

#### Golder Associates Ltd.

500 – 4260 Still Creek Drive Burnaby, British Columbia, Canada V5C 6C6 Telephone (604) 296-4200 Fax (604) 298-5253



# REPORT ON

# GEOCHEMISTRY OF MINE WASTES GIANT MINE SITE YELLOWKNIFE, NT

# Submitted to:

SRK Consulting (Canada) 800 – 1066 West Hastings Street Vancouver, British Columbia V6E 3X2

#### DISTRIBUTION:

2 Copies - SRK Consulting

2 Copies - Golder Associates Ltd.

September 2001 002-2418





# **TABLE OF CONTENTS**

<u>SEC</u>	ΓΙΟΝ		<u>PAGE</u>
1.0	BAC	KGROUND	III
	1.1	Occurrence of Arsenic	1
	1.2	Comparative Guidelines	1
		1.2.1 Acid Drainage Potential of Mining Wastes	2
		1.2.2 Metal Leaching Potential of Mining Wastes	2
		1.2.3 Sediment Arsenic and Metal Concentrations	3
		1.2.4 Water Quality	3
2.0	OPE	N PITS	4
	2.1	Objectives	4
	2.2	Investigations/Sampling	4
		2.2.1 Open Pit Wall Rock Sampling	4
		2.2.2 Open Pit Sediment Sampling	5
	2.3	Analytical	5
		2.3.1 Open Pit Wall Rock	5
		2.3.2 Open Pit Sediments	6
	2.4	Results – Open Pit Wall Rocks	6
		2.4.1 Acid Rock Drainage Potential	6
		2.4.2 Whole Rock Chemistry	7
		2.4.3 Metal Leaching Potential	8
		2.4.4 Quality Assurance/Quality Control	9
	2.5	Discussion - Open Pit Wall Rocks	9
	2.6	Results – Open Pit Sediments	10
3.0	WAS	STE ROCK	11
	3.1	Objectives	11
	3.2	Investigations/Sampling	11
	3.3	Analytical	12
	3.4	Results	12
		3.4.1 Acid Rock Drainage Potential	12
		3.4.2 Whole Rock Chemistry	13
		3.4.3 Metal Leaching Potential	14
		3.4.4 Quality Assurance/Quality Control	14
	3.5	Discussion	15
4.0	MINE	ESITE BUILDINGS	16
	4.1	Objectives	16
	4.2	Investigations/Sampling	16
	4.3	Analytical	16
	4.4	Results	16
	4.5	Discussion	17
	4.6	Environment, Health and Safety Implications	
5.0	TAII	ING AND WATER TREATMENT PLANT SLUDGE	18

6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4       Results       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35				
5.2.1 Tailing       18         5.2.2 Water Treatment Plant Sludge       19         5.3 Analytical       20         5.3.1 Tailing       20         5.3.2 Water Treatment Plant Sludge       20         5.4 Results Tailing       21         5.4.1 Acid Rock Drainage Potential       21         5.4.2 Mineralogy       21         5.4.3 Tailing Chemistry       22         5.4.4 Metal Leaching Potential       22         5.4.5 Quality Assurance/Quality Control       23         5.5 Discussion Tailing       23         5.6 Results - Water Treatment Plant Sludges       24         5.6.1 Sludge Chemistry and Assay Results       24         5.6.2 Metal Leaching Potential       24         5.6.1 Sludge Chemistry and Assay Results       24         5.6.2 Metal Leaching Potential       24         5.6.1 Sludge Chemistry and Assay Results       24         6.0 GROUNDWATER       26         6.1 Objectives       26         6.2 Investigations/Sampling       26         6.2.1 Borehole Drilling       26         6.2.2 Piezometer Installation       26         6.2.2 Piezometer Installation       26         6.2.1 Quality Assurance/Quality Control       29		5.1	Objectives	18
5.2.2       Water Treatment Plant Sludge       19         5.3       Analytical       20         5.3.1       Tailing       20         5.3.2       Water Treatment Plant Sludge       20         5.4       Results       Tailing       21         5.4.1       Acid Rock Drainage Potential       21         5.4.2       Mineralogy       21         5.4.3       Tailing Chemistry       22         5.4.4       Metal Leaching Potential       22         5.4.5       Quality Assurance/Quality Control       23         5.5       Discussion Tailing       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.6.1       Sludge Chemistry and Assay Results       24         6.0       GROUNDWATER       26         6.1       Objectives       26		5.2	Investigations/Sampling	18
5.3       Analytical       20         5.3.1       Tailing       20         5.3.2       Water Treatment Plant Sludge       20         5.4       Results Tailing       21         5.4.1       Acid Rock Drainage Potential       21         5.4.2       Mineralogy       21         5.4.3       Tailing Chemistry       22         5.4.4       Metal Leaching Potential       22         5.4.5       Quality Assurance/Quality Control       23         5.5       Discussion Tailing       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.6.1       Sludger Chemistry and Assay Results       24         6.2       Investigations/Sampling			5.2.1 Tailing	18
5.3.1       Tailing       20         5.3.2       Water Treatment Plant Sludge       20         5.4       Results       Tailing       21         5.4.1       Acid Rock Drainage Potential       21         5.4.2       Mineralogy       21         5.4.3       Tailing Chemistry       22         5.4.4       Metal Leaching Potential       22         5.4.5       Quality Assurance/Quality Control       23         5.5       Discussion       Tailing       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.7       Discussion       Water Treatment Sludge       25         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.2       Piezometer Installation       26         6.2.1       Results       28         6.4       Results       28         6			5.2.2 Water Treatment Plant Sludge	19
5.3.2       Water Treatment Plant Sludge       20         5.4       Results       Tailing       21         5.4.1       Acid Rock Drainage Potential       21         5.4.2       Mineralogy       21         5.4.3       Tailing Chemistry       22         5.4.4       Metal Leaching Potential       22         5.4.5       Quality Assurance/Quality Control       23         5.5       Discussion       Tailing       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.7       Discussion       Water Treatment Sludge       25         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Driilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4       Results       28         6.4.1       Quality Assurance/Quality Control       29     <		5.3	Analytical	20
5.4       Results Tailing       21         5.4.1       Acid Rock Drainage Potential       21         5.4.2       Mineralogy       21         5.4.3       Tailing Chemistry       22         5.4.4       Metal Leaching Potential       22         5.4.5       Quality Assurance/Quality Control       23         5.5       Discussion Tailing       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.7       Discussion Water Treatment Sludge       25         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.1       Borehole Drilling       27         6.3       Analytical       28         6.4       Results       28         6.4.1       Quality Assurance/Quality Control       29         7.0       SURFACE WATER       30         7.1       Objectives       <			5.3.1 Tailing	20
5.4.1       Acid Rock Drainage Potential       21         5.4.2       Mineralogy       21         5.4.3       Tailing Chemistry       22         5.4.4       Metal Leaching Potential       22         5.4.5       Quality Assurance/Quality Control       23         5.5       Discussion       Tailing       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.7       Discussion       Water Treatment Sludge       25         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4.1       Quality Assurance/Quality Control       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30 <t< td=""><td></td><td></td><td>5.3.2 Water Treatment Plant Sludge</td><td>20</td></t<>			5.3.2 Water Treatment Plant Sludge	20
5.4.2       Mineralogy       21         5.4.3       Tailing Chemistry       22         5.4.4       Metal Leaching Potential       22         5.4.5       Quality Assurance/Quality Control       23         5.5       Discussion Tailing       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.6.1       Sludge Chemistry and Assay Results       24         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       27         6.3       Analytical       28		5.4	Results Tailing	21
5.4.3       Tailing Chemistry       22         5.4.4       Metal Leaching Potential       22         5.4.5       Quality Assurance/Quality Control       23         5.5       Discussion Tailing       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.6.2       Metal Leaching Potential       24         5.6.2       Metal Leaching Potential       24         5.6.1       Discussion Water Treatment Sludge       25         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4.1       Results       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives<			5.4.1 Acid Rock Drainage Potential	21
5.4.4       Metal Leaching Potential       22         5.4.5       Quality Assurance/Quality Control       23         5.5       Discussion       Tailing       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.7       Discussion       Water Treatment Sludge       25         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4       Results       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results			5.4.2 Mineralogy	21
5.4.5 Quality Assurance/Quality Control       23         5.5 Discussion Tailing       23         5.6 Results - Water Treatment Plant Sludges       24         5.6.1 Sludge Chemistry and Assay Results       24         5.6.2 Metal Leaching Potential       24         5.7 Discussion Water Treatment Sludge       25         6.0 GROUNDWATER       26         6.1 Objectives       26         6.2 Investigations/Sampling       26         6.2.1 Borehole Drilling       26         6.2.2 Piezometer Installation       26         6.2.3 Groundwater Sampling       27         6.3 Analytical       28         6.4 Results       28         6.4.1 Quality Assurance/Quality Control       29         6.5 Discussion       29         7.0 SURFACE WATER       30         7.1 Objectives       30         7.2 Investigations/Sampling       30         7.3 Analytical       31         7.4 Results       31         7.4.1 Tailing Impoundment Area       31         7.4.2 Water Ponds and Seepage from Impoundments       32         7.4.3 Open Pit Water       33         7.4.4 Trapper Lake Area       34         7.4.5 Gar Lake Area       34			5.4.3 Tailing Chemistry	22
5.5       Discussion Tailing.       23         5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.7       Discussion Water Treatment Sludge       25         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments <td< td=""><td></td><td></td><td>5.4.4 Metal Leaching Potential</td><td>22</td></td<>			5.4.4 Metal Leaching Potential	22
5.6       Results - Water Treatment Plant Sludges       24         5.6.1       Sludge Chemistry and Assay Results       24         5.6.2       Metal Leaching Potential       24         5.7       Discussion Water Treatment Sludge       25         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.5       Gar Lake Area       34 <td></td> <td></td> <td>5.4.5 Quality Assurance/Quality Control</td> <td>23</td>			5.4.5 Quality Assurance/Quality Control	23
5.6.1 Sludge Chemistry and Assay Results.       24         5.6.2 Metal Leaching Potential       24         5.7 Discussion Water Treatment Sludge       25         6.0 GROUNDWATER       26         6.1 Objectives       26         6.2 Investigations/Sampling       26         6.2.1 Borehole Drilling       26         6.2.2 Piezometer Installation       26         6.2.3 Groundwater Sampling       27         6.3 Analytical       28         6.4.1 Quality Assurance/Quality Control       29         6.5 Discussion       29         7.0 SURFACE WATER       30         7.1 Objectives       30         7.2 Investigations/Sampling       30         7.3 Analytical       31         7.4 Results       31         7.4.1 Tailing Impoundment Area       31         7.4.2 Water Ponds and Seepage from Impoundments       32         7.4.3 Open Pit Water       33         7.4.4 Trapper Lake and Trapper Creek       33         7.4.5 Gar Lake Area       34         7.4.6 Effluent Discharge       34         7.4.8 Comparison with CCME Guidelines       35		5.5	Discussion Tailing	23
5.6.2 Metal Leaching Potential       24         5.7 Discussion Water Treatment Sludge       25         6.0 GROUNDWATER       26         6.1 Objectives       26         6.2 Investigations/Sampling       26         6.2.1 Borehole Drilling       26         6.2.2 Piezometer Installation       26         6.2.3 Groundwater Sampling       27         6.3 Analytical       28         6.4.1 Quality Assurance/Quality Control       29         6.5 Discussion       29         7.0 SURFACE WATER       30         7.1 Objectives       30         7.2 Investigations/Sampling       30         7.3 Analytical       31         7.4 Results       31         7.4.1 Tailing Impoundment Area       31         7.4.2 Water Ponds and Seepage from Impoundments       32         7.4.3 Open Pit Water       33         7.4.4 Trapper Lake and Trapper Creek       33         7.4.5 Gar Lake Area       34         7.4.6 Effluent Discharge       34         7.4.7 Baker Creek       34         7.4.8 Comparison with CCME Guidelines       35		5.6	Results - Water Treatment Plant Sludges	24
5.7       Discussion       Water Treatment Sludge       25         6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4       Results       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34			5.6.1 Sludge Chemistry and Assay Results	24
6.0       GROUNDWATER       26         6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4       Results       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison			5.6.2 Metal Leaching Potential	24
6.1       Objectives       26         6.2       Investigations/Sampling       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4       Results       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35		5.7	Discussion Water Treatment Sludge	25
6.2       Investigations/Sampling.       26         6.2.1       Borehole Drilling       26         6.2.2       Piezometer Installation       26         6.2.3       Groundwater Sampling       27         6.3       Analytical       28         6.4       Results       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35	6.0	GRO	OUNDWATER	26
6.2.1 Borehole Drilling       26         6.2.2 Piezometer Installation       26         6.2.3 Groundwater Sampling       27         6.3 Analytical       28         6.4 Results       28         6.4.1 Quality Assurance/Quality Control       29         6.5 Discussion       29         7.0 SURFACE WATER       30         7.1 Objectives       30         7.2 Investigations/Sampling       30         7.3 Analytical       31         7.4 Results       31         7.4.1 Tailing Impoundment Area       31         7.4.2 Water Ponds and Seepage from Impoundments       32         7.4.3 Open Pit Water       33         7.4.4 Trapper Lake and Trapper Creek       33         7.4.5 Gar Lake Area       34         7.4.6 Effluent Discharge       34         7.4.7 Baker Creek       34         7.4.8 Comparison with CCME Guidelines       35		6.1	Objectives	26
6.2.2 Piezometer Installation       26         6.2.3 Groundwater Sampling       27         6.3 Analytical       28         6.4 Results       28         6.4.1 Quality Assurance/Quality Control       29         6.5 Discussion       29         7.0 SURFACE WATER       30         7.1 Objectives       30         7.2 Investigations/Sampling       30         7.3 Analytical       31         7.4 Results       31         7.4.1 Tailing Impoundment Area       31         7.4.2 Water Ponds and Seepage from Impoundments       32         7.4.3 Open Pit Water       33         7.4.4 Trapper Lake and Trapper Creek       33         7.4.5 Gar Lake Area       34         7.4.6 Effluent Discharge       34         7.4.7 Baker Creek       34         7.4.8 Comparison with CCME Guidelines       35		6.2	Investigations/Sampling	26
6.2.3 Groundwater Sampling       27         6.3 Analytical       28         6.4 Results       28         6.4.1 Quality Assurance/Quality Control       29         6.5 Discussion       29         7.0 SURFACE WATER       30         7.1 Objectives       30         7.2 Investigations/Sampling       30         7.3 Analytical       31         7.4 Results       31         7.4.1 Tailing Impoundment Area       31         7.4.2 Water Ponds and Seepage from Impoundments       32         7.4.3 Open Pit Water       33         7.4.4 Trapper Lake and Trapper Creek       33         7.4.5 Gar Lake Area       34         7.4.6 Effluent Discharge       34         7.4.7 Baker Creek       34         7.4.8 Comparison with CCME Guidelines       35			6.2.1 Borehole Drilling	26
6.3       Analytical       28         6.4       Results       28         6.4.1       Quality Assurance/Quality Control       29         6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35			6.2.2 Piezometer Installation	26
6.4       Results			6.2.3 Groundwater Sampling	27
6.4.1 Quality Assurance/Quality Control       29         6.5 Discussion       29         7.0 SURFACE WATER       30         7.1 Objectives       30         7.2 Investigations/Sampling       30         7.3 Analytical       31         7.4 Results       31         7.4.1 Tailing Impoundment Area       31         7.4.2 Water Ponds and Seepage from Impoundments       32         7.4.3 Open Pit Water       33         7.4.4 Trapper Lake and Trapper Creek       33         7.4.5 Gar Lake Area       34         7.4.6 Effluent Discharge       34         7.4.7 Baker Creek       34         7.4.8 Comparison with CCME Guidelines       35		6.3	Analytical	28
6.5       Discussion       29         7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35		6.4	Results	28
7.0       SURFACE WATER       30         7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35			6.4.1 Quality Assurance/Quality Control	29
7.1       Objectives       30         7.2       Investigations/Sampling       30         7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35		6.5	Discussion	29
7.2       Investigations/Sampling	7.0	SURF	FACE WATER	30
7.3       Analytical       31         7.4       Results       31         7.4.1       Tailing Impoundment Area       31         7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35		7.1	Objectives	30
7.4       Results		7.2	Investigations/Sampling	30
7.4.1       Tailing Impoundment Area		7.3	Analytical	31
7.4.2       Water Ponds and Seepage from Impoundments       32         7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35		7.4	Results	31
7.4.3       Open Pit Water       33         7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35			7.4.1 Tailing Impoundment Area	31
7.4.4       Trapper Lake and Trapper Creek       33         7.4.5       Gar Lake Area       34         7.4.6       Effluent Discharge       34         7.4.7       Baker Creek       34         7.4.8       Comparison with CCME Guidelines       35			7.4.2 Water Ponds and Seepage from Impoundments	32
7.4.5 Gar Lake Area       34         7.4.6 Effluent Discharge       34         7.4.7 Baker Creek       34         7.4.8 Comparison with CCME Guidelines       35			7.4.3 Open Pit Water	33
7.4.6Effluent Discharge347.4.7Baker Creek347.4.8Comparison with CCME Guidelines35			7.4.4 Trapper Lake and Trapper Creek	33
7.4.7 Baker Creek			7.4.5 Gar Lake Area	34
7.4.8 Comparison with CCME Guidelines35			7.4.6 Effluent Discharge	34
·			7.4.7 Baker Creek	34
·			7.4.8 Comparison with CCME Guidelines	35
7.4.9 Quality Assurance/Quality Control			7.4.9 Quality Assurance/Quality Control	36

