August 12, 2004

Environment Canada
Nunavut Regional Office
Environmental Protection Branch
P.O. Box 1870
Iqaluit, NU
X0A 0H0

Attention: Sid Bruinsma, Enforcement / Emergencies Officer, Nunavut Northern Division

Dear Sir:

Re: <u>Polaris Mine – Garrow Lake Final Discharge Point Exceedance of TSS Sample Under Schedule 4 of the MMER</u>

In accordance with section 24 (2) of the Metal Mining Effluent Regulations ("MMER"), please be advised that on August 9, 2004 we received laboratory results indicating that a single weekly effluent sample taken July 7th, 2004 from the final discharge point of Garrow Lake (a single grab sample) had a Total Suspended Solids (TSS) level of 117 mg/L which exceeded the TSS limits in Schedule 4 of the MMER (limit of 30 mg/L for a single grab sample). Concurrently on July 7th we also took our monthly acute lethality samples. The results were compliant with the MMER and showed no acute toxicity to either the Rainbow Trout or the Daphnia magna (i.e. LC50s in both cases were > 100% effluent). I have attached copies of both of these laboratory results. The date on the laboratory record for the metals analysis states that the sample was taken on July 6th but this is incorrect. The metals samples were originally scheduled to be taken on the 6th and the bottles were labeled as such by our consultant but fog delayed the plane that ships the samples to the laboratory so the sample was actually taken on the 7th at the same time as the acute lethality samples (and the dates on the bottles and associated chain of custody papers were not updated).

The July 7th sample was taken during the first week of effluent discharge from Garrow Lake. The TSS level was the result of Garrow Lake being ice covered which blocks the creek inlet (Garrow Creek) until the ice melted sufficiently to uncork the lake, and then the flows increase to a peak very quickly causing turbidity in the creek channel. The peak flows last a day or two and then the flows gradually subside with the TSS levels decreasing concurrently. As stated previously, the turbidity is not from tailings being mobilized as evidenced by the metals concentrations in the July 7th sample being in compliance (i.e. Zn concentrations were 0.198 mg/L). The TSS levels in the subsequent weekly water sample (July 13th) was in compliance (TSS was 5.7 mg/L) and metals concentrations continued to be in compliance (Zn was 0.106 mg/L). I have also attached the final results for the July 20th weekly water samples (TSS was <3.0 mg/L and the Zn was 0.0435 mg/L). The July 27th weekly water sample interim laboratory results report TSS at 3.7 mg/L and the Zn results are not available yet. Samples for the acute lethality tests were also taken on July 27th and compliant results were again achieved with the LC50 being >100 for both

the Rainbow Trout and the Daphnia magna (attached). I will forward the final July 27th laboratory results once they are received.

If you have any other questions in the interim, please contact me at (250) 427-8405 or by email at bruce.donald@teckcominco.com

Yours truly,

Bruce Donald

Attachments: July 7th Monthly Water Sample Results
July 7th Acute Lethality Sample Results
July 13th Weekly Water Sample Results
July 20th Weekly Water Sample Results
July 27th Acute Lethality Sample Results

Cc: Walter Kuit (Teck Cominco)
Bob Hutchinson (Teck Cominco)
Patrick Allard (Azimuth Consulting)
Phyllis Beaulieu (Nunavut Water Board)

ALS Environmental

CHEMICAL ANALYSIS REPORT

Date: August 9, 2004

ALS File No. U5572

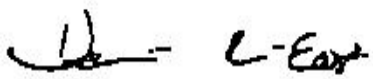
Report On: Polaris Water Analysis

Report To: **Azimuth Consulting Group Inc.**
218 - 2902 West Broadway
Vancouver, BC
V6K 2G8

Attention: **Mr. Randy Baker**

Received: July 12, 2004

ALS ENVIRONMENTAL
per:



Heather A. Ross-Easton, B.Sc. - Project Chemist
Andre Langlais, M.Sc. - Project Chemist

