016	<0.001	0.03	0.001	
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.01	0.001	
Nickel	Dissolved	mg/L	0.0049	<0.0005	0.442	0.0005	
Selenium	Dissolved	mg/L	0.0004	<0.0002	<0.002	0.0002	
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.001	0.0001	
Strontium	Dissolved	mg/L	0.745	<0.001	0.27	0.001	
Thallium	Dissolved	mg/L	<0.00005	<0.00005	0.0013	0.00005	
Tin	Dissolved	mg/L	<0.001	<0.001	<0.01	0.001	
Titanium	Dissolved	mg/L	0.0244	<0.0005	0.020	0.0005	
Uranium	Dissolved	mg/L	0.0053	<0.0005	<0.005	0.0005	
Vanadium	Dissolved	mg/L	0.0001	<0.0001	<0.001	0.0001	
Zinc	Dissolved	mg/L	1.15	0.002	137	0.001	
Subsample	Field Filtered		Yes	Yes	Yes		
Physical and Aggregate Properties							
Solids	Total Suspended	mg/L	<2	<2	14	1	
Routine Water							
pH	@ 25 °C	pH	7.40	5.78	6.49		
Electrical Conductivity	Water	uS/cm	2020	14	1850	1	
Calcium	Dissolved	mg/L	399	0.6	186	0.2	
Magnesium	Dissolved	mg/L	60.5	<0.1	42.3	0.1	
Sodium	Dissolved	mg/L	2.1	<0.4	1.5	0.4	



Analytical Report

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		NWL Number	439146-10	439146-11	439146-12	
		Sample Date	Jan 26, 2006	Jan 26, 2006	Jan 25, 2006	
		Sample Description	Blind Duplicate	Field Blank	G300 Adit	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Potassium	Dissolved	mg/L	<0.4	<0.4	0.6	0.4
Iron	Dissolved	mg/L	<0.01	<0.01	25.6	0.01
Manganese	Dissolved	mg/L	<0.005	<0.005	186	0.005
Sulfate (SO ₄)	Dissolved	mg/L	1100	<0.1	1140	0.1
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	154	<5	50	5
P-Alkalinity	as CaCO ₃	mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO ₃	mg/L	126	<5	41	5
Hardness	Dissolved as CaCO ₃	mg/L	1240	1	640	



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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		NWL Number		439146-10	439146-12	439146-13
		Sample Date		Jan 26, 2006	Jan 25, 2006	Jan 25, 2006
		Sample Description		Blind Duplicate	G300 Adit	G300 Pond Decant
		Matrix		Water	Water	Water
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total						
Calcium	Total	mg/L	412	177	285	0.2
Iron	Total	mg/L	<0.1	27.2	15.9	0.1
Magnesium	Total	mg/L	57.2	39	36.0	0.1
Manganese	Total	mg/L	<0.005	179	171	0.005
Potassium	Total	mg/L	0.4	0.6	0.6	0.4
Silicon	Total	mg/L	3.22	4.31	3.49	0.05
Sodium	Total	mg/L	2.2	1.5	2.8	0.4
Sulfur	Total	mg/L	367	338	340	0.3
Aluminum	Total	mg/L	0.010	0.12	0.14	0.005
Antimony	Total	mg/L	<0.0002	<0.002	<0.002	0.0002
Arsenic	Total	mg/L	0.0005	0.169	0.111	0.0002
Barium	Total	mg/L	0.020	0.01	<0.01	0.001
Beryllium	Total	mg/L	<0.0001	<0.001	<0.001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.005	<0.005	0.0005
Boron	Total	mg/L	<0.002	0.09	0.03	0.002
Cadmium	Total	mg/L	0.00432	0.270	0.222	0.00001
Chromium	Total	mg/L	<0.0005	<0.005	<0.005	0.0005
Cobalt	Total	mg/L	0.0002	0.115	0.090	0.0001
Copper	Total	mg/L	<0.001	<0.01	<0.01	0.001
Lead	Total	mg/L	<0.0001	0.028	0.017	0.0001
Lithium	Total	mg/L	0.016	0.03	0.03	0.001
Molybdenum	Total	mg/L	<0.001	<0.01	<0.01	0.001
Nickel	Total	mg/L	0.0071	0.419	0.278	0.0005
Selenium	Total	mg/L	0.0003	<0.002	<0.002	0.0002
Silver	Total	mg/L	<0.0001	<0.001	<0.001	0.0001
Strontium	Total	mg/L	0.811	0.26	0.56	0.001
Thallium	Total	mg/L	<0.00005	0.0012	0.0013	0.00005
Tin	Total	mg/L	<0.001	<0.01	<0.01	0.001
Titanium	Total	mg/L	0.0246	0.019	0.021	0.0005
Uranium	Total	mg/L	0.0060	<0.005	<0.005	0.0005
Vanadium	Total	mg/L	0.0002	<0.001	<0.001	0.0001
Zinc	Total	mg/L	1.26	131	86.6	0.001
Zirconium	Total	mg/L	<0.001	<0.01	<0.01	0.001



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Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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NWL Number 439146-13
Sample Date Jan 25, 2006
Sample Description G300 Pond Decant
Matrix Water

Analyte		Units	Results	Results	Detection Limit
Metals Dissolved					
Silicon	Dissolved	mg/L	1.98		0.05
Sulfur	Dissolved	mg/L	338		0.3
Aluminum	Dissolved	mg/L	<0.05		0.005
Antimony	Dissolved	mg/L	<0.002		0.0002
Arsenic	Dissolved	mg/L	0.014		0.0002
Barium	Dissolved	mg/L	<0.01		0.001
Beryllium	Dissolved	mg/L	<0.001		0.0001
Bismuth	Dissolved	mg/L	<0.005		0.0005
Boron	Dissolved	mg/L	<0.02		0.002
Cadmium	Dissolved	mg/L	0.149		0.00001
Chromium	Dissolved	mg/L	<0.005		0.0005
Cobalt	Dissolved	mg/L	0.036		0.0001
Copper	Dissolved	mg/L	<0.01		0.001
Lead	Dissolved	mg/L	<0.001		0.0001
Lithium	Dissolved	mg/L	0.03		0.001
Molybdenum	Dissolved	mg/L	<0.01		0.001
Nickel	Dissolved	mg/L	0.064		0.0005
Selenium	Dissolved	mg/L	<0.002		0.0002
Silver	Dissolved	mg/L	<0.001		0.0001
Strontium	Dissolved	mg/L	0.51		0.001
Thallium	Dissolved	mg/L	0.0012		0.00005
Tin	Dissolved	mg/L	<0.01		0.001
Titanium	Dissolved	mg/L	0.022		0.0005
Uranium	Dissolved	mg/L	<0.005		0.0005
Vanadium	Dissolved	mg/L	<0.001		0.0001
Zinc	Dissolved	mg/L	10.5		0.001
Subsample	Field Filtered		Yes		
Physical and Aggregate Properties					
Solids	Total Suspended	mg/L	187		1
Routine Water					
pH	@ 25 °C	pH	7.79		
Electrical Conductivity	Water	uS/cm	1870		1
Calcium	Dissolved	mg/L	290		0.2
Magnesium	Dissolved	mg/L	37.8		0.1
Sodium	Dissolved	mg/L	1.5		0.4



Analytical Report

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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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NWL Number 439146-13
Sample Date Jan 25, 2006
Sample Description G300 Pond Decant
Matrix Water

Analyte		Units	Results	Results	Detection Limit
Routine Water - Continued					
Potassium	Dissolved	mg/L	0.5		0.4
Iron	Dissolved	mg/L	0.02		0.01
Manganese	Dissolved	mg/L	157		0.005
Sulfate (SO ₄)	Dissolved	mg/L	1100		0.1
Hydroxide	Water	mg/L	<5		5
Carbonate	Water	mg/L	<6		5
Bicarbonate	Water	mg/L	244		5
P-Alkalinity	as CaCO ₃	mg/L	<5		5
T-Alkalinity	as CaCO ₃	mg/L	200		5
Hardness	Dissolved as CaCO ₃	mg/L	881		

Approved by:

Carol Nam, Dipl. T.
Quality Officer



Quality Control

Norwest Labs
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Whitehorse, YT, Canada
Y1A 2V3
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Sampled By: Ken Nordin
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ID: Keno Valley
Name: G300 RW
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Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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Metals Dissolved

Blanks	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Silicon	mq/L	<0.05	0.00	-0.05	0.05	✓
Sulfur	mq/L	<0.3	0.0	-0.3	0.3	✓
Aluminum	uq/L	<5	0	-5	5	✓
Antimony	uq/L	<0.2	0.0	-0.2	0.2	✓
Arsenic	uq/L	<0.2	0.0	-0.2	0.2	✓
Barium	uq/L	<1	0	-1	1	✓
Beryllium	uq/L	<0.1	0.0	-0.1	0.1	✓
Bismuth	uq/L	<0.5	0.0	-0.5	0.5	✓
Boron	uq/L	<2	0	-2	2	✓
Cadmium	uq/L	<0.01	0.00	-0.01	0.01	✓
Chromium	uq/L	<0.5	0.0	-0.5	0.5	✓
Cobalt	uq/L	<0.1	0.0	-0.1	0.1	✓
Copper	uq/L	<1	0	-1	1	✓
Lead	uq/L	<0.1	0.0	-0.1	0.1	✓
Lithium	uq/L	<1	0	-1	1	✓
Molybdenum	uq/L	<1	0	-1	1	✓
Nickel	uq/L	<0.5	0.0	-0.5	0.5	✓
Selenium	uq/L	<0.2	0.0	-0.2	0.2	✓
Silver	uq/L	<0.1	0.0	-0.1	0.1	✓
Strontium	uq/L	<1	0	-1	1	✓
Thallium	uq/L	<0.05	0.00	-0.05	0.05	✓
Tin	uq/L	<1	0	-1	1	✓
Titanium	uq/L	<0.5	0.0	-0.5	0.5	✓
Uranium	uq/L	<0.5	0.0	-0.5	0.5	✓
Vanadium	uq/L	<0.1	0.0	-0.1	0.1	✓
Zinc	uq/L	<1	0	-1	1	✓

Material Used: Edmonton Method Blank
Date Acquired: Jan 31, 2006
Acquired By: Linda Li



Quality Control

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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Metals Dissolved (Continued...)

Replicates	Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Silicon	mq/L	2.91	3.96	9.99	0.01	✓
Sulfur	mq/L	31.5	30.8	10.0	0.1	✓
Aluminum	uq/L	<50	<50	10	11	✓
Antimony	uq/L	<2	<2	10.0	0.4	✓
Arsenic	uq/L	108	106	10.0	0.4	✓
Barium	uq/L	<10	<10	10	2	✓
Beryllium	uq/L	<1	<1	10.0	0.2	✓
Bismuth	uq/L	<5	<5	10.0	1.1	✓
Boron	ug/L	<20	<20	10	4	✓
Cadmium	uq/L	283	280	9.99	0.02	✓
Chromium	ug/L	<5	<5	10.0	1.1	✓
Cobalt	uq/L	110	110	10.0	0.2	✓
Copper	ug/L	<10	<10	10	2	✓
Lead	uq/L	<1	<1	10.0	0.2	✓
Lithium	ug/L	30	30	10	2	✓
Molybdenum	uq/L	<10	<10	10	2	✓
Nickel	uq/L	442	432	10.0	1.1	✓
Selenium	uq/L	<2	<2	10.0	0.4	✓
Silver	uq/L	<1	<1	10.0	0.2	✓
Strontium	uq/L	270	290	10	2	✓
Thallium	uq/L	1.3	1.3	9.99	0.11	✓
Tin	uq/L	<10	<10	10	2	✓
Titanium	uq/L	20	21	10.0	1.1	✓
Uranium	ug/L	<5	<5	10.0	1.1	✓
Vanadium	uq/L	<1	<1	10.0	0.2	✓
Zinc	ug/L	137000	137000	10	2	✓

Material Used: Edmonton Duplicate
Date Acquired: Jan 31, 2006
Acquired By: Linda Li



Quality Control

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
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Metals Dissolved (Continued...)

Control Sample	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Silicon	mq/L	24.4	25.00	22.50	27.50	✓
Sulfur	mq/L	50.2	50.0	45.0	55.0	✓
Material Used:	Metals High					
Date Acquired:	Jan 31, 2006					
Acquired By:	Alexsandra Robert					
Silicon	mg/L	0.52	0.50	0.45	0.55	✓
Sulfur	mg/L	0.9	1.0	0.9	1.2	✓
Aluminum	ug/L	1050	1000	850	1150	✓
Antimony	ug/L	40.2	40.0	34.0	46.0	✓
Arsenic	ug/L	40.9	40.0	34.0	46.0	✓
Barium	ug/L	205	200	170	230	✓
Beryllium	ug/L	19.8	20.0	17.0	23.0	✓
Bismuth	ug/L	97.1	100.0	85.0	115.0	✓
Boron	ug/L	396	400	340	460	✓
Cadmium	ug/L	2.01	2.00	1.70	2.30	✓
Chromium	ug/L	103	100.0	85.0	115.0	✓
Cobalt	ug/L	18.5	20.0	17.0	23.0	✓
Copper	ug/L	190	200	170	230	✓
Lead	ug/L	20.0	20.0	17.0	23.0	✓
Lithium	ug/L	200	200	170	230	✓
Molybdenum	ug/L	199	200	170	230	✓
Nickel	ug/L	101	100.0	85.0	115.0	✓
Selenium	ug/L	40.5	40.0	34.0	46.0	✓
Silver	ug/L	20.9	20.0	17.0	23.0	✓
Strontium	ug/L	199	200	170	230	✓
Thallium	ug/L	9.91	10.00	8.50	11.50	✓
Tin	ug/L	192	200	170	230	✓
Titanium	ug/L	101	100.0	85.0	115.0	✓
Uranium	ug/L	92.4	100.0	85.0	115.0	✓
Vanadium	ug/L	19.3	20.0	17.0	23.0	✓
Zinc	ug/L	193	200	170	230	✓
Material Used:	Metals Low					
Date Acquired:	Jan 31, 2006					
Acquired By:	Linda Li					



Quality Control

Norwest Labs
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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
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Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
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Metals Dissolved (Continued...)

Control Sample	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Aluminum	uq/L	54	50	43	58	✓
Antimony	uq/L	2.0	2.0	1.7	2.3	✓
Arsenic	uq/L	2.2	2.0	1.7	2.3	✓
Barium	uq/L	10	10	9	12	✓
Beryllium	uq/L	1	1.0	0.9	1.2	✓
Bismuth	uq/L	4.9	5.0	4.3	5.8	✓
Boron	uq/L	20	20	17	23	✓
Cadmium	uq/L	0.09	0.10	0.09	0.12	✓
Chromium	uq/L	5.2	5.0	4.3	5.8	✓
Cobalt	uq/L	1	1.0	0.9	1.2	✓
Copper	uq/L	10	10	9	12	✓
Lead	uq/L	1	1.0	0.9	1.2	✓
Lithium	uq/L	10	10	9	12	✓
Molybdenum	uq/L	10	10	9	12	✓
Nickel	uq/L	5.3	5.0	4.3	5.8	✓
Selenium	uq/L	1.8	2.0	1.7	2.3	✓
Silver	uq/L	1	1.0	0.9	1.2	✓
Strontium	uq/L	10	10	9	12	✓
Thallium	uq/L	0.50	0.50	0.43	0.58	✓
Tin	uq/L	10	10	9	12	✓
Titanium	uq/L	5.3	5.0	4.3	5.8	✓
Uranium	uq/L	5.0	5.0	4.3	5.8	✓
Vanadium	uq/L	1.0	1.0	0.9	1.2	✓
Zinc	uq/L	10	10	9	12	✓

Material Used: Metals Trace
Date Acquired: Jan 31, 2006
Acquired By: Linda Li



Quality Control

Norwest Labs
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Surrey, BC. V3S 8P8
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3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
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Metals Total

Blanks	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Calcium	mq/L	<0.2	0.0	0.0	0.1	✓
Iron	mq/L	<0.1	0.0	0.0	0.0	✓
Magnesium	mq/L	<0.1	0.0	0.0	0.0	✓
Manganese	mq/L	<0.005	0.000	-0.001	0.001	✓
Potassium	mq/L	<0.4	0.0	-0.1	0.1	✓
Silicon	mq/L	<0.05	0.02	-0.04	0.09	✓
Sodium	mq/L	<0.4	0.1	-0.2	0.3	✓
Sulfur	mq/L	<0.3	0.0	-0.3	0.3	✓
Aluminum	uq/L	<5	0	-5	5	✓
Antimony	uq/L	<0.2	0.0	-0.2	0.2	✓
Arsenic	uq/L	<0.2	0.0	-0.2	0.2	✓
Barium	uq/L	<1	0	-1	1	✓
Beryllium	uq/L	<0.1	0.0	-0.1	0.1	✓
Bismuth	uq/L	<0.5	0.0	-0.5	0.5	✓
Boron	uq/L	<2	0	-2	2	✓
Cadmium	uq/L	<0.01	0.00	-0.01	0.01	✓
Chromium	uq/L	<0.5	0.0	-0.5	0.5	✓
Cobalt	uq/L	<0.1	0.0	-0.1	0.1	✓
Copper	uq/L	<1	0	-1	1	✓
Lead	uq/L	<0.1	0.0	-0.1	0.1	✓
Lithium	uq/L	<1	0	-1	1	✓
Molybdenum	uq/L	<1	0	-1	1	✓
Nickel	uq/L	<0.5	0.0	-0.5	0.5	✓
Selenium	uq/L	<0.2	0.0	-0.2	0.2	✓
Silver	uq/L	<0.1	0.0	-0.1	0.1	✓
Strontium	uq/L	<1	0	-1	1	✓
Thallium	uq/L	<0.05	0.00	-0.05	0.05	✓
Tin	uq/L	<1	0	-1	1	✓
Titanium	uq/L	<0.5	0.0	-0.5	0.5	✓
Uranium	uq/L	<0.5	0.0	-0.5	0.5	✓
Vanadium	uq/L	<0.1	0.0	-0.1	0.1	✓
Zinc	uq/L	<1	0	-1	1	✓
Zirconium	uq/L	<1	0	-1	1	✓

Material Used: Edmonton Method Blank
Date Acquired: Jan 31, 2006
Acquired By: Linda Li



Quality Control

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Phone: (604) 514-3322
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Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

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Metals Total (Continued...)

Replicates	Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Calcium	mq/L	18.6	18.1	15.0	0.6	✓
Iron	mq/L	14.1	13.7	15.0	0.2	✓
Magnesium	mq/L	2.0	2.1	15.0	0.4	✓
Manganese	mq/L	0.199	0.193	15.000	0.010	✓
Potassium	mq/L	2.0	1.9	15.0	1.2	✓
Silicon	mq/L	9.23	9.01	15.00	0.10	✓
Sodium	mq/L	9.7	9.5	15.0	1.2	✓
Sulfur	mq/L	3.4	3.6	15.0	0.1	✓
Aluminum	ug/L	10	16	15	11	✓
Antimony	ug/L	<0.2	<0.2	15.0	0.4	✓
Arsenic	ug/L	0.5	0.4	15.0	0.4	✓
Barium	ug/L	20	19	15	2	✓
Beryllium	ug/L	<0.1	<0.1	15.0	0.2	✓
Bismuth	ug/L	<0.5	<0.5	15.0	1.1	✓
Boron	ug/L	<2	<2	15	4	✓
Cadmium	ug/L	4.32	4.16	15.00	0.02	✓
Chromium	ug/L	<0.5	<0.5	15.0	1.1	✓
Cobalt	ug/L	0.2	0.2	15.0	0.2	✓
Copper	ug/L	<1	<1	15	2	✓
Lead	ug/L	<0.1	0.1	15.0	0.2	✓
Lithium	ug/L	16	15	15	2	✓
Molybdenum	ug/L	<1	<1	15	2	✓
Nickel	ug/L	7.1	7.0	15.0	1.1	✓
Selenium	ug/L	0.3	0.5	15.0	0.4	✓
Silver	ug/L	<0.1	<0.1	15.0	0.2	✓
Strontium	ug/L	811	786	15	2	✓
Thallium	ug/L	<0.05	<0.05	15.00	0.11	✓
Tin	ug/L	<1	<1	15	2	✓
Titanium	ug/L	24.6	24.4	15.0	1.1	✓
Uranium	ug/L	6.0	5.9	15.0	1.1	✓
Vanadium	ug/L	0.2	0.1	15.0	0.2	✓
Zinc	ug/L	1260	1230	15	2	✓
Zirconium	ug/L	<1	<1	15	2	✓

Material Used: Edmonton Duplicate
Date Acquired: Jan 31, 2006
Acquired By: Marc Dzura



Quality Control

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Acct. Code:

NWL Lot ID: 439146
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Date Received: Jan 27, 2006
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Metals Total (Continued...)