	7.5	Discussion
8.0		R CREEK SEDIMENT39
	8.1	Objectives39
	8.2	Investigations/Sampling39
	8.3	Analytical39
	8.4	Results40
		8.4.1 Other Metal Concentrations in Baker Creek Sediment41
		8.4.2 Quality Assurance/Quality Control41
	8.5	Discussion41
		8.5.1 Total Metal Concentrations41
		8.5.2 Water-Soluble Arsenic Concentrations43
	8.6	Discussion44
	8.7	Recommendations44
REFE	RENCE	ES
	0	21.50
	OF TAI	-
Table		Acid-Base Accounting Results for Open Pit and Waste Rock
Table 1		Rock Chemical Analysis
Table :	_	Rock Leachate Extraction Chemical Analysis
Table 4		QA/QC – Chemical Analysis
Table	_	QA/QC – ABA Analyses
Table	_	Chemical Results for Open Pit Sediments
Table '		Asbestos Characterization Results
Table	_	Arsenic and Residual Gold Values
Table	-	Acid Base Accounting Results – Tailings
Table	_	Tailings and Water Treatment Sludge Chemical Analysis
Table		Tailings Leachate Extraction Chemical Analysis
Table		Groundwater Analytical Results – Dissolved Metals
Table		Groundwater Analytical Results – Total Metals
Table		Groundwater and Surface Water Chemical Types
Table		QA/QC Results for All Water Analyses
Table		Surface Water Quality
Table	17	Sediment Sampling Location in Baker Creek and Yellowknife Bay Near
		Giant Mine
Table	18	Chemical Analyses of Baker Creek Sediments, Giant Mine
Table	19	Concentration of Water-Soluble and Total Arsenic Concentrations in
		Baker Creek Sediments
Table	20	Relative Percent Difference Chemical Parameters of Baker Creek
		Sediments
Table 2	21	Arsenic Concentrations in Aquatic Sediments at other Mine Sites

# **LIST OF FIGURES**

Figure 1	Carbonate NP vs Modified Sobek NP Tailings, Open Pit Walls and Waste Rock Pile Samples
Figure 2	Borehole Location Map
Figure 3	NPR With Depth of Tailings
Figure 4	Acid Potential with Depth of Tailings
Figure 5	Total vs Water-Soluble Arsenic – Tailings and Rock
Figure 6	Leachable Arsenic Concentration of Tailing vs Depth
Figure 7	Sequential Leach Extraction of Water Treatment Sludge
Figure 8	Total vs Water-Soluble Arsenic for Concentrations
Figure 9	Groundwater Monitoring Well Locations
Figure 10	Surface Water Sample Locations
Figure 11	Miramar Giant Mine Water Chemistry
Figure 12	Sediment Sampling Locations in Baker Creek
Figure 13	Total Arsenic Concentrations in Baker Creek Sediment with Distance
	Downstream
Figure 14	Water-Soluble Arsenic Concentrations in Baker Creek Sediment with
	Distance Downstream
Figure 15	Total Cadmium Concentrations in Baker Creek Sediments with
	Distance Downstream
Figure 16	Total Chromium Concentrations in Baker Creek Sediments with
	Distance Downstream
Figure 17	Total Copper Concentrations in Baker Creek Sediments with Distance
	Downstream
Figure 18	Total Lead Concentrations in Baker Creek Sediments with Distance
	Downstream
Figure 19	Total Nickel Concentrations in Baker Creek Sediment with Distance
	Downstream
Figure 20	Total Zinc Concentrations in Baker Creek Sediments with Distance
	Downstream

# **LIST OF APPENDICES**

Appendix I	Open Pit Rock, Waste Rock and Tailings Cemi Laboratory Analytical
	Reports
Appendix II	Mineralogical Assessment Report Leslie Investments Ltd.
Appendix III	Open Pit and Baker Creek Sediments Analytical Reports and Chain-of-
	Custody Records
Appendix IV	Groundwater Well Completion Details
Appendix V	Groundwater Sampling Sheets
Appendix VI	Groundwater and Surface Water Analytical Reports and Chain-of-
	Custody Records

#### 1.0 BACKGROUND

Several decades of Giant mine operations have created changes to the original conditions within the mining lease area. The following report present an overview of the conditions within the Giant minesite in 2001, and highlight aspects of the site conditions that must be addressed in the restoration plan, exclusive of soil arsenic concentrations and underground arsenic storage chambers. The most prevalent potential contaminant on the site, and the one that is likely to dictate the contaminant mitigation aspects of the restoration plan, is arsenic. Most of the other potential contaminants are associated with it, either because of common origin (such as metal leached from rock) or because of association with common mine facilities (such as fuel oils being used near the ore processing facilities). It is important to view the site conditions in the context of regional arsenic contamination. Arsenic is widely available in exposed bedrock and so provides high background levels of arsenic in soil and surface water.

#### 1.1 Occurrence of Arsenic

Arsenic is a ubiquitous element occurring in soil, water, air, plants, and tissues of living organisms, at concentrations ranging from parts per billion to parts per million. Naturally elevated concentrations of arsenic are often associated with mineralized zones where weathering of ore-bearing rocks can increase the levels of arsenic in soil and water. Most arsenic is introduced into the environment by industrial processes that use arsenic to manufacture agricultural products, such as insecticides, herbicides, fungicides, algaecides, wood preservatives, and growth stimulants for plants and animals. Additional potential arsenic sources include mine tailing, smelter wastes, and roaster emissions. Arsenic concentrations in soil and surface waters around smelters typically are elevated as a result of arsenic trioxide (As<sub>2</sub>O<sub>3</sub>) fallout from stack emissions.

The Giant Minesite is located over an arsenic-rich, gold-bearing ore body. The arsenic in the mineralized rock occurs principally as arsenopyrite (FeAsS) and as a trace constituent of pyrite (FeS<sub>2</sub>) (Lewis, 1985). Soils around the Giant Minesite not impacted by mineral extraction/processing contain relatively elevated concentrations of arsenic from weathering of the arsenic-rich ore body. A recent study by the Royal Military College of Canada (RMC, 2000) estimates the natural or background arsenic levels in the Giant Minesite area, and in the Yellowknife area, approximately 150 mg/kg.

#### 1.2 Comparative Guidelines

For comparative purposes, the geochemical results obtained for mining wastes, soil, creek sediments, groundwater, and surface water were evaluated against the most appropriate guideline, as described in this section.

## 1.2.1 Acid Drainage Potential of Mining Wastes

The potential of a geologic material to generate acid rock drainage (ARD) can be described by the ratio of the amount of neutralizing minerals expressed as neutralization potential (NP, expressed as equivalent kilograms of calcium carbonate rock per tonne of rock) to the amount of sulphide minerals expressed as acid potential (AP, same unit as NP) present in the rock. This ratio is referred to as the Neutralization Potential Ratio (NPR). The evaluation of ARD potential of mine waste material at Giant followed the procedure described in *Guidelines for Acid Rock Drainage Prediction in the North* (SRK/BC Research, 1992). The suggested guidelines are as follows:

NPR	ARD Potential	
Greater than 3	Acid Neutralizing	
1 – 3	Uncertain ARD Potential	
Less than 1	Acid Generating	

ARD potential can also be evaluated by calculating the Net Neutralization Potential, or NNP, which is the difference between AP and NP values (NNP = NP - AP). Negative NNP values suggest that the rock has insufficient neutralizing capacity for a given acid potential, indicating that the rock might have a potential to generate acidic drainage. A positive NNP suggests that the rock has a capacity to neutralize the acidity generated.

NPR is considered a more appropriate tool and was used in this study to evaluate the propensity of rock to generate acidic drainage.

#### 1.2.2 Metal Leaching Potential of Mining Wastes

The potential of mining materials (open pit walls, waste rock, water treatment sludges, etc.) to leach metals to the environment is evaluated to determine the potential effects of leaching on surface water quality. Metal concentrations in leachate were compared to both Canadian Council of Ministers of the Environment (CCME) recommended guidelines for freshwater aquatic life and to allowable concentrations outlined in Giant Minewater License Permit N1L2-0043. These criteria were used for a qualitative comparison only. "True" runoff concentrations generated by exposure of mine wastes to water (through rain or flooding) depend on a number of factors that are difficult to simulate in static laboratory tests (e.g., grain size distribution, solution to solid ratio, sulphide oxidation, etc.).

#### 1.2.3 Sediment Arsenic and Metal Concentrations

In 2001, the Northwest Territories has not established guidelines for concentrations of metals in soils. The recommended soil quality guidelines outlined in the CCME (2000) are typically used as a reference. The CCME guidelines are intended for general guidance only.

The Yellowknife area, including Giant Mine, is located over a mineralized zone characterized by arsenic-rich ores. Studies performed by Ollson (2000) and the Environmental Science Group of RMC (2000) on background soil arsenic levels in the Yellowknife area estimate these levels to be 100 mg/kg to 150 mg/kg, respectively. In this document, sediment arsenic concentrations below 100 mg/kg have been considered equivalent to background conditions. The Yellowknife Soil Arsenic Remediation Committee (YSARC) is also reviewing the natural or background levels of arsenic in soil in the Yellowknife area.

In 1997, Golder Associates (Golder) conducted a study for Miramar Con Mine that indicated that soil arsenic concentrations lower than 372 ppm (mg/kg) represented a minimal risk for human health, based on worker exposure at an industrial site (Golder, 1998). Because of the similarity of site use, geology, and the nature of the mining wastes generated by Con and Giant Mines, the results of the Con Mine Risk Assessment were applied to the Giant Minesite. In this document, a total arsenic concentration of 350 ppm was used as a guideline below which the potential risk to human health at the Giant Minesite is considered minimal.

#### 1.2.4 Water Quality

No criteria exist for evaluation of groundwater quality at the Giant Minesite. For illustrative purposes only, surface water quality for samples collected at or close to the Surveillance Network Program (SNP) monitoring stations was compared to the criteria specified in Giant Minewater Use and Waste Disposal Permit N1L2-0043. The water quality of the other surface water collection sites was compared to CCME guidelines for freshwater aquatic life. Similar to the CCME guidelines for soils, the freshwater aquatic life CCME guidelines are intended for general guidance only and do not constitute legally binding criteria. For arsenic, the criterion is  $5~\mu g/L$ , applicable to total arsenic concentration. The criteria for individual trace metal concentrations in water are tabulated together with results of the laboratory analyses.

## 2.0 OPEN PITS

## 2.1 Objectives

The objective of the open pits investigation was to verify and refine the chemical characterization of open pit wall rock previously reported by others. The chemical characterization focused on the potential for ARD generation and leaching of arsenic and metals.

The objective of the open pit sediment investigation was to determine whether the sediments present at the base of open pits A1, B1, and B2 consisted of tailings.

# 2.2 Investigations/Sampling

#### 2.2.1 Open Pit Wall Rock Sampling

On July 21<sup>st</sup> and 22<sup>nd</sup>, 2000, a total of 43 wall rock samples (including duplicates) were collected from the walls of 8 different open pits throughout the Giant Minesite. Access permitting, representative, equidistant grab samples of wall rock were collected within each pit, or whenever a lithological change was encountered. Samples were collected using a geologist pick, bagged, and identified by writing a sample number on both the plastic bag and the sample itself. In addition, sample locations were photographed, and their positions noted on a field map. The following table lists the open pits included in the sampling effort and the number of samples collected.

Location	Rock Types	Number of Samples Collected	Number of Samples Analyzed
Open Pit A1	Andesite/Schist	6 Samples	3 Samples
Open Pit A2	Schist	5 Samples	3 Samples
Open Pit B1	Andesite/Schist	8 Samples	4 Samples
Open Pit B2	Andesite/Schist	7 Samples	3 Samples
Open Pit B3	Schist	3 Samples	2 Samples
Open Pit B4	Andesite	4 Samples	3 Samples
Brock Pit	Andesite	4 Samples	2 Samples
Open Pit C1	Andesite / Schist	6 Samples	3 Samples

Selected rock samples were subsequently packed in plastic boxes, and shipped by air freight to CEMI Laboratory in Vancouver for chemical analysis. Four pit wall samples were sent to Dr. John Jambor, of Leslie Investment in Tsawwassen, BC, for mineralogical analysis. Chain-of-Custody forms were attached to each shipment of samples.

## 2.2.2 Open Pit Sediment Sampling

The presence of sediments was observed at the base of open pits A1, B1, B2, and C1. Sediment samples were collected in pits A1, B1, and B2 to determine the nature of the sediments, in particular whether the sediment consisted of natural soil or tailing. Sediment in pit C1 was previously documented to consist of tailings (Deton'Cho Environmental Alliance, 1999). The three sediment samples were collected using a clean shovel and put in a plastic bag. The following table presents sample information.

Location	Number of Samples Collected	Number of Samples Analyzed	
Open Pit A1	1	1	
Open Pit B1	1	1	
Open Pit B2	1	1	

Since the analysis of open pit sediments was intended to provide information on the origin of the sediment, no duplicates were obtained. The procedures described for pit wall rock sample identification, documentation, packaging, and shipping were followed for open pit sediment samples. The sediment samples were shipped to Enviro-Test Laboratories in Edmonton for analysis.

## 2.3 Analytical

#### 2.3.1 Open Pit Wall Rock

During sample collection, rock types were identified and the presence of sulphide minerals was noted. A representative selection of 23 rock samples was analyzed by CEMI Laboratory for:

- 1. major and trace element chemistry through triple-acid digestion and ICP scan (with the exception of arsenic and antimony, which were determined by hydride extraction);
- 2. ARD potential through the modified Sobek method of acid-base accounting (ABA);

- 3. paste pH analysis; and
- 4. carbonate neutralization potential.

Twelve of the 23 samples were selected for Shake Flask Extraction (SFE) analysis to determine water-soluble constituents of the rock samples. The SFE analysis consisted of 24-hour agitated leaching with de-ionized water in a 2:1 liquid to solid ratio. Sample selection for SFE analysis was based on metal scan and ABA results.

Two of the 23 open pit rock samples analyzed were submitted as blind duplicates, and an additional two replicate analyses were performed by CEMI Laboratory for ICP and ABA analyses.

Mineralogical analysis consisted of transmitted and reflected light optical microscopy and X-ray diffractometry. Sample selection for mineralogical analysis was based on the representation of the various types of rock present in the pits, as well as ABA and ICP metal scan results. The study focused on the identification and characterization of neutralizing minerals, sulphides, arsenic-bearing minerals, and secondary precipitates.

#### 2.3.2 Open Pit Sediments

All three open pit sediment samples collected were analyzed for metals, paste pH, sulphates, and acid volatile sulphides (AVS) at Enviro-Test Laboratories. Total metal content was determined by ICP scan following a triple-acid digestion. Arsenic and antimony were analyzed by hydride extraction.

## 2.4 Results – Open Pit Wall Rocks

Analytical reports on ABA analysis, rock chemistry, and leachate extraction for open pit samples are presented in Appendix I and summarized in Tables 1 to 3 respectively. The mineralogical assessment report is provided in Appendix II.

#### 2.4.1 Acid Rock Drainage Potential

Twenty of the 23 samples analyzed had an NPR greater than 3 (ranging from 6.4 to 377), indicating that most open pit wall rocks are acid consuming. As shown in the following table, analytical results indicate an NPR < 3 for three open pit wall rock samples.

Sample ID	Location	Rock Type	NPR	ARD Potential
OPA1-01-2100	Open Pit A1	Schist	1.2	Uncertain
OPA1-05-2100	Open Pit A1	Andesite	2.5	Uncertain
OPA2-03-2100	Open Pit A2	Schist	2.3	Uncertain

It should be noted that the AP was calculated using the total sulphur content. This likely represents an overestimation of the AP, since not all sulphur may react to form ARD. Although sulphate sulphur appears to be essentially non-existent, if the total sulphur fraction contains a non-reactive component, the AP would be reduced proportionally. Furthermore, a significant number of samples (13 of 23) contained less than 0.3 wt% total sulphur. According to Price (1997), a sulphide sulphur content < 0.3 wt% combined with a paste pH > 5.5 indicates that a material is not acid generating. All values for paste pH demonstrated alkaline conditions, with paste pH ranging from 8.9 to 9.8. These values are in agreement with the abrasion pH for dolomite (9-10) provided in Price (1997).

Figure 1 shows the relationship between carbonate NP and modified Sobek NP. Also included on the graph is a line denoting a 1:1 ratio. As demonstrated by this figure, the neutralization potential of the rock is almost entirely provided by carbonate minerals. Optical mineralogy identified the carbonates as being an iron-rich dolomite. Although the iron component of the Fe-dolomite does not generate any net alkalinity, the values for carbonate and Sobek NP are sufficiently large that an excess NP is considered available. Therefore, since more than 85% of the samples are acid consuming, with neutralization provided by a large supply of reactive carbonate minerals, and only three samples are characterized by an uncertain potential to generate acidic drainage, the overall potential for ARD generation by open pit rocks is considered minor. This conclusion is corroborated by a study previously conducted by Royal Oak Mines (1994), in which all rock samples collected from open pit walls were determined to be net acid consuming.

## 2.4.2 Whole Rock Chemistry

Arsenic concentrations varied widely, ranging from 15 to 40,200 mg/kg (i.e., three orders of magnitude). Wall rock samples in pits B2, B3, B4, and Brock had arsenic concentrations around or below 100 mg/kg. One sample each from pits A1 and C1 had significantly elevated arsenic (40,200 and 7,700 mg/kg, respectively); the other samples from these pits had relatively low arsenic concentrations (below 179 mg/kg). Most samples from pits A2 and B1 had slightly higher average arsenic concentration (ranging from 102 to 6,330 mg/kg). Concentration ranges for other metals were not as variable ranging generally over no more than one order of magnitude: copper (6 to 203 mg/kg);

chromium (52 to 262 mg/kg); nickel (39 to 117 mg/kg); lead (2 to 32 mg/kg); zinc (40 to 156 mg/kg); and antimony (4 to 49 mg/kg).