File No. U5572

RESULTS OF ANALYSIS - Water

Sample ID			G Creek	Dup	F Blank	T Blank
Sample Date			04-07-06	04-07-06	04-07-06	04-07-06
Sample Time			11:00	11:00	11:00	11:00
ALS ID			*1*	*2*	*3*	*4*
Physical Tests						
Hardness	CaCO3		1400	1400	<0.54	<0.54
pH			8.05	8.06	-	-
Salinity	o/oo		7.0	6.9	-	-
Total Suspended Solids			117	120	-	-
Dissolved Anions						
Alkalinity-Total		CaCO3	138	132	-	-
Nutrients						
Ammonia Nitrogen		N	0.071	0.069	-	-
Nitrate Nitrogen		N	0.277	0.284	-	-
Cyanides						
Total Cyanide	CN		<0.0050	<0.0050	-	-
Total Metals						
Aluminum	T-Al		0.34	0.26	<0.10	<0.10
Arsenic	T-As		<0.0010	<0.0010	<0.0010	<0.0010
Cadmium	T-Cd		0.000588	0.000582	<0.000020	<0.000020
Calcium	T-Ca		140	139	<0.050	<0.050
Copper	T-Cu		0.00265	0.00252	0.00012	0.00012
Iron	T-Fe		0.487	0.441	<0.010	<0.010
Lead	T-Pb		0.00269	0.00240	0.00017	0.00021
Magnesium	T-Mg		256	256	<0.10	<0.10
Mercury	T-Hg		<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum	T-Mo		<0.0050	<0.0050	<0.0050	<0.0050
Nickel	T-Ni		0.00442	0.00438	<0.00050	<0.00050
Zinc	T-Zn		0.198	0.196	0.0012	<0.0010
Radiological Parameters						
Radium-226 [1,2]			0.0200	0.0200	<0.0050	0.0060

Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.
[1]Results are expressed as Becquerels per litre (Bq/L). This analysis is
[2]subcontracted to SRC from Saskatoon.

Appendix 1 - METHODOLOGY

Outlines of the methodologies utilized for the analysis of the samples submitted are as follows

Conventional Parameters in Water

These analyses are carried out in accordance with procedures described in "Methods for Chemical Analysis of Water and Wastes" (USEPA), "Manual for the Chemical Analysis of Water, Wastewaters, Sediments and Biological Tissues" (BCMOE), and/or "Standard Methods for the Examination of Water and Wastewater" (APHA). Further details are available on request.

pH in Water

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode.

Recommended Holding Time:
Sample: 2 hours
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Solids in Water

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total dissolved solids (TDS) and total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius, TSS is determined by drying the filter at 104 degrees celsius. Total solids are determined by evaporating a sample to dryness at 104 degrees celsius. Fixed and volatile solids are determined by igniting a dried sample residue at 550 degrees celsius.

Recommended Holding Time:
Sample: 7 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Alkalinity in Water by Titration

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

Recommended Holding Time:
Sample: 14 days
Reference: APHA

For more detail see ALS Environmental "Collection & Sampling Guide"

Ammonia in Water by Selective Ion Electrode

This analysis is carried out, on sulphuric acid preserved samples, using procedures adapted from APHA Method 4500-NH3 "Nitrogen (Ammonia)". Ammonia is determined using an ammonia selective electrode.

Recommended Holding Time:
Sample: 28 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Dissolved Anions in Water by Ion Chromatography

This analysis is carried out using procedures adapted from APHA Method 4110 "Determination of Anions by Ion Chromatography" and EPA Method 300.0 "Determination of Inorganic Anions by Ion Chromatography". Anions are determined by filtering the sample through a 0.45 micron membrane filter and injecting the filtrate onto a Dionex IonPac AG17 anion exchange column with a hydroxide eluent stream. Anions routinely determined by this method include: bromide, chloride, fluoride, nitrate, nitrite and sulphate.

Recommended Holding Time:
Sample: 28 days (bromide, chloride, fluoride, sulphate)
Sample: 2 days (nitrate, nitrite)
Reference: APHA and EPA
For more detail see ALS Environmental "Collection & Sampling Guide"

Cyanide Species in Water

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide and weak acid dissociable (WAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method. Cyanate is determined by the cyanate hydrolysis method using an ammonia selective electrode. Thiocyanate is determined by the ferric nitrate colourimetric method.

Recommended Holding Time:
Sample: 14 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Metals in Seawater

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures

may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series), inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B), and/or inductively coupled plasma - mass spectrometry (EPA Method 6020).

Recommended Holding Time:

Sample:	6 months
Reference:	Puget

For more detail see ALS Environmental "Collection & Sampling Guide"

Trace Metals in Seawater by SPR-IDA Chelation

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS) and/or routine atomic absorption spectrophotometry techniques (EPA 7000 series).

Recommended Holding Time:

Sample/Extract:	6 months
Reference:	Puget

For more detail see ALS Environmental "Collection & Sampling Guide"

Metals in Water

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" 20th Edition 1998 published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotplate or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by atomic absorption/emission spectrophotometry (EPA Method 7000 series), inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B), and/or inductively coupled plasma - mass spectrometry (EPA Method 6020).