Control Sample	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Calcium	mq/L	48.2	50.0	45.0	55.0	✓
Iron	mq/L	1.9	2.0	1.8	2.2	✓
Magnesium	mq/L	18.2	20.0	18.0	22.0	✓
Manganese	mq/L	0.461	0.500	0.450	0.550	✓
Potassium	mq/L	49.1	50.0	45.0	55.0	✓
Silicon	mq/L	4.71	5.00	4.50	5.50	✓
Sodium	mq/L	49.2	50.0	45.0	55.0	✓
Sulfur	mq/L	9.2	10.0	9.0	11.0	✓
Aluminum	uq/L	295	322	273	371	✓
Antimony	uq/L	11.8	11.5	10.2	12.8	✓
Arsenic	uq/L	11.3	11.5	10.3	12.7	✓
Barium	uq/L	65	61	52	69	✓
Beryllium	uq/L	5.6	5.9	4.9	7.0	✓
Bismuth	uq/L	31.3	30.2	26.0	34.4	✓
Boron	uq/L	120	125	102	148	✓
Cadmium	uq/L	0.61	0.63	0.47	0.78	✓
Chromium	uq/L	30.6	31.8	27.5	36.2	✓
Cobalt	uq/L	6.1	6.4	5.4	7.5	✓
Copper	uq/L	61	63	55	70	✓
Lead	uq/L	6.4	6.2	5.4	7.0	✓
Lithium	uq/L	60	65	53	76	✓
Molybdenum	uq/L	61	61	53	69	✓
Nickel	uq/L	30.5	31.4	27.0	35.8	✓
Selenium	uq/L	11.2	11.0	9.7	12.3	✓
Silver	uq/L	5.9	6.2	5.5	7.0	✓
Strontium	uq/L	61	64	55	72	✓
Thallium	uq/L	3.16	3.14	2.56	3.72	✓
Tin	uq/L	58	59	52	66	✓
Titanium	uq/L	30.0	31.5	27.0	36.0	✓
Uranium	uq/L	31.9	30.8	26.9	34.7	✓
Vanadium	uq/L	5.9	6.5	5.4	7.6	✓
Zinc	uq/L	56	59	49	69	✓
Zirconium	uq/L	57	62	53	72	✓

Material Used: Edmonton Digestion Check
Date Acquired: Jan 31, 2006
Acquired By: Linda Li



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Attn: Scott Keeseey
Sampled By: Ken Nordin
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NWL Lot ID: 439146
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Metals Total (Continued...)

Control Sample	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Calcium	mq/L	237	250.0	225.0	275.0	✓
Iron	mq/L	9.5	10.0	9.0	11.0	✓
Magnesium	mq/L	94.8	100.0	90.0	110.0	✓
Manganese	mq/L	2.31	2.500	2.250	2.750	✓
Potassium	mq/L	244	250.0	225.0	275.0	✓
Silicon	mq/L	23.2	25.00	22.50	27.50	✓
Sodium	mq/L	243	250.0	225.0	275.0	✓
Sulfur	mq/L	48.1	50.0	45.0	55.0	✓
Material Used:	Metals High					
Date Acquired:	Jan 31, 2006					
Acquired By:	Alexsandra Robert					



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Metals Total (Continued...)

Control Sample	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Calcium	mq/L	4.8	5.0	4.5	5.5	✓
Iron	mq/L	0.2	0.2	0.2	0.2	✓
Magnesium	mq/L	1.8	2.0	1.8	2.2	✓
Manganese	mq/L	0.046	0.050	0.045	0.055	✓
Potassium	mq/L	4.9	5.0	4.5	5.5	✓
Silicon	mq/L	0.45	0.50	0.45	0.55	✓
Sodium	mq/L	5.2	5.0	4.5	5.5	✓
Sulfur	mq/L	1	1.0	0.9	1.2	✓
Aluminum	uq/L	984	1000	850	1150	✓
Antimony	uq/L	41.4	40.0	34.0	46.0	✓
Arsenic	uq/L	41.6	40.0	34.0	46.0	✓
Barium	uq/L	208	200	170	230	✓
Beryllium	uq/L	20.6	20.0	17.0	23.0	✓
Bismuth	uq/L	104	100.0	85.0	115.0	✓
Boron	uq/L	410	400	340	460	✓
Cadmium	uq/L	2.20	2.00	1.70	2.30	✓
Chromium	uq/L	104	100.0	85.0	115.0	✓
Cobalt	uq/L	20.8	20.0	17.0	23.0	✓
Copper	uq/L	206	200	170	230	✓
Lead	uq/L	21.0	20.0	17.0	23.0	✓
Lithium	uq/L	202	200	170	230	✓
Molybdenum	uq/L	213	200	170	230	✓
Nickel	uq/L	104	100.0	85.0	115.0	✓
Selenium	uq/L	43.2	40.0	34.0	46.0	✓
Silver	uq/L	20.4	20.0	17.0	23.0	✓
Strontium	uq/L	206	200	170	230	✓
Thallium	uq/L	10.4	10.00	8.50	11.50	✓
Tin	uq/L	196	200	170	230	✓
Titanium	uq/L	106	100.0	85.0	115.0	✓
Uranium	uq/L	104	100.0	85.0	115.0	✓
Vanadium	uq/L	20.5	20.0	17.0	23.0	✓
Zinc	uq/L	200	200	170	230	✓
Zirconium	uq/L	206	200	170	230	✓

Material Used: Metals Low
Date Acquired: Jan 31, 2006
Acquired By: Marc Dzura



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3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
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Attn: Scott Keesey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
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Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
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Metals Total (Continued...)

Control Sample	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Aluminum	uq/L	54	50	43	58	✓
Antimony	uq/L	2.1	2.0	1.7	2.3	✓
Arsenic	uq/L	2.1	2.0	1.7	2.3	✓
Barium	uq/L	10	10	9	12	✓
Beryllium	uq/L	1	1.0	0.9	1.2	✓
Bismuth	uq/L	5.4	5.0	4.3	5.8	✓
Boron	uq/L	21	20	17	23	✓
Cadmium	uq/L	0.11	0.10	0.09	0.12	✓
Chromium	uq/L	5.2	5.0	4.3	5.8	✓
Cobalt	uq/L	1	1.0	0.9	1.2	✓
Copper	uq/L	11	10	9	12	✓
Lead	uq/L	1.1	1.0	0.9	1.2	✓
Lithium	uq/L	10	10	9	12	✓
Molybdenum	uq/L	10	10	9	12	✓
Nickel	uq/L	5.0	5.0	4.3	5.8	✓
Selenium	uq/L	2.0	2.0	1.7	2.3	✓
Silver	uq/L	1.1	1.0	0.9	1.2	✓
Strontium	uq/L	10	10	9	12	✓
Thallium	uq/L	0.50	0.50	0.43	0.58	✓
Tin	uq/L	10	10	9	12	✓
Titanium	uq/L	5.2	5.0	4.3	5.8	✓
Uranium	uq/L	5.4	5.0	4.3	5.8	✓
Vanadium	uq/L	1.0	1.0	0.9	1.2	✓
Zinc	uq/L	10	10	9	12	✓
Zirconium	uq/L	10	10	9	12	✓

Material Used: Metals Trace
Date Acquired: Jan 31, 2006
Acquired By: Marc Dzura



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3 Calcite Business Centre
151 Industrial Road
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Attn: Scott Keeseey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
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Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
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Physical and Aggregate Properties

Certified Reference Material		Units	Measured	Target	Lower Limit	Upper Limit	Passed QC
Solids		mq/L	446	500	310	490	✓
Material Used:		S2016 - Solid					
Date Acquired:		Jan 28, 2006					
Acquired By:		Mvrna Iglesias					
Solids		mg/L	<2	0	-1	1	✓
Material Used:		Surrey Blank 2					
Date Acquired:		Jan 28, 2006					
Acquired By:		Mvrna Iglesias					
Replicates		Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Solids		mq/L	4	4	30	5	✓
Material Used:		Surrey - Int. Duplicate 1					
Date Acquired:		Jan 28, 2006					
Acquired By:		Mvrna Iglesias					



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Routine Water

Blanks	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Calcium	mq/L	<0.2	0.0	-0.2	0.2	✓
Magnesium	mq/L	<0.1	0.0	-0.1	0.1	✓
Sodium	mq/L	<0.4	0.0	-0.4	0.4	✓
Potassium	mq/L	<0.4	0.0	-0.4	0.4	✓
Iron	mq/L	<0.01	0.00	-0.01	0.01	✓
Manganese	mq/L	<0.005	0.000	-0.005	0.005	✓

Material Used: Edmonton Method Blank

Date Acquired: Jan 31, 2006

Acquired By: Aleksandra Robert

Sulfate (SO4)	mg/L	<0.1	0.00	-0.10	0.10	✓

Material Used: Surrey Blank

Date Acquired: Jan 30, 2006

Acquired By: Zahra Momen

Calibration Check	Units	Measured	Target	% Recovery	Criteria (%)	Passed QC
Sulfate (SO4)	mg/L	7.8	7.50	104.44	90.01-109.99	✓

Material Used: S2010 - IC Cal Check

Date Acquired: Jan 30, 2006

Acquired By: Zahra Momen

pH	pH	8.0	8.00	100.25	98.50-101.50	✓

Material Used: s2013 - pH

Date Acquired: Jan 30, 2006

Acquired By: Mark-Anthonv Castelli

Replicates	Units	Replicate1	Replicate2	% RSD Criteria	Absolute Criteria	Passed QC
Calcium	mg/L	64.4	64.5	10.0	0.6	✓
Magnesium	mq/L	5.0	6.6	10.0	0.7	✓
Sodium	mg/L	2.4	2.4	10.0	1.2	✓
Potassium	mq/L	0.7	0.7	10.0	1.2	✓
Iron	mq/L	0.03	0.03	9.99	0.05	✓
Manganese	mq/L	0.074	0.072	9.990	0.010	✓

Material Used: Edmonton Duplicate

Date Acquired: Jan 31, 2006

Acquired By: Aleksandra Robert

pH	pH	7.92	7.93	0.09	0.10	✓

Electrical Conductivity	uS/cm	2010	2000	30	5	✓

Sulfate (SO4)	mq/L	92	106	30.00	0.50	✓

T-Alkalinity	mq/L	126	122	30	25	✓

Material Used: Surrey - Int. Duplicate 1

Date Acquired: Jan 31, 2006

Acquired By: Zahra Momen



Quality Control

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Routine Water (Continued...)

Control Sample	Units	Measured	Mean	Lower Limit	Upper Limit	Passed QC
Electrical Conductivity	uS/cm	7000	6668	6368	6968	✓
Material Used:	calibration check - conductivity - High					
Date Acquired:	Jan 30, 2006					
Acquired By:	Zahra Momen					
Electrical Conductivity	uS/cm	161	147	117	177	✓
Material Used:	calibration check - conductivity - low					
Date Acquired:	Jan 30, 2006					
Acquired By:	Zahra Momen					
Electrical Conductivity	uS/cm	1440	1412	1382	1442	✓
Material Used:	calibration check - conductivity - mid					
Date Acquired:	Jan 30, 2006					
Acquired By:	Zahra Momen					
Calcium	mg/L	245	250.0	225.0	275.0	✓
Magnesium	mg/L	98.9	100.0	90.0	110.0	✓
Sodium	mg/L	252	250.0	225.0	275.0	✓
Potassium	mg/L	260	250.0	225.0	275.0	✓
Iron	mg/L	9.67	10.00	9.01	10.99	✓
Manganese	mg/L	2.38	2.500	2.260	2.740	✓
Material Used:	Metals High					
Date Acquired:	Jan 31, 2006					
Acquired By:	Alexsandra Robert					
Calcium	mg/L	5.2	5.0	4.5	5.5	✓
Magnesium	mg/L	2.1	2.0	1.8	2.2	✓
Sodium	mg/L	5.0	5.0	4.5	5.5	✓
Potassium	mg/L	5.0	5.0	4.5	5.5	✓
Iron	mg/L	0.21	0.20	0.18	0.22	✓
Manganese	mg/L	0.051	0.050	0.045	0.055	✓
Material Used:	Metals Low					
Date Acquired:	Jan 31, 2006					
Acquired By:	Alexsandra Robert					
Electrical Conductivity	uS/cm	3	0	0	0	✓
Material Used:	RO water 1					
Date Acquired:	Jan 30, 2006					
Acquired By:	Zahra Momen					
Electrical Conductivity	uS/cm	455	445	400	490	✓
Sulfate (SO4)	mg/L	61	65.10	55.29	74.91	✓
T-Alkalinity	mg/L	52	54	49	60	✓
Material Used:	S1021 - minerals					
Date Acquired:	Jan 31, 2006					
Acquired By:	Zahra Momen					



Methodology and Notes

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Method of Analysis:

MethodName	Reference	Method	Date Analysis Started	Location
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	31-Jan-06	Norwest Labs Surrey
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	31-Jan-06	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	31-Jan-06	Norwest Labs Surrey
Conductivity (Surrey)	APHA	* Conductivity - Laboratory Method, 2510 B	30-Jan-06	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	1-Feb-06	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	31-Jan-06	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	1-Feb-06	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	31-Jan-06	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	1-Feb-06	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	1-Feb-06	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	31-Jan-06	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	1-Feb-06	Norwest Labs Edmonton
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	30-Jan-06	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	28-Jan-06	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	31-Jan-06	Norwest Labs Surrey

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



Methodology and Notes

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Access Mining Consultants Ltd.
Report to: Access Mining Consultants Ltd.
3 Calcite Business Centre
151 Industrial Road
Whitehorse, YT, Canada
Y1A 2V3
Attn: Scott Keeseey
Sampled By: Ken Nordin
Company:

Project
ID: Keno Valley
Name: G300 RW
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 439146
Control Number: E 191032
Date Received: Jan 27, 2006
Date Reported: Feb 02, 2006
Report Number: 810154

Page: 29 of 29

* Norwest method(s) is based on reference method

References:

US EPA	US Environmental Protection Agency Test Methods
APHA	Standard Methods for the Examination of Water and Wastewater

Comments:

Sample 10 Sample received unpreserved for total metals analysis. - BH

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory

APPENDIX C

**SEDIMENT GEOCHEMISTRY
ANALYTICAL RESULTS FOR WORKORDER - 739506**



NORWEST LABS

Lot- 404439

Control Number E 229620

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company: Laberge Environmental Services		Company: ACG		Mail invoice to this ☐	
Address: P.O. 21072		Address:		address for approval ☐	
1-405 Ogilvie Street					
Whitehorse, Yukon, Y1A 6P7					
Attention: Bonnie Burns		Attention: Scott K		Report Result: ☐	
Phone: (867) 668-6838		Phone:		Fax ☐	
Fax: (867) 667-6956		Fax:		Mail ☐	
Cell:		Cell:		Courier ☐	
e-mail: laberge@internorth.com		e-mail:		e-mail ☐	
QA/QC Report ☐		Report Result:		e-service ☒	
Fax ☐					
Mail ☒					
Courier ☐					
e-mail ☒					
e-Service ☐					

Information to be included on Report and Invoice Project ID: KVRW Project Name: Keno Valley Project Location: Receiving Water Legal Location: PO#: Proj. Acct. Code: Agreement ID: 66943	RUSH Please contact the laboratory to confirm rush dates and times before submitting samples. Upon filling out this section, client accepts that surcharges will be attached to this analysis Required on: all analyses ☐ or ☐ Date Required: _____ Signature: _____ Norwest Authorization: _____	Sample Custody (Please Print) Relinquished by: Bonnie Burns Company LES Signature B Burns I authorize Norwest Labs to proceed with the work indicated on this form: Date: _____ Initial: _____ Received by: ☐ Coolers Waybill # _____ Date ☐ Boxes Company _____ Time ☐ Samples
	Special Instructions / Comments ☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information) - Dissolved metals have <u>not</u> been filtered or preserved. Total metals have been preserved - ultra trace low detection limits	

Sample Identification	Location	Depth IN CM M	Date / Time Sampled	Matrix	Sampling Method	Number of Containers ↓	Enter tests above (✓ relevant samples below)										
							ALK	PH	COND	HARD	AMMONIA	NITRATE	NITRITE	PO4	TSS	DISS. METALS	TOTAL METALS
1 S. McQuesten u/s Christal	KV-1	-	Aug 23	H2O		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2 S. McQuesten @ Pump house	KV-2	-	Aug 21	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3 S. McQuesten u/s Flat	KV-3	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4 S. McQuesten d/s Flat	KV-4	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5 S. McQuesten 9 km d/s Flat	KV-5	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6 Christal Cr @ Keno Hwy	KV-6	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7 Christal Cr u/s Hanson Br.	KV-7	-	Aug 23	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8 Christal Cr @ mouth	KV-8	-	Aug 23	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9 Flat Cr. @ mouth	KV-9	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10 Lightning Cr. u/s Hope	KV-37	-	Aug 23	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11 Lightning Cr u/s Thunders Creek	KV-38	-	Aug 23	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12 Lightning Cr @ Keno	KV-41	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13 Duplicate	Dup	-	Aug 22	"		5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14		-															
15		-															

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.

Accredited by the Standards Council of Canada for specific tests

Page 1 of 4
##

NWLC008 (08/03)



Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis

See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company: Laberge Environmental Services		Company:		Mail invoice to this	
Address: P.O. 21072		Address:		address for approval ☐	
1-405 Ogilvie Street					
Whitehorse, Yukon, Y1A 6P7					
Attention: Bonnie Burns		Attention:		Report Result:	
Phone: (867) 668-6838		Phone:		Fax ☐	
Fax: (867) 667-6956		Fax:		Mail ☐	
Cell:		Cell:		Courier ☐	
e-mail: laberge@internorth.com		e-mail:		e-mail ☐	
QA/QC Report ☐		Report Result:		e-service ☐	
Fax ☐					
Mail ☒					
Courier ☐					
e-mail ☒					
e-Service ☐					

RECEIVED
AUG 26 2005

Information to be included on Report and Invoice Project ID: Project Name: Project Location: Legal Location: PO#: Proj. Acct. Code: Agreement ID: 66943	RUSH Please contact the laboratory to confirm rush dates and times before submitting samples. Upon filling out this section, client accepts that surcharges will be attached to this analysis Required on: all analyses or as indicated ☐ or ☐ Date Required: _____ Signature: _____ Norwest Authorization: _____	Sample Custody (Please Print) Relinquished by: <u>Bonnie Burns</u> Company <u>LES</u> Signature <u>B.B. Burns</u> I authorize Norwest Labs to proceed with the work indicated on this form: Date: _____ Initial: _____ Received by: ☐ Coolers Waybill # _____ Date ☐ Boxes Company _____ Time ☐ Samples

Special Instructions / Comments ☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

Dry + sieve = #100 mesh, analyze the portion passing the #100 mesh for ICP metals using detection limits for CCME guidelines.