Correlation analysis shows that arsenic is weakly correlated with cadmium, lead, and antimony ( $R \approx 0.6$ ). These correlations likely reflect a common origin and/or geochemical similarities. Based on the mineralogical investigations, likely mineral candidates for element substitution are pyrite and arsenopyrite. Stronger correlations ( $R \geq 0.7$ ) are found between barium and potassium, cobalt and copper, and iron and vanadium. Once again, the geochemical similarity between these element pairs may lead to substitution in the silicates, sulphides, and/or carbonates identified in open pit rock.

#### 2.4.3 Metal Leaching Potential

Trace metal concentrations of arsenic and manganese were present above detection limits in leachates from all open pit wall rock samples analyzed. Other trace metals were not encountered at levels above their respective detection limits. Leachable arsenic concentrations ranged from 0.0031 to 0.19 mg/L, with the lower leachable arsenic concentrations in pits B2, B3, B4, and Brock, and higher concentrations in samples from pits A1 and A2. This trend is consistent with the concentration of arsenic in the rock samples, as evidenced by a weak correlation ( $R \approx 0.6$ ) between total and leached arsenic. The proportion of water-soluble arsenic in open pit wall rocks ranged from 0.001% by weight to 0.3%, with an average of approximately 0.08%.

Leachable manganese concentrations were also detected, ranging from 0.007 to 0.083 mg/L. Sulphate concentrations in leachates ranged from 5 mg/L to 82 mg/L, indicating dissolution of primary sulphates or secondary sulphates formed by limited oxidation of sulphides. Calcium to sulphate ratios in the leachate of approximately 1 suggest that gypsum was likely present in samples containing the most elevated sulphate concentrations from pits A2, B2, and C1. Leachate concentrations of antimony, chromium, copper, lead, and zinc were all below detection limits.

A qualitative comparison with CCME guidelines shows that leachable arsenic concentrations are above CCME guideline values for seven samples collected in most open pits (A1, A2, B1, B2, B3, and C1). Concentrations above CCME guidelines for manganese occur for two of these seven samples, in open pits A1 and A2. Leachate metal concentrations were consistently below Giant Mine effluent discharge permit requirements.

Based on the static leach testing, it appears that the open pit wall rocks have a limited ability to release dissolved metals to surface water. However, for arsenic and manganese, wall rock should be considered a potential source. The limited leachability of arsenic is

likely related to the fact that this trace element primarily occurs in the form of insoluble sulphides.

The potential for metals to dissolve and exceed water quality criteria likely varies over time. Flushing episodes, such as rainfall after a period of drought or snowmelt runoff, probably represent the events of most concern, as these may cause metals concentrations to increase in water that accumulates at the base of the pit and/or is diverted to Baker Creek.

## 2.4.4 Quality Assurance/Quality Control

Two duplicate open pit wall rock samples were submitted for chemical analysis (ICP metal scan). Analytical results are presented in Table 4. For the two samples, 1 and 6 analytes, respectively, (out of 20) had relative percent differences (RPDs) above 35%, which is the threshold accepted by the U.S. EPA for duplicate soil analyses (EPA, 1994). In both cases, arsenic analyses were reproduced with sufficient precision (13 and 9% RPD). The ICP analyses are considered precise for the trace metals of concern and most other analytes. The apparent lack of analytical precision for some parameters is most likely related to material heterogeneity rather than analytical deficiency.

Two field duplicate samples of open pit wall rock were submitted for ABA analyses. Analytical results are presented in Table 5. The laboratory analyzed an additional two replicate samples. RPD values for field duplicates all were less than 35%, with the exception of the NP determination in one of the two duplicate sets (RPD = 50%). All laboratory replicate analyses were well below 35% RPD. Since ABA results are generally accepted to suffer from relatively poor reproducibility (as compared to "traditional" techniques such as metal analysis), all ABA results are considered to be sufficiently precise for decision-making purposes.

#### 2.5 Discussion - Open Pit Wall Rocks

The analytical results indicate that open pit wall rocks can be a limited source of dissolved metals to water coming in contact with the rock. Should CCME guidelines become applicable to surface water on site, arsenic and manganese concentrations in pit water may exceed this guideline if the open pits become flooded. Pit wall rock generally is not considered acid generating.

## 2.6 Results - Open Pit Sediments

Analytical reports are presented in Appendix III and summarized in Table 6.

The sample collected in open pit A1 returned an arsenic concentration of 101 mg/kg and antimony below the detection limit of 0.1 mg/kg (antimony is used to help establish a tailing signature). Although the arsenic concentration is above CCME guidelines for industrial land use, such a concentration is within background levels for the Yellowknife area. Concentrations of other elements for this sample are all below CCME guidelines. The analytical results suggest that the sample collected in pit A1 is representative of a native clayey soil for the Yellowknife area, and there is no reason to assume that tailing is present in these sediments.

The sample collected in open pit B1 returned an arsenic concentration of 1,200 mg/kg. No other metals were above CCME guidelines for industrial land use. The elevated arsenic concentration, combined with a relatively high value for antimony (2.4 mg/kg), is consistent with the chemistry of tailing (Section 5.0), suggesting that this sediment sample may contain a tailing component.

The sample collected in open pit B2 showed an arsenic concentration of 2,070 mg/kg and a relatively elevated concentration of antimony (11.2 mg/kg). The nickel concentration (58 mg/kg) for this sample is above CCME guidelines for industrial land use. Similar to the sediment sample in B1 pit, the analytical results for the B2 pit sample suggest that tailing may be present in this sample.

Since the sediment characterization consisted of evaluation of single samples from open pits A1, B1, and B2, collection and analysis of additional samples from each of these three pits is required to confirm the characteristics and origin(s) of the bulk sediment.

## 3.0 WASTE ROCK

## 3.1 Objectives

The primary objective of the waste rock piles investigation was to verify and refine the preliminary ARD potential reported by others and to characterize the metal leaching potential of the waste rock. Results of the investigations will be used in identifying and evaluating closure options.

# 3.2 Investigations/Sampling

On July 22<sup>nd</sup> and 23<sup>rd</sup>, 2000, a total of 24 waste rock samples were collected from 13 different waste rock piles throughout the Giant Minesite. The following table summarizes the location and the number of samples collected and analyzed from each pile.

L	Number of Samples Collected	Number of Samples Analyzed	
Open Pit A2	North end of pit, from access ramp to pit floor	2 Samples	2 Samples
Open Fit A2	Northwest corner of pit, from top of pit to access ramp	3 Samples	3 Samples
	Northeast corner	1 Sample	1 Sample
Open Pit B1	Northwest corner	1 Sample	1 Sample
opu. 13021	South end of pit, from top of pit to access ramp	1 Sample	1 Sample
Open Pit B3	South Wall	2 Samples	2 Samples
Open Pit B4	Base of pit	2 Samples	2 Samples
Brock Pit	Along south and west edges of pit	2 Samples	2 Samples
Open Pit C1	South Wall	3 Samples	3 Samples
Along B2 Pit Access	Northeast Pile	3 Samples	2 Samples
Road (approximately 300 m before B2 Pit	Northwest Pile	2 Samples	1 Samples
access ramp)	Southwest Pile	2 Samples	2 Samples

When only one waste rock sample was collected from a pile, the sample was a composite from various locations within the pile. When several samples were collected within a pile, each composite sample was gathered along equidistant points across the pile. Procedures followed for sample identification, documentation, packaging, and shipping were identical to those reported for open pit rock samples. All waste rock samples were shipped by air freight to CEMI Laboratory for chemical analyses (Appendix I). Four waste rock samples were sent to Dr. John Jambor for mineralogical analysis (Appendix II).

## 3.3 Analytical

During sample collection, rock types were identified and the presence of sulphide minerals was noted. A representative selection of 22 rock samples was analyzed by CEMI Laboratory for major and trace elements chemistry, ARD potential (modified Sobek method), paste pH, and carbonate neutralization potential. Eight of the 22 samples were subjected to a Shake Flask Extraction test for determination of water-soluble constituents. Similar to open pit samples, selection was based rock chemistry and ABA results.

Two of the 22 samples were submitted as laboratory blind duplicates for ABA and ICP metal scan analyses. CEMI Laboratory replicated one other sample for ABA assessment.

Mineralogical analyses performed on the waste rock samples were identical to those for the open pit rock samples.

#### 3.4 Results

Analytical reports on ABA analysis, rock chemistry, and leachate extraction for waste rock samples are presented in Appendix I and summarized in Tables 1 to 3, respectively. The mineralogical assessment report is provided in Appendix II.

## 3.4.1 Acid Rock Drainage Potential

Nineteen of the 22 samples analyzed had an NPR greater than 3 (ranging from 3.7 to 38.9), thus indicating that the waste rock is generally acid consuming. Three samples showed an NPR between 1 and 3, falling in the "uncertain ARD potential" range. As with open pit rock, the NPR was calculated using total sulphur values, thereby potentially overestimating the AP. The three samples with an NPR < 3 are presented in the following table.

Sample ID	Location	Rock Type	NPR	ARD Potential
WR-OPA2-01-2300	Waste Pile near A2 Pit	Andesite	2.7	Uncertain
WR-OPC1-01-2300	Waste Pile near C1 Pit	Andesite	2.4	Uncertain
WR-OPC1-02-2300	waste File flear CT Fit	Andesite	2.2	Uncertain

Similar to open pit rocks, the neutralization potential of the rock is almost entirely provided by carbonate minerals (Figure 1), identified by optical mineralogy as consisting primarily of an iron-rich dolomite. A significant number of samples (13 of 22) contained less than 0.3 wt% total sulphur. According to Price (1997), a sulphide-sulphur content < 0.3 wt% combined with a paste pH > 5.5 indicates that a material is not acid generating. All values for paste pH are alkaline, with paste pH ranging from 8.8 to 9.5. These values are in agreement with the abrasion pH for dolomite (9-10) provided in Price (1997).

The overall potential for ARD generation by the waste rock tested is considered minor. This conclusion is corroborated by a study previously conducted by Royal Oak Mines (1994, 1995), in which all waste rock samples were determined to be net acid consuming.

## 3.4.2 Whole Rock Chemistry

Similar to open pit rock samples, arsenic concentration in waste rock samples varied widely, ranging from 11 to 8,960 mg/kg, with an average of 1,119 mg/kg. More than half the samples had an arsenic concentration below 100 mg/kg; most of the other samples had an arsenic concentration above 1,000 mg/kg. The high-level arsenic samples were found in each of the waste rock piles sampled, with the exception of waste rock from Open Pit B4. Concentration ranges for other metals were less variable than for arsenic, but slightly greater than for the open pit wall samples: copper (54 to 276 mg/kg); chromium (105 to 494 mg/kg); nickel (54 to 117 mg/kg); lead (2 to 82 mg/kg); zinc (66 to 238 mg/kg); and antimony (4 to 74 mg/kg).

Correlation analysis shows that arsenic is weakly correlated with lead and zinc ( $R \approx 0.6\text{-}0.7$ ). This is likely related to the presence of sulphides in which these trace elements coexist. Strong correlation is found between arsenic and cadmium. Correlations also exist between barium and potassium, calcium and strontium, cobalt and nickel, and lead and zinc. Geochemical similarity between these element pairs may lead to substitution in a number of mineral phases, including the silicates, sulphides, and carbonates identified by mineralogical analysis.

#### 3.4.3 Metal Leaching Potential

Water-soluble arsenic and manganese concentrations above detection limits were present in leachates from all waste rock samples analyzed. In addition, two results for copper (0.01 mg/L) and one for zinc (0.013 mg/L) were also above detection limits. Leachable arsenic concentrations ranged from 0.0077 to 0.105 mg/L, and leachable manganese concentrations ranged from 0.010 to 0.039 mg/L. Leachate concentrations of antimony, chromium, nickel, and lead were all below their respective detection limits. The proportion of water-soluble arsenic in waste rock is somewhat lower than that of open pit wall rock, ranging from 0.001% by weight to 0.09%, with an average of 0.02% as compared to an average of 0.08% for open pit rocks. Correlation between arsenic content and arsenic leachability is excellent, with a correlation coefficient of 0.9.

Leach extraction results were compared to both CCME guidelines for freshwater aquatic life and standards from the Giant Minewater license effluent discharge criteria. Leachable arsenic concentrations exceeded CCME guidelines for a total of four waste rock samples collected at A2, B1, B3, and Brock open pits. No leachable metal concentrations were above Giant Minewater license requirements for effluent discharge.

As with the open pit rock, the leach testing demonstrates that the waste rock has a limited ability to act as a source of arsenic and other trace metals to receiving waters. The strong correlation between total arsenic content and arsenic concentration in the leachate suggests that a small fraction of the arsenic is readily available, and that leaching of this arsenic is not significantly affected by kinetic impediments. However, the bulk of the arsenic is considered not available for leaching since arsenic is largely present in insoluble form as arsenopyrite and possibly in pyrite.

## 3.4.4 Quality Assurance/Quality Control

Two duplicate waste rock samples were submitted for chemical analysis. Analytical results are presented in Table 4. For each sample, 7 and 10 of the analytes, respectively, (out of 20) had an RPD above 35%. Arsenic RPDs were 52 and 192%, respectively. The high RPD values for arsenic most likely reflect the heterogeneous nature of the arsenic distribution within the samples rather than analytical imprecision.

Two field duplicate samples were submitted for ABA analysis and an additional sample was replicated by the laboratory. Analytical results are presented in Table 5. All results for the field duplicates had RPD values well over 35%. This is consistent with the high RPD values for the duplicate chemical analysis, suggesting that the field duplicates may not have been representative of the same material. The replicate laboratory analysis shows a maximum RPD of 6%, indicating that laboratory precision in homogenized samples was excellent.

## 3.5 Discussion

Waste rock is a potential source of dissolved metals to surface water, particularly of arsenic and manganese, and possibly zinc and copper. Should CCME guidelines become applicable to surface water on site, arsenic concentrations in waste rock runoff and/or seepage may exceed this guideline. Waste rock generally is not considered acid generating.

## 4.0 MINESITE BUILDINGS

#### 4.1 Objectives

Buildings and other structures on the Giant Minesite will be dismantled progressively upon closure of the mine. The minesite structures were inspected for the presence of asbestos-containing material and arsenic to develop and incorporate appropriate work procedures and material disposal options upon dismantling. In addition, minesite structures were evaluated for the presence of gold to determine if any of the materials might hold residual value.

## 4.2 Investigations/Sampling

Representative samples of a variety of suspected asbestos-containing materials were collected. By far the most common asbestos-containing material noted was asbestos-cement siding and insulation board. However, significant quantities of compact and loose asbestos insulation and pipe coatings were also noted. The materials examined for arsenic and gold content consisted of concrete surfaces, wood beams, and surface residues.

#### 4.3 Analytical

Suspect asbestos-containing material was shipped to Enviro-Test Laboratories for asbestos characterization. Chip samples from concrete surfaces, shavings from wooden beams, and floor residues were collected and also shipped to Enviro-Test Laboratories for analysis of arsenite, arsenate, and gold.

#### 4.4 Results

Analytical results from the asbestos and arsenic-gold investigations are presented in Tables 7 and 8, respectively. The total arsenic values reported consist of the sum of arsenite and arsenate, as reported by the laboratory.

Four of the five samples analyzed were reported to contain 75-100% chrysotile (serpentine) asbestos fibres and the remaining sample, which consisted of insulation from the north wall of the Roaster building, contained 75-100% amosite (amphibole) asbestos fibres. Serpentine fibres are flexible and curvy, while amphibole fibres are straight and needle-like. Amphibole fibres tend to become airborne more easily and therefore require more care during handling and exposure.

As demonstrated by the analytical results in Table 8, certain materials within the Giant Mine ore processing facilities are contaminated with arsenic residues and will likely require special handling during demolition and disposal. Some materials also have residual gold values that may be recoverable, depending on the overall quantities.

#### 4.5 Discussion

The sampling conducted for gold and arsenic content of building materials was not exhaustive, and only represents an indication of the extent of arsenic contamination and residual gold values. However, the results do indicate that a more methodical sampling and analysis program needs to be devised prior to dismantling of the buildings.

# 4.6 Environment, Health and Safety Implications

Minesite structures can contain asbestos and other materials that may be contaminated by arsenic.

The handling of asbestos and arsenic-contaminated materials will require workers to wear appropriate protective equipment. Depending on the type and level of contact, this could range from simple protective clothing, dust respirators, safety glasses, and gloves to full positive pressure suits with supplied air. It may also require the workers to report to decontamination areas prior to leaving the work area. Working with arsenic-contaminated materials may require workers to undergo medical surveillance that may include monitoring of blood, urine, and hair samples.

The transportation and disposal of asbestos and arsenic-contaminated material would require special consideration, especially if disposal is off-site. The materials may be subject to the *Transportation of Dangerous Goods Act* and would require disposal in a licensed facility. The proposed disposal option for the mine building is the north side of the Northwest pond.

## 5.0 TAILING AND WATER TREATMENT PLANT SLUDGE

#### 5.1 Objectives

The objective of the tailing investigation was to verify and refine the chemical characterization previously reported by others. The chemical characterization focused on metal leaching potential of arsenic and other metals in order to help define closure options.

The initial scope of work for finalizing the Giant Mine Abandonment and Restoration Plan (A&R Plan) did not include investigation of the water treatment plant sludges. A preliminary evaluation of the solubility of the sludge was carried out to provide some information on its leachability upon exposure to ambient environmental conditions, should this closure option be considered in the final A&R Plan.