Recommended Holding Time:

Sample:	6 months
Reference:	EPA
For more detail see:	ALS "Collection & Sampling Guide"

Appendix 1 - METHODOLOGY - Continued

Mercury in Seawater

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedure involves a cold-oxidation of the acidified seawater sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry (EPA Method 245.7).

Recommended Holding Time:

Sample:	28 days
Reference:	Puget

For more detail see ALS Environmental "Collection & Sampling Guide"

Mercury in Water

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" 20th Edition 1998 published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry (EPA Method 245.7).

Recommended Holding Time:

Sample:	28 days
Reference:	EPA

For more detail see ALS Environmental "Collection & Sampling Guide"

Results contained within this report relate only to the samples as submitted.

End of Report

EVS environment consultants

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Fax: 604-662-8548
Tel: 604-986-4331
Info@evsenvironment.com
www.evsenvironment.com

FAX TRANSMITTAL SHEET

TO:	Cheryl Mackintosh	**DATE:**	July 16, 2004
	Azimuth Consulting Group	**PROJECT No.:**	09-0302-54
	218 – 2902 West Broadway	**W.O. No.:**	0400304,307
	Vancouver, BC	**FAX No.:**	604-739-9070
	V6K 2G8	**TEL No.:**	604-730-1220
SENT BY:	Robert Harrison	**# PAGES (incl. cover):**	One (1)

Re: Interim data for the 96-h rainbow trout and 48-h *Daphnia magna* LC50 toxicity tests performed on the sample identified as G-Creek acute 070704 (collected July 7, 2004).

Sample ID	Sample Collection Date	**LC50 (95% Confidence Limits) [%vol/vol]**	
		96-h Rainbow Trout	**48-h *Daphnia magna***
G-Creek acute 070704	July 7, 2004 (2200h)	> 100	> 100

Please note that these are draft results and are subject to a QA/QC review. A complete report will follow by mail. Should you have any questions, please contact Edmund Canaria, Manager of Laboratory Services, or myself at 604-986-4331.

Thank you,

Robert Harrison, B.Sc. Hons.
Assistant Bioassay Test Supervisor – Fish Team
rharrison@evsenvironment.com

REH

ALS Environmental

CHEMICAL ANALYSIS REPORT

Date: August 9, 2004

ALS File No. U5829

Report On: Polaris Water Analysis

Report To: **Azimuth Consulting Group Inc.**
218 - 2902 West Broadway
Vancouver, BC
V6K 2G8

Attention: **Mr. Randy Baker**

Received: July 16, 2004

ALS ENVIRONMENTAL
per:

Heather A. Ross-Easton, B.Sc. - Project Chemist
Andre Langlais, M.Sc. - Project Chemist

ALS CANADA LTD.
1988 Triumph Street, Vancouver, BC Canada V5L 1K5
Phone: 604-253-4188 Fax: 604-253-6700 Website: www.alsenviro.com

REMARKS

The detection limits for some of the metals have been increased for the sample "G Creek" due to sample matrix interferences.

File No. U5829

RESULTS OF ANALYSIS - Water

Sample ID		G Creek
Sample Date		04-07-13
ALS ID		*1*
Physical Tests		
pH		7.90
Salinity	o/oo	4.5
Total Suspended Solids		5.7
Cyanides		
Total Cyanide	CN	<0.0050
Total Metals		
Aluminum	T-Al	<0.40
Arsenic	T-As	<0.0020
Cadmium	T-Cd	0.000332
Copper	T-Cu	0.000703
Iron	T-Fe	0.019
Lead	T-Pb	0.000318
Molybdenum	T-Mo	<0.0050
Nickel	T-Ni	0.00204
Zinc	T-Zn	0.106
Radiological Parameters		
Radium-226 [1,2]		0.0070

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.
[1]Result is expressed as Becquerels per litre (Bq/L). This analysis is
[2]subcontracted to SRC, Saskatoon.

Appendix 1 - METHODOLOGY

Outlines of the methodologies utilized for the analysis of the samples submitted are as follows

pH in Water

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode.

Recommended Holding Time:
Sample: 2 hours
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Conventional Parameters in Water

These analyses are carried out in accordance with procedures described in "Methods for Chemical Analysis of Water and Wastes" (USEPA), "Manual for the Chemical Analysis of Water, Wastewaters, Sediments and Biological Tissues" (BCMOE), and/or "Standard Methods for the Examination of Water and Wastewater" (APHA). Further details are available on request.