	Sample Identification	Location	Depth			Date / Time Sampled	Matrix	Sampling Method	Enter tests above (✓ relevant samples below)											
			IN	CM	M															
1	KV-1A						Sail													
2	KV-1B						"													
3	KV-1C						"													
4	KV-2A						"													
5	KV-2B						"													
6	KV-2C						"													
7	KV-3A						"													
8	KV-3B						"													
9	KV-3C						"													
10	KV-4A						"													
11	KV-4B						"													
12	KV-4C						"													
13	KV-5A						"													
14	KV-5B						"													
15	KV-5C						"													

NOTE: All hazardous samples must be labelled according to WHMIS guidelines.

Accredited by the Standards Council of Canada for specific tests



Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company:	Laberge Environmental Services	Company:		Mail invoice to this	☐
Address:	P.O. 21072	Address:		address for approval	☐
	1-405 Ogilvie Street				
	Whitehorse, Yukon, Y1A 6P7				
Attention:	Bonnie Burns	Attention:		Report Result:	
Phone:	(867) 668-6838	Phone:		Fax	☐
Fax:	(867) 667-6956	Fax:		Mail	☐
Cell:		Cell:		Courier	☐
e-mail:	laberge@internorth.com	e-mail:		e-mail	☐
				e-service	☐

Report Result:
Fax ☐
Mail ☐
Courier ☐
e-mail ☐
e-Service ☐

Report Result:
Fax ☐
Mail ☒
Courier ☐
e-mail ☒
e-Service ☐

RECEIVED
AUG 26 2005

Information to be included on Report and Invoice	RUSH	Please contact the laboratory to confirm rush dates and times before submitting samples.	Sample Custody (Please Print)
		Upon filling out this section, client accepts that surcharges will be attached to this analysis	Relinquished by: <u>Bonnie Burns</u>
		Required on: all analyses or as indicated	Company <u>LES</u> Signature <u>[Signature]</u>
		Date Required: _____	I authorize Norwest Labs to proceed with the work indicated on this form:
		Signature: _____	Date: _____
		Norwest Authorization: _____	Initial: _____

Special Instructions / Comments

See page 2

☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)

	Sample Identification	Location	Depth			Date / Time Sampled	Matrix	Sampling Method	Enter tests above (✓ relevant samples below)											
			IN	CM	M															
1	KV-6A						Soil		1	✓										
2	KV-6B						"		1	✓										
3	KV-6C						"		1	✓										
4	KV-7A						"		1	✓										
5	KV-7B						"		1	✓										
6	KV-7C						"		1	✓										
7	KV-8A						"		1	✓										
8	KV-8B						"		1	✓										
9	KV-8C						"		1	✓										
10	KV-9A						"		1	✓										
11	KV-9B						"		1	✓										
12	KV-9C						"		1	✓										
13	KV-37A						"		1	✓										
14	KV-37B						"		1	✓										
15	KV-37C						"		1	✓										



NORWEST LABS

Control Number **E 229623**

Environmental Sample Information Sheet

NOTE: Proper completion of this form is required in order to proceed with analysis
See reverse for your nearest Norwest location and proper sampling protocol

Billing Address:		Copy of Report To:		Copy of invoice: ☐	
Company: Laberge Environmental Services		Company:		Mail invoice to this ☐	
Address: P.O. 21072		Address:		address for approval ☐	
1-405 Ogilvie Street					
Whitehorse, Yukon, Y1A 6P7					
Attention: Bonnie Burns		Attention:		Report Result: ☐	
Phone: (867) 668-6838		Phone:		Fax ☐	
Fax: (867) 667-6956		Fax:		Mail ☐	
Cell:		Cell:		Courier ☐	
e-mail: laberge@internorth.com		e-mail:		e-mail ☐	
				e-service ☐	

RECEIVED
AUG 26 2005

Information to be included on Report and Invoice	RUSH	Sample Custody (Please Print)
	Please contact the laboratory to confirm rush dates and times before submitting samples.	
Project ID:	Upon filling out this section, client accepts that	Relinquished by:
Project Name:	surcharges will be attached to this analysis	Company _____ Signature _____
Project Location:	Required on: all analyses ☐ or ☐	I authorize Norwest Labs to proceed with the work indicated on this form:
Legal Location:	Date Required: _____	Date: _____
PO#:	Signature: _____	Initial: _____
Proj. Acct. Code:	Norwest Authorization: _____	Received by: ☐ Coolers
Agreement ID: 66943		Waybill # _____ Date ☐ Boxes

Special Instructions / Comments	☐ Check here if Norwest is required to report results directly to a regulatory body (Please include contact information)
<i>See page 2</i>	

	Sample Identification	Location	Depth			Date / Time Sampled	Matrix	Sampling Method	Number of Containers	Enter tests above (✓ relevant samples below)											
			IN	CM	M																
1	KV-38A						Soil		1	✓											
2	KV-38B						"		1	✓											
3	KV-38C						"		1	✓											
4	KV-41A						"		1	✓											
5	KV-41B						"		1	✓											
6	KV-41C						"		1	✓											
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

NW1008 (08/03)



Report Transmission Cover Page

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Contact	Company	Address									
Bonnie Burns Web Email Notification	Laberge Environmental Services	Box 21072, 1-405 Ogilvie Street Whitehorse, YT Y1A 6P7 Phone: (867) 668-6838 Email: laberge@internorth.com									
<table><tr><th>Copies</th><th>Delivery Strategy</th><th>Format</th></tr><tr><td>1</td><td>Post</td><td></td></tr><tr><td>1</td><td>Email - Single Report</td><td>PDF</td></tr></table>		Copies	Delivery Strategy	Format	1	Post		1	Email - Single Report	PDF	Fax: (867) 667-6956
Copies	Delivery Strategy	Format									
1	Post										
1	Email - Single Report	PDF									
Ken Nordin Web x Email Notification x	Laberge Environmental Services	Box 21072, 1-405 Ogilvie Street Whitehorse, YT Y1A 6P7 Phone: (867) 668-6838 Email: laberge@internorth.com									
<table><tr><th>Copies</th><th>Delivery Strategy</th><th>Format</th></tr></table>		Copies	Delivery Strategy	Format	Fax: (867) 667-6956						
Copies	Delivery Strategy	Format									

NOTE: **P** indicates a preliminary report is required

NOTE: **A** indicates report is delivered using automated delivery

_____ # OF PAGES IN THIS TRANSMISSION

Report Transmission Notes

Agreement Notes

Lot Notes

Sample Notes:

Notes to Clients

Lot Notes:

Sample Notes:

Batch Notes:

Method Notes:

Method Result Notes:

Reports associated with this Lot

Id/Format/Reported Date
739506 Env2 3 Smp & DL

Id/Format/Reported Date

Id/Format/Reported Date

Comment:

See Methodology and Notes page of Analytical Report for all comments pertaining to this report.

If this report transmission is not satisfactory, please send report requirements to the address at the top of this page.



Sample Custody

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Sample Disposal Date: Oct 06, 2005

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the upper right of this page.

_____ **Extend Sample Storage Until** _____ **(MM/DD/YY)**

The following charges apply to extended sample storage:

Storage for 1 to 5 samples per month	\$ 10.00
Storage for 6 to 20 samples per month	\$ 15.00
Storage for 21 to 50 samples per month	\$ 30.00
Storage for 51 to 200 samples per month	\$ 60.00
Storage for more than 200 samples per month	\$ 110.00

_____ **Return Sample, collect, to the address below via:**

_____ Greyhound
_____ Loomis
_____ Purolator
_____ Other (Specify) _____

Name: _____
Company: _____
Address: _____

Phone: _____
Fax: _____
Signature: _____

If no other arrangements have been made, samples will be disposed of on Oct 06, 2005.



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 1 of 30

		NWL Number	404439-1	404439-2	404439-3	
		Sample Date	Aug 23, 2005	Aug 21, 2005	Aug 22, 2005	
		Sample Description	KV-1 / S. McQuesten u/s Christal	KV-2 / S. McQuesten @ Pumphouse	KV-3 / S. McQuesten u/s Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	0.003	<0.002	0.003	0.002
Phosphate-P	Total Reactive	mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Silicon	Dissolved	mg/L	1.94	2.16	2.14	0.05
Sulfur	Dissolved	mg/L	21.6	25.3	24.9	0.3
Aluminum	Dissolved	mg/L	0.076	0.062	0.046	0.005
Antimony	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0014	0.0018	0.0021	0.0002
Barium	Dissolved	mg/L	0.052	0.058	0.062	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00009	0.00018	0.00018	0.00001
Chromium	Dissolved	mg/L	0.0006	0.0006	0.0006	0.0005
Cobalt	Dissolved	mg/L	0.0004	0.0003	0.0002	0.0001
Copper	Dissolved	mg/L	0.002	0.001	0.001	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	0.0001	0.0001
Lithium	Dissolved	mg/L	0.005	0.004	0.004	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0061	0.0048	0.0045	0.0005
Selenium	Dissolved	mg/L	0.0006	0.0005	0.0006	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.204	0.191	0.192	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Uranium	Dissolved	mg/L	0.0006	0.0007	0.0007	0.0005
Vanadium	Dissolved	mg/L	0.0016	0.0018	0.0018	0.0001
Zinc	Dissolved	mg/L	0.013	0.026	0.024	0.001
Metals Total						
Calcium	Total	mg/L	44.3	48.0	49.0	0.2
Iron	Total	mg/L	0.2	0.2	0.2	0.1
Magnesium	Total	mg/L	14.2	14.8	15.1	0.1
Manganese	Total	mg/L	0.196	0.066	0.072	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 2 of 30

		NWL Number	404439-1	404439-2	404439-3	
		Sample Date	Aug 23, 2005	Aug 21, 2005	Aug 22, 2005	
		Sample Description	KV-1 / S. McQuesten u/s Christal	KV-2 / S. McQuesten @ Pumphouse	KV-3 / S. McQuesten u/s Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	0.4	<0.4	<0.4	0.4
Silicon	Total	mg/L	1.90	2.03	2.07	0.05
Sodium	Total	mg/L	1.4	1.4	1.4	0.4
Sulfur	Total	mg/L	21.0	22.7	22.7	0.3
Aluminum	Total	mg/L	0.138	0.097	0.080	0.005
Antimony	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0015	0.0017	0.0019	0.0002
Barium	Total	mg/L	0.051	0.055	0.058	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00012	0.00027	0.00025	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0005	0.0004	0.0003	0.0001
Copper	Total	mg/L	0.002	0.002	0.001	0.001
Lead	Total	mg/L	0.0003	0.0006	0.0013	0.0001
Lithium	Total	mg/L	0.005	0.004	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0060	0.0054	0.0050	0.0005
Selenium	Total	mg/L	0.0008	0.0006	0.0005	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.188	0.178	0.181	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0018	0.0015	0.0013	0.0005
Uranium	Total	mg/L	0.0008	0.0008	0.0008	0.0005
Vanadium	Total	mg/L	0.0003	0.0002	0.0002	0.0001
Zinc	Total	mg/L	0.031	0.040	0.038	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	<2	1
Routine Water						
pH	@ 25 °C	pH	7.99	7.59	8.04	
Electrical Conductivity	Water	uS/cm	332	369	366	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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		NWL Number	404439-1	404439-2	404439-3	
		Sample Date	Aug 23, 2005	Aug 21, 2005	Aug 22, 2005	
		Sample Description	KV-1 / S. McQuesten u/s Christal	KV-2 / S. McQuesten @ Pumphouse	KV-3 / S. McQuesten u/s Flat	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	44.9	48.9	50.1	0.2
Magnesium	Dissolved	mg/L	15.4	16.0	16.3	0.1
Sodium	Dissolved	mg/L	1.3	1.3	1.5	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	0.4	0.4
Iron	Dissolved	mg/L	0.03	0.03	0.04	0.01
Manganese	Dissolved	mg/L	0.028	0.041	0.043	0.005
Nitrate - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	131	145	143	5
T-Alkalinity	as CaCO3	mg/L	107	119	118	5
Hardness	Dissolved as CaCO3	mg/L	175	188	192	



Analytical Report

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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 4 of 30

		NWL Number	404439-4	404439-5	404439-6	
		Sample Date	Aug 22, 2005	Aug 22, 2005	Aug 22, 2005	
		Sample Description	KV-4 / S. McQuesten d/s Flat	KV-5 / S. McQuesten 9km d/s Flat	KV-6 / Christal Cr @ Keno Hwy	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	<0.002	0.002	0.004	0.002
Phosphate-P	Total Reactive	mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Silicon	Dissolved	mg/L	2.31	2.36	2.92	0.05
Sulfur	Dissolved	mg/L	28.8	23.1	74.3	0.3
Aluminum	Dissolved	mg/L	0.037	0.036	<0.005	0.005
Antimony	Dissolved	mg/L	0.0003	0.0002	0.0004	0.0002
Arsenic	Dissolved	mg/L	0.0022	0.0041	0.0038	0.0002
Barium	Dissolved	mg/L	0.058	0.065	0.057	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.002	0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00021	0.00014	0.00123	0.00001
Chromium	Dissolved	mg/L	0.0008	0.0007	0.0007	0.0005
Cobalt	Dissolved	mg/L	0.0002	0.0001	<0.0001	0.0001
Copper	Dissolved	mg/L	0.002	0.002	0.001	0.001
Lead	Dissolved	mg/L	0.0002	0.0002	0.0014	0.0001
Lithium	Dissolved	mg/L	0.005	0.004	0.008	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	0.0048	0.0029	0.0022	0.0005
Selenium	Dissolved	mg/L	0.0006	0.0004	0.0009	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.198	0.200	0.194	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	<0.0005	<0.0005	0.0033	0.0005
Uranium	Dissolved	mg/L	0.0007	0.0007	0.0041	0.0005
Vanadium	Dissolved	mg/L	0.0022	0.0019	0.0017	0.0001
Zinc	Dissolved	mg/L	0.027	0.018	0.231	0.001
Metals Total						
Calcium	Total	mg/L	55.1	51.2	98.5	0.2
Iron	Total	mg/L	0.2	0.2	3.5	0.1
Magnesium	Total	mg/L	16.3	15.3	19.7	0.1
Manganese	Total	mg/L	0.063	0.058	1.95	0.005



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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		NWL Number	404439-4	404439-5	404439-6	
		Sample Date	Aug 22, 2005	Aug 22, 2005	Aug 22, 2005	
		Sample Description	KV-4 / S. McQuesten d/s Flat	KV-5 / S. McQuesten 9km d/s Flat	KV-6 / Christal Cr @ Keno Hwy	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	<0.4	<0.4	0.4	0.4
Silicon	Total	mg/L	2.24	2.25	3.45	0.05
Sodium	Total	mg/L	1.4	1.4	1.3	0.4
Sulfur	Total	mg/L	26.0	21.5	71.3	0.3
Aluminum	Total	mg/L	0.064	0.068	0.489	0.005
Antimony	Total	mg/L	0.0003	0.0002	0.0032	0.0002
Arsenic	Total	mg/L	0.0022	0.0041	0.0499	0.0002
Barium	Total	mg/L	0.055	0.059	0.083	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00028	0.00018	0.0106	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	0.0011	0.0005
Cobalt	Total	mg/L	0.0002	0.0002	0.0016	0.0001
Copper	Total	mg/L	0.001	0.002	0.007	0.001
Lead	Total	mg/L	0.0024	0.0017	0.406	0.0001
Lithium	Total	mg/L	0.005	0.004	0.008	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0040	0.0035	0.0052	0.0005
Selenium	Total	mg/L	0.0007	0.0005	0.0013	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	0.0019	0.0001
Strontium	Total	mg/L	0.180	0.182	0.176	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0016	0.0016	0.0192	0.0005
Uranium	Total	mg/L	0.0008	0.0009	0.0048	0.0005
Vanadium	Total	mg/L	0.0002	0.0002	0.0017	0.0001
Zinc	Total	mg/L	0.038	0.059	0.709	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<3	8	1
Routine Water						
pH	@ 25 °C	pH	7.44	8.17	7.96	
Electrical Conductivity	Water	uS/cm	412	385	646	1



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 6 of 30

		NWL Number	404439-4	404439-5	404439-6	
		Sample Date	Aug 22, 2005	Aug 22, 2005	Aug 22, 2005	
		Sample Description	KV-4 / S. McQuesten d/s Flat	KV-5 / S. McQuesten 9km d/s Flat	KV-6 / Christal Cr @ Keno Hwy	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	57.2	51.7	105	0.2
Magnesium	Dissolved	mg/L	17.7	16.2	21.5	0.1
Sodium	Dissolved	mg/L	1.5	1.4	1.0	0.4
Potassium	Dissolved	mg/L	<0.4	0.4	<0.4	0.4
Iron	Dissolved	mg/L	0.03	0.05	0.02	0.01
Manganese	Dissolved	mg/L	0.038	0.033	0.195	0.005
Nitrate - N	Dissolved	mg/L	<0.03	<0.03	0.05	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	159	154	139	5
T-Alkalinity	as CaCO3	mg/L	130	127	114	5
Hardness	Dissolved as CaCO3	mg/L	216	196	351	



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 7 of 30

		NWL Number		404439-7	404439-8	404439-9
		Sample Date		Aug 23, 2005	Aug 23, 2005	Aug 22, 2005
		Sample Description		KV-7 / Christal Cr u/s Hanson Br.	KV-8 / Christal Cr @ Mouth	KV-9 / Flat Cr. @ Mouth
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Phosphate-P	Total Reactive	mg/L	<0.005	<0.005	<0.005	0.005
Metals Dissolved						
Silicon	Dissolved	mg/L	3.32	3.00	2.88	0.05
Sulfur	Dissolved	mg/L	61.4	60.2	39.1	0.3
Aluminum	Dissolved	mg/L	0.006	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	0.0003	0.0003	0.0008	0.0002
Arsenic	Dissolved	mg/L	0.0019	0.0022	0.0029	0.0002
Barium	Dissolved	mg/L	0.055	0.052	0.046	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	0.002	0.002
Cadmium	Dissolved	mg/L	0.00183	0.00194	0.00039	0.00001
Chromium	Dissolved	mg/L	0.0007	0.0007	0.0009	0.0005
Cobalt	Dissolved	mg/L	0.0004	0.0002	<0.0001	0.0001
Copper	Dissolved	mg/L	0.001	0.001	0.002	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	0.0020	0.0001
Lithium	Dissolved	mg/L	0.006	0.006	0.004	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium	Dissolved	mg/L	0.0008	0.0009	0.0002	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.219	0.213	0.191	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0027	0.0034	<0.0005	0.0005
Uranium	Dissolved	mg/L	0.0018	0.0020	0.0008	0.0005
Vanadium	Dissolved	mg/L	0.0020	0.0019	0.0028	0.0001
Zinc	Dissolved	mg/L	0.356	0.351	0.038	0.001
Metals Total						
Calcium	Total	mg/L	88.2	87.6	78.4	0.2
Iron	Total	mg/L	0.4	0.3	<0.1	0.1
Magnesium	Total	mg/L	18.8	18.8	20.9	0.1
Manganese	Total	mg/L	0.553	0.386	0.042	0.005



Analytical Report

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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 8 of 30