Deton'Cho (1999) and Riveros and Dutrizac (2000) describe the process of arsenic elimination from minewater at Giant. In 1981, a wastewater treatment plant was installed to reduce cyanide levels in the effluent using alkaline chlorination, which was replaced in 1988 by hydrogen peroxide oxidation. Both oxidation processes also oxidize arsenite species (As<sup>3+</sup>) to arsenates (As<sup>5+</sup>). Ferric sulphate is added at a lime-adjusted pH of approximately 8.5 and an iron to arsenic molar ratio of 10:1. This process is reported to precipitate 98% of the arsenic, likely as a poorly crystalline, ferric oxyhydroxide phase containing adsorbed/co-precipitated arsenate. This phase is also referred to as arsenical ferrihydrite of the form AsO<sub>4</sub><sup>3-</sup>•FeO(OH)(H<sub>2</sub>O)x. The chemical stability or leachability of these sludges is of concern at Giant because of the potential impact on receiving waters should arsenic be released from the sludge to the environment.

# 5.2 Investigations/Sampling

#### 5.2.1 Tailing

On July 22<sup>nd</sup> and 26<sup>th</sup>, 2000, a total of 16 tailing samples were collected by Golder at several shallow locations throughout the South, Central, and North impoundments (original tailing area), and from a borehole drilled into the Northwest impoundment. Three samples\* were collected from the South impoundment, 3 from the Central impoundment, 5\* from the North impoundment, and 5 within borehole MW00-01, in the Northwest impoundment.

In the South, Central, and North impoundments, grab samples were collected using a shovel. Sample depths ranged from surface to approximately 0.5 m below ground surface. In borehole MW00-01, samples were collected using a split spoon lowered

<sup>(</sup>including 1 field duplicate)

through HQ drill rods. A total of five depth ranges were sampled from the surface to a depth of 4 m. Although the borehole extended to a depth of 10 m, sample collection was not possible below a depth of 4 m. Additional tailing samples, collected in winter 2000 by Miramar staff in the South, Central, and North impoundments, were made available to Golder for further analyses. These samples were obtained from boreholes drilled through the entire thickness of the tailing in the impoundments. A description of the samples collected for analysis by Golder is presented below.

Tailing Impoundment	Number of Samples Collected by Golder	Number of Samples Obtained from Miramar	Number of Samples Analyzed
South Impoundment	3	5	8
Central Impoundment	3	5	8
North Impoundment	5	8	13
Northwest Impoundment	5	-	5

Procedures for sample identification, documentation, packaging, and shipping were similar to those described for open pit and waste rock samples. Samples were shipped by air freight to CEMI Laboratory for chemical analysis, with the exception of tail samples collected by Miramar staff, which were analyzed by Eco-Tech Laboratory of Kamloops. Nine tailing samples were selected from the Central, North, and Northwest impoundments and sent to Dr. John Jambor for mineralogical analyses.

#### 5.2.2 Water Treatment Plant Sludge

On July 24<sup>th</sup>, 2000, two sludge samples were collected from the settling pond adjacent to the water treatment plant. One grab sample was collected at the mouth of the effluent discharge; the second sample was collected downstream from the first, along the south shore of the pond. The samples were collected with a shovel and stored in a 10-litre plastic pail fitted with a hermetically closing lid. Settling pond water was added to each sample to minimize chemical transformation during transport. Procedures described above for sample identification, documentation, packaging, and shipping were followed. Both samples were sent to CEMI Laboratory for whole rock analysis by ICP and for sequential leach extraction (at 2:1 liquid to solid ratio) using de-ionized water.

## 5.3 Analytical

#### 5.3.1 Tailing

All 16 tailing samples collected by Golder field staff were analyzed for major and trace elements chemistry, ARD potential (modified Sobek method), paste pH, and carbonate neutralization potential. Eight of the 16 samples were analyzed for soluble constituents using Shake Flask Extraction, selected based on their ABA results and rock chemistry. The selected samples had a relatively low NPR or elevated concentrations of arsenic or other metals.

Two of the 16 samples were submitted as laboratory blind duplicates for ABA and rock chemistry. CEMI Laboratory performed three additional replicate analyses for ABA assessment.

Mineralogical analyses performed on the tailing samples were the same as those performed on open pit and waste rock samples.

In March 2000, Miramar staff obtained tailing samples from the South, Central, and North impoundments as part of a pilot project to reprocess and treat arsenic residues. A total of 280 samples were collected from 14 boreholes drilled into the old impoundments. The location of these boreholes is shown on Figure 2. The samples were analyzed for gold, arsenic, and iron by fire assay at Eco-Tech Laboratory. Of these samples, 63 composites were prepared and analyzed for major and trace element chemistry by ICP scan. The analytical results and remaining dried and ground samples were made available to Golder for further analyses. A total of 18 samples from 4 boreholes were retained: 5 samples at different depths from borehole 2000-04 in the South impoundment; 5 samples from borehole 2000-14 in the Central impoundment, and 4 samples each from borehole 2000-24 and 2000-26 in the North impoundment. These samples were analyzed at Eco-Tech Laboratory for their potential to generate acidity (modified Sobek method), paste pH, and carbonate neutralization potential. 12 samples were selected for water-soluble constituent analysis. The selection criteria were the same as for the tailing samples collected by Golder.

#### 5.3.2 Water Treatment Plant Sludge

Two sludge samples were analyzed by CEMI Laboratory for major and trace elements, and sequential leach analysis to evaluate the solubility and chemical stability of the material. The sequential leach test consisted of three sequential extractions of the sludge sample using de-ionized water at a 2:1 liquid to solid ratio, each extraction using fresh de-ionized water. Each leachate was then analyzed for dissolved metals and low-level

dissolved arsenic. Fire assays of each sample was also performed to obtain more accurate As:Fe molar ratios.

## 5.4 Results - Tailing

Analytical reports on ABA analysis, rock chemistry, and leachate extraction for tailing and water treatment sludge samples, as well as fire assay results for sludges, are presented in Appendix I and summarized in Tables 9 to 11. The mineralogical assessment report is provided in Appendix II.

# 5.4.1 Acid Rock Drainage Potential

NPR values, calculated using total sulphur, range from 5.1 to 69.5 for all tailing samples, indicating that the tailing samples are net acid consuming. The potential for the tailing to generate ARD is considered minor for each impoundment. The paste pH values, ranging between 7.2 and 9.0, further confirm the lack of ARD generation potential.

Samples obtained from different depths within the same borehole in each of the old impoundments showed a decreasing NPR with depth. Figures 3 and 4 show that the decrease in NPR with depth generally is related to a lower acid potential in surficial tailing. Relative enrichment in sulphate concentration in surface tailing samples was also observed. Although tailing are net acid consuming, oxidation in the near-surface environments in the old tailing impoundments is occurring, as evidenced by the enrichment in sulphate together with the decreasing acid potential with depth. However, any acidity generated under near-surface conditions is readily counteracted by the large reservoir of neutralizing components. This trend was not observed in samples from the Northwest impoundment, where oxidation in the area sampled is largely prevented by the presence of a water-cover through most of the year. Oxidation may be occurring in areas of this impoundment where tailing are generally exposed for most of the year.

## 5.4.2 Mineralogy

The mineralogical investigation indicated that tailing grain size in the Central, North, and Northwest impoundments is generally less than 50 µm, with a small portion of relatively coarse material of up to 150 µm observed in some samples. The bulk of the tailing consists of quartz [SiO<sub>2</sub>] and carbonate minerals (calcite [CaCO<sub>3</sub>] and dolomite [CaMg(CO<sub>3</sub>)<sub>2</sub>]), with some muscovite [KAl<sub>3</sub>Si<sub>3</sub>O<sub>10</sub>(OH)<sub>2</sub>] and chlorite [(Mg,Fe)<sub>6</sub>(AlSi<sub>3</sub>)O<sub>10</sub>(OH)<sub>8</sub>]). Sulphides form a relatively small proportion of the tailing, represented mainly by pyrite [FeS<sub>2</sub>], with some chalcopyrite [CuFeS<sub>2</sub>], pyrrhotite [Fe<sub>1-x</sub>S], and arsenopyrite [FeAsS]. Zoned hematite [Fe<sub>2</sub>O<sub>3</sub>] is also common, either as single grains or as replacement rims around pyrite grains. This form of alteration of pyrite is typical of sulphide roasting products, or calcine, which was identified in all

tailing samples from the Central, North, and Northwest impoundments. No sulphide minerals were found to have alteration rims consisting of goethite [ $\alpha$ -FeOOH] or iron sulphates, characteristic of weathering under ambient environmental conditions, although gypsum was observed in some of the surficial tailing samples.

#### 5.4.3 Tailing Chemistry

Arsenic concentrations were less variable than for rock samples, typically ranging from 1,325 to 4,990 mg/kg, with the exception of Northwest pond samples taken from between 1 and 2 m depth (arsenic concentrations of 338 to 543 mg/kg). Antimony generally showed much higher concentrations than in rock samples, ranging from 14 to 745 mg/kg, with an average of 261 mg/kg. Concentration ranges for other metals were copper (40 to 2,767 mg/kg), chromium (58 to 235 mg/kg), nickel (27 to 99 mg/kg), lead (12 to 404 mg/kg), and zinc (72 to 738 mg/kg).

Correlation analysis shows that arsenic correlates with zinc (R ≈ 0.7). Significant correlation for other trace metals is almost non-existent. Strong correlation is observed between major elements (e.g., Al, Ca, Na, K, Mg).

# 5.4.4 Metal Leaching Potential

Figure 5 shows that, in general, arsenic is slightly more water-soluble in tailing than in open pit wall or waste rocks. The proportion of water-soluble arsenic in tailing ranges from 0.001% by weight to 1.2%, with an average of 0.2% as compared to an average of 0.08% and 0.02% for open pit wall rocks and waste rocks, respectively.

Arsenic and manganese concentrations in tailing leachates were above laboratory detection limits for all tailing samples tested, with the exception of the deepest sample in the Northwest pond. Manganese concentrations ranged from 0.015 to 0.17 mg/L, slightly higher than rock leachates. Arsenic concentrations ranged from < 0.2 to 10.3 mg/L, with the highest concentration originating from surficial tailing in the South and North impoundments. Figure 6 shows the proportion of water-soluble arsenic in tailing with depth. Although secondary arsenic phases were not identified by the mineralogical analysis, the higher solubility of arsenic in surficial tailing may be caused by the fact that arsenic-bearing weathering products generally are more soluble than primary arsenic-bearing phases. In addition, arsenic may be sorbed onto the hematite known to be present in the calcines. This arsenic would also represent a reservoir of labile arsenic. Weak correlation (R  $\approx 0.5$ ) is found between total arsenic in the tailing and the arsenic concentration in the leachates. Antimony, copper, and iron concentrations were above detection limits in most samples; antimony ranged from < 0.2 to 6.6 mg/L; copper from < 0.01 to 0.18 mg/L; and iron from < 0.03 to 0.62 mg/L. Zinc concentrations were above

the detection limit in about half the samples, ranging from 0.005 to 0.11 mg/L. Chromium, lead, and nickel were below detection limits in all leachates.

A qualitative comparison with Giant Minewater license effluent discharge criteria and CCME guidelines shows that arsenic concentrations are above both the maximum average concentration and maximum allowable arsenic concentration for 11 of the 20 samples tested, and are above CCME guidelines for 19 of the 20 samples. Antimony concentrations are above CCME guidelines for 18 of the 20 samples; manganese and iron are above CCME guidelines for 8 and 4 of the 20 samples, respectively. Antimony, manganese, and iron concentrations are not regulated in the Giant Minewater license.

#### 5.4.5 Quality Assurance/Quality Control

The two tailing samples submitted as blind duplicates for rock chemistry have RPD values below 35% for all analytes, indicative of precise analyses. The same duplicate tailing samples were analyzed, along with three additional laboratory replicates, for ABA. All ABA samples have RPD values below 35%. The ABA analyses are therefore also considered precise. QAQC results are presented in Tables 4 and 5.

## 5.5 Discussion – Tailing

All tailing investigated in each of the impoundments are net acid consuming. A general decrease of NPR with depth and the presence of sulphates in surficial tailing indicate that oxidation is occurring superficially. Surficial oxidation was not observed in areas where tailing is typically water-covered throughout most of the year, such as in the central part of the Northwest tailing impoundment.

The typical arsenic concentration of tailing is approximately 2,000 to 4,000 ppm, with a few samples in the 5,000 ppm range. Although only a small proportion of arsenic in the tailing (average of 0.2% by weight) is water-soluble, a much smaller proportion than arsenic in mill soils, leaching of tailing may generate arsenic concentrations that exceed Giant Mine discharge permit levels. Should the surface of the tailing impoundments be left uncovered, water infiltrating through the tailing and discharging through seeps will likely continue to be captured and treated prior to release to the environment.

Tailing principally consist of quartz and carbonate minerals, with a small proportion of sulphides, including arsenopyrite, which are generally not altered or oxidized. Roaster products, or calcine, are also abundant in most tailing samples. The soluble arsenic is most likely associated with the calcine, in which arsenic likely occurs adsorbed onto hematite particles. Arsenic is more readily amenable to be released to the environment through desorption from hematite than as arsenic generated by oxidation/dissolution of arsenopyrite or arsenic-bearing pyrite tailing grains.

## 5.6 Results - Water Treatment Plant Sludges

Analytical reports on sludge chemistry, both from ICP analysis and fire assay, along with sequential leach extraction are presented in Appendix I and summarized in Tables 10 and 11.

#### 5.6.1 Sludge Chemistry and Assay Results

The arsenic content of the two water treatment plant sludge samples was 1 and 4.2 wt%, respectively, and the iron content 6 and 30 wt%, respectively, with the sample obtained at the mouth of the treatment plant outlet containing the higher concentration of arsenic and iron. These concentrations yield a molar ratio of iron to arsenic of approximately 8 and 9, respectively. The sludges also contained an elevated calcium content (4 wt% and 21 wt%), copper (more than 1 wt% in both samples), antimony (5,300 and 758 mg/kg), nickel (2,286 and 566 mg/kg), some zinc (340 and 184 mg/kg), and a relatively small concentration of lead (86 mg/kg for both samples).

#### 5.6.2 Metal Leaching Potential

The evolution of arsenic concentration with leaching cycles is presented in Figure 7. For sample SL-SE-01, arsenic concentrations rose from 0.04 mg/L in the first leach cycle to 0.106 mg/L in the third cycle. Released arsenic was higher in sample SL-SE-02; from 0.6 mg/L in the first leach cycle to 0.3 mg/L in the third cycle. It is not known why the second cycle for this sample returned such a low arsenic concentration of 0.0063 mg/L, however, based on the other five data points, this value appears to be an outlier. The average arsenic extraction from sludge samples 1 (containing 4.2% arsenic) and 2 (containing 1% arsenic) was 0.0004 wt% and 0.006 wt%, respectively.

A qualitative comparison of sludge leachate results with the CCME guidelines for freshwater aquatic life and Giant Minewater licence effluent discharge criteria shows that leachate arsenic is generally above the CCME guidelines for freshwater aquatic life. In addition, the first leaching cycle from sample SL-SE-02 generated an arsenic concentration above the permitted effluent discharge limit (for maximum average concentration only).

For sample SL-SE-01, leachable concentrations of antimony, copper, iron, manganese, and zinc above laboratory detection limits were observed. Concentration ranges were antimony (0.6 mg/L), copper (0.08 to 0.29 mg/L), iron (0.18 to 1.74 mg/L), manganese (0.056 to 0.159 mg/L), and zinc (0.109 to 0.273 mg/L). Concentrations of chromium and lead were below detection limits. For sample SL-SE-02, leachable concentrations of copper and zinc above detection limits were observed. Copper concentrations ranged from 0.29 to 1.22 mg/L, and zinc concentrations from 0.013 to 0.045 mg/L. Antimony,

chromium, iron, lead, and manganese concentrations were generally below detection limits.

Leachate pH values ranged from 7.75 to 11.90. The upper values are higher than the CCME aesthetic objective range and Giant Minewater licence effluent discharge criteria value of 6.0 to 9.0 and 9.5, respectively.

#### 5.7 Discussion – Water Treatment Sludge

Assay results indicate that the iron:arsenic ratio in the sludge is approximately 8-9:1. Many factors can affect the solubility of arsenic in the water treatment sludge, one of which is the chemical composition of the material. Various studies presented by Riveros and Dutrizac (2000) indicate that iron to arsenic ratios greater than 3:1 decrease the solubility of the sludge and increase its chemical stability in the pH range of 4 to 7. The presence of trace elements, such as copper and zinc, further increases the stability range of the arsenical ferrihydrite up to a pH of about 10 (Harris and Monette, 1988; Godbehere and others, 1995). It has been demonstrated that the presence of trace amounts of calcium and magnesium in the precipitate may result in reaction with atmospheric CO<sub>2</sub> to produce a carbonate phase and release arsenate in solution (Robins and Tozawa, 1982).

The stability of the arsenic and sludge produced at Giant can best be measured through leaching tests under conditions that would represent the final disposal environment. The sequential leach tests, meant to simulate exposure of the sludge to ambient conditions, indicate that a very small proportion of the arsenic in the sludge is water-soluble (up to 0.006% by weight), along with other elements present in the sludge. Leachate water quality indicates that, should the sludge be exposed to freshwater precipitation, concentrations of antimony, copper, iron, and manganese in the drainage may exceed CCME guidelines for freshwater aquatic life. The proportion of water-soluble arsenic and the aqueous arsenic concentration generated by water leaching of the sludge are nonetheless much lower than that for tailing or soils. Should the sludge be dredged and disposed of in one of the tailing ponds, the effects of sludge disposal on tailing water quality may not be significant, provided conditions within the sludge pile remain approximately constant.