Solids in Water

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total dissolved solids (TDS) and total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius, TSS is determined by drying the filter at 104 degrees celsius. Total solids are determined by evaporating a sample to dryness at 104 degrees celsius. Fixed and volatile solids are determined by igniting a dried sample residue at 550 degrees celsius.

Recommended Holding Time:
Sample: 7 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Cyanide Species in Water

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide and weak acid dissociable (WAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method. Cyanate is determined by the cyanate hydrolysis method using an ammonia selective electrode. Thiocyanate is determined by the ferric nitrate colourimetric method.

Recommended Holding Time:

Sample: 14 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Metals in Water

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" 20th Edition 1998 published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotplate or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by atomic absorption/emission spectrophotometry (EPA Method 7000 series), inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B), and/or inductively coupled plasma - mass spectrometry (EPA Method 6020).

Recommended Holding Time:

Sample:	6 months
Reference:	EPA
For more detail see:	ALS "Collection & Sampling Guide"

Metals in Seawater

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series), inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B), and/or inductively coupled plasma - mass spectrometry (EPA Method 6020).

Recommended Holding Time:

Sample:	6 months
Reference:	Puget

For more detail see ALS Environmental "Collection & Sampling Guide"

Trace Metals in Seawater by SPR-IDA Chelation

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS) and/or routine atomic absorption spectrophotometry techniques (EPA 7000 series).

Appendix 1 - METHODOLOGY - Continued

Recommended Holding Time:

Sample/Extract:	6 months
Reference:	Puget

For more detail see ALS Environmental "Collection & Sampling Guide"

Results contained within this report relate only to the samples as submitted.

End of Report

CHEMICAL ANALYSIS REPORT

Date: August 11, 2004

ALS File No. U6161

Report On: Polaris Water Analysis

Report To: **Azimuth Consulting Group Inc.**
218 - 2902 West Broadway
Vancouver, BC
V6K 2G8

Attention: **Mr. Randy Baker**

Received: July 24, 2004

ALS ENVIRONMENTAL
per:

Andre Langlais, M.Sc. - Project Chemist
Heather A. Ross-Easton, B.Sc. - Project Chemist

ALS CANADA LTD.
1988 Triumph Street, Vancouver, BC Canada V5L 1K5
Phone: 604-253-4188 Fax: 604-253-6700 Website: www.alsenviro.com

File No. U6161

RESULTS OF ANALYSIS - Water

Sample ID		G-Creek_ Gen_ 072004	Tracer Dye	Injectn. Dye	G-Creek_ Rhod_ 072004
Sample Date		04-07-20	04-07-20	04-07-20	04-07-20
ALS ID		*1*	*2*	*3*	*4*
Physical Tests					
pH		7.86	-	-	-
Salinity	o/oo	3.3	-	-	-
Total Suspended Solids		<3.0	-	-	-
Cyanides					
Total Cyanide	CN	<0.0050	-	-	-
Total Metals					
Aluminum	T-Al	<0.20	-	-	-
Arsenic	T-As	<0.0020	-	-	-
Cadmium	T-Cd	0.000109	-	-	-
Copper	T-Cu	0.000427	-	-	-
Iron	T-Fe	<0.010	-	-	-
Lead	T-Pb	0.000837	-	-	-
Molybdenum	T-Mo	<0.0050	-	-	-
Nickel	T-Ni	0.000876	-	-	-
Zinc	T-Zn	0.0435	-	-	-
Miscellaneous					
Rhodamine		-	see below[1]	76900	0.0380
Radiological Parameters					
Radium-226[2,3]		<0.0050	-	-	-

Results are expressed as milligrams per litre except where noted.
< = Less than the detection limit indicated.
[1]This sample was used to prepare calibration standards
[2]Result is expressed as Becquerels per litre (Bq/L). This analysis is
[3]subcontracted to SRC, Saskatoon.

File No. U6161

Appendix 1 - METHODOLOGY

Outlines of the methodologies utilized for the analysis of the samples submitted are as follows

pH in Water

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode.

Recommended Holding Time:
Sample: 2 hours
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Conventional Parameters in Water

These analyses are carried out in accordance with procedures described in "Methods for Chemical Analysis of Water and Wastes" (USEPA), "Manual for the Chemical Analysis of Water, Wastewaters, Sediments and Biological Tissues" (BCMOE), and/or "Standard Methods for the Examination of Water and Wastewater" (APHA). Further details are available on request.

Solids in Water

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total dissolved solids (TDS) and total suspended solids (TSS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius, TSS is determined by drying the filter at 104 degrees celsius. Total solids are determined by evaporating a sample to dryness at 104 degrees celsius. Fixed and volatile solids are determined by igniting a dried sample residue at 550 degrees celsius.