		NWL Number		404439-7	404439-8	404439-9
		Sample Date		Aug 23, 2005	Aug 23, 2005	Aug 22, 2005
		Sample Description		KV-7 / Christal Cr u/s Hanson Br.	KV-8 / Christal Cr @ Mouth	KV-9 / Flat Cr. @ Mouth
		Matrix		Water - General	Water - General	Water - General
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	<0.4	<0.4	<0.4	0.4
Silicon	Total	mg/L	3.00	2.91	2.70	0.05
Sodium	Total	mg/L	1.2	1.1	1.7	0.4
Sulfur	Total	mg/L	56.0	54.6	36.7	0.3
Aluminum	Total	mg/L	0.085	0.050	0.006	0.005
Antimony	Total	mg/L	0.0002	0.0003	0.0009	0.0002
Arsenic	Total	mg/L	0.0028	0.0028	0.0027	0.0002
Barium	Total	mg/L	0.055	0.050	0.043	0.001
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Total	mg/L	0.00294	0.00279	0.00039	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.0007	0.0004	<0.0001	0.0001
Copper	Total	mg/L	0.001	<0.001	0.002	0.001
Lead	Total	mg/L	0.0022	0.0023	0.0058	0.0001
Lithium	Total	mg/L	0.006	0.005	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0019	0.0012	<0.0005	0.0005
Selenium	Total	mg/L	0.0007	0.0009	0.0004	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.204	0.197	0.184	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0046	0.0038	0.0019	0.0005
Uranium	Total	mg/L	0.0022	0.0021	0.0009	0.0005
Vanadium	Total	mg/L	0.0005	0.0002	0.0001	0.0001
Zinc	Total	mg/L	0.710	0.564	0.043	0.001
Zirconium	Total	mg/L	<0.001	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	10	3	<2	1
Routine Water						
pH	@ 25 °C	pH	7.86	8.13	8.00	
Electrical Conductivity	Water	uS/cm	586	584	565	1



Analytical Report

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Project
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NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

Page: 9 of 30

		NWL Number	404439-7	404439-8	404439-9	
		Sample Date	Aug 23, 2005	Aug 23, 2005	Aug 22, 2005	
		Sample Description	KV-7 / Christal Cr u/s Hanson Br.	KV-8 / Christal Cr @ Mouth	KV-9 / Flat Cr. @ Mouth	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	93.8	93.0	83.3	0.2
Magnesium	Dissolved	mg/L	20.7	20.6	23.1	0.1
Sodium	Dissolved	mg/L	1	0.9	1.6	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	<0.01	<0.01	0.04	0.01
Manganese	Dissolved	mg/L	0.481	0.329	0.024	0.005
Nitrate - N	Dissolved	mg/L	0.06	0.06	<0.03	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	159	168	203	5
T-Alkalinity	as CaCO3	mg/L	131	137	167	5
Hardness	Dissolved as CaCO3	mg/L	320	317	303	



Analytical Report

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Report to: Laberge Environmental Services
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Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
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Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
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NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
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Report Number: 739506

Page: 10 of 30

		NWL Number	404439-10	404439-11	404439-12	
		Sample Date	Aug 23, 2005	Aug 23, 2005	Aug 22, 2005	
		Sample Description	KV-37 / Lighting Cr. u/s Hope	KV-38 / Lighting Cr. u/s Thunder Creek	KV-41 / Lighting Cr. @ Keno	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters						
Ammonium - N	Dissolved	mg/L	<0.002	<0.002	0.006	0.002
Phosphate-P	Total Reactive	mg/L	<0.005	<0.005	0.007	0.005
Metals Dissolved						
Silicon	Dissolved	mg/L	2.68	3.17	3.24	0.05
Sulfur	Dissolved	mg/L	10.5	14.1	14.4	0.3
Aluminum	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony	Dissolved	mg/L	<0.0002	0.0003	0.0003	0.0002
Arsenic	Dissolved	mg/L	0.0024	0.0030	0.0023	0.0002
Barium	Dissolved	mg/L	0.053	0.055	0.043	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	<0.002	<0.002	<0.002	0.002
Cadmium	Dissolved	mg/L	0.00003	0.00029	0.00007	0.00001
Chromium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Copper	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Lithium	Dissolved	mg/L	<0.001	0.001	0.002	0.001
Molybdenum	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium	Dissolved	mg/L	0.0005	0.0007	0.0008	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.062	0.077	0.078	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0006	0.0007	0.0007	0.0005
Uranium	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Vanadium	Dissolved	mg/L	0.0004	0.0006	0.0007	0.0001
Zinc	Dissolved	mg/L	0.002	0.029	0.006	0.001
Metals Total						
Calcium	Total	mg/L	17.9	23	25.5	0.2
Iron	Total	mg/L	<0.1	<0.5	4.6	0.1
Magnesium	Total	mg/L	3.3	4	5.0	0.1
Manganese	Total	mg/L	0.009	<0.02	0.173	0.005



Analytical Report

Norwest Labs
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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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		NWL Number	404439-10	404439-11	404439-12	
		Sample Date	Aug 23, 2005	Aug 23, 2005	Aug 22, 2005	
		Sample Description	KV-37 / Lighting Cr. u/s Hope	KV-38 / Lighting Cr. u/s Thunder Creek	KV-41 / Lighting Cr. @ Keno	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Metals Total - Continued						
Potassium	Total	mg/L	<0.4	<2	<0.4	0.4
Silicon	Total	mg/L	2.50	2.7	6.56	0.05
Sodium	Total	mg/L	0.5	<2	0.7	0.4
Sulfur	Total	mg/L	10	13	13.0	0.3
Aluminum	Total	mg/L	0.015	<0.02	1.80	0.005
Antimony	Total	mg/L	<0.0002	<0.001	0.0007	0.0002
Arsenic	Total	mg/L	0.0022	0.002	0.0290	0.0002
Barium	Total	mg/L	0.051	0.054	0.091	0.001
Beryllium	Total	mg/L	<0.0001	<0.0005	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.002	<0.0005	0.0005
Boron	Total	mg/L	<0.002	<0.01	<0.002	0.002
Cadmium	Total	mg/L	<0.00001	0.00028	0.00031	0.00001
Chromium	Total	mg/L	<0.0005	<0.002	0.0038	0.0005
Cobalt	Total	mg/L	<0.0001	<0.0005	0.0024	0.0001
Copper	Total	mg/L	<0.001	<0.005	0.008	0.001
Lead	Total	mg/L	0.0001	<0.0005	0.0316	0.0001
Lithium	Total	mg/L	<0.001	<0.005	0.004	0.001
Molybdenum	Total	mg/L	<0.001	<0.005	<0.001	0.001
Nickel	Total	mg/L	<0.0005	<0.0025	0.0044	0.0005
Selenium	Total	mg/L	0.0005	<0.001	0.0007	0.0002
Silver	Total	mg/L	<0.0001	<0.0005	0.0009	0.0001
Strontium	Total	mg/L	0.060	0.078	0.075	0.001
Thallium	Total	mg/L	<0.00005	<0.0002	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.005	<0.001	0.001
Titanium	Total	mg/L	0.001	<0.002	0.0899	0.0005
Uranium	Total	mg/L	<0.0005	<0.002	0.0006	0.0005
Vanadium	Total	mg/L	<0.0001	<0.0005	0.0060	0.0001
Zinc	Total	mg/L	0.002	0.03	0.040	0.001
Zirconium	Total	mg/L	<0.001	<0.005	0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	<2	<2	62	1
Routine Water						
pH	@ 25 °C	pH	7.73	7.70	7.89	
Electrical Conductivity	Water	uS/cm	164	189	201	1



Analytical Report

Norwest Labs
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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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		NWL Number	404439-10	404439-11	404439-12	
		Sample Date	Aug 23, 2005	Aug 23, 2005	Aug 22, 2005	
		Sample Description	KV-37 / Lighting Cr. u/s Hope	KV-38 / Lighting Cr. u/s Thunder Creek	KV-41 / Lighting Cr. @ Keno	
		Matrix	Water - General	Water - General	Water - General	
Analyte		Units	Results	Results	Results	Detection Limit
Routine Water - Continued						
Calcium	Dissolved	mg/L	15.7	19.8	23.2	0.2
Magnesium	Dissolved	mg/L	3.3	4.1	4.5	0.1
Sodium	Dissolved	mg/L	0.5	0.8	0.4	0.4
Potassium	Dissolved	mg/L	<0.4	<0.4	<0.4	0.4
Iron	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Manganese	Dissolved	mg/L	0.005	<0.005	0.012	0.005
Nitrate - N	Dissolved	mg/L	<0.03	0.04	0.04	0.03
Nitrite - N	Dissolved	mg/L	<0.03	<0.03	<0.03	0.03
Hydroxide	Water	mg/L	<5	<5	<5	5
Carbonate	Water	mg/L	<6	<6	<6	5
Bicarbonate	Water	mg/L	37	42	54	5
T-Alkalinity	as CaCO3	mg/L	30	34	44	5
Hardness	Dissolved as CaCO3	mg/L	53	66	76	



Analytical Report

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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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NWL Number 404439-13
Sample Date Aug 22, 2005
Sample Description Dup / Duplicate
Matrix Water - General

Analyte		Units	Results	Results	Detection Limit
Inorganic Nonmetallic Parameters					
Ammonium - N	Dissolved	mg/L	0.002		0.002
Phosphate-P	Total Reactive	mg/L	<0.005		0.005
Metals Dissolved					
Silicon	Dissolved	mg/L	2.57		0.05
Sulfur	Dissolved	mg/L	23.5		0.3
Aluminum	Dissolved	mg/L	0.034		0.005
Antimony	Dissolved	mg/L	0.0002		0.0002
Arsenic	Dissolved	mg/L	0.0041		0.0002
Barium	Dissolved	mg/L	0.063		0.001
Beryllium	Dissolved	mg/L	<0.0001		0.0001
Bismuth	Dissolved	mg/L	<0.0005		0.0005
Boron	Dissolved	mg/L	<0.002		0.002
Cadmium	Dissolved	mg/L	0.00011		0.00001
Chromium	Dissolved	mg/L	0.0008		0.0005
Cobalt	Dissolved	mg/L	0.0001		0.0001
Copper	Dissolved	mg/L	0.002		0.001
Lead	Dissolved	mg/L	0.0002		0.0001
Lithium	Dissolved	mg/L	0.004		0.001
Molybdenum	Dissolved	mg/L	<0.001		0.001
Nickel	Dissolved	mg/L	0.0040		0.0005
Selenium	Dissolved	mg/L	0.0006		0.0002
Silver	Dissolved	mg/L	<0.0001		0.0001
Strontium	Dissolved	mg/L	0.202		0.001
Thallium	Dissolved	mg/L	<0.00005		0.00005
Tin	Dissolved	mg/L	<0.001		0.001
Titanium	Dissolved	mg/L	0.0012		0.0005
Uranium	Dissolved	mg/L	0.0008		0.0005
Vanadium	Dissolved	mg/L	0.0020		0.0001
Zinc	Dissolved	mg/L	0.016		0.001
Metals Total					
Calcium	Total	mg/L	53		0.2
Iron	Total	mg/L	8		0.1
Magnesium	Total	mg/L	15		0.1
Manganese	Total	mg/L	0.08		0.005
Potassium	Total	mg/L	<4		0.4



Analytical Report

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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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NWL Number 404439-13
Sample Date Aug 22, 2005
Sample Description Dup / Duplicate
Matrix Water - General

Analyte		Units	Results	Results	Detection Limit
Metals Total - Continued					
Silicon	Total	mg/L	2.4		0.05
Sodium	Total	mg/L	<4		0.4
Sulfur	Total	mg/L	23		0.3
Aluminum	Total	mg/L	<0.05		0.005
Antimony	Total	mg/L	<0.002		0.0002
Arsenic	Total	mg/L	0.003		0.0002
Barium	Total	mg/L	0.06		0.001
Beryllium	Total	mg/L	<0.001		0.0001
Bismuth	Total	mg/L	<0.005		0.0005
Boron	Total	mg/L	<0.02		0.002
Cadmium	Total	mg/L	0.00012		0.00001
Chromium	Total	mg/L	0.006		0.0005
Cobalt	Total	mg/L	0.003		0.0001
Copper	Total	mg/L	<0.01		0.001
Lead	Total	mg/L	<0.001		0.0001
Lithium	Total	mg/L	<0.01		0.001
Molybdenum	Total	mg/L	<0.01		0.001
Nickel	Total	mg/L	<0.0050		0.0005
Selenium	Total	mg/L	<0.002		0.0002
Silver	Total	mg/L	<0.001		0.0001
Strontium	Total	mg/L	0.19		0.001
Thallium	Total	mg/L	<0.0005		0.00005
Tin	Total	mg/L	<0.01		0.001
Titanium	Total	mg/L	<0.005		0.0005
Uranium	Total	mg/L	<0.005		0.0005
Vanadium	Total	mg/L	0.002		0.0001
Zinc	Total	mg/L	0.02		0.001
Zirconium	Total	mg/L	<0.01		0.001
Physical and Aggregate Properties					
Solids	Total Suspended	mg/L	6		1
Routine Water					
pH	@ 25 °C	pH	8.21		
Electrical Conductivity	Water	uS/cm	381		1
Calcium	Dissolved	mg/L	51.9		0.2
Magnesium	Dissolved	mg/L	16.3		0.1



Analytical Report

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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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NWL Number 404439-13
Sample Date Aug 22, 2005
Sample Description Dup / Duplicate
Matrix Water - General

Analyte		Units	Results	Results	Detection Limit
Routine Water - Continued					
Sodium	Dissolved	mg/L	1.9		0.4
Potassium	Dissolved	mg/L	0.6		0.4
Iron	Dissolved	mg/L	0.05		0.01
Manganese	Dissolved	mg/L	0.034		0.005
Nitrate - N	Dissolved	mg/L	<0.03		0.03
Nitrite - N	Dissolved	mg/L	<0.03		0.03
Hydroxide	Water	mg/L	<5		5
Carbonate	Water	mg/L	<6		5
Bicarbonate	Water	mg/L	143		5
T-Alkalinity	as CaCO3	mg/L	117		5
Hardness	Dissolved as CaCO3	mg/L	197		



Analytical Report

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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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		NWL Number	404439-14	404439-15	404439-16	
		Sample Description	KV-1A	KV-1B	KV-1C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8600	8380	9590	1
Antimony	Strong Acid Extractable	ug/g	<1	<1	<1	1
Arsenic	Strong Acid Extractable	ug/g	17.0	14.6	18.9	0.5
Barium	Strong Acid Extractable	ug/g	141	132	170	0.05
Beryllium	Strong Acid Extractable	ug/g	0.35	0.34	0.40	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	1.8	1.8	2.6	0.05
Calcium	Strong Acid Extractable	ug/g	7420	6940	8900	0.5
Chromium	Strong Acid Extractable	ug/g	18.1	18.9	28.4	0.1
Cobalt	Strong Acid Extractable	ug/g	16.0	14.9	18.0	0.1
Copper	Strong Acid Extractable	ug/g	18.4	18.0	25.7	0.1
Iron	Strong Acid Extractable	ug/g	19500	18500	19700	0.2
Lead	Strong Acid Extractable	ug/g	12.2	18.4	16.5	0.5
Lithium	Strong Acid Extractable	ug/g	14.1	13.7	14.7	0.5
Magnesium	Strong Acid Extractable	ug/g	5040	4910	5100	2
Manganese	Strong Acid Extractable	ug/g	686	612	848	0.05
Mercury	Strong Acid Extractable	ug/g	0.039	0.032	0.044	0.003
Molybdenum	Strong Acid Extractable	ug/g	0.78	0.74	0.81	0.2
Nickel	Strong Acid Extractable	ug/g	58.2	56.0	72.2	0.3
Phosphorus	Strong Acid Extractable	ug/g	864	794	860	1
Potassium	Strong Acid Extractable	ug/g	659	663	861	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	121	128	137	0.5
Silver	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.3
Sodium	Strong Acid Extractable	ug/g	107	104	128	0.5
Strontium	Strong Acid Extractable	ug/g	32.7	30.8	39.8	0.03
Thallium	Strong Acid Extractable	ug/g	<0.5	<0.5	<0.5	0.5
Tin	Strong Acid Extractable	ug/g	5.67	15.0	7.37	0.5
Titanium	Strong Acid Extractable	ug/g	268	266	297	0.05
Vanadium	Strong Acid Extractable	ug/g	25.9	25.2	27.9	0.2
Zinc	Strong Acid Extractable	ug/g	371	343	440	0.03
Zirconium	Strong Acid Extractable	ug/g	3.5	3.4	4.0	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.3	7.4	7.9	0.5



Analytical Report

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Report to: Laberge Environmental Services
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1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
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Report Number: 739506

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		NWL Number	404439-17	404439-18	404439-19	
		Sample Description	KV-2A	KV-2B	KV-2C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	9520	7140	9470	1
Antimony	Strong Acid Extractable	ug/g	<1	97.8	15	1
Arsenic	Strong Acid Extractable	ug/g	51.4	645	151	0.5
Barium	Strong Acid Extractable	ug/g	193	120	377	0.05
Beryllium	Strong Acid Extractable	ug/g	0.40	0.32	0.40	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	3.9	115	12.6	0.05
Calcium	Strong Acid Extractable	ug/g	6140	7580	18100	0.5
Chromium	Strong Acid Extractable	ug/g	24.6	17.9	28.1	0.1
Cobalt	Strong Acid Extractable	ug/g	9.82	9.85	15.4	0.1
Copper	Strong Acid Extractable	ug/g	27.3	91.2	48.7	0.1
Iron	Strong Acid Extractable	ug/g	24600	52300	35500	0.2
Lead	Strong Acid Extractable	ug/g	125	3130	397	0.5
Lithium	Strong Acid Extractable	ug/g	14.6	10.6	14.3	0.5
Magnesium	Strong Acid Extractable	ug/g	4520	5320	7450	2
Manganese	Strong Acid Extractable	ug/g	1360	16800	4420	0.05
Mercury	Strong Acid Extractable	ug/g	0.0570	0.262	0.103	0.003
Molybdenum	Strong Acid Extractable	ug/g	0.84	2.5	2.4	0.2
Nickel	Strong Acid Extractable	ug/g	32.3	35.9	58.7	0.3
Phosphorus	Strong Acid Extractable	ug/g	924	732	847	1
Potassium	Strong Acid Extractable	ug/g	734	572	620	3
Selenium	Strong Acid Extractable	ug/g	<0.50	1.0	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	162	180	190	0.5
Silver	Strong Acid Extractable	ug/g	1.9	28.4	7.68	0.3
Sodium	Strong Acid Extractable	ug/g	115	103	259	0.5
Strontium	Strong Acid Extractable	ug/g	34.2	26.9	49.2	0.03
Thallium	Strong Acid Extractable	ug/g	<0.5	5.53	2.4	0.5
Tin	Strong Acid Extractable	ug/g	5.68	7.32	10.7	0.5
Titanium	Strong Acid Extractable	ug/g	227	233	279	0.05
Vanadium	Strong Acid Extractable	ug/g	30.3	24.1	31.4	0.2
Zinc	Strong Acid Extractable	ug/g	382	5960	953	0.03
Zirconium	Strong Acid Extractable	ug/g	3.2	4.0	4.1	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	8.6	7.9	8.6	0.5



Analytical Report

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Box 21072
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Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
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Report Number: 739506