## 6.0 GROUNDWATER

#### 6.1 Objectives

The principal objective of the limited groundwater investigation carried out for the Abandonment and Restoration Plan was to assess groundwater quality at and around the tailing impoundments to verify the effects, if any, of tailing on groundwater quality and on the transport of aqueous species in the subsurface. This characterization was not intended to provide detailed information on the hydrogeology and groundwater flow regime throughout the minesite.

#### 6.2 Investigations/Sampling

## 6.2.1 Borehole Drilling

During the period of July 26<sup>th</sup> to July 31<sup>st</sup>, 2000, a total of six boreholes were drilled. A J.T. Thomas diamond drill rig with HQ size diamond bit and rods was used. Borehole MW00-01 was drilled into the Northwest tailing impoundment. MW00-02 was drilled immediately south of Dam 21B, east of a tank farm. MW00-3A and MW00-3B were drilled along the east side of Vee Lake Road, between Dam 22A and Trapper Lake. Finally, MW-4A and MW00-4B were drilled to the southeast of Dam 3C, just below Dam 3. The locations of the six boreholes (well locations) are presented on Figure 9. With the exception of borehole MW00-01, which was drilled entirely into unconsolidated material, HW size casing was set into sound bedrock at each borehole. At MW00-01, a 1.5-m length of HW size casing was left in the hole, about 0.4 m of which protrudes above the ground surface. Following completion, each borehole was flushed with clean water for at least 30 minutes or until clean water return was achieved. Following piezometer installation, HW steel casings were topped with bright yellow steel caps. Consequently, HW size steel casings act as protective casings for the monitoring wells. Well completion schematics are presented in Appendix IV and include GPS coordinates for each borehole.

#### 6.2.2 Piezometer Installation

Piezometers were installed within each borehole drilled. Each piezometer consisted of a blank PVC pipe string with a screened section at its base. The blank pipe used was schedule 80, 1.25 inch ID, PVC pipe. The screened sections were schedule 80, 1.25 inch ID, #10 slot size PVC pipe. The annular space around the screened portion of the piezometer was backfilled with 10-20 size silica sand, up to a height of about 1 to 2 m above the top of the screen. Upon completion of the sand pack, a bentonite grout seal was set on top of the sand. Both the sand and bentonite grout were conveyed to the desired depth through the use of a 1.0-inch, schedule 80 tremie pipe. Exceptions to the

above procedure include installation at MW00-01 and MW00-4B. Because MW00-01 was drilled through tailing, it was impractical to construct a sand pack around its screen. Consequently, tailing was allowed to collapse around the screen and a grout seal was subsequently put in place. In order to prevent fine-grained material from entering the screen at MW00-01, a geotextile membrane was attached to the outside of the screened interval. At MW00-4B, a grout seal was not installed since this piezometer was aimed at providing information on water table elevation.

## 6.2.3 Groundwater Sampling

The monitoring wells were developed and purged using a Waterra<sup>TM</sup> pump and sampled using a peristaltic pump, with the exception of well MW00-02, which was purged and sampled using a Waterra<sup>TM</sup> pump because the depth to water was beyond the reach of a peristaltic pump. During development, the wellhead chemistry, including pH, electrical conductivity, and temperature was measured at regular intervals. Once the wellhead chemistry had stabilized over several consecutive readings, and at least six standing volumes of water had been removed from the well, it was considered developed.

After well development, unfiltered samples were collected for measurement of field parameters (pH, redox potential (Eh), electrical conductivity, and temperature) by passing groundwater directly into a flow-through cell from which readings were taken. At MW00-02, where groundwater could not be pumped directly into a flow-through cell, the groundwater was collected into a clean bucket and then fed by a peristaltic pump into the flow-through cell. The flow-through cell and/or the collection container were rinsed at least three times with sample water before collecting the sample for measurement and three times with de-ionized water after sampling.

When taking measurements for pH and Eh, the flow rate was kept low (i.e., < 10 mL/min) to prevent streaming-potential errors. The flow-through cell was then disconnected and a volume of 25 mL of unfiltered water was collected directly into the sample cup provided in the CHEMet® Dissolved Oxygen Test Kit using ampoules for colourimetric determination dissolved oxygen (DO). Field alkalinity was measured on filtered water. Following the measurements of the field parameters, water samples were collected for laboratory analyses. Groundwater samples were collected from all wells except MW00-4B, which remained dry after purging. The peristaltic pump was used to fill the sample bottles directly from the well, with the exception of well MW00-02.

Sample containers were rinsed at least three times with the sample water before filling the container. The exceptions were water samples collected in pre-preserved containers, which were not rinsed before filling. Sample bottles were filled completely, and the cap was placed on snugly. For pre-preserved bottles, care was taken not to overfill the bottles. Details of the sampling of each well are presented on the water sampling sheets

in Appendix V. Samples analyzed for dissolved constituents were field-filtred and preserved, whereas samples analyzed for total constituents were not filtred but preserved only. Following collection, samples for chemical analysis were immediately placed in a cooler at the sampling site and kept cool (2°C to 4°C) and dark.

An in-line filtre was connected to the sample collection tubing of the peristaltic pump. Approximately 1 L of sample fluid was pumped through the filtre prior to sampling. The filtre and tubing were disposed of after use.

Samples were shipped by air to the laboratory to meet the recommended holding times. Samples were kept cool at 2°C to 4°C during shipment, using ice packs. The coolers were sealed with tape in such a way that it was necessary to break the seal to open the cooler. The sampler's initials were written on the seal in such a way that seal removal destroyed the signature. Analytical request forms (Chains-of-Custody) accompanied all samples submitted for analysis.

To prevent cross-contamination between samples, the equipment was decontaminated by rinsing with de-ionized water. Sampling and pump tubing were always replaced after each sample was taken. Silicon tubing and filtres were disposed of after each use.

Quality assurance and quality control (QA/QC) was provided through the collection and analysis of one duplicate sample and the calculation of charge balances for all analyses.

# 6.3 Analytical

The groundwater samples were analyzed by Enviro-Test Laboratories. Analytical parameters included alkalinity, conductivity, dissolved oxygen, hardness, pH, TDS, TSS, cyanide, dissolved and total metals, anions, nutrients, and oil and grease.

#### 6.4 Results

Groundwater analytical results are presented in Appendix VI, along with the analytical request forms. Groundwater chemistry is summarized in Table 12 and 13. The geochemical analysis code AquaChem [M] (WHI-version 3.7) was used to characterize and compare the water chemistry of all groundwater and surface water samples. Water types determined for each sample are presented in Table 14.

The tailing pore water in the Northwest impoundment (at MW00-01) is characterized by elevated sulphate, chloride, and total dissolved solids (TDS) and low dissolved oxygen levels (less than 0.5 mg/L). It is of the sulphate-chloride type, with calcium and sodium as the major cations. Arsenic concentration in the duplicate pair of MW00-01 is around 4.4 mg/L, with the arsenic present mostly as arsenate. The tailing pore water is also

characterized by higher concentrations of trace metals (1.8 mg/L antimony, 0.5 mg/L boron, and 0.011 mg/L nickel) than groundwater samples obtained outside the impoundment. This water type is typical of tailing pond water, although with a lower arsenic concentration, as discussed in Section 7.0.

Groundwater in wells located near the Northwest (MW00-02 and MW00-03A, B) and North (MW00-04A) impoundments has a signature typical of tailing water mixed with surface water. These samples are characterized by slightly lower TDS and chloride levels than tailing pore water or pond water, but similar sulphate concentrations. Alkalinity and dissolved oxygen levels are higher in these wells, typical of mixing with surface water. Dissolved arsenic concentrations are lower in these wells, ranging from 0.04 to 0.28 mg/L, generally as arsenate, except for well MW00-02 where most of the arsenic is present as arsenite. The following dissolved metal concentrations were also recorded: antimony (0.0056 to 0.124 mg/L), copper (0.002 to 0.015 mg/L), manganese (0.118 to 0.494 mg/L), nickel (0.004 to 0.007 mg/L), and zinc (0.003 to 0.011 mg/L). Dissolved cadmium, chromium, and lead were below detection limit at all wells.

## 6.4.1 Quality Assurance/Quality Control

QA/QC results of all water analyses are presented in Table 15. The duplicate pair of sample MW00-01 returned RPDs of less than 20% for most elements of concern. Some analyses returned RPD values over 20%: nitrate (22%) and dissolved aluminum and mercury (67% and 150%, respectively), as well as total aluminum, iron, titanium, and vanadium (55%, 21%, 32%, and 22%, respectively). Dissolved speciated arsenic values had RPDs less than 20%, whereas total and dissolved arsenic concentrations had RPD values of less than 1%. The groundwater analyses for the parameters of concern are considered sufficiently precise to assist in decision-making.

#### 6.5 Discussion

The effects of mining wastes on groundwater quality are discussed along with surface water in Section 7.5 of this report.

### 7.0 SURFACE WATER

### 7.1 Objectives

The objectives of the surface water investigation were to assess the water quality in surficial water throughout the property and to verify the effects, if any, of mine wastes and mining activities on surface water quality. Water quality was evaluated for tailing supernatant water, seeps, and ponds throughout the Giant Mine property, as well as in Baker and Trapper Creeks. The Baker Creek investigation had the additional objective of providing information to identify options for rehabilitation based on current mine activities and plans for eventual closure of the mine.

### 7.2 Investigations/Sampling

On September 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup>, and October 16<sup>th</sup>, 2000, a total of 32 surface water samples were collected throughout the Giant Minesite. Of these 32 samples, four were duplicates, three were inter-laboratory duplicates, and one was collected as a field blank. Sampling locations are listed in the table below. All samples collected were analyzed.

L	ocation	Number of Samples Collected and Analyzed
Baker Creek	Upstream and Downstream of Effluent Discharge	5
Trapper Creek	South of ICG Tank Farm	1
Effluent Discharge	West of B3 Pit before entering Baker Creek	1
Tailing Impoundment Supernatant	South, Central, North, and Northwest Ponds	3
Seeps	Dam 3, 3C, 7, 9, 11, 21B, 22B	18
Open Pits	Ponds in Open Pit B2 and C1	3
Gar Lake	Pond Downstream of Gar Lake	1

Whenever a seep was present, the water sample was collected from the upstream side of the impoundment. Supernatant water from the Northwest impoundment was collected at the north end of the pond, opposite the tailing outfall pipe. At each sampling location, a description of the sample site was made and GPS coordinates recorded. Sample locations were also marked on a field map and are shown on Figure 10.

Whenever possible, surface water samples were collected from at least 2.5 cm below the surface and care was taken not to disturb the underlying substrate. Sample bottles and equipment were rinsed three times with sample water before sampling each site. Preservatives were added to the bottles as required. All surface water samples collected were kept cool and shipped to the laboratory for analysis, with the Chain-of-Custody forms attached to each shipment.

#### 7.3 Analytical

At the time of sampling, field physical parameters were recorded for all samples collected. These parameters included pH, electrical conductivity, redox potential, temperature, and dissolved oxygen. The surface water samples were analyzed by Enviro-Test Laboratories. Analyses performed include alkalinity, conductivity, dissolved oxygen, hardness, pH, TDS, TSS, dissolved and total metals, anions, and nutrients. Selected samples were also analyzed for arsenic speciation and total cyanide.

#### 7.4 Results

Analytical results of surface chemistry are presented in Appendix VI along with the analytical request forms. Surface water chemistry is summarized in Table 16. The geochemical analysis code AquaChem [M] (WHI-version 3.7) was used to characterize and compare the water chemistry of groundwater and surface water samples. Water types determined for each sample are presented in Table 14. A trilinear diagram (Piper plot) of water chemistry for all water samples was created using AquaChem, as shown in Figure 11. Piper plots are graphical representations of water quality, generated using the relative proportion of major cations (calcium, magnesium, potassium, and sodium) and anions (chloride, sulphate, bicarbonate) in a water sample. Results from each area investigated are discussed below.

#### 7.4.1 Tailing Impoundment Area

The supernatant water collected by Golder from the North, South, and Northwest impoundments is characterized by elevated sulphate, chloride, and TDS. It is of the sulphate-chloride type, with calcium and sodium as the dominant cations, similar to the pore water in the Northwest pond. Arsenic concentrations in tailing pond supernatant range from 9.9 to 13.2 mg/L, which is higher than tailing pore water. Arsenic is mostly present as arsenate. These arsenic concentrations are similar to those obtained previously by others (INAC database, 2000). The tailing supernatant contains the highest concentration of trace metals of all surface and groundwater samples collected: antimony (1.3 to 2.6 mg/L), boron (0.43 to 0.65 mg/L), copper (0.016 to 0.044 mg/L), manganese (0.2 to 0.34 mg/L), nickel (0.05 to 0.1 mg/L), and zinc (0.009 to 0.026 mg/L). The water

quality data from tailing supernatant corroborate water quality results obtained by others (INAC, 2000; SRK, 2001).

#### 7.4.2 Water Ponds and Seepage from Impoundments

Surface water samples were collected at four sampling points downstream of Dam 11. These points are, with increasing distance from Dam 11 TLG-11, TLG-7A, TLG-7B, and TLG-7C. Samples were also obtained from surface water ponds east of the Central impoundment (TLG-9) and downstream of Dams 3 and 3C. In the Northwest impoundment area, water samples were collected downstream of Dams 22B and 21B. Sampling location TLG-22B is a seep that flows year-round, located upstream of the collection pond below Dam 22B. TLG-22CP is a wet area downstream of the collection pond located below Dam 22B.

Seep water from Dam 22 (TLG-22B and -22CP) is characterized by elevated chloride, sulphate, and TDS, similar to tailing water, but with higher alkalinity and a higher proportion of magnesium. This water represents a mixture of tailing water and surface (fresh) water infiltration. The higher proportion of chloride in these seeps compared to the seep at the south end of the Northwest impoundment, and around the old impoundment area, confirms the more direct hydraulic connection of these ponds with tailing water relative to other seeps. The geochemical data corroborate field observations of Dam 22B seepage flowing practically year-round.

Seeps and ponds located south of the Northwest impoundment, and around the old impoundment area, have a similar geochemical signature. They are generally characterized by low to moderate chloride concentrations, but with sulphate levels and TDS similar to those of tailing water. They are of the sulphate type, with calcium and magnesium being the dominant cations.

The concentrations of dissolved arsenic and trace metals of concern around the Northwest impoundment were of the same order of magnitude as those recorded around the old tailing area. Dissolved arsenic concentrations for all seeps and ponds ranged from 0.282 to 4.2 mg/L, with arsenic being mostly present as arsenate. Arsenic concentrations generally decreased with distance from the impoundment. Trace metal concentrations for parameters of concern ranged as follows: antimony (0.008 to 1.38 mg/L), copper (0.005 to 0.246 mg/L), nickel (0.005 to 0.039 mg/L), and zinc (0.002 to 0.1 mg/L). Chromium, mercury and lead were below detection limits in surface water samples. Similar to arsenic, a decrease in trace metal concentration could generally be observed with distance from the impoundments.

There is no evidence to indicate whether the arsenic and metal concentrations in pond water downstream of Dams 11 and 7 are a result of chemical interaction with historic

tailing on which these ponds are located, or if they originate from migration of tailing water seeping through the dams. Similar order-of-magnitude concentrations of dissolved arsenic and trace metals were found in other areas downstream of impoundments in which underlying tailing deposits were absent. This suggests that chemical interaction with tailing may not be the dominant control on water quality in the historic tailing deposit area.

#### 7.4.3 Open Pit Water

Water samples were collected from water ponded in open pits B2 and C1, both of which contain tailing material at their bases. Water in these open pits is characterized by low chloride, moderate alkalinity, and TDS and sulphate concentrations similar to those of tailing water. Calcium and magnesium are the dominant cations. B2 pit water is a sulphate-type water; C1 pit water is a sulphate-bicarbonate type.

Dissolved arsenic and trace metal concentrations are generally higher in water from B2 pit than C1 pit. Duplicate pair analysis of B2 pit water returned dissolved arsenic concentrations of 4.11 and 4.15 mg/L, mainly as arsenate, which is similar to that of tailing pore water. Other trace metal ranges were antimony (0.388 to 0.391 mg/L), copper (0.004 mg/L), nickel (0.076 to 0.078 mg/L), and zinc (0.014 to 0.018 mg/L). C12 pit water was characterized by a dissolved arsenic concentration of 0.171 mg/L, along with antimony (0.0586 mg/L), copper (0.005 mg/L), nickel (0.012 mg/L), and zinc (0.011 mg/L). Lead and chromium were below their respective detection limits in both open pit waters.

#### 7.4.4 Trapper Lake and Trapper Creek

TLG-TL is located at the inflow of Dam 22B seepage into Trapper Lake and represents a mixture of mine seepage and lake water. Sample TLG-TC was collected in Trapper Creek, immediately south of the propane tank farm. These waters are generally more diluted than other minesite surface waters, with relatively low alkalinity and sulphate and chloride concentrations. They are of the sulphate-bicarbonate type, with calcium and magnesium as the dominant cations. Concentrations of dissolved arsenic and trace metals are also low compared to minesite waters. Dissolved arsenic at the inflow to Trapper Lake was 0.3 mg/L as compared to 0.08 mg/L downstream of Trapper Lake in Trapper Creek. The antimony concentration also showed a decrease between these two sampling locations, from 0.008 to 0.02 mg/L. Zinc at Trapper Creek was slightly higher than at the Trapper Lake inflow (0.009 and 0.006 mg/L, respectively). Copper (0.002 mg/L) and nickel (0.003 and < 0.002 mg/L) had similar concentrations at both sites, whereas chromium, lead, and mercury were below their detection limits.