Recommended Holding Time:
Sample: 7 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Cyanide Species in Water

This analysis is carried out using procedures adapted from APHA Method 4500-CN "Cyanide". Total or strong acid dissociable (SAD) cyanide and weak acid dissociable (WAD) cyanide are determined by sample distillation and analysis using the chloramine-T colourimetric method. Cyanate is determined by the cyanate hydrolysis method using an ammonia selective electrode. Thiocyanate is determined by the ferric nitrate colourimetric method.

Recommended Holding Time:

Appendix 1 - METHODOLOGY - Continued

Sample: 14 days
Reference: APHA
For more detail see ALS Environmental "Collection & Sampling Guide"

Metals in Water

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" 20th Edition 1998 published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by acid digestion, using either hotplate or microwave oven, or filtration (EPA Method 3005A). Instrumental analysis is by atomic absorption/emission spectrophotometry (EPA Method 7000 series), inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B), and/or inductively coupled plasma - mass spectrometry (EPA Method 6020).

Recommended Holding Time:

Sample:	6 months
Reference:	EPA
For more detail see:	ALS "Collection & Sampling Guide"

Metals in Seawater

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis of the seawater is by atomic absorption/emission spectrophotometry (EPA Method 7000 series), inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B), and/or inductively coupled plasma - mass spectrometry (EPA Method 6020).

Recommended Holding Time:

Sample:	6 months
Reference:	Puget

For more detail see ALS Environmental "Collection & Sampling Guide"

Trace Metals in Seawater by SPR-IDA Chelation

This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995, and with procedures adapted from Cetac Technologies Incorporated. A suspended particulate resin (SPR), consisting of immobilized iminodiacetate (IDA) on a divinylbenzene polymer, is used to chelate and preconcentrate metals in seawater. Instrumental analysis is by inductively coupled plasma mass spectrometry (ICPMS) and/or routine atomic absorption spectrophotometry techniques (EPA 7000 series).

Appendix 1 - METHODOLOGY - Continued

Recommended Holding Time:
Sample/Extract: 6 months
Reference: Puget
For more detail see ALS Environmental "Collection & Sampling Guide"

Rhodamine WT in Water

This analysis is carried out using a Waters Model 470 Scanning Fluorescence Detector. Prior to analysis, samples are warmed to room temperature and then an aliquot of the sample is filtered through a 0.45 um cellulose acetate filter to remove some of the potential interferences. After filtration, a portion of the sample, typically 500 uL, is injected into the fluorescence detector. An excitation wavelength of 556 nm is used and fluorescence is measured at an emission wavelength of 580 nm.

Please note the following: This method is non-selective and subject to many interferences. Typical interferences may include; pH, salinity, temperature, suspended matter, photochemical degradation of Rhodamine WT, and some types of algae pigments. Detection for this analysis is not chromatographic; therefore, anything present in the sample that fluoresces at the same wavelength as Rhodamine WT will be detected and reported as Rhodamine WT. Results reported using this method should be considered semi-quantitative in nature.

Recommended Holding Time:
Sample: None Available
Reference: None Available
For more detail see ALS Environmental "Collection & Sampling Guide"

Results contained within this report relate only to the samples as submitted.

End of Report

EVS environment consultants

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North Vancouver, BC
Canada V7P 2R4
Fax: 604-662-8548
Tel: 604-986-4331
Info@evsenvironment.com
www.evsenvironment.com

FAX TRANSMITTAL SHEET

TO:	Cheryl Mackintosh	**DATE:**	August 9, 2004
	Azimuth Consulting Group	**PROJECT No.:**	09-0302-54
	218 – 2902 West Broadway	**W.O. No.:**	0400342,348
	Vancouver, BC	**FAX No.:**	604-739-9070
	V6K 2G8	**TEL No.:**	604-730-1220
SENT BY:	Rachel DeWynter	**# PAGES (incl. cover):**	One (1)

Re: Interim data for the 96-h rainbow trout and 48-h *Daphnia magna* LC50 toxicity tests performed on the sample identified as G-Creek acute 270704 (collected July 27, 2004).

Sample ID	Sample Collection Date	LC50 (95% Confidence Limits) [%vol/vol]	
		96-h Rainbow Trout	48-h *Daphnia magna*
G-Creek acute 270704	July 27, 2004 (09:30h)	> 100	> 100

Please note that these are draft results and are subject to a QA/QC review. A complete report will follow by mail. Should you have any questions, please contact Edmund Canaria or myself at 604-986-4331.

Thank you,

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RSD