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		NWL Number	404439-20	404439-21	404439-22	
		Sample Description	KV-3A	KV-3B	KV-3C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	9600	7980	8970	1
Antimony	Strong Acid Extractable	ug/g	14	17	17	1
Arsenic	Strong Acid Extractable	ug/g	121	105	114	0.5
Barium	Strong Acid Extractable	ug/g	192	136	166	0.05
Beryllium	Strong Acid Extractable	ug/g	0.41	0.33	0.37	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	12.8	11.3	14.3	0.05
Calcium	Strong Acid Extractable	ug/g	10000	8080	7520	0.5
Chromium	Strong Acid Extractable	ug/g	24.8	15.0	17.7	0.1
Cobalt	Strong Acid Extractable	ug/g	16.0	11.2	13.0	0.1
Copper	Strong Acid Extractable	ug/g	41.4	32.1	35.6	0.1
Iron	Strong Acid Extractable	ug/g	27600	24800	26500	0.2
Lead	Strong Acid Extractable	ug/g	511	409	504	0.5
Lithium	Strong Acid Extractable	ug/g	14.8	12.3	13.6	0.5
Magnesium	Strong Acid Extractable	ug/g	5440	5010	5160	2
Manganese	Strong Acid Extractable	ug/g	3830	3750	3850	0.05
Mercury	Strong Acid Extractable	ug/g	0.0697	0.0560	0.0619	0.003
Molybdenum	Strong Acid Extractable	ug/g	1.2	0.86	1.0	0.2
Nickel	Strong Acid Extractable	ug/g	63.3	44.1	53.5	0.3
Phosphorus	Strong Acid Extractable	ug/g	825	767	824	1
Potassium	Strong Acid Extractable	ug/g	744	556	673	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	136	154	150	0.5
Silver	Strong Acid Extractable	ug/g	5.98	5.35	6.56	0.3
Sodium	Strong Acid Extractable	ug/g	102	97.0	105	0.5
Strontium	Strong Acid Extractable	ug/g	35.6	27.2	30.3	0.03
Thallium	Strong Acid Extractable	ug/g	1.6	1.7	1.9	0.5
Tin	Strong Acid Extractable	ug/g	6.31	2.6	2.3	0.5
Titanium	Strong Acid Extractable	ug/g	198	244	255	0.05
Vanadium	Strong Acid Extractable	ug/g	27.8	25.3	27.3	0.2
Zinc	Strong Acid Extractable	ug/g	1060	910	1060	0.03
Zirconium	Strong Acid Extractable	ug/g	3.7	3.2	3.4	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	8.2	8.4	8.1	0.5



Analytical Report

Norwest Labs
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Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
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Report Number: 739506

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		NWL Number	404439-23	404439-24	404439-25	
		Sample Description	KV-4A	KV-4B	KV-4C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8040	8000	8760	1
Antimony	Strong Acid Extractable	ug/g	42	40	20	1
Arsenic	Strong Acid Extractable	ug/g	186	187	128	0.5
Barium	Strong Acid Extractable	ug/g	161	176	155	0.05
Beryllium	Strong Acid Extractable	ug/g	0.34	0.35	0.38	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	16.8	13.7	17.1	0.05
Calcium	Strong Acid Extractable	ug/g	7000	7390	7180	0.5
Chromium	Strong Acid Extractable	ug/g	15.5	15.8	16.6	0.1
Cobalt	Strong Acid Extractable	ug/g	10.0	9.72	13.3	0.1
Copper	Strong Acid Extractable	ug/g	48.9	52.3	38.8	0.1
Iron	Strong Acid Extractable	ug/g	29400	30700	25800	0.2
Lead	Strong Acid Extractable	ug/g	1440	1510	614	0.5
Lithium	Strong Acid Extractable	ug/g	11.4	11.6	12.8	0.5
Magnesium	Strong Acid Extractable	ug/g	4820	5250	4830	2
Manganese	Strong Acid Extractable	ug/g	4100	4200	3390	0.05
Mercury	Strong Acid Extractable	ug/g	0.107	0.120	0.0940	0.003
Molybdenum	Strong Acid Extractable	ug/g	1.0	1.0	1.0	0.2
Nickel	Strong Acid Extractable	ug/g	37.0	33.6	51.4	0.3
Phosphorus	Strong Acid Extractable	ug/g	770	761	810	1
Potassium	Strong Acid Extractable	ug/g	631	590	700	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	108	95.8	128	0.5
Silver	Strong Acid Extractable	ug/g	15.1	15.4	8.17	0.3
Sodium	Strong Acid Extractable	ug/g	100	99.5	109	0.5
Strontium	Strong Acid Extractable	ug/g	22.1	20.9	26.0	0.03
Thallium	Strong Acid Extractable	ug/g	2.6	2.5	1.7	0.5
Tin	Strong Acid Extractable	ug/g	2.9	2.9	3.7	0.5
Titanium	Strong Acid Extractable	ug/g	233	234	211	0.05
Vanadium	Strong Acid Extractable	ug/g	25.6	27.4	25.7	0.2
Zinc	Strong Acid Extractable	ug/g	1190	1110	1210	0.03
Zirconium	Strong Acid Extractable	ug/g	3.1	2.9	3.1	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.9	8.0	7.3	0.5



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1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

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		NWL Number	404439-26	404439-27	404439-28	
		Sample Description	KV-5A	KV-5B	KV-5C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8420	8600	9940	1
Antimony	Strong Acid Extractable	ug/g	6.3	<1	<1	1
Arsenic	Strong Acid Extractable	ug/g	63.9	49.7	22.7	0.5
Barium	Strong Acid Extractable	ug/g	178	168	176	0.05
Beryllium	Strong Acid Extractable	ug/g	0.36	0.39	0.42	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	6.31	2.0	0.67	0.05
Calcium	Strong Acid Extractable	ug/g	7200	3930	3840	0.5
Chromium	Strong Acid Extractable	ug/g	16.2	17.4	21.2	0.1
Cobalt	Strong Acid Extractable	ug/g	10.7	9.29	7.73	0.1
Copper	Strong Acid Extractable	ug/g	25.9	25.4	34.2	0.1
Iron	Strong Acid Extractable	ug/g	22200	21900	22600	0.2
Lead	Strong Acid Extractable	ug/g	252	77.0	21.2	0.5
Lithium	Strong Acid Extractable	ug/g	13.0	13.1	16.3	0.5
Magnesium	Strong Acid Extractable	ug/g	4770	3880	4610	2
Manganese	Strong Acid Extractable	ug/g	2360	947	272	0.05
Mercury	Strong Acid Extractable	ug/g	0.045	0.042	0.0717	0.003
Molybdenum	Strong Acid Extractable	ug/g	0.78	1.2	0.96	0.2
Nickel	Strong Acid Extractable	ug/g	38.3	28.0	27.9	0.3
Phosphorus	Strong Acid Extractable	ug/g	769	818	907	1
Potassium	Strong Acid Extractable	ug/g	653	652	771	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	112	136	137	0.5
Silver	Strong Acid Extractable	ug/g	2.4	<0.3	<0.29	0.3
Sodium	Strong Acid Extractable	ug/g	94.7	93.5	114	0.5
Strontium	Strong Acid Extractable	ug/g	29.6	24.6	26.3	0.03
Thallium	Strong Acid Extractable	ug/g	1.0	<0.5	<0.5	0.5
Tin	Strong Acid Extractable	ug/g	1.0	1.3	2.9	0.5
Titanium	Strong Acid Extractable	ug/g	246	248	262	0.05
Vanadium	Strong Acid Extractable	ug/g	26.8	28.6	30.5	0.2
Zinc	Strong Acid Extractable	ug/g	588	205	127	0.03
Zirconium	Strong Acid Extractable	ug/g	3.1	4.1	4.4	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.8	7.5	7.5	0.5



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Sampled By: Bonnie Burns
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		NWL Number	404439-29	404439-30	404439-31	
		Sample Description	KV-6A	KV-6B	KV-6C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8990	7430	8180	1
Antimony	Strong Acid Extractable	ug/g	81.0	102	87.7	1
Arsenic	Strong Acid Extractable	ug/g	1140	1820	1200	0.5
Barium	Strong Acid Extractable	ug/g	98.8	37.2	91.3	0.05
Beryllium	Strong Acid Extractable	ug/g	0.36	0.30	0.33	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	120	144	126	0.05
Calcium	Strong Acid Extractable	ug/g	9620	7570	9220	0.5
Chromium	Strong Acid Extractable	ug/g	17.4	14.4	17.2	0.1
Cobalt	Strong Acid Extractable	ug/g	19.3	20.9	21.4	0.1
Copper	Strong Acid Extractable	ug/g	93.1	93.5	95.2	0.1
Iron	Strong Acid Extractable	ug/g	54000	69200	55000	0.2
Lead	Strong Acid Extractable	ug/g	7370	8260	7470	0.5
Lithium	Strong Acid Extractable	ug/g	13.0	10.5	11.9	0.5
Magnesium	Strong Acid Extractable	ug/g	4940	3870	4380	2
Manganese	Strong Acid Extractable	ug/g	25400	32700	28100	0.05
Mercury	Strong Acid Extractable	ug/g	0.206	0.253	0.214	0.003
Molybdenum	Strong Acid Extractable	ug/g	3.1	3.2	3.4	0.2
Nickel	Strong Acid Extractable	ug/g	63.6	78.4	71.8	0.3
Phosphorus	Strong Acid Extractable	ug/g	699	630	679	1
Potassium	Strong Acid Extractable	ug/g	717	538	621	3
Selenium	Strong Acid Extractable	ug/g	5.09	5.98	6.36	0.5
Silicon	Strong Acid Extractable	ug/g	146	154	126	0.5
Silver	Strong Acid Extractable	ug/g	10.0	19.7	26.3	0.3
Sodium	Strong Acid Extractable	ug/g	99.8	75.4	86.4	0.5
Strontium	Strong Acid Extractable	ug/g	28.8	23.3	28.7	0.03
Thallium	Strong Acid Extractable	ug/g	9.76	12.6	10.8	0.5
Tin	Strong Acid Extractable	ug/g	4.8	4.9	4.2	0.5
Titanium	Strong Acid Extractable	ug/g	150	118	135	0.05
Vanadium	Strong Acid Extractable	ug/g	27.8	24.7	26.3	0.2
Zinc	Strong Acid Extractable	ug/g	7690	9580	7740	0.03
Zirconium	Strong Acid Extractable	ug/g	3.9	3.8	3.6	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.6	7.9	8.1	0.5



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Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
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Name: Keno Valley
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		NWL Number	404439-32	404439-33	404439-34	
		Sample Description	KV-7A	KV-7B	KV-7C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	7220	9040	7870	1
Antimony	Strong Acid Extractable	ug/g	19	7.1	6.2	1
Arsenic	Strong Acid Extractable	ug/g	234	160	162	0.5
Barium	Strong Acid Extractable	ug/g	268	292	605	0.05
Beryllium	Strong Acid Extractable	ug/g	0.30	0.40	0.33	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	29.1	22.8	69.6	0.05
Calcium	Strong Acid Extractable	ug/g	11100	11200	16000	0.5
Chromium	Strong Acid Extractable	ug/g	13.9	17.7	37.9	0.1
Cobalt	Strong Acid Extractable	ug/g	12.2	12.0	26.3	0.1
Copper	Strong Acid Extractable	ug/g	40.1	41.1	47.1	0.1
Iron	Strong Acid Extractable	ug/g	29800	26000	28200	0.2
Lead	Strong Acid Extractable	ug/g	1420	675	612	0.5
Lithium	Strong Acid Extractable	ug/g	10.9	13.7	12.0	0.5
Magnesium	Strong Acid Extractable	ug/g	5720	5820	5970	2
Manganese	Strong Acid Extractable	ug/g	12800	4560	25000	0.05
Mercury	Strong Acid Extractable	ug/g	0.121	0.0780	0.0762	0.003
Molybdenum	Strong Acid Extractable	ug/g	2.8	2.4	7.19	0.2
Nickel	Strong Acid Extractable	ug/g	47.3	41.6	107	0.3
Phosphorus	Strong Acid Extractable	ug/g	910	915	887	1
Potassium	Strong Acid Extractable	ug/g	518	762	606	3
Selenium	Strong Acid Extractable	ug/g	2.3	<0.50	8.27	0.5
Silicon	Strong Acid Extractable	ug/g	112	122	89.9	0.5
Silver	Strong Acid Extractable	ug/g	15.0	4.7	4.9	0.3
Sodium	Strong Acid Extractable	ug/g	82.0	107	84.7	0.5
Strontium	Strong Acid Extractable	ug/g	33.0	34.4	52.8	0.03
Thallium	Strong Acid Extractable	ug/g	5.14	2.6	10.4	0.5
Tin	Strong Acid Extractable	ug/g	1.8	0.95	15.9	0.5
Titanium	Strong Acid Extractable	ug/g	178	178	135	0.05
Vanadium	Strong Acid Extractable	ug/g	25.0	28.4	24.8	0.2
Zinc	Strong Acid Extractable	ug/g	3710	2520	7900	0.03
Zirconium	Strong Acid Extractable	ug/g	2.9	3.1	3.0	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.5	7.6	7.6	0.5



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Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

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		NWL Number	404439-35	404439-36	404439-37	
		Sample Description	KV-8A	KV-8B	KV-8C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8670	9460	8010	1
Antimony	Strong Acid Extractable	ug/g	33	33	53.0	1
Arsenic	Strong Acid Extractable	ug/g	402	513	633	0.5
Barium	Strong Acid Extractable	ug/g	271	232	267	0.05
Beryllium	Strong Acid Extractable	ug/g	0.33	0.40	0.33	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	67.2	57.8	78.2	0.05
Calcium	Strong Acid Extractable	ug/g	7460	8580	6810	0.5
Chromium	Strong Acid Extractable	ug/g	19.6	18.6	17.4	0.1
Cobalt	Strong Acid Extractable	ug/g	15.0	12.8	16.9	0.1
Copper	Strong Acid Extractable	ug/g	52.9	67.4	67.0	0.1
Iron	Strong Acid Extractable	ug/g	40700	37400	47700	0.2
Lead	Strong Acid Extractable	ug/g	1950	2100	3000	0.5
Lithium	Strong Acid Extractable	ug/g	13.4	15.1	12.3	0.5
Magnesium	Strong Acid Extractable	ug/g	4670	4970	4390	2
Manganese	Strong Acid Extractable	ug/g	15500	4860	19300	0.05
Mercury	Strong Acid Extractable	ug/g	0.118	0.148	0.143	0.003
Molybdenum	Strong Acid Extractable	ug/g	3.2	2.4	3.4	0.2
Nickel	Strong Acid Extractable	ug/g	47.7	47.8	49.4	0.3
Phosphorus	Strong Acid Extractable	ug/g	812	770	828	1
Potassium	Strong Acid Extractable	ug/g	558	653	488	3
Selenium	Strong Acid Extractable	ug/g	2.0	<0.50	2.9	0.5
Silicon	Strong Acid Extractable	ug/g	90.0	69.4	90.8	0.5
Silver	Strong Acid Extractable	ug/g	17.7	13.4	24.2	0.3
Sodium	Strong Acid Extractable	ug/g	76.9	92.3	72.2	0.5
Strontium	Strong Acid Extractable	ug/g	30.8	30.1	28.9	0.03
Thallium	Strong Acid Extractable	ug/g	6.02	3.5	7.82	0.5
Tin	Strong Acid Extractable	ug/g	5.05	3.1	5.88	0.5
Titanium	Strong Acid Extractable	ug/g	148	138	142	0.05
Vanadium	Strong Acid Extractable	ug/g	26.6	27.4	25.7	0.2
Zinc	Strong Acid Extractable	ug/g	4930	4470	5430	0.03
Zirconium	Strong Acid Extractable	ug/g	3.3	3.5	3.5	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.8	7.6	7.8	0.5



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		NWL Number	404439-38	404439-39	404439-40	
		Sample Description	KV-9A	KV-9B	KV-9C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	6680	6050	6550	1
Antimony	Strong Acid Extractable	ug/g	132	107	124	1
Arsenic	Strong Acid Extractable	ug/g	440	354	393	0.5
Barium	Strong Acid Extractable	ug/g	412	416	353	0.05
Beryllium	Strong Acid Extractable	ug/g	0.35	0.32	0.34	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	41.7	37.1	46.9	0.05
Calcium	Strong Acid Extractable	ug/g	5810	5100	5390	0.5
Chromium	Strong Acid Extractable	ug/g	14.2	12.9	14.4	0.1
Cobalt	Strong Acid Extractable	ug/g	11.4	9.74	10.8	0.1
Copper	Strong Acid Extractable	ug/g	157	125	158	0.1
Iron	Strong Acid Extractable	ug/g	57500	47800	55800	0.2
Lead	Strong Acid Extractable	ug/g	6650	6030	7320	0.5
Lithium	Strong Acid Extractable	ug/g	9.18	8.74	8.89	0.5
Magnesium	Strong Acid Extractable	ug/g	3610	3360	3500	2
Manganese	Strong Acid Extractable	ug/g	26500	19200	22500	0.05
Mercury	Strong Acid Extractable	ug/g	0.319	0.265	0.314	0.003
Molybdenum	Strong Acid Extractable	ug/g	1.8	1.8	1.5	0.2
Nickel	Strong Acid Extractable	ug/g	36.9	29.5	32.3	0.3
Phosphorus	Strong Acid Extractable	ug/g	558	535	560	1
Potassium	Strong Acid Extractable	ug/g	497	402	527	3
Selenium	Strong Acid Extractable	ug/g	4.9	2.7	3.4	0.5
Silicon	Strong Acid Extractable	ug/g	115	123	109	0.5
Silver	Strong Acid Extractable	ug/g	24.5	34.3	17.5	0.3
Sodium	Strong Acid Extractable	ug/g	63.8	61.4	64.7	0.5
Strontium	Strong Acid Extractable	ug/g	23.7	22.7	22.9	0.03
Thallium	Strong Acid Extractable	ug/g	10.9	8.34	9.66	0.5
Tin	Strong Acid Extractable	ug/g	9.79	15.0	7.48	0.5
Titanium	Strong Acid Extractable	ug/g	85.4	85.1	106	0.05
Vanadium	Strong Acid Extractable	ug/g	24.7	23.0	24.7	0.2
Zinc	Strong Acid Extractable	ug/g	2630	2360	2440	0.03
Zirconium	Strong Acid Extractable	ug/g	2.4	2.2	2.5	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.4	7.9	7.4	0.5



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Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
Control Number: E 229620
Date Received: Aug 26, 2005
Date Reported: Sep 06, 2005
Report Number: 739506

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		NWL Number	404439-41	404439-42	404439-43	
		Sample Description	KV-37A	KV-37B	KV-37C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	11200	11500	9690	1
Antimony	Strong Acid Extractable	ug/g	<1	<1	<1	1
Arsenic	Strong Acid Extractable	ug/g	130	89.0	81.1	0.5
Barium	Strong Acid Extractable	ug/g	193	177	142	0.05
Beryllium	Strong Acid Extractable	ug/g	0.39	0.41	0.33	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	1.3	1.2	0.78	0.05
Calcium	Strong Acid Extractable	ug/g	2440	2400	1750	0.5
Chromium	Strong Acid Extractable	ug/g	22.4	22.0	18.7	0.1
Cobalt	Strong Acid Extractable	ug/g	10.0	9.70	7.89	0.1
Copper	Strong Acid Extractable	ug/g	35.4	36.8	27.4	0.1
Iron	Strong Acid Extractable	ug/g	25100	22800	19500	0.2
Lead	Strong Acid Extractable	ug/g	47.0	40.4	30.8	0.5
Lithium	Strong Acid Extractable	ug/g	14.5	14.9	12.3	0.5
Magnesium	Strong Acid Extractable	ug/g	3110	3200	2750	2
Manganese	Strong Acid Extractable	ug/g	676	394	386	0.05
Mercury	Strong Acid Extractable	ug/g	0.038	0.039	0.028	0.003
Molybdenum	Strong Acid Extractable	ug/g	1.3	1.1	0.84	0.2
Nickel	Strong Acid Extractable	ug/g	28.2	28.5	23.9	0.3
Phosphorus	Strong Acid Extractable	ug/g	790	761	639	1
Potassium	Strong Acid Extractable	ug/g	363	381	303	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	122	106	127	0.5
Silver	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.3
Sodium	Strong Acid Extractable	ug/g	44.0	46.7	37.4	0.5
Strontium	Strong Acid Extractable	ug/g	17.6	17.5	13.3	0.03
Thallium	Strong Acid Extractable	ug/g	<0.5	<0.5	<0.5	0.5
Tin	Strong Acid Extractable	ug/g	4.7	0.65	<0.5	0.5
Titanium	Strong Acid Extractable	ug/g	83.6	86.5	99.1	0.05
Vanadium	Strong Acid Extractable	ug/g	27.8	28.8	24.3	0.2
Zinc	Strong Acid Extractable	ug/g	114	113	84.2	0.03
Zirconium	Strong Acid Extractable	ug/g	1.1	1.1	1.0	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	6.9	7.1	6.5	0.5