#### 7.4.5 Gar Lake Area

Sample TLG-GL was collected in a shallow pond south of Gar Lake. Similar to Trapper Lake water, it is characterized by diluted concentrations of arsenic and metals, and low TDS. The dominant anions are bicarbonate and sulphate, and the dominant cations are calcium and magnesium. It is of the bicarbonate-sulphate type. The dissolved arsenic concentration is also low at 0.2 mg/L, along with that of copper (0.002 mg/L), nickel (0.003 mg/L), and zinc (0.019 mg/L). Chromium and lead levels were below detection limits.

#### 7.4.6 Effluent Discharge

The effluent discharge sample TLG-EFF was collected within 3 m of the effluent discharge pipe outlet on the east side of Ingraham Trail. This sampling location is comparable to Miramar Giant SNP station 43-1 outlined in the effluent discharge permit. Effluent water has similar characteristics to that of tailing water, albeit arsenic and antimony are lower since these are partially removed by the water treatment plant. It contains elevated sulphate and chloride, with calcium and sodium as the dominant Samples collected on September 20th, 2000 returned a dissolved arsenic cations. concentration of 0.48 mg/L. This concentration is higher than database records dating since 1995 from Royal Oak Mines, Miramar Giant, and INAC, which show arsenic levels fluctuating between 0.2 and 0.4 mg/L. Trace metal concentrations measured in September 2000 included antimony (0.721 mg/L), chromium (0.006 mg/L), copper (0.031 mg/L), nickel (0.118 mg/L), and zinc (0.021 mg/L). Lead and mercury were below their detection limits. Dissolved arsenic and trace metals were within the range of values obtained from pond and seep samples around the site, whereas the nickel concentration was approximately one order of magnitude higher.

#### 7.4.7 Baker Creek

Three samples were collected from Baker Creek, one upstream from the mine effluent discharge and two downstream. The upstream sample (BC-US) can be correlated to the SNP water monitoring station 43-11, also located upstream of the effluent discharge, although at a different location than BC-US. The upstream sample collected on September 20<sup>th</sup>, 2000 is characterized by the lowest concentrations of arsenic and metals of all surface water samples collected. It is dominated by bicarbonate, calcium, and magnesium ions and is a bicarbonate-type water, typical of immature freshwater. Similarly, dissolved arsenic concentrations are low (0.014 mg/L), as well as antimony (0.0016 mg/L), and zinc (0.021 mg/L). Chromium, copper, lead, nickel, and mercury levels were below detection limits. Results obtained by Golder corroborate those of the Giant Mine database.

Sampling station BC-DS1 was located downstream of the effluent discharge point, between open pits B1 and B2, on the west side of Ingraham Trail. Sampling station BC-DS2 was located about 10 m upstream of Baker Creek inflow into Back Bay. Water from both sampling points downstream of effluent discharge is very similar to the discharge itself. Both DS1 and DS2 have similar sulphate and chloride levels as the effluent, with calcium and sodium as the dominant cations. The effluent discharge has a slightly greater proportion of magnesium than the downstream samples. Similar to effluent discharge, both downstream samples are of the sulphate-chloride type. Dissolved arsenic concentrations at both locations are between 0.32 mg/L and 0.35 mg/L, within the range of database values for effluent discharge, indicating that arsenic attenuation along Baker Creek was minimal at the time of sampling. Similar trace metal concentrations were also recorded at both downstream locations for antimony (0.67 mg/L at both locations), copper (0.021 and 0.026 mg/L), nickel (0.101 and 0.103 mg/L), and zinc (0.001 and 0.023 mg/L). Chromium levels were at or below its detection limit and lead was not detected.

#### 7.4.8 Comparison with CCME Guidelines

Surface water quality for samples collected at or close to the Surveillance Network Program (SNP) monitoring stations were compared to the criteria specified in Giant Minewater Use and Waste Disposal Permit N1L2-0043. These samples included the effluent discharge (close to SNP43-1), Baker Creek upstream (SNP43-11), and Trapper Creek (SNP43-16). Other surface water samples were compared to CCME guidelines for freshwater aquatic life. Both sets of criteria apply to total parameter concentration rather than the dissolved fraction. The comparison is provided for qualitative assessment purposes only.

The total arsenic concentration in the grab sample of effluent discharge (0.55 mg/L) was slightly above the maximum allowable average concentration for arsenic (0.5 mg/L), but below that for a grab sample (1 mg/L). The water quality in Baker Creek upstream and Trapper Creek samples met all permit levels.

Samples downstream of the effluent discharge contained total aluminum, antimony, copper, nickel, and cyanide levels above CCME guidelines. Antimony was also above guidelines in the Baker Creek upstream sample, suggesting that background concentrations may be higher than the guideline level for this parameter. Total aluminum was above CCME guidelines in the field filtre blank sample and the Baker Creek upstream sample. Aluminum may have been introduced during filtring. This will need to be verified during future monitoring events.

The open pit water quality in pit C1 showed exceedances of CCME guidelines for aluminum, arsenic, and copper. B2 pit water showed additional exceedances of iron, nickel, and zinc.

Seep water quality exceeded CCME guidelines for freshwater aquatic life at all sampling points for aluminum, arsenic, and copper, and at the majority of monitored sites for total cyanide. Arsenic levels also exceeded maximum average and grab concentrations downstream of Dams 3, 3C, 7, 11, and 22B. Other sporadic CCME exceedances include total iron downstream of Dams 3, 3C, 9, 11, 21B, and 22B, and total zinc downstream of Dams 3C, 9, and 11.

#### 7.4.9 Quality Assurance/Quality Control

A total of four field duplicate pairs were submitted as blind duplicates for analysis of the full suite of parameters, and three samples were submitted to a second laboratory (referred to as inter-laboratory duplicates) for the analysis of a selected suite of parameters. RPD calculations are presented in Table 15. The field duplicate pairs returned values with RPDs less than 20% for most dissolved parameters, with the exception of dissolved zinc, where the RPD ranged from 25% to 100% for each of the duplicate pairs. One of the four duplicate pairs showed an RPD greater than 20% for dissolved manganese, chromium, nitrate, and ammonia (on different sample pairs). Interlaboratory duplicates also returned good RPD values, with only nitrate having RPDs > 20% in two pairs and cobalt in one pair.

Duplicate analyses of total metals more frequently resulted in RPD values above 20%. The table below lists the parameters and number of duplicate pairs for which RPD values exceeded 20% for total metals analyses.

Parameter	Number of duplicate pairs where RPD > 20%
cyanide	4 of 4
zinc, titanium, aluminum	3 of 4
copper	2 of 4
barium, manganese, phosphorus, nickel, sodium, vanadium	1 of 4

The above table indicates that duplicate total metal analyses and cyanide analyses were not as consistently precise as the dissolved metals. Disparities between cyanide analyses are likely related to the short preservation period and the distance of Giant Minesite to the laboratory. The analytical precision is considered adequate for the majority of

parameters of concern for most duplicate pair analyses (arsenic, antimony, copper, nickel, lead).

#### 7.5 Discussion

The following range of arsenic concentrations was recorded during the 2000 sampling season carried out by Golder:

Surface Water Samples	Permit Level <sup>1</sup> / CCME guideline <sup>2</sup> (mg/L)	Total As (mg/L)	Dissolved As (mg/L)
Supernatant	-	9.0 - 12.3	9.9 – 13.2
Seeps and Ponds	0.005	0.009 - 3.8	0.3 – 4.2
Baker Creek Upstream	0.005	0.01	0.01*
Effluent Discharge	<b>0.5</b> (average) <b>1.0</b> (grab)	0.55	0.48*
Baker Creek Downstream	0.005	0.34 - 0.37	0.32 – 0.35
Open Pit Water	0.005	0.2 - 4.4	0.2 – 4.2

<sup>&</sup>lt;sup>1</sup> Total arsenic

The concentrations in the table are in general agreement with the results from the 1995 - 2000 Giant minewater quality database (INAC, Royal Oak Mines, and Miramar Giant). One exception is the effluent discharge, for which the historic concentrations are generally lower (0.2 to 0.4 mg/L) than the Golder value obtained in September 2000.

The trilinear plot presented on Figure 11 shows that the tailing pore water and tailing pond water plot in the same area, demonstrating the close relationship between the two waters. Some attenuation of arsenic appears to occur as pond water migrates downward to the base of the impoundment. The mechanisms of arsenic attenuation are not known at this time. Water obtained from ponds located downgradient of Dams 22 (Northwest impoundment), Dam 9 (Central impoundment), and Dam 7 (South impoundment) also plot in the area of tailing water, indicating that these waters likely originate principally from seeps through the dams, with further attenuation of arsenic along the flow path. Baker Creek water samples obtained downgradient of the effluent discharge point also plot in this grouping. Baker Creek water downstream of the discharge point consists of treated effluent discharge with little influence from upstream water chemistry (at the time of sampling, upstream flow in the creek was observed to be minimal). Freshet sampling

<sup>&</sup>lt;sup>2</sup> CCME guideline for aquatic life

<sup>\*</sup> Only one data point in Golder 2000 database

of effluent and upstream/downstream water will help to verify if this relationship is maintained when upstream flows are larger.

Water from monitoring wells MW00-2, -3A, -3B, and -4A located downgradient from tailing impoundments shows an intermediate composition between that of tailing pond water and fresh water (i.e., Baker Creek upstream of effluent discharge). This grouping also includes the surface water samples obtained from the inflow of tailing water seepage into Trapper Lake, from Trapper Creek, and from a pond adjacent to Gar Lake. These waters have low levels of chloride and sulphate, but higher alkalinity than tailing water, likely indicative of impacts, to varying degrees, by mining activity.

Ponded water downstream of Dams 3 and 3C, as well as from open pits B2 and C1, is distinguished by its higher proportion of sulphate than the other samples, with sulphate concentrations similar to those present in tailing water and effluent discharge. In the case of B2 and C1 pit water, the mixed signature of surface water and elevated sulphate concentrations may be indicative of active sulphide oxidation (and subsequent neutralization) of wall rock, waste rock, and/or tailing present at the base of these pits.

### 8.0 BAKER CREEK SEDIMENT

#### 8.1 Objectives

The objectives of the sediment investigation in Baker Creek were to verify the chemical characteristics of these sediments and to identify rehabilitation options for Baker Creek to be included in the closure plan.

## 8.2 Investigations/Sampling

Baker Creek sediment samples were collected on September 9<sup>th</sup>, 2000. Recognizing that fine sediment is sparsely present in Baker Creek, four sampling locations were selected from presumed areas of deposition within the creek (Figure 12). Sediment sampling locations coincided with water quality sampling locations in Baker Creek. In addition, sediment samples were collected in the marsh area behind the dyke in Yellowknife Bay and on the eastside of the dyke. A description of each sampling location is provided in Table 17. Two grab samples were collected from each of the six sampling locations for a total of 12 sediment samples. Each grab sample was analyzed individually. Sediments were put into glass jars that were labeled with an individual sample number. Chain-of-Custody forms were filled out with required analyses and sent with the sediment samples to Enviro-Test Laboratories for chemical analyses.

#### 8.3 Analytical

All sediment samples were analyzed for the following parameters:

- Organic carbon (%);
- Inorganic carbon (%);
- Arsenic speciation:
  - o Trivalent arsenic (As<sup>3+</sup>);
  - o Pentavalent arsenic (As<sup>5+</sup>);
  - Water-soluble arsenic;
  - Total arsenic;
- Total metals (full suite); and
- Water-soluble metals (full suite).

Metals, specifically arsenic, are the principal elements of concern at the Giant Minesite, and consequently chemical analyses were focussed on these parameters. No hydrocarbons or other organic contaminants were anticipated to be present in high concentrations at the minesite and thus, these were not measured in sediment samples. Water-soluble metals were measured in selected sediment samples to determine availability/mobility of these metals under normal weathering conditions. Trivalent and pentavalent arsenic were measured to determine whether arsenic originated from an oxidized phase, such as oxidized sulphide tailing.

Total metal concentrations were measured following triple-acid digestion. Arsenic speciation analysis was carried out on all 12 sediment samples. The extraction method used for this determination is still under development by Enviro-Test Laboratories and therefore, the data presented on solid-phase arsenic species are considered qualitative. Water-soluble arsenic was determined using a 24-hour shake extraction, with de-ionized water at a liquid to solid ratio of 4:1.

Concentrations of metals in Baker Creek sediments were compared to CCME Interim Freshwater Sediment Quality Guidelines for the protection of aquatic life (CCME 1999). Concentrations were compared to the Interim Sediment Quality Guideline (ISQG) and the Probable Effects Level (PEL); above which adverse effects are predicted to frequently occur.

#### 8.4 Results

Concentrations of metals measured in Baker Creek sediments are provided in Table 18. Raw data are provided in Appendix III. Arsenic concentrations exceeded the CCME interim freshwater sediment quality criteria at all sampling locations. Total arsenic concentrations ranged from 47 mg/kg in the marsh area of Yellowknife Bay, near the mouth of Baker Creek, to 5,030 mg/kg just upstream of the mouth of Baker Creek. In general, concentrations of arsenic were an order of magnitude higher at sampling locations downstream of the effluent discharge, but no trend in arsenic concentrations with distance from the effluent discharge was observed (Figure 13). Concentrations of arsenic in sediments collected from Baker Creek, upstream of the effluent discharge, also exceeded CCME criteria (171-205 mg/kg), but were lower than downstream sediments. Arsenic concentrations in sediment from the marsh area in Yellowknife Bay were lowest of all locations sampled.

In general, concentrations of water-soluble (leachable) arsenic were low compared to total arsenic concentrations, and ranged from 1.9 mg/kg in sediment collected from the east side of the dyke in Yellowknife Bay to 9.29 mg/kg in sediments collected just upstream of the mouth of Baker Creek (Table 19). An increase in water-soluble arsenic concentrations was observed from the effluent discharge sampling location downstream

to the mouth of Baker Creek, but lower water-soluble arsenic concentrations were observed at the east side of the dyke in Yellowknife Bay (Figure 14). The percent water-soluble arsenic to total arsenic concentration was highly variable between sampling locations and ranged from 0.12 to 0.25% (Table 19). These proportions are similar to proportions found in tailing (Section 5.0), and higher than those measured in mine waste rock (Section 3.0). The concentration of water-soluble arsenic in Baker Creek sediments was lower than those reported by Mace (1998) (Table 19).

#### 8.4.1 Other Metal Concentrations in Baker Creek Sediment

Concentrations of cadmium, chromium, copper, lead, nickel, and zinc exceeded CCME criteria at the effluent discharge point and at sampling locations further downstream. The exceptions were concentrations of these metals upstream of the effluent discharge, and concentrations of lead, nickel, and zinc in the marsh area in Yellowknife Bay, which were below CCME guidelines (Table 18). No trend was observed in concentrations of these metals with distance from the effluent discharge point (Figures 15-20). In general, water-soluble concentrations of most metals in selected sediments were below detection limits. Elevated concentrations of water-soluble metals were observed for zinc and ranged from 0.002 to 0.01% of total zinc concentrations.

#### 8.4.2 Quality Assurance/Quality Control

Relative percent difference (RPD) values were calculated between samples to determine the degree of variability in sediments. RPD values were calculated for the two sediment samples collected at each of the six sampling locations, and for each metal that exceeded CCME guidelines. RPD values <50% were commonly observed at the upstream site, effluent discharge site and downstream near the mill shaft (DS1) (Table 20). RPD values for lead at the upstream point, organic carbon and pentavalent arsenic at the effluent discharge location, and pentavalent arsenic at the mill shaft (DS1) exceeded 50%. Just downstream of the mouth of Baker Creek most RPD values exceeded 50%, which included all RPDs for arsenic speciation, cadmium, and lead. Lower RPD values were calculated for chemical parameters in Yellowknife Bay near the marsh and east of the dyke. Consequently, RPD values show that sediments are heterogeneous as would be expected.

#### 8.5 Discussion

### 8.5.1 Total Metal Concentrations

Elevated metal concentrations in Baker Creek sediments are indicative of anthropogenic sources. The elevated concentrations of arsenic in Baker Creek sediments downstream of the effluent discharge (with the exception of the marsh area in Yellowknife Bay) ranged

from 1,940 mg/kg to 5,030 mg/kg. These concentrations fall within the range of arsenic concentrations measured in sediments at other impacted sites globally and within those reported in previous studies conducted in the Yellowknife area (Table 21). More specifically, arsenic concentrations in Baker Creek sediments fall within the range of arsenic concentrations reported by Mace at the Giant Mine (1998), and within those reported by Ollson (1999) at the nearby Con Mine.

These levels of arsenic concentrations measured in Baker Creek sediments have the potential to adversely affect aquatic life. Although information in the literature is limited, several studies have shown adverse effects on aquatic organisms from sediment arsenic concentrations ranging from approximately 40 mg/kg to approximately 700 mg/kg (CEPA, 1993). Effects within this range have included chronic toxicity in freshwater benthos at concentrations <100 mg/kg, and acute effects in bacteria at concentrations between 100 and 700 mg/kg.

Arsenic concentrations in sediments collected downstream of the effluent discharge point in Baker Creek were higher than arsenic concentrations in sediment collected upstream of the effluent discharge. This observation indicates a source, or sources, of anthropogenic arsenic. Concentrations of arsenic in Baker Creek sediment upstream of the effluent discharge also fall within the range of background concentrations reported in the literature (Table 21). However, arsenic concentrations in Baker Creek sediments measured in this study (171-205 mg/kg) were higher than background concentrations of arsenic reported by Ollson for the Yellowknife Bay area, and by Mace for a Northwest Territories creek. The slightly elevated concentrations of arsenic observed in Baker Creek sediments upstream of the effluent discharge may be reflective of the weathering of rocks naturally high in arsenic and from the dispersion of arsenic via air emissions from the stacks during mining operations. However, concentrations are not sufficiently high to suspect input from tailing or runoff from contaminated soil. Nevertheless, comparisons of arsenic concentrations in sediments upstream of the effluent discharge to concentrations in sediments downstream of the effluent discharge indicate an introduction of arsenic above natural background levels, and the possibility of adverse effects to the aquatic environment.