Analytical Report

Norwest Labs
#104, 19575-55 A Ave.
Surrey, BC. V3S 8P8
Phone: (604) 514-3322
Fax: (604) 514-3323

Bill to: Laberge Environmental Services
Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
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		NWL Number	404439-44	404439-45	404439-46	
		Sample Description	KV-38A	KV-38B	KV-38C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	6720	5860	8500	1
Antimony	Strong Acid Extractable	ug/g	32	39	26	1
Arsenic	Strong Acid Extractable	ug/g	503	543	458	0.5
Barium	Strong Acid Extractable	ug/g	85.0	70.7	154	0.05
Beryllium	Strong Acid Extractable	ug/g	0.26	0.25	0.35	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	57.4	59.9	19.6	0.05
Calcium	Strong Acid Extractable	ug/g	2770	3410	2940	0.5
Chromium	Strong Acid Extractable	ug/g	15.1	10.8	16.4	0.1
Cobalt	Strong Acid Extractable	ug/g	9.28	9.07	10.8	0.1
Copper	Strong Acid Extractable	ug/g	59.7	66.3	59.6	0.1
Iron	Strong Acid Extractable	ug/g	29300	27800	28400	0.2
Lead	Strong Acid Extractable	ug/g	966	1180	1370	0.5
Lithium	Strong Acid Extractable	ug/g	8.34	7.38	11.3	0.5
Magnesium	Strong Acid Extractable	ug/g	3190	3190	3450	2
Manganese	Strong Acid Extractable	ug/g	3340	3080	2300	0.05
Mercury	Strong Acid Extractable	ug/g	0.286	0.295	0.222	0.003
Molybdenum	Strong Acid Extractable	ug/g	3.0	2.9	2.4	0.2
Nickel	Strong Acid Extractable	ug/g	25.5	24.0	28.2	0.3
Phosphorus	Strong Acid Extractable	ug/g	762	786	879	1
Potassium	Strong Acid Extractable	ug/g	260	259	351	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	127	120	135	0.5
Silver	Strong Acid Extractable	ug/g	30.0	34.0	25.9	0.3
Sodium	Strong Acid Extractable	ug/g	26.3	24.2	38.7	0.5
Strontium	Strong Acid Extractable	ug/g	13.5	14.6	17.7	0.03
Thallium	Strong Acid Extractable	ug/g	1.7	1.2	0.96	0.5
Tin	Strong Acid Extractable	ug/g	2.6	2.5	3.2	0.5
Titanium	Strong Acid Extractable	ug/g	230	216	148	0.05
Vanadium	Strong Acid Extractable	ug/g	21.5	19.8	25.0	0.2
Zinc	Strong Acid Extractable	ug/g	4300	4610	1600	0.03
Zirconium	Strong Acid Extractable	ug/g	2.5	2.7	1.8	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	6.5	6.8	7.6	0.5



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Report to: Laberge Environmental Services
Box 21072
1-405 Ogilvie Street
Whitehorse, YT, Canada
Y1A 6P7
Attn: Bonnie Burns
Sampled By: Bonnie Burns
Company: LES

Project
ID: KVRW
Name: Keno Valley
Location: Receiving Water
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 404439
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		NWL Number	404439-47	404439-48	404439-49	
		Sample Description	KV-41A	KV-41B	KV-41C	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte	Units	Results	Results	Results	Detection Limit	
Metals Strong Acid Digestion						
Aluminum	Strong Acid Extractable	ug/g	8130	6840	6950	1
Antimony	Strong Acid Extractable	ug/g	<1	<1	<1	1
Arsenic	Strong Acid Extractable	ug/g	35.5	47.5	68.5	0.5
Barium	Strong Acid Extractable	ug/g	130	100	111	0.05
Beryllium	Strong Acid Extractable	ug/g	0.32	0.25	0.27	0.01
Bismuth	Strong Acid Extractable	ug/g	<1	<1	<1	2
Cadmium	Strong Acid Extractable	ug/g	1.7	2.8	3.7	0.05
Calcium	Strong Acid Extractable	ug/g	2250	2000	2130	0.5
Chromium	Strong Acid Extractable	ug/g	16.1	14.0	14.9	0.1
Cobalt	Strong Acid Extractable	ug/g	7.20	6.54	7.20	0.1
Copper	Strong Acid Extractable	ug/g	21.2	18.0	21.0	0.1
Iron	Strong Acid Extractable	ug/g	17000	15500	17000	0.2
Lead	Strong Acid Extractable	ug/g	48.2	82.0	86.4	0.5
Lithium	Strong Acid Extractable	ug/g	9.58	8.72	8.49	0.5
Magnesium	Strong Acid Extractable	ug/g	2810	2550	2530	2
Manganese	Strong Acid Extractable	ug/g	409	504	633	0.05
Mercury	Strong Acid Extractable	ug/g	0.022	0.022	0.028	0.003
Molybdenum	Strong Acid Extractable	ug/g	0.98	0.87	0.92	0.2
Nickel	Strong Acid Extractable	ug/g	18.5	17.1	18.0	0.3
Phosphorus	Strong Acid Extractable	ug/g	562	543	590	1
Potassium	Strong Acid Extractable	ug/g	367	276	312	3
Selenium	Strong Acid Extractable	ug/g	<0.50	<0.50	<0.50	0.5
Silicon	Strong Acid Extractable	ug/g	114	130	109	0.5
Silver	Strong Acid Extractable	ug/g	<0.3	0.4	2.1	0.3
Sodium	Strong Acid Extractable	ug/g	52.7	41.2	43.2	0.5
Strontium	Strong Acid Extractable	ug/g	15.4	13.0	13.6	0.03
Thallium	Strong Acid Extractable	ug/g	<0.5	<0.5	<0.5	0.5
Tin	Strong Acid Extractable	ug/g	<0.5	0.88	<0.5	0.5
Titanium	Strong Acid Extractable	ug/g	240	230	276	0.05
Vanadium	Strong Acid Extractable	ug/g	26.2	22.0	23.8	0.2
Zinc	Strong Acid Extractable	ug/g	162	225	297	0.03
Zirconium	Strong Acid Extractable	ug/g	2.0	2.3	2.5	0.05
Soil Acidity						
pH	1:2 Soil:Water	pH	7.5	7.1	7.6	0.5



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Attn: Bonnie Burns
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Project
ID: KVRW
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Approved by:

Bill Warning, B.Sc.
Lab Operations Manager



Methodology and Notes

Norwest Labs
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Method of Analysis:

MethodName	Reference	Method	Date Analysis Started	Location
Alkalinity (Surrey)	APHA	* Titration Method, 2320 B	30-Aug-05	Norwest Labs Surrey
Ammonium-N in Water (color Surrey)	APHA	* Automated Phenate Method, 4500-NH3 G	29-Aug-05	Norwest Labs Surrey
Anions by IEC in water (Surrey)	APHA	* Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	30-Aug-05	Norwest Labs Surrey
Conductivity (Surrey)	APHA	* Conductivity - Laboratory Method, 2510 B	31-Aug-05	Norwest Labs Surrey
Metals (Strong Acid Leachable) in soils	B.C. Ministry of WLAP	* Strong Acid Leachable Metals (SALM) in Soil, V 1.0, SALM	31-Aug-05	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	31-Aug-05	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	* Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	30-Aug-05	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	30-Aug-05	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	30-Aug-05	Norwest Labs Edmonton
pH and EC in Soil - 1:2 (Surrey)	McKeague	* 1:2 Soil:Water Ratio, 4.12	30-Aug-05	Norwest Labs Surrey
pH and EC in Soil - 1:2 (Surrey)	McKeague	* 1:2 Soil:Water Ratio, 4.12	31-Aug-05	Norwest Labs Surrey
pH in water (Surrey)	APHA	* Electrometric Method, 4500-H+ B	29-Aug-05	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	29-Aug-05	Norwest Labs Surrey
Solids Suspended (Total, Fixed and Volatile)	APHA	* Total Suspended Solids Dried at 103-105°C, 2540 D	30-Aug-05	Norwest Labs Surrey

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory



Methodology and Notes

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* Norwest method(s) is based on reference method

References:

APHA	Standard Methods for the Examination of Water and Wastewater
B.C. Ministry of WLAP	B.C. Ministry of Water, Land and Air Protection
McKeague	Manual on Soil Sampling and Methods of Analysis
US EPA	US Environmental Protection Agency Test Methods

Comments:

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APPENDIX D

BENTHIC INVERTEBRATE DATA, 2005

SAMPLE SITE	KV1a	KV1b	KV1c	KV2a	KV2b	KV2c
Fines split to:		1/8	1/4	1/2	1/2	1/8
Coarse split to:						

PHYLUM ARTHROPODA

Class Insecta

Order Ephemeroptera

Ephemeroptera A

Family Siphonuridae

Ameletus sp

1

Family Baetidae

Baetis sp

225

1013

418

98

85

216

Family Heptageniidae

Cinygmula sp

12

1

2

12

Epeorus sp

Heptagenia sp

34

20

10

5

8

Rhithrogena sp

1

2

2

13

32

Family Ephemerellidae

Drunella flavilinea

Drunella grandis

1

1

1

1

Ephemerellidae J

12

12

25

6

11

64

Family Leptophlebiidae

Paraleptophlebi sp

83

56

71

5

6

36

Order Plecoptera

Family Capnidae

Capnia sp

110

49

104

20

173

260

Family Perlidae

Hesperoperla sp

2

11

2

2

2

5

Family Perlodidae

Isoperla sp

Megarcys sp

Skwala paralella

3

Family Leuctridae

Leuctra sp

Family Nemouridae

Podmosta sp

Zapada sp

32

83

28

37

96

176

Family Pteronarcyidae

Pteronarcella sp

2

1

1

1

4

Pteronarcys dorsata

2

4

1

1

2

Family Chloroperlidae

Sweltsa sp group

1

2

8

Family Taeniopterygidae

Taenionema sp

1

Order Trichoptera

Trichoptera Unid Juv

4

5

2

8

Family Hydropsychidae

Arctopsyche sp

20

31

15

17

48

148

Family Brachycentrus sp

SAMPLE SITE	KV1a	KV1b	KV1c	KV2a	KV2b	KV2c
Fines split to:		1/8	1/4	1/2	1/2	1/8
Coarse split to:						
Brachycentrus sp		1	1		8	
Micrasema sp						8
Family Limnephilidae						
Dicosmoecus sp				1	1	
Ecclisomyia sp	1				2	4
Nemotaulius sp						
Family Glossomatidae						
Glossosoma sp						
Family Hydroptilidae						
Hydroptila sp	1					1
Hydroptilidae Juv					2	
Oxyethira sp					1	4
Family Lepidostomatidae						
Lepidostoma sp						
Family Rhyacophilidae						
Rhyacophilidae Juv	17	60	12	26	21	48
Rhyacophila (acropedes or vao)	5	29	17	3	1	20
Rhyacophila hyalinata						
Order Diptera						
Diptera Unid A	2	1		1		12
Diptera unid P		1				
Diptera unid L						
Family Chironomidae						
Chironomidae A	1	17				
Chironomidae P	3	54	1		4	12
Chironomidae L	16	96	24	108	8	176
Cardiocladius sp		16	4			8
Cricotopus sp	22	132	52	69	49	132
Sub Family Orthoclaadiinae						
Brillia sp						
Corynoneura sp	5			3	4	
Eukiefferiella sp	15	33	5	11	4	56
Euryhopsis sp				2	4	
Synorthocladus sp				1		
Thienemanniella sp	3	64	24	10	10	24
Sub Family Diamesinae						
Diamesa sp	2	32		4	3	12
Sub Family Chironominae						
Micropsectra sp	26	129	35	16	39	140
Phaenopsectra sp			4	5		
Sub Family Tanypodinae						
Thienemannimyia	7	9	8			8
Family Ceratopogonidae						
Ceratopogon sp						
Family Empididae						
Chelifera sp	4	1	12	8	4	
Hemerodromia sp		16				
Weidemannia sp						

SAMPLE SITE	KV1a	KV1b	KV1c	KV2a	KV2b	KV2c
Fines split to:		1/8	1/4	1/2	1/2	1/8
Coarse split to:						
Family Periscelididae						
Periscelididae L						
Family Psychodidae						
Pericoma sp						4
Family Simuliidae						
Simuliidae A						1
Cnephia sp L	50	354	137	32	51	264
Prosimulium sp L				1		
Prosimulium sp P		1				
Simulium sp L	315	1909	596	252	321	1800
Simulium sp P	7	67	32	38	109	864
Family Tipulidae						
Dicranota sp						8
Order Collembola						
Isotomurus sp						
Sminthurides sp						
Order Coleoptera						
Coleoptera Unid A	1					
Coleoptera Unid L		1				
Family Curculionidae						
Curculionidae A						4
Family Psephenidae						
Eubrianax sp						
Family Staphylinidae						
Staphylinidae L						
Order Homoptera						
Homoptera Unid A						8
Family Aphididae				2		
Family Cicadellidae					1	
Order Hemiptera						
Family Corixidae						
Corixidae unid N						
Hesperoconopa sp						
Order Hymenoptera						
Hymenoptera A						
Family Formicidae						
Order Thysanoptera						
Class Insecta						
Order Aranaea						
Order Hydracarina						
Hydracarina Unid J	1			4		8

SAMPLE SITE	KV1a	KV1b	KV1c	KV2a	KV2b	KV2c
Fines split to:		1/8	1/4	1/2	1/2	1/8
Coarse split to:						
Lebertia sp			4	2		
Neumannia sp						
Sperchon sp	1		12		4	8
Torrenticola sp	13	96	44	26	44	40
Unioncola sp	10	32	28	19	36	56
Wandesia sp						
Oribatei	1					
Class Crustacea						
Sub Class Copepoda						
Sub Order Calanoida						
Sub Order Cyclopoida	1					
Sub Order Harpacticoida						
Order Cladocera						
Alona sp						
Ceriodaphnia sp	1					
Chydorus sphaericus						
Eurycercus (Bullatifrons) sp						
PHYLUM ANNELIDA						
Class Oligochaeta						
Family Enchytraeidae	4			6	3	8
Family Lumbriculidae						
Kincaidiana hexatheca						
Lumbriculus variegatus						
Family Naididae						
Chaetogaster sp						
Nais sp						
Family Tubificidae						4
PHYLUM MOLLUSCA						
Class Gastropoda						
Lymnaeidae dam						
Valvata sincera						
PHYLUM NEMATODA	1					
PYLUM COELENTERATA						
Class Hydroza						
Order Hydroida						
Hydra sp	8	32	4		6	16
Fish (vertebrate)						
Cottus cognatus						
TOTAL PER SAMPLE	1074	4467	1749	848	1189	4729
TOTAL PER SITE	7290			6766		

SAMPLE SITE	KV1a	KV1b	KV1c	KV2a	KV2b	KV2c
Fines split to:		1/8	1/4	1/2	1/2	1/8
Coarse split to:						
TAXONOMIC RICHNESS/SAMPLE	44	38	33	39	40	44
TAXONOMIC RICHNESS/SITE	56				58	

SAMPLE SITE	KV3a	KV3b	KV3c	KV4a	KV4b	KV4c
Fines split to:	1/4	1/4	1/4	1/2	1/2	1/4
Coarse split to:						

PHYLUM ARTHROPODA

Class Insecta

Order Ephemeroptera

Ephemeroptera A

Family Siphonuridae

Ameletus sp

4 4 2

Family Baetidae

Baetis sp

271 144 181 99 191 385

Family Heptageniidae

Cinygmula sp

4 12 8 2 2

Epeorus sp

Heptagenia sp

2

Rhithrogena sp

2 10 2

Family Ephemerellidae

Drunella flavilinea

Drunella grandis

1

Ephemerellidae J

11 6 5 1 8 62

Family Leptophlebiidae

Paraleptophlebi sp

6 4 2

Order Plecoptera

Family Capnidae

Capnia sp

137 33 137 34 43 79

Family Perlidae

Hesperoperla sp

3 2 2 3

Family Perlodidae

Isoperla sp

1 1 1 1

Megarcys sp

Skwala paralella

1 1

Family Leuctridae

Leuctra sp

Family Nemouridae

Podmosta sp

4 5

Zapada sp

59 86 73 78 104 234

Family Pteronarcyidae

Pteronarcella sp

2 5 1 1 1 5

Pteronarcys dorsata

3 2 1 1

Family Chloroperlidae

Sweltsa sp group

1 2 3

Family Taeniopterygidae

Taenionema sp

4 4 2 2

Order Trichoptera

Trichoptera Unid Juv

4 5 4

Family Hydropsychidae

Arctopsyche sp

32 17 18 21 20 46

Family Brachycentrus sp

SAMPLE SITE	KV3a	KV3b	KV3c	KV4a	KV4b	KV4c
Fines split to:	1/4	1/4	1/4	1/2	1/2	1/4
Coarse split to:						
Brachycentrus sp	1	1	1	9	3	24
Micrasema sp						1
Family Limnephilidae						
Dicosmoecus sp	1					
Ecclisomyia sp						
Nemotaulius sp			1			
Family Glossomatidae						
Glossosoma sp						
Family Hydroptilidae						
Hydroptila sp				2	1	1
Hydroptilidae Juv	8					4
Oxyethira sp						
Family Lepidostomatidae						
Lepidostoma sp						
Family Rhyacophilidae						
Rhyacophilidae Juv	26	9	16	35	31	28
Rhyacophila (acropedes or vao)	7	2			2	1
Rhyacophila hyalinata						
Order Diptera						
Diptera Unid A		1				
Diptera unid P						
Diptera unid L						
Family Chironomidae						
Chironomidae A	1					
Chironomidae P			5	6		5
Chironomidae L	32	49	33	88	108	272
Cardiocladius sp				2	4	8
Cricotopus sp	35	36	50	81	125	139
Sub Family Orthoclaadiinae						
Brillia sp						1
Corynoneura sp				2	2	4
Eukiefferiella sp	4	8	4	18	8	36
Euryhapsis sp				2		
Synorthocladus sp	1			2		1
Thienemanniella sp	8	8	60	30	38	64
Sub Family Diamesinae						
Diamesa sp	4				3	
Sub Family Chironominae						
Micropsectra sp	41	24	81	39	54	58
Phaenopsectra sp						
Sub Family Tanypodinae						
Thienemannimyia	9		2	9	4	25
Family Ceratopogonidae						
Ceratopogon sp						
Family Empididae						
Chelifera sp			4	6		5
Hemerodromia sp						
Weidemannia sp						