Concentrations of arsenic in sediments collected from the marsh area in Yellowknife Bay, near the mouth of Baker Creek, were lower than arsenic concentrations measured upstream of the effluent discharge in Baker Creek. Mace also reported lower arsenic concentrations in this area (*i.e.*, 278 mg/kg). Mace suggested that deposition of contaminated sediments from Baker Creek did not occur in this area, and that contaminated sediments were transported and distributed to areas further away from the mouth of Baker Creek. Alternatively, it may be that a significant amount of arsenic is removed from the sediments by the high density of macrophytes growing in this area (Mace 1998).

Concentrations of arsenic measured in sediments collected from the east side of the dyke are 75-fold higher than the CCME PEL for the protection of aquatic life. Mace also reported higher concentrations of arsenic in sediments in this area of Yellowknife Bay. It is likely that the source of arsenic contamination in this area is predominantly arsenic-contaminated soil from the adjacent land (*i.e.*, old town site), which was introduced into the bay via runoff rather than from Baker Creek. High concentrations of arsenic are reported in soil samples collected from the shoreline near the dyke.

#### 8.5.2 Water-Soluble Arsenic Concentrations

Water-soluble arsenic and other metals concentrations were measured to determine the degree of mobility of arsenic present in Baker Creek sediments. This is important as sediments often can act as a source of contaminants long after the anthropogenic source has ceased. Concentrations of water-soluble arsenic measured in this study were low compared to concentrations of total arsenic in Baker Creek sediments. However, it is unclear whether these low concentrations of water-soluble arsenic can have an impact on aquatic life. Mace reported that most of the arsenic in Baker Creek sediments was a result of the effluent discharge and that it had co-precipitated with iron and manganese oxides. The author also states that the release of this bound arsenic may occur during anoxic conditions, which is unlikely due to the continuous water flows in Baker Creek. However, bulk transport of arsenic-bound sediment may occur (e.g., strong freshet) resulting in the re-distribution of arsenic and the potential release of leachable arsenic in other areas of Baker Creek or Yellowknife Bay.

Concentrations of water-soluble arsenic concentrations reported in this study were lower than those previously reported by Mace (Table 19). However, comparison of leachable arsenic concentrations between the two studies does not necessary indicate a reduction in these concentrations between 1997 and 2000. Not only were sampling locations different, but analytical methods also differed. Mace extracted leachable arsenic using acetic acid in addition to water. Acetic acid removes organic-bound arsenic, resulting in more arsenic per quantity of leachate. Consequently, the amount of leachable arsenic determined by using acetic acid would be greater. The use of water in the extraction process, as applied in the current study, is thought to reflect natural weathering conditions and thus, the amount of leachable arsenic that would be present under natural conditions in Baker Creek.

In a further attempt to assess the mobility of arsenic, Mace and Ollson conducted studies to determine the flux of arsenic from the sediment into the water column in Yellowknife Bay, near the Giant Mine, and in the Meg-Keg-Peg Lake watershed, near the Con Mine, respectively. Based on pore water arsenic concentrations, Mace reported a high flux of arsenic from sediments into the water column of Yellowknife Bay, Back Bay, and in the vicinity of the Beach Tailing. Ollson also reported arsenic mobility from the sediment

into the water column of the Meg-Keg-Peg Lake watershed, which was primarily attributed to the remobilization of arsenic from historically contaminated sediment, rather than to current mining practices. Ollson also observed that arsenic remobilization was lower in areas of less contamination. Arsenic flux studies conducted by Mace and Ollson may not be directly applicable to conditions in Baker Creek due to differences in the physical/chemical environment in the sediments, and to differences in arsenic speciation from various inputs (*e.g.*, tailing, runoff, atmospheric deposition). However, the possibility of remobilization and flux from the sediments into the water column of Baker Creek, and subsequent potential adverse effects to aquatic life, should not be disregarded, and requires further investigation.

#### 8.6 Discussion

The high concentrations of arsenic and other metals in Baker Creek sediments are the result of inputs from mine operations that may have included a combination of arsenic trioxide dust from air emissions, runoff from contaminated soil, tailing, and effluent discharge. Although these sources of contamination will be minimized or eliminated following mine closure, Baker Creek sediments may continue to be a source of metal contamination to the surrounding aquatic environment for an extended period following closure. Concentrations of arsenic measured in this study in Baker Creek sediments and Yellowknife Bay exceed CCME interim sediment quality guidelines for the protection of aquatic life. There is insufficient information in the following areas to confidently predict the potential risk to aquatic life due to post-closure arsenic concentrations in sediments in Baker Creek:

- the flux of arsenic from the sediments into the water column;
- the hydrological regime of Baker Creek under natural conditions (i.e., when effluent flows cease);
- the bulk transport of arsenic-bound sediment in Baker Creek; and
- information relating arsenic concentrations in sediments and their potential adverse effects to aquatic life.

#### 8.7 Recommendations

Natural flow conditions of Baker Creek need to be estimated before a final closure plan can be developed. From historical records and field observations during the habitat mapping study (Supporting Document A4), natural flows in Baker Creek will be highest in spring, during the freshet, followed by a rapid decrease to low levels for the remainder

of the year. The habitat provided by Baker Creek under natural conditions is most likely limited to spring spawning.

Given the anticipated drastic decrease in flows following mine closure, the potential for the flux of arsenic from the sediments into the water column and the bulk transport of arsenic-bound sediments in Baker Creek will decrease. The degree to which these events will decrease needs to be determined before recommendations for remediation (*e.g.*, dredging) can be considered.

Sediment and water toxicity testing (both chronic and acute) should be implemented to determine present and future risks to aquatic life in Baker Creek.

Once the hydrological and toxicity data have been obtained, a risk-based approach could be used to examine a variety of scenarios concerning closure, including:

- the risk to aquatic life in Baker Creek and Yellowknife Bay if sediments in Baker Creek are dredged;
- the risk to aquatic life in Baker Creek and Yellowknife Bay if sediments in Baker Creek are not dredged; and
- the risk to aquatic life in Baker Creek and Yellowknife Bay if sediments in Baker Creek are dredged and habitat improvements are made in Baker Creek to create or improve spawning habitat for spring spawning species (e.g., northern pike, longnose suckers).

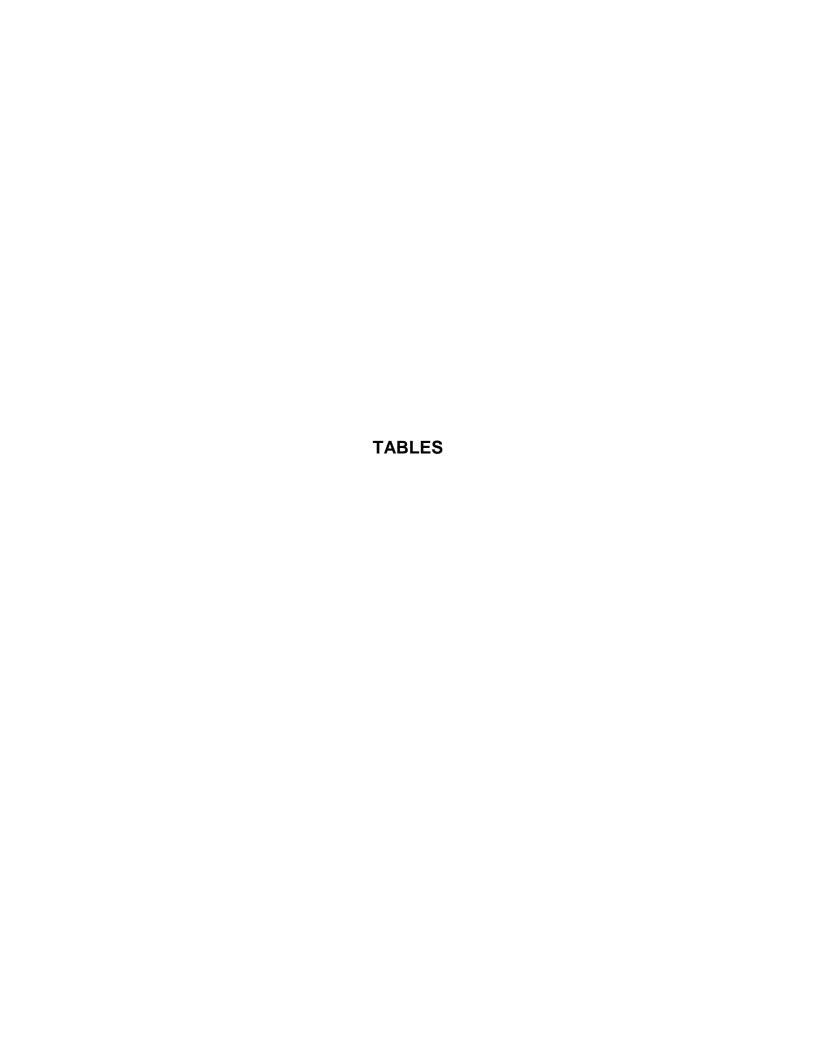
N:\Final\2003\1413\03-1413-009\Appendix I\Rep 1118 2004 Giant Mine Geochem SRK A & R.doc

#### **REFERENCES**

- Canadian Council of Ministers of the Environment (CCME). 1999. Canadian Sediment Quality Guidelines for the Protection of Aquatic Life.
- Canadian Council of Ministers of the Environment, (CCME), 2000, Canadian Environmental Quality Guidelines, 2000

  <a href="http://www.ccme.ca/pdfs/ceqg\_rcqe/summary\_table\_e.pdf">http://www.ccme.ca/pdfs/ceqg\_rcqe/summary\_table\_e.pdf</a>.
- Canadian Environmental Protection Act (CEPA). 1993. Priority Substances List Assessment Report: Arsenic and its Compounds. Government of Canada, Environment Canada, and Health and Welfare Canada. 56 pp.
- Canadian Environmental Protection Agency (CEPA). 1993. *Arsenic and its Compounds*, Priority Substance List Assessment Report.
- Deton'Cho Environmental Alliance, 1999. Environmental Site Assessment and Cost Estimate, Giant Mine, Final Report, Prepared for Government of the Northwest Territories and Indian and Northern Affairs Canada, November 1999.
- Dutrizac, J.E., Riveros, P.A., Chen, T.T. and Dubreuil, A., 2000. *Recovery and Purification of Arsenic Oxide Giant Mine*. Report by CANMET Mining and Mineral Sciences Laboratories project No. 601903, MMSL 2000-004 (CR), January 2000.
- Environmental Protection Agency, 1994. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.* EPA-540/R-94-013.
- Godbehere, P., Pinard, D., and Guimont, J., 1995. Development of a Treatment Process for an Arsenic-bearing Weak Acid Effluent Using Iron and Zinc Derived from Acid Mine Drainage and Smelter Precipitator Dust. In: Proceedings of Copper 95-Cobre 95 International Conference, Casali, Dobby, Molina and Thoburn, Editors. Vol. II, p. 377-387.
- Golder Associates Ltd., 1998. *Interim Abandonment and Restoration Plan, Miramar Con Mine Ltd., Yellowknife, NWT.* Report no. 972-1459 submitted to Miramar Con Mine Ltd., November 1998.
- Harris, G.B. and Monette, S., 1988. *The Stability of Arsenic-bearing Residues*. In: Arsenic Metallurgy Fundamentals and Applications. Reddy, Hendrix and Queneau, Editors. The Minerals, Metals and Materials Society, Warrendale PA, p. 469-498.

- Indian and Northern Affairs Canada (INAC), 2000. Water quality database for Giant minesite for 1995-2000, internal document, last update November 2000.
- Lewis, D.W.T., 1985. *The Giant Yellowknife Gold Mine: The Geology of an Archean Epithermal Precious Metal System*. Giant Yellowknife Mines Limited document, December 1985.
- Mace, I.S. 1998. A study of arsenic contamination from the Royal Oak Giant Mine, Yellowknife, NWT. Master's Thesis. Department of Chemistry and Chemical Engineering, Royal Military College of Canada, Kingston, ON. 135 pp.
- Ollson, C.A. 1999. Arsenic concentrations of the terrestrial and freshwater environment impacted by gold mining operations, Yellowknife, NWT. 102 pp.
- Ollson, C.A., 2000. Arsenic Contamination of the Terrestrial and Freshwater Environment Impacted by Gold Mining Operations, Yellowknife, NWT. Master's Thesis, Royal Military College of Canada, Chemical Engineering, 102 pages.
- Price, W.A., 1997. Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia. Ministry of Employment and Investment, Smithers, BC.
- Riveros, P.A. and Dutrizac, J.E., 2000. *A Review of Arsenic Disposal Practices for the Giant Mine, Yellowknife, Northwest Territories*. Report by CANMET Mining and Mineral Sciences Laboratories, project No. 602015, MMSL 2000-039 (CR), September 2000.
- Robins, R.G. and Tozawa, K., 1982. Arsenic Removal From Gold Processing Waste Waters: The Potential Ineffectiveness of Lime. CIM Bulletin, April 1982, pp. 171-174.
- Royal Military College of Canada, 2000. Environmental Study of Arsenic Contamination from the Giant Mine, Yellowknife, NWT. Report prepared for Indian and Northern Affairs Canada, November 2000.
- Royal Oak Mines Ltd., 1994. Internal Memo on Acid Generation Potential Testing, August 31, 1994.
- Royal Oak Mines Ltd., 1995. Surface Contamination Study, The Giant Minesite, Yellowknife, N.W.T., Water License N1L3-0043. Report prepared for Northwest Territories Water Board, March 22, 1995.