SAMPLE SITE	KV3a	KV3b	KV3c	KV4a	KV4b	KV4c
Fines split to:	1/4	1/4	1/4	1/2	1/2	1/4
Coarse split to:						
Family Periscelididae						
Periscelididae L						
Family Psychodidae						
Pericoma sp						5
Family Simuliidae						
Simuliidae A		1				
Cnephia sp L	166	87	109	50	48	103
Prosimulium sp L						
Prosimulium sp P						
Simulium sp L	842	539	512	329	273	523
Simulium sp P	87	8	40	123	59	76
Family Tipulidae						
Dicranota sp						4
Order Collembola						
Isotomurus sp						
Sminthurides sp						
Order Coleoptera						
Coleoptera Unid A						
Coleoptera Unid L						
Family Curculionidae						
Curculionidae A						3
Family Psephenidae						
Eubrianax sp						
Family Staphylinidae						
Staphylinidae L						1
Order Homoptera						
Homoptera Unid A						
Family Aphididae						
Family Cicadellidae	1					5
Order Hemiptera						
Family Corixidae						
Corixidae unid N						
Hesperoconopa sp						
Order Hymenoptera						
Hymenoptera A						
Family Formicidae						
Order Thysanoptera						
Class Insecta						
Order Aranaea						4
Order Hydracarina						
Hydracarina Unid J					6	

	SAMPLE SITE	KV3a	KV3b	KV3c	KV4a	KV4b	KV4c
	Fines split to:	1/4	1/4	1/4	1/2	1/2	1/4
	Coarse split to:						
Lebertia sp					1		
Neumannia sp							
Sperchon sp				4	2	2	5
Torrenticola sp		44	4	16	14	12	20
Unioncola sp		76	12	40	92	50	145
Wandesia sp							
Oribatei							
Class Crustacea							
Sub Class Copepoda							
Sub Order Calanoida							
Sub Order Cyclopoida							
Sub Order Harpacticoida							
Order Cladocera							
Alona sp							
Ceriodaphnia sp							
Chydorus sphaericus							
Eurycercus (Bullatifrons) sp							
PHYLUM ANNELIDA							
Class Oligochaeta							
Family Enchytraeidae					4	2	8
Family Lumbriculidae							
Kincaidiana hexatheca							
Lumbriculus variegatus							
Family Naididae							
Chaetogaster sp							
Nais sp					1		
Family Tubificidae							
PHYLUM MOLLUSCA							
Class Gastropoda							
Lymnaeidae dam							
Valvata sincera							
PHYLUM NEMATODA							
							8
PYLUM COELENTERATA							
Class Hydroza							
Order Hydroida							
Hydra sp			4	4	2		
Fish (vertebrate)							
Cottus cognatus							
TOTAL PER SAMPLE		1935	1107	1422	1204	1221	2413
TOTAL PER SITE		4464			4838		

SAMPLE SITE	KV3a	KV3b	KV3c	KV4a	KV4b	KV4c
Fines split to:	1/4	1/4	1/4	1/2	1/2	1/4
Coarse split to:						
TAXONOMIC RICHNESS/SAMPLE	34	28	29	41	35	44
TAXONOMIC RICHNESS/SITE			44			

SAMPLE SITE	KV5a	KV5b	KV5c	KV6a	KV6b	KV6c
Fines split to:	1/4	1/4	1/8	1/16	1/32	1/4
Coarse split to:			1/2			

PHYLUM ARTHROPODA

Class Insecta

Order Ephemeroptera

Ephemeroptera A

Family Siphonuridae

Ameletus sp

Family Baetidae

Baetis sp

388

403

464

48

32

Family Heptageniidae

Cinygmula sp

12

Epeorus sp

1

Heptagenia sp

3

Rhithrogena sp

5

6

2

Family Ephemerellidae

Drunella flavilinea

Drunella grandis

5

3

6

Ephemerellidae J

11

16

14

Family Leptophlebiidae

Paraleptophlebi sp

6

5

10

Order Plecoptera

Family Capnidae

Capnia sp

20

37

48

Family Perlidae

Hesperoperla sp

1

2

Family Perlodidae

Isoperla sp

4

4

2

Megarcys sp

Skwala paralella

Family Leuctridae

Leuctra sp

Family Nemouridae

Podmosta sp

Zapada sp

82

128

92

257

128

71

Family Pteronarcyidae

Pteronarcella sp

4

8

6

Pteronarcys dorsata

Family Chloroperlidae

Sweltsa sp group

2

1

Family Taeniopterygidae

Taenionema sp

14

17

24

176

60

5

Order Trichoptera

Trichoptera Unid Juv

8

1

Family Hydropsychidae

Arctopsyche sp

70

100

84

1

Family Brachycentrus sp

SAMPLE SITE	KV5a	KV5b	KV5c	KV6a	KV6b	KV6c
Fines split to:	1/4	1/4	1/8	1/16	1/32	1/4
Coarse split to:			1/2			
Brachycentrus sp	43	61	20			
Micrasema sp	21	20				
Family Limnephilidae						
Dicosmoecus sp						
Ecclisomyia sp						
Nemotaulius sp						
Family Glossomatidae						
Glossosoma sp						
Family Hydroptilidae						
Hydroptila sp	27	35				
Hydroptilidae Juv	8	56				
Oxyethira sp	4	1				
Family Lepidostomatidae						
Lepidostoma sp		1				
Family Rhyacophilidae						
Rhyacophilidae Juv	58	87	24	99	128	24
Rhyacophila (acropedes or vao)	4	3	14	14	5	4
Rhyacophila hyalinata						
Order Diptera						
Diptera Unid A						
Diptera unid P						
Diptera unid L						
Family Chrionomidae						
Chironomidae A						
Chironomidae P	35	28	28			
Chironomidae L	152	145	176	256	35	33
Cardiocladius sp				174	116	42
Cricotopus sp	206	372	368	294	229	25
Sub Family Orthocladiinae						
Brillia sp						
Corynoneura sp		4				
Eukiefferiella sp	38	38	48		194	4
Euryhopsis sp					32	
Synorthocladius sp	4	8				
Thienemanniella sp	24	37	40			
Sub Family Diamesinae						
Diamesa sp	4	16	8	48		4
Sub Family Chironominae						
Micropsectra sp	164	442	232	16		
Phaenopsectra sp						
Sub Family Tanypodinae						
Thienemannimyia	14	9		17	1	
Family Ceratopogonidae						
Ceratopogon sp						
Family Empididae						
Chelifera sp		10	8			
Hemerodromia sp						
Weidemannia sp						

SAMPLE SITE	KV5a	KV5b	KV5c	KV6a	KV6b	KV6c
Fines split to:	1/4	1/4	1/8	1/16	1/32	1/4
Coarse split to:			1/2			
Family Periscelididae						
Periscelididae L						
Family Psychodidae						
Pericoma sp		6			32	
Family Simuliidae						
Simuliidae A	1	3	2			
Cnephia sp L	110	74	224	156	352	41
Prosimulium sp L						
Prosimulium sp P						
Simulium sp L	660	365	1286	2318	4232	488
Simulium sp P	166	157	314	38	30	3
Family Tipulidae						
Dicranota sp					33	
Order Collembola						
Isotomurus sp						
Sminthurides sp			10			
Order Coleoptera						
Coleoptera Unid A						
Coleoptera Unid L						
Family Curculionidae						
Curculionidae A						
Family Psephenidae						
Eubrianax sp						
Family Staphylinidae						
Staphylinidae L	1		1			
Order Homoptera						
Homoptera Unid A						
Family Aphididae			1			
Family Cicadellidae						
Order Hemiptera						
Family Corixidae						
Corixidae unid N				1	1	
Hesperoconopa sp	1	1				
Order Hymenoptera						
Hymenoptera A				1		4
Family Formicidae						
Order Thysanoptera						
Class Insecta						
Order Aranaea						
Order Hydracarina						
Hydracarina Unid J	4					

	SAMPLE SITE	KV5a	KV5b	KV5c	KV6a	KV6b	KV6c
	Fines split to:	1/4	1/4	1/8	1/16	1/32	1/4
	Coarse split to:			1/2			
Lebertia sp		8	5	16			
Neumannia sp		4					
Sperchon sp			21	8			4
Torrenticola sp		24	28				
Unioncola sp		16	84	80	16	32	4
Wandesia sp							
Oribatei		8	4				
Class Crustacea							
Sub Class Copepoda							
Sub Order Calanoida							
Sub Order Cyclopoida							
Sub Order Harpacticoida							
Order Cladocera							
Alona sp							
Ceriodaphnia sp							
Chydorus sphaericus							
Eurycercus (Bullatifrons) sp							
PHYLUM ANNELIDA							
Class Oligochaeta							
Family Enchytraeidae							
Family Lumbriculidae							
Kincaidiana hexatheca							
Lumbriculus variegatus							
Family Naididae							
Chaetogaster sp							
Nais sp							
Family Tubificidae							
PHYLUM MOLLUSCA							
Class Gastropoda							
Lymnaeidae dam							
Valvata sincera							
PHYLUM NEMATODA							
PYLUM COELENTERATA							
Class Hydroza							
Order Hydroida							
Hydra sp							
Fish (vertebrate)							
Cottus cognatus							
TOTAL PER SAMPLE		2426	2866	3671	3952	5676	763
TOTAL PER SITE		8963			10391		

SAMPLE SITE	KV5a	KV5b	KV5c	KV6a	KV6b	KV6c
Fines split to:	1/4	1/4	1/8	1/16	1/32	1/4
Coarse split to:			1/2			
TAXONOMIC RICHNESS/SAMPLE	41	44	35	22	19	17
TAXONOMIC RICHNESS/SITE	57				54	

SAMPLE SITE	KV7a	KV7b	KV7c	KV8a	KV8b 1/2	KV8c
Fines split to:						
Coarse split to:						
PHYLUM ARTHROPODA						
Class Insecta						
Order Ephemeroptera						
Ephemeroptera A						
Family Siphonuridae						
Ameletus sp		1	2			1
Family Baetidae						
Baetis sp	2	1				
Family Heptageniidae						
Cinygmula sp		1				
Epeorus sp						
Heptagenia sp						
Rhithrogena sp						
Family Ephemerellidae						
Drunella flavilinea						
Drunella grandis						
Ephemerellidae J						
Family Leptophlebiidae						
Paraleptophlebi sp						1
Order Plecoptera						
Family Capnidae						
Capnia sp	53	87	23	11	17	6
Family Perlidae						
Hesperoperla sp						
Family Perlodidae						
Isoperla sp						1
Megarcys sp						
Skwala paralella					4	1
Family Leuctridae						
Leuctra sp	4	1	1			
Family Nemouridae						
Podmosta sp						
Zapada sp	23	57	16	22	21	18
Family Pteronarcyidae						
Pteronarcella sp						
Pteronarcys dorsata						
Family Chloroperlidae						
Sweltsa sp group	6	2	9			1
Family Taeniopterygidae						
Taenionema sp		2			2	
Order Trichoptera						
Trichoptera Unid Juv	31	27	25	31	14	18
Family Hydropsychidae						
Arctopsyche sp						
Family Brachycentrus sp						

SAMPLE SITE Fines split to: Coarse split to:	KV7a	KV7b	KV7c	KV8a	KV8b 1/2	KV8c
Brachycentrus sp						
Micrasema sp						
Family Limnephilidae						
Dicosmoecus sp				2		
Ecclisomyia sp	2					
Nemotaulius sp						
Family Glossomatidae						
Glossosoma sp						
Family Hydroptilidae						
Hydroptila sp						
Hydroptilidae Juv						
Oxyethira sp						
Family Lepidostomatidae						
Lepidostoma sp						
Family Rhyacophilidae						
Rhyacophilidae Juv	3	2	3			1
Rhyacophila (acropedes or vao)	3	2				
Rhyacophila hyalinata						
Order Diptera						
Diptera Unid A					4	
Diptera unid P						
Diptera unid L						
Family Chironomidae						
Chironomidae A						
Chironomidae P	60	50	70	5	14	4
Chironomidae L	8	18	21	6	20	22
Cardiocladius sp		1				
Cricotopus sp	104	84	110	93	120	73
Sub Family Orthoclaadiinae						
Brillia sp	1		1	176	277	63
Corynoneura sp						
Eukiefferiella sp	4	6	1	18	33	15
Euryhopsis sp	1	1	1	1	1	4
Synorthocladus sp						
Thienemanniella sp						
Sub Family Diamesinae						
Diamesa sp	3	1	2	3	4	2
Sub Family Chironominae						
Micropsectra sp	1			8	17	28
Phaenopsectra sp						
Sub Family Tanypodinae						
Thienemannimyia						
Family Ceratopogonidae						
Ceratopogon sp		1				
Family Empididae						
Chelifera sp	3	3	6	1	2	1
Hemerodromia sp						
Weidemannia sp						

SAMPLE SITE Fines split to: Coarse split to:	KV7a	KV7b	KV7c	KV8a	KV8b 1/2	KV8c
Family Periscelididae						
Periscelididae L						1
Family Psychodidae						
Pericoma sp	2	2	2			
Family Simuliidae						
Simuliidae A						
Cnephia sp L	2					
Prosimulium sp L	1	4	1	1	3	1
Prosimulium sp P						
Simulium sp L	12	1	2	19	67	
Simulium sp P	2	1	3			4
Family Tipulidae						
Dicranota sp	5	8	1	2		1
Order Collembola						
Isotomurus sp	1					
Sminthurides sp						
Order Coleoptera						
Coleoptera Unid A						
Coleoptera Unid L						
Family Curculionidae						
Curculionidae A						
Family Psephenidae						
Eubrianax sp						
Family Staphylinidae						
Staphylinidae L						
Order Homoptera						
Homoptera Unid A						
Family Aphididae			1	1		
Family Cicadellidae	2		1			1
Order Hemiptera						
Family Corixidae						
Corixidae unid N						
Hesperoconopa sp						
Order Hymenoptera						
Hymenoptera A	1			1	2	
Family Formicidae						1
Order Thysanoptera	1		1			
Class Insecta						
Order Aranaea						
Order Hydracarina						
Hydracarina Unid J						

	SAMPLE SITE	KV7a	KV7b	KV7c	KV8a	KV8b 1/2	KV8c
	Fines split to:						
	Coarse split to:						
Lebertia sp				1			
Neumannia sp							
Sperchon sp							
Torrenticola sp							
Unioncola sp			3	2	4	14	7
Wandesia sp			1				
Oribatei		1		1	1		4
Class Crustacea							
Sub Class Copepoda							
Sub Order Calanoida					1	4	1
Sub Order Cyclopoida		1			1	1	1
Sub Order Harpacticoida							
Order Cladocera							
Alona sp							
Ceriodaphnia sp							
Chydorus sphaericus							
Eurycercus (Bullatifrons) sp							
PHYLUM ANNELIDA							
Class Oligochaeta							
Family Enchytraeidae		8	3	17	4	10	17
Family Lumbriculidae							
Kincaidiana hexatheca				8			
Lumbriculus variegatus							
Family Naididae							
Chaetogaster sp							1
Nais sp							
Family Tubificidae		7	3	8	2	2	1
PHYLUM MOLLUSCA							
Class Gastropoda							
Lymnaeidae dam							
Valvata sincera							
PHYLUM NEMATODA							
		1		1		5	2
PYLUM COELENTERATA							
Class Hydroza							
Order Hydroida							
Hydra sp							
Fish (vertebrate)							
Cottus cognatus					1		
TOTAL PER SAMPLE		359	374	341	415	658	303
TOTAL PER SITE		1074			1376		

SAMPLE SITE Fines split to: Coarse split to:	KV7a	KV7b	KV7c	KV8a	KV8b 1/2	KV8c
TAXONOMIC RICHNESS/SAMPLE	33	29	30	24	24	32
TAXONOMIC RICHNESS/SITE			28			

SAMPLE SITE
 Fines split to:
 Coarse split to:

KV9a	KV9b	KV9c	KV37a	KV37b 1/64 1/8	KV37c 1/16

PHYLUM ARTHROPODA

Class Insecta

Order Ephemeroptera

Ephemeroptera A

Family Siphonuridae

Ameletus sp

1		1	1		

Family Baetidae

Baetis sp

	2	4	70	597	192

Family Heptageniidae

Cinygmula sp

			128	59	32

Epeorus sp

			12	19	

Heptagenia sp

Rhithrogena sp

			5	2	

Family Ephemerellidae

Drunella flavilinea

			1		1

Drunella grandis

Ephemerellidae J

			5	2	

Family Leptophlebiidae

Paraleptophlebi sp

Order Plecoptera

Family Capniidae

Capnia sp

4	110	80	1	130	42

Family Perlidae

Hesperoperla sp

Family Perlodidae

Isoperla sp

Megarcys sp

			3		

Skwala paralella

2	2	3	1	17	

Family Leuctridae

Leuctra sp

Family Nemouridae

Podmosta sp

1		2			

Zapada sp

71	294	344	878	2627	367

Family Pteronarcyidae

Pteronarcella sp

Pteronarcys dorsata

Family Chloroperlidae

Sweltsa sp group

		1			

Family Taeniopterygidae

Taenionema sp

5	9	8	8	146	66

Order Trichoptera

Trichoptera Unid Juv

3	13	6	1		2

Family Hydropsychidae

Arctopsyche sp

					2

Family Brachycentrus sp

SAMPLE SITE	KV9a	KV9b	KV9c	KV37a	KV37b	KV37c
Fines split to:					1/64	1/16
Coarse split to:					1/8	
Brachycentrus sp	1	1	3			
Micrasema sp						
Family Limnephilidae						
Dicosmoecus sp						
Ecclisomyia sp		1				
Nemotaulius sp						
Family Glossomatidae						
Glossosoma sp				1		
Family Hydroptilidae						
Hydroptila sp						
Hydroptilidae Juv						
Oxyethira sp			1			
Family Lepidostomatidae						
Lepidostoma sp						
Family Rhyacophilidae						
Rhyacophilidae Juv	12	39	38	9	10	1
Rhyacophila (acropedes or vao)	1		3	6	44	
Rhyacophila hyalinata					1	
Order Diptera						
Diptera Unid A						
Diptera unid P						
Diptera unid L	2					
Family Chironomidae						
Chironomidae A	1					
Chironomidae P	3	4	8	8	2	16
Chironomidae L	12	14	47	329	7846	1361
Cardiocladius sp	1	1		30	1329	245
Cricotopus sp	26	94	114	152	1607	700
Sub Family Orthoclaadiinae						
Brillia sp	3	5	2			
Corynoneura sp						
Eukiefferiella sp	34	12	17	27	400	273
Euryhapsis sp				1	64	32
Synorthocladus sp				3		2
Thienemanniella sp		3	9		64	
Sub Family Diamesinae						
Diamesa sp	2	1	1	259	8079	1744
Sub Family Chironominae						
Micropsectra sp	2	7	8	14	1122	465
Phaenopsectra sp						
Sub Family Tanypodinae						
Thienemannimyia		2	7			129
Family Ceratopogonidae						
Ceratopogon sp						
Family Empididae						
Chelifera sp		1	4	1		
Hemerodromia sp						
Weidemannia sp				6		

SAMPLE SITE	KV9a	KV9b	KV9c	KV37a	KV37b	KV37c
Fines split to:					1/64	1/16
Coarse split to:					1/8	
Family Periscelididae						
Periscelididae L						
Family Psychodidae						
Pericoma sp				6	53	
Family Simuliidae						
Simuliidae A						
Cnephia sp L						
Prosimulium sp L	1	1				1
Prosimulium sp P					1	
Simulium sp L	155	50	57	47	530	43
Simulium sp P	9	3				3
Family Tipulidae						
Dicranota sp		10	2	9	66	
Order Collembola						
Isotomurus sp				3		
Sminthurides sp						
Order Coleoptera						
Coleoptera Unid A						
Coleoptera Unid L						
Family Curculionidae						
Curculionidae A						
Family Psephenidae						
Eubrianax sp						
Family Staphylinidae						
Staphylinidae L						
Order Homoptera						
Homoptera Unid A						
Family Aphididae						
Family Cicadellidae		1		2		
Order Hemiptera						
Family Corixidae						
Corixidae unid N						
Hesperoconopa sp						
Order Hymenoptera						
Hymenoptera A						
Family Formicidae						
Order Thysanoptera						
Class Insecta						
Order Aranaea						
Order Hydracarina						
Hydracarina Unid J				1		

SAMPLE SITE	KV9a	KV9b	KV9c	KV37a	KV37b	KV37c
Fines split to:					1/64	1/16
Coarse split to:					1/8	
Lebertia sp			1	12		
Neumannia sp			1		10	
Sperchon sp				18	1	32
Torrenticola sp						
Unioncola sp		1		162	468	64
Wandesia sp			1			
Oribatei	1			1		
Class Crustacea						
Sub Class Copepoda						
Sub Order Calanoida						
Sub Order Cyclopoida						
Sub Order Harpacticoida						
Order Cladocera						
Alona sp			1			
Ceriodaphnia sp						
Chydorus sphaericus		1				
Eurycercus (Bullatifrons) sp		1	1			
PHYLUM ANNELIDA						
Class Oligochaeta						
Family Enchytraeidae	1	10	17	2	1	2
Family Lumbriculidae						
Kincaidiana hexatheca						
Lumbriculus variegatus						
Family Naididae						
Chaetogaster sp			6			1
Nais sp						
Family Tubificidae		2		1		1
PHYLUM MOLLUSCA						
Class Gastropoda						
Lymnaeidae dam						
Valvata sincera						
PHYLUM NEMATODA		3	6	3		16
PYLUM COELENTERATA						
Class Hydroza						
Order Hydroida						
Hydra sp						1
Fish (vertebrate)						
Cottus cognatus			1			
TOTAL PER SAMPLE	354	698	805	2227	25297	5836
TOTAL PER SITE	1857			33360		

SAMPLE SITE	KV9a	KV9b	KV9c	KV37a	KV37b	KV37c
Fines split to:					1/64	1/16
Coarse split to:					1/8	
TAXONOMIC RICHNESS/SAMPLE	25	31	33	40	29	29
TAXONOMIC RICHNESS/SITE	43				38	

SAMPLE SITE	KV38a	KV38b	KV38c	KV41a	KV41b	KV41c
Fines split to:			1/32	1/64	1/32	1/4
Coarse split to:			1/8	1/8	1/16	

PHYLUM ARTHROPODA

Class Insecta

Order Ephemeroptera

Ephemeroptera A

Family Siphonuridae

Ameletus sp

24 19

Family Baetidae

Baetis sp

16 4 1121 320 96 92

Family Heptageniidae

Cinygmula sp

281 112 90 16 1

Epeorus sp

1 5 16 13

Heptagenia sp

Rhithrogena sp

1 3 2

Family Ephemerellidae

Drunella flavilinea

2

Drunella grandis

Ephemerellidae J

1 3 2

Family Leptophlebiidae

Paraleptophlebi sp

Order Plecoptera

Family Capnidae

Capnia sp

11 4 76 8 32 1

Family Perlidae

Hesperoperla sp

Family Perlodidae

Isoperla sp

Megarcys sp

3 3 1 32 2

Skwala paralella

1

Family Leuctridae

Leuctra sp

Family Nemouridae

Podmosta sp

Zapada sp

261 235 6287 6224 8896 1067

Family Pteronarcyidae

Pteronarcella sp

Pteronarcys dorsata

Family Chloroperlidae

Sweltsa sp group

4 32 32 7

Family Taeniopterygidae

Taenionema sp

31 2 24 32 5

Order Trichoptera

Trichoptera Unid Juv

11 3 66 72 4

Family Hydropsychidae

Arctopsyche sp

Family Brachycentrus sp

SAMPLE SITE	KV38a	KV38b	KV38c	KV41a	KV41b	KV41c
Fines split to:			1/32	1/64	1/32	1/4
Coarse split to:			1/8	1/8	1/16	
Brachycentrus sp	2					
Micrasema sp						
Family Limnephilidae						
Dicosmoecus sp						
Ecclisomyia sp		4				
Nemotaulius sp						
Family Glossomatidae						
Glossosoma sp	3	8			64	2
Family Hydroptilidae						
Hydroptila sp						
Hydroptilidae Juv						
Oxyethira sp						
Family Lepidostomatidae						
Lepidostoma sp						
Family Rhyacophilidae						
Rhyacophilidae Juv		2	17	8	96	2
Rhyacophila (acropedes or vao)	1	2	6	64	640	35
Rhyacophila hyalinata				8		
Order Diptera						
Diptera Unid A						
Diptera unid P						
Diptera unid L	1	1	1			
Family Chironomidae						
Chironomidae A						1
Chironomidae P	10	3	47	24	96	24
Chironomidae L	34	47	5572	6784	1248	488
Cardiocladius sp	3	5	301	112	256	61
Cricotopus sp	22	43	2281	608	784	169
Sub Family Orthocladiinae						
Brillia sp						
Corynoneura sp						
Eukiefferiella sp			463	64	32	73
Euryhopsis sp	2	1	32			
Synorthocladius sp		3				
Thienemanniella sp						
Sub Family Diamesinae						
Diamesa sp	67	122	2511	1824	2464	457
Sub Family Chironominae						
Micropsectra sp	6	4	481	128	48	28
Phaenopsectra sp						
Sub Family Tanypodinae						
Thienemannimyia						
Family Ceratopogonidae						
Ceratopogon sp						
Family Empididae						
Chelifera sp					48	9
Hemerodromia sp				136		
Weidemannia sp	2	1	9	320	128	9

	SAMPLE SITE		KV38a	KV38b	KV38c	KV41a	KV41b	KV41c
	Fines split to:				1/32	1/64	1/32	1/4
	Coarse split to:				1/8	1/8	1/16	
Family Periscelididae								
Periscelididae L								
Family Psychodidae								
Pericoma sp					126	200	371	13
Family Simuliidae								
Simuliidae A								
Cnephia sp L								
Prosimulium sp L					1			
Prosimulium sp P					8			1
Simulium sp L		15	4	160	528	80	101	
Simulium sp P					8			
Family Tipulidae								
Dicranota sp		2	1	66	256	32	34	
Order Collembola								
Isotomurus sp				1				
Sminthurides sp								
Order Coleoptera								
Coleoptera Unid A								
Coleoptera Unid L								
Family Curculionidae								
Curculionidae A								
Family Psephenidae								
Eubrianax sp						8		
Family Staphylinidae								
Staphylinidae L								
Order Homoptera								
Homoptera Unid A								
Family Aphididae		2	2		8	32		
Family Cicadellidae								1
Order Hemiptera								
Family Corixidae								
Corixidae unid N								
Hesperoconopa sp								
Order Hymenoptera								
Hymenoptera A				1	8	32		
Family Formicidae								
Order Thysanoptera		2	1					
Class Insecta								
Order Aranaea								
Order Hydracarina								
Hydracarina Unid J		4				16		

	SAMPLE SITE	KV38a	KV38b	KV38c	KV41a	KV41b	KV41c
	Fines split to:			1/32	1/64	1/32	1/4
	Coarse split to:			1/8	1/8	1/16	
Lebertia sp		6	4		72	80	8
Neumannia sp			1				
Sperchon sp		2	10		72	278	18
Torrenticola sp							
Unioncola sp		14	28	352	896	624	96
Wandesia sp							
Oribatei		2	2				

Class Crustacea

Sub Class Copepoda

Sub Order Calanoida

Sub Order Cyclopoida

Sub Order Harpacticoida 1

Order Cladocera

Alona sp

Ceriodaphnia sp

Chydorus sphaericus

Eurycercus (Bullatifrons) sp

PHYLUM ANNELIDA

Class Oligochaeta

Family Enchytraeidae 1 2 6 64 11

Family Lumbriculidae

Kincaidiana hexatheca

Lumbriculus variegatus 1

Family Naididae

Chaetogaster sp

Nais sp

Family Tubificidae 1

PHYLUM MOLLUSCA

Class Gastropoda

Lymnaeidae dam

Valvata sincera

PHYLUM NEMATODA

64 8 16 5

PYLUM COELENTERATA

Class Hydroza

Order Hydroida

Hydra sp

Fish (vertebrate)

Cottus cognatus

TOTAL PER SAMPLE	844	700	20177	18824	16649	2848
TOTAL PER SITE	21721			38321		

SAMPLE SITE	KV38a	KV38b	KV38c	KV41a	KV41b	KV41c
Fines split to:			1/32	1/64	1/32	1/4
Coarse split to:			1/8	1/8	1/16	
TAXONOMIC RICHNESS/SAMPLE	33	38	27	30	29	39
TAXONOMIC RICHNESS/SITE			44			

SAMPLE SITE	Total	%
Fines split to:		
Coarse split to:		

PHYLUM ARTHROPODA

Class Insecta

Order Ephemeroptera

Ephemeroptera A

Family Siphonuridae

Ameletus sp	61	0.04

Family Baetidae

Baetis sp	7178	5.11

Family Heptageniidae

Cinygmula sp	787	0.56

Epeorus sp	67	0.05

Heptagenia sp	82	0.06

Rhithrogena sp	90	0.06

Family Ephemerellidae

Drunella flavilinea	4	0.00

Drunella grandis	21	0.01

Ephemerellidae J	277	0.20

Family Leptophlebiidae

Paraleptophlebi sp	291	0.21

Order Plecoptera

Family Capniidae

Capnia sp	1980	1.41

Family Perlidae

Hesperoperla sp	37	0.03

Family Perlodidae

Isoperla sp	15	0.01

Megarcys sp	44	0.03

Skwala paralella	36	0.03

Family Leuctridae

Leuctra sp	6	0.00

Family Nemouridae

Podmosta sp	12	0.01

Zapada sp	29552	21.05

Family Pteronarcyidae

Pteronarcella sp	42	0.03

Pteronarcys dorsata	17	0.01

Family Chloroperlidae

Sweltsa sp group	114	0.08

Family Taeniopterygidae

Taenionema sp	649	0.46

Order Trichoptera

Trichoptera Unid Juv	368	0.26

Family Hydropsychidae

Arctopsyche sp	690	0.49

Family Brachycentrus sp

SAMPLE SITE	Total	%
Fines split to:		
Coarse split to:		
Brachycentrus sp	180	0.13
Micrasema sp	50	0.04
Family Limnephilidae		
Dicosmoecus sp	5	0.00
Ecclisomyia sp	14	0.01
Nemotaulius sp	1	0.00
Family Glossomatidae		
Glossosoma sp	78	0.06
Family Hydroptilidae		
Hydroptila sp	68	0.05
Hydroptilidae Juv	78	0.06
Oxyethira sp	11	0.01
Family Lepidostomatidae		
Lepidostoma sp	1	0.00
Family Rhyacophilidae		
Rhyacophilidae Juv	992	0.71
Rhyacophila (acropedes or vao)	938	0.67
Rhyacophila hyalinata	9	0.01
Order Diptera		
Diptera Unid A	21	0.01
Diptera unid P	1	0.00
Diptera unid L	5	0.00
Family Chironomidae		
Chironomidae A	21	0.01
Chironomidae P	629	0.45
Chironomidae L	25684	18.29
Cardiocladius sp	2719	1.94
Cricotopus sp	9600	6.84
Sub Family Orthoclaadiinae		
Brillia sp	529	0.38
Corynoneura sp	24	0.02
Eukiefferiella sp	1996	1.42
Euryhapsis sp	181	0.13
Synorthocladius sp	25	0.02
Thienemanniella sp	520	0.37
Sub Family Diamesinae		
Diamesa sp	17686	12.59
Sub Family Chironominae		
Micropsectra sp	3903	2.78
Phaenopsectra sp	9	0.01
Sub Family Tanypodinae		
Thienemannimyia	260	0.19
Family Ceratopogonidae		
Ceratopogon sp	1	0.00
Family Empididae		
Chelifera sp	141	0.10
Hemerodromia sp	152	0.11
Weidemannia sp	475	0.34

SAMPLE SITE	Total	%
Fines split to:		
Coarse split to:		
Family Periscelididae		
Periscelididae L	1	0.00
Family Psychodidae		
Pericoma sp	822	0.59
Family Simuliidae		
Simuliidae A	8	0.01
Cnephia sp L	2410	1.72
Prosimulium sp L	16	0.01
Prosimulium sp P	11	0.01
Simulium sp L	19431	13.84
Simulium sp P	2251	1.60
Family Tipulidae		
Dicranota sp	540	0.38
Order Collembola		
Isotomurus sp	5	0.00
Sminthurides sp	10	0.01
Order Coleoptera		
Coleoptera Unid A	1	0.00
Coleoptera Unid L	1	0.00
Family Curculionidae		
Curculionidae A	7	0.00
Family Psephenidae		
Eubrianax sp	8	0.01
Family Staphylinidae		
Staphylinidae L	3	0.00
Order Homoptera		
Homoptera Unid A	8	0.01
Family Aphididae	49	0.03
Family Cicadellidae	15	0.01
Order Hemiptera		
Family Corixidae		
Corixidae unid N	2	0.00
Hesperoconopa sp	2	0.00
Order Hymenoptera		
Hymenoptera A	50	0.04
Family Formicidae	1	0.00
Order Thysanoptera	5	0.00
Class Insecta		
Order Aranaea	4	0.00
Order Hydracarina		
Hydracarina Unid J	44	0.03

SAMPLE SITE	Total	%
Fines split to:		
Coarse split to:		
Lebertia sp	220	0.16
Neumannia sp	16	0.01
Sperchon sp	502	0.36
Torrenticola sp	425	0.30
Unioncola sp	3563	2.54
Wandesia sp	2	0.00
Oribatei	26	0.02
Class Crustacea		
Sub Class Copepoda		
Sub Order Calanoida	22	0.02
Sub Order Cyclopoida	5	0.00
Sub Order Harpacticoida	1	0.00
Order Cladocera		
Alona sp	1	0.00
Ceriodaphnia sp	1	0.00
Chydorus sphaericus	1	0.00
Eurycerus (Bullatifrons) sp	2	0.00
PHYLUM ANNELIDA		
Class Oligochaeta		
Family Enchytraeidae	211	0.15
Family Lumbriculidae		
Kincaidiana hexatheca	8	0.01
Lumbriculus variegatus	1	0.00
Family Naididae		
Chaetogaster sp	8	0.01
Nais sp	1	0.00
Family Tubificidae	32	0.02
PHYLUM MOLLUSCA		
Class Gastropoda		
Lymnaeidae dam	1	0.00
Valvata sincera	8	0.01
PHYLUM NEMATODA	152	0.11
PYLUM COELENTERATA		
Class Hydroza		
Order Hydroida		
Hydra sp	78	0.06
Fish (vertebrate)		
Cottus cognatus	2	0.00
TOTAL PER SAMPLE	140421	
TOTAL PER SITE		

SAMPLE SITE	Total	%
Fines split to:		
Coarse split to:		
TAXONOMIC RICHNESS/SAMPLE	109	
TAXONOMIC RICHNESS/SITE	50	

SAMPLE SITE

Fines split to:

Coarse split to:

PHYLUM ARTHROPODA

Class Insecta

Order Ephemeroptera

Ephemeroptera A

Family Siphonuridae

Ameletus sp

Family Baetidae

Baetis sp

Family Heptageniidae

Cinygmula sp

Epeorus sp

Heptagenia sp

Rhithrogena sp

Family Ephemerellidae

Drunella flavilinea

Drunella grandis

Ephemerellidae J

Family Leptophlebiidae

Paraleptophlebi sp

Order Plecoptera

Family Capnidae

Capnia sp

Family Perlidae

Hesperoperla sp

Family Perlodidae

Isoperla sp

Megarcys sp

Skwala paralella

Family Leuctridae

Leuctra sp

Family Nemouridae

Podmosta sp

Zapada sp

Family Pteronarcyidae

Pteronarcella sp

Pteronarcys dorsata

Family Chloroperlidae

Sweltsa sp group

Family Taeniopterygidae

Taenionema sp

Order Trichoptera

Trichoptera Unid Juv

Family Hydropsychidae

Arctopsyche sp

Family Brachycentrus sp

SAMPLE SITE

Fines split to:

Coarse split to:

Brachycentrus sp

Micrasema sp

Family Limnephilidae

Dicosmoecus sp

Ecclisomyia sp

Nemotaulius sp

Family Glossomatidae

Glossosoma sp

Family Hydroptilidae

Hydroptila sp

Hydroptilidae Juv

Oxyethira sp

Family Lepidostomatidae

Lepidostoma sp

Family Rhyacophilidae

Rhyacophilidae Juv

Rhyacophila (acropedes or vao)

Rhyacophila hyalinata

Order Diptera

Diptera Unid A

Diptera unid P

Diptera unid L

Family Chironomidae

Chironomidae A

Chironomidae P

Chironomidae L

Cardiocladius sp

Cricotopus sp

Sub Family Orthocladiinae

Brillia sp

Corynoneura sp

Eukiefferiella sp

Euryhapsis sp

Synorthocladius sp

Thienemanniella sp

Sub Family Diamesinae

Diamesa sp

Sub Family Chironominae

Micropsectra sp

Phaenopsectra sp

Sub Family Tanypodinae

Thienemannimyia

Family Ceratopogonidae

Ceratopogon sp

Family Empididae

Chelifera sp

Hemerodromia sp

Weidemannia sp

SAMPLE SITE

Fines split to:

Coarse split to:

Family Periscleridae

Periscleridae L

Family Psychodidae

Pericoma sp

Family Simuliidae

Simuliidae A

Cnephia sp L

Prosimulium sp L

Prosimulium sp P

Simulium sp L

Simulium sp P

Family Tipulidae

Dicranota sp

Order Collembola

Isotomurus sp

Sminthurides sp

Order Coleoptera

Coleoptera Unid A

Coleoptera Unid L

Family Curculionidae

Curculionidae A

Family Psephenidae

Eubrianax sp

Family Staphylinidae

Staphylinidae L

Order Homoptera

Homoptera Unid A

Family Aphididae

Family Cicadellidae

Order Hemiptera

Family Corixidae

Corixidae unid N

Hesperoconopa sp

Order Hymenoptera

Hymenoptera A

Family Formicidae

Order Thysanoptera

Class Insecta

Order Aranaea

Order Hydracarina

Hydracarina Unid J

SAMPLE SITE

Fines split to:

Coarse split to:

Lebertia sp
Neumannia sp
Sperchon sp
Torrenticola sp
Unioncola sp
Wandesia sp
Oribatei

Class Crustacea

Sub Class Copepoda
Sub Order Calanoida
Sub Order Cyclopoida
Sub Order Harpacticoida

Order Cladocera
Alona sp
Ceriodaphnia sp
Chydorus sphaericus
Eurycercus (Bullatifrons) sp

PHYLUM ANNELIDA

Class Oligochaeta

Family Enchytraeidae
Family Lumbriculidae
Kincaidiana hexatheca
Lumbriculus variegatus
Family Naididae
Chaetogaster sp
Nais sp
Family Tubificidae

PHYLUM MOLLUSCA

Class Gastropoda

Lymnaeidae dam
Valvata sincera

PHYLUM NEMATODA

PYLUM COELENTERATA

Class Hydroza

Order Hydroida
Hydra sp

Fish (vertebrate)

Cottus cognatus

TOTAL PER SAMPLE

TOTAL PER SITE

SAMPLE SITE

Fines split to:

Coarse split to:

TAXONOMIC RICHNESS/SAMPLE

TAXONOMIC RICHNESS/SITE