#### Acid-Base Accounting Results for Open Pit and Waste Rock **Miramar Giant Mine**

CLIENT : GOLDER ASSOCIATES

PROJECT : MIRAMAR GIANT MINE YELLOWKNIFE

PROJECT # : 0033

: MODIFIED SOBEK METHOD ACID-BASE ACCOUNTING TEST

SAMPLE	ROCK TYPE	VISIBLE SULPHIDE	PASTE	S(T)	S(SO4)	AP	NP	NET NP	NP/AP	CARBONATE NP*
0 89.44		SULPHIDE	pН	76	70			INF		NE
Open Pit A1				0.47		004.0	0.40.0			070.0
OPA1-01-2100	schist	Yes	9.3	6.47	0.01	201.9	246.3	44.4	1.2	270.9
OPA1-05-2100	andesite	Yes	9.8	0.90	<0.01	28.1	70.3	42.2	2.5	55.8
OPA1-06-2100	schist	Not Observed	9.0	0.18	<0.01	5.6	149.1	143.4	26.5	147.5
OPA1-06-2100 RE	schist	Not Observed	8.9	0.18	<0.01	5.6	141.6	135.9	25.2	148.3
Open Pit A2		Not Observed	0.4	0.05	0.04	4.0	440.4	444.0	04.0	445.0
OPA2-01-2100 OPA2-03-2100	schist	Not Observed Yes	9.1 9.2	0.05 4.01	<0.01 0.01	1.6 125.0	143.1 287.5	141.6 162.5	91.6 <b>2.3</b>	145.8
	schist		9.2	0.64						313.4
OPA2-04-2100 Open Pit B1	schist	Yes	9.1	0.64	<0.01	20.0	224.7	204.7	11.2	227.5
OPB1-03-2200		Net Observed		0.44	0.04	40.0	05.0	00.0	7.5	407.5
OPB1-03-2200 OPB1-04-2200	andesite	Not Observed Not Observed	9.0 9.0	0.41 0.66	<0.01 <0.01	12.8 20.6	95.6 166.3	82.8 145.6	7.5 8.1	107.5 171.7
OPB1-04-A	schist schist	Not Observed	8.9	0.92	<0.01	28.8	272.5	243.8	9.5	301.7
OPB1-04-A OPB1-06-2200	schist	Yes	9.0	0.39	<0.01	12.2	77.5	65.3	6.4	91.7
Open Pit B2	SCHIST	res	9.0	0.39	<0.01	12.2	77.5	65.5	0.4	91.7
OPB2-03-2100	anhint	Not Observed	0.1	0.18	-0.01	F.6	100.0	191.3	25.0	224.7
OPB2-05-2100 OPB2-05-2100	schist schist	Not Observed Yes	9.1 9.0	0.16	<0.01 <0.01	5.6 10.0	196.9 159.4	149.4	35.0 15.9	221.7 179.2
OPB2-05-2100 OPB2-06-2100	andesite	Not Observed	8.9	0.32	<0.01	1.6	159.4	151.6	98.0	150.8
	andesite	Not Observed	0.9	0.05	<0.01	1.6	155.1	151.6	96.0	150.6
Open Pit B3	aghist		8.9	0.01	<0.01	0.3	117.8	117.5	377.0	121.7
OPB3-02-2200 OPB3-02-2200 RE	schist	-	8.9 8.9	0.01	<0.01	0.3	117.8	117.5	377.0	121.7
	schist	-	1					l		
OPB3-03-2200 Open Pit B4	schist	-	9.4	0.25	<0.01	7.8	202.5	194.7	25.9	241.7
•		Nat Obsessed	0.4	0.00	0.04	٥٠	470.0	470.0	70.5	407.5
OPB4-01-2200	andesite	Not Observed Not Observed	9.1	0.08	<0.01	2.5	176.3	173.8	70.5	167.5
OPB4-01-A OPB4-02-2200	andesite	Not Observed	9.0	0.10 0.13	<0.01 <0.01	3.1	131.9 220.0	128.8	42.2	125.8 220.0
	andesite	•	9.0	0.13	<0.01	4.1	220.0	215.9	54.2	220.0
Brock Pit OPBR-01-2100	andosita	Not Observed	0.0	0.22	-0.01	6.0	110 1	1112	170	111 7
OPBR-01-2100 OPBR-02-2100	andesite andesite	Not Observed Not Observed	9.2 9.3	<0.01	<0.01 <0.01	6.9 0.0	118.1 92.5	111.3 92.5	17.2	111.7 83.3
	andesite	Not Observed	9.5	<0.01	<0.01	0.0	92.5	92.5	-	63.3
Open Pit C1 OPC1-01-2100	schist	Not Observed	9.1	1.52	<0.01	47.5	646.9	599.4	13.6	707.5
OPC1-01-2100 OPC1-03-2100	andesite	Not Observed	9.0	0.05	<0.01	1.6	191.3	189.7	122.4	186.7
OPC1-05-2100	schist	Not Observed	9.0	0.03	<0.01	2.2	152.2	150.0	69.6	150.0
Waste Rock Open Pit A2	SCHIST	Not Observed	9.2	0.07	<0.01	2.2	102.2	150.0	09.0	130.0
WR-OPA2-01-2300	andesite	Yes	9.2	0.99	<0.01	30.9	84.4	53.4	2.7	79.2
WR-OPA2-02-2300	andesite	Yes	9.4	0.16	<0.01	5.0	56.6	51.6	11.3	54.2
WR-OPA2-03-2300	andesite	-	9.1	0.10	<0.01	5.3	157.2	151.9	29.6	155.0
WR-OPA2-03-A	andesite		9.5	0.06	<0.01	1.9	30.0	28.1	16.0	25.0
WR-OPA2-03-A WR-OPA2-04-2300	andesite	Yes	9.1	0.62	<0.01	19.4	168.4	149.1	8.7	165.8
Waste Rock Open Pit B1	andesite	163	3.1	0.02	₹0.01	13.4	100.4	143.1	0.7	103.0
WR-OPB1-01-2300	schist/andesite		9.0	1.94	<0.01	60.6	223.8	163.1	3.7	237.5
WR-OPB1-01-2300 WR-OPB1-02-2300	schist/andesite		8.8	0.56	<0.01	17.5	211.3	193.8	12.1	220.0
WR-OPB1-03-2300	schist/andesite		8.8	0.32	<0.01	10.0	181.3	171.3	18.1	191.7
Waste Rock Open Pit B3	Scriist/ariuesite	•	0.0	0.32	<0.01	10.0	101.3	171.3	10.1	191.7
WR-OPB3-01-2300	_	_	8.8	1.13	<0.01	35.3	195.6	160.3	5.5	200.8
WR-OPB3-02-2300			9.1	1.02	<0.01	31.9	175.0	143.1	5.5	192.5
Waste Rock Open Pit B4			J.1	1.02	\U.U1	51.5	173.0	1-0.1	0.0	102.0
WR-OPB4-01-2200	_		9.0	0.24	<0.01	7.5	131.9	124.4	17.6	137.5
WR-OPB4-02-2200			9.0	0.24	<0.01	6.6	130.3	123.8	19.9	138.3
Waste Rock Brock Pit			3.0	0.21	<b>\0.01</b>	0.0	130.3	123.0	13.3	130.3
WR-OPBR-01-2300	andesite	Yes	9.4	0.09	<0.01	2.8	40.3	37.4	14.3	33.3
WR-OPBR-02-2300	andesite	Yes	9.1	0.56	<0.01	17.5	150.6	133.1	8.6	156.7
	andone	100	J. 1	0.00	QU.U1	17.5	100.0	100.1	0.0	150.7
WR-OPC1-01-2300	andesite		9.3	0.58	<0.01	18.1	42.0	23.9	2.3	33.3
WR-OPC1-01-2300 RE	andesite		9.2	0.58	<0.01	18.1	43.5	25.4	2.4	34.2
WR-OPC1-01-2300 RE	andesite		9.2	0.58	<0.01	3.1	65.3	62.1	20.9	56.7
WR-OPC1-01-A WR-OPC1-02-2300	andesite		9.1	0.10	<0.01	21.3	45.8	24.5	20.9	40.0
Waste Rock Pile	undone		0.0	0.00	Q0.01	21.0	40.0	24.0		40.0
WR1-01-2300	andesite	Yes	9.2	0.22	<0.01	6.9	75.3	68.4	11.0	66.7
WR1-02-2300	andesite	Yes	9.2	0.22	<0.01	3.1	50.3	47.1	16.1	42.5
WR2-01-2300		Yes	9.1	0.10	<0.01	3.4	71.1	67.7	20.7	74.2
WR2-01-2300 WR2-03-2300	andesite -	res	9.2	0.11	<0.01	4.1	30.9	26.8		48.3
WR3-01-2300	andesite	Yes	9.3	0.13	<0.01	1.6	60.8	59.2	7.6 38.9	53.3
								ı		
WR3-02-2300	andesite	Yes	9.2	0.11	<0.01	3.4	39.0	35.6	11.3	32.5

AP = ACID POTENTIAL IN TONNES CACO3 EQUIVALENT PER 1000 TONNES OF MATERIAL.

AP = ACID POTENTIAL IN TONNES CACO3 EQUIVALENT PER 1000 TONNES OF MATERIAL.

AP = NEUTRALIZATION POTENTIAL IN TONNES CACO3 EQUIVALENT PER 1000 TONNES OF MATERIAL.

NET NP = NET NEUTRALIZATION POTENTIAL = TONNES CACO3 EQUIVALENT PER 1000 TONNES OF MATERIAL.

NOTE: WHEN S(T) AND/OR S(SO4) IS REPORTED AS <0.01, IT IS ASSUMED TO BE ZERO FOR THE AP CALCULATION.

\*CARBONATE NP CALCULATED FROM TOTAL INORGANIC CARBON (TIC) ASSAY.

RE = REPLICATE.

Miramar Giant Mine

		1																										
	ROCK TYPE	VISIBLE	Ag	Al	As	Ва	Ве	Bi	Ca	Cd	Со	Cr	Cu	Fe	K	Mg	Mn	Мо	Na	Ni	Р	Pb	Sb	Sr	Ti	V	W	Zn
SAMPLE ID		SULPHIDE	ppm	<u>%</u>	ppm	ppm	ppm	ppm	<u>%</u>	ppm	ppm	ppm	ppm	<u>%</u>	<u>%</u>	<u>%</u>	ppm	ppm	<u>%</u>	ppm	ppm	ppm	ppm	ppm	<u>%</u>	ppm	ppm	ppm
Open Pit A1																												
OPA1-01-2100	schist	Yes	3	5.73	40200	170	<0.5	<5 -	5.06	>100	40	138	134	9.11	2.59	2.82	1320	<2	0.36	80	470	22	49	55	0.04	237	<10	48
OPA1-05-2100	andesite	Yes	<1	4.59	179	20	<0.5	<5	3.42	4	54	118	6	10.95	0.15	2.65	2670	<2	1.48	41	1480	<2	8	32	0.89	224	<10	108
OPA1-06-2100	schist	Not Observed	<1	6.71	94	170	<0.5	<5	2.83	3	41	94	203	9.11	0.99	4.68	970	2	0.51	73	530	4	6	27	0.05	281	<10	120
Open Pit A2				0.00	400	450	0.5	_	0.70		40	050	07		0.00	5 50	000	•	0.57	44-	000		•	0.4	0.05	000	40	400
OPA2-01-2100	schist	Not Observed	<1	6.80	133	150	<0.5	<5 .E	2.73	4	42	252	97	7.71	0.90	5.59	600	<2	0.57	117	320	<2	8 8	21	0.05	208	<10	120
OPA2-03-2100 OPA2-04-2100	schist	Yes	<1	4.79	6330 3610	180 120	<0.5	<5 .5	5.66 4.22	>100 98	28 29	166	68 59	5.71	2.03	3.04	1260	4	0.58	56 52	240 370	32 4	o 5	55 38	0.03	160 209	<10	40
Open Pit B1	schist	Yes	<1	5.78	3010	120	<0.5	<5	4.22	90	29	76	59	7.36	0.85	5.06	735	<2	0.64	52	3/0	4	5	30	0.05	209	<10	108
OPB1-03-2200	andesite	Not Observed	<1	6.61	322	40	<0.5	<5	4.69	9	50	95	165	9.76	0.28	3.90	1330	<2	1.08	79	450	2	13	108	0.57	323	<10	110
OPB1-04-2200	schist	Not Observed	1	6.42	404	70	<0.5	<5	3.93	12	33	94	123	9.48	0.71	4.72	1100	<2	0.50	77	530	10	23	46	0.20	277	<10	156
OPB1-04-A	schist	Not Observed	1	5.90	461	110	<0.5	<5	5.79	13	36	147	99	8.65	1.08	5.33	1335	<2	0.44	74	340	8	29	38	0.03	227	<10	146
OPB1-06-2200	schist	Yes	1	6.70	102	140	0.5	<5	1.82	3	32	194	77	7.37	1.07	4.03	615	<2	0.46	87	300	4	17	30	0.03	224	<10	126
Open Pit B2																												
OPB2-03-2100	schist	Not Observed	<1	6.97	80	80	<0.5	<5	4.23	3	38	262	124	8.93	0.92	4.91	1220	<2	0.86	93	420	4	42	71	0.04	243	<10	98
OPB2-05-2100	schist	Yes	<1	6.92	69	110	0.5	<5	3.43	2	33	198	70	9.16	1.09	4.35	1385	<2	0.64	89	430	6	6	42	0.03	292	<10	104
OPB2-06-2100	andesite	Not Observed	<1	6.47	15	50	< 0.5	<5	6.38	1	39	204	13	8.57	0.24	4.07	1610	<2	1.37	95	420	<2	9	68	0.48	249	<10	102
Open Pit B3																												
OPB3-02-2200	schist	-	<1	5.89	76	50	<0.5	<5	2.23	2	34	189	18	7.99	0.27	7.19	950	<2	0.56	100	320	8	6	39	0.02	214	<10	86
OPB3-03-2200	schist	-	<1	6.33	119	160	0.5	<5	4.53	3	34	73	70	7.14	1.83	3.45	1105	<2	0.53	49	340	4	22	60	0.04	196	<10	96
Open Pit B4																												
OPB4-01-2200	andesite	Not Observed	<1	6.55	47	60	<0.5	<5	6.98	1	37	102	111	8.21	0.32	3.16	1400	<2	1.84	61	400	<2	8	181	0.43	223	<10	86
OPB4-01-A	andesite	Not Observed	<1	6.81	43	50	<0.5	<5	5.39	2	47	91	126	9.52	0.23	3.70	1405	<2	1.83	74	480	<2	8	135	0.56	270	<10	96
OPB4-02-2200	andesite	-	<1	5.05	40	100	<0.5	<5	7.96	2	27	61	174	6.48	0.44	2.27	1245	<2	1.31	43	450	<2	14	126	0.06	207	<10	54
Brock Pit																												
OPBR-01-2100	andesite	Not Observed	<1	6.99	53	50	<0.5	<5	4.53	1	39	192	21	7.06	0.27	3.27	800	<2	2.71	80	570	<2	10	103	0.36	212	<10	68
OPBR-02-2100	andesite	Not Observed	<1	6.69	16	80	<0.5	<5	2.81	1	20	187	10	5.57	0.34	3.18	750	2	2.83	69	810	2	4	72	0.21	137	<10	64
Open Pit C1								_																				
OPC1-01-2100	schist	Not Observed	1 1	1.82	7700	60	<0.5	<5 -	12.50	>100	17	74	23	6.09	0.65	6.16	2620	2	0.33	39	120	14	12	68	0.02	82	<10	84
OPC1-03-2100	andesite	Not Observed	<1	5.38	71	50	<0.5	<5	6.72	2	37	88	105	8.18	0.31	3.36	1265	2	1.00	55	340	4	4	66	0.28	193	<10	66
OPC1-05-2100	schist	Not Observed	<1	6.30	40	50	<0.5	<5	5.91	1	45	52	100	7.64	0.27	3.56	1195	<2	1.84	53	360	<2	/	77	0.45	223	<10	80
Waste Rock Open Pit A2	on desite	Von		F 00	1270	00	-O F		F 67	25	46	242	60	0.22	0.51	4 74	1005	-0	1 10	100	220	16	16	60	0.20	224	-10	110
WR-OPA2-01-2300 WR-OPA2-02-2300	andesite andesite	Yes Yes	<1 <1	5.98 5.82	1370 21	90 50	<0.5 <0.5	<5 <5	5.67 5.02	35 1	46 43	343 402	62 85	9.33	0.51 0.31	4.71 3.90	1985 2115	<2 <2	1.48 2.42	106 91	330 300	16 4	16 6	62 49	0.30	224 221	<10 <10	110 78
WR-OPA2-03-2300 WR-OPA2-03-2300	andesite	163	<1	5.93	41	110	<0.5	<5	5.77	1	38	190	245	8.21 7.45	0.55	3.96	1490	<2	1.39	69	390	<2	4	67	0.37	228	<10	88
WR-OPA2-03-A	andesite	_	<1	5.71	24	70	<0.5	<5	4.48	1	41	404	54	8.27	0.46	4.05	2185	<2	1.76	75	410	<2	8	60	0.39	198	<10	78
WR-OPA2-04-2300	andesite	Yes	1	5.07	2930	100	<0.5	<5	5.82	74	37	204	73	8.38	0.56	4.70	1995	<2	1.40	55	510	8	6	69	0.50	215	<10	108
Waste Rock Open Pit B1											<u> </u>																	
WR-OPB1-01-2300	schist/andesite	-	2	5.66	8960	180	<0.5	<5	5.89	>100	34	161	136	6.80	1.39	3.60	1015	<2	0.94	69	360	82	32	77	0.13	179	<10	234
WR-OPB1-02-2300	schist/andesite	-	3	6.35	1880	130	<0.5	<5	3.98	50	37	197	170	7.40	1.48	4.52	1260	2	0.51	89	370	46	35	38	0.03	227	<10	238
WR-OPB1-03-2300	schist/andesite	-	<1	5.79	89	90	<0.5	<5	4.29	2	35	239	216	6.91	2.07	4.34	1250	4	0.83	78	330	4	12	33	0.04	206	<10	106
Waste Rock Open Pit B3																												
WR-OPB3-01-2300	-	-	<1	6.39	3980	150	< 0.5	<5	6.84	>100	28	105	151	7.27	1.32	2.69	1045	<2	0.93	54	560	14	20	108	0.09	199	<10	112
WR-OPB3-02-2300	-	-	2	6.89	1110	150	<0.5	<5	4.61	31	38	144	184	7.39	1.61	3.45	1105	<2	1.12	80	440	40	74	75	0.16	220	<10	118
Waste Rock Open Pit B4																												
WR-OPB4-01-2200	-	-	1	6.45	80		<0.5			3	38										430		18					98
WR-OPB4-02-2200	-	-	<1	6.91	42	120	<0.5	<5	5.03	1	44	108	98	8.78	1.02	3.47	1285	<2	0.99	80	470	16	9	95	0.23	271	<10	92
Waste Rock Brock Pit																												
WR-OPBR-01-2300	andesite	Yes	<1	6.88	31	40	<0.5	<5	5.44	1	48	216	87	8.13	0.12	4.42	1265	<2	2.06	117	400	<2	9	81	0.57	239	<10	88
WR-OPBR-02-2300	andesite	Yes	1	6.10	2360	60	<0.5	<5	6.87	61	34	211	92	6.53	0.48	3.39	1250	<2	1.67	78	510	10	19	153	0.42	172	<10	66
Waste Rock Open Pit C1	on doc't			6.00	0040	420	.O. E	-	F 47	50	40	400	04	10.22	0.04	4.40	2405	•	1.40	00	450	•	40	404	0.50	0.40	-10	400
WR-OPC1-01-2300	andesite	-	<1	6.06	2310	130	<0.5	<5 -5	5.17	59	46	438	91	10.22	0.81	4.19	2405	<2	1.12	80	450	2	13	101	0.52	248	<10	102
WR-OPC1-01-A	andesite	-	<1	6.36	46	70	<0.5	<5 -5	5.35	2	42 45	494	107	8.54	0.37	5.30	2090	<2	1.63	115	310	38	9	93	0.37	217	<10	162
WR-OPC1-02-2300	andesite	-	<1	6.19	73	90	<0.5	<5	4.94	2	45	385	276	9.46	0.62	4.46	2070	<2	1.43	95	300	4	6	56	0.31	224	<10	112
Waste Rock Pile	andosito	Yes	-1	6 70	274	40	-0 E	-E	7 75	8	40	252	251	8 20	0.27	2 75	1250	-0	1 11	102	410	-0	0	205	0.60	205	-10	70
WR1-01-2300 WR1-02-2300	andesite	Yes Yes	<1	6.79 7.15	271 21	40 40	<0.5	<5 -5	7.75		42 50	253	251 173	8.30	0.27	3.75 5.51	1250	<2	1.14	102 114	410	<2 <2	8 12	205	0.68	285	<10	70 90
WR2-01-2300 WR2-01-2300	andesite andesite	Yes	<1 <1	7.15 7.06	39	40 50	<0.5 <0.5	<5 <5	4.73 5.29	<1 1	38	207 173	173 117	8.80 6.60	0.16 0.28	5.51 3.84	1235 990	<2 <2	1.36 2.02	100	400 290	<2 <2	12 9	93 105	0.61 0.36	266 196	<10 <10	68
WR2-03-2300 WR2-03-2300	anuesite	165	<1	6.93	39 11	100	<0.5	<5	5.29	1	36 48	159	150	8.05	0.26	3.04 4.14	1150	<2 <2	1.89	100	330	<2 <2	9	105	0.53	244	<10	74
WR2-03-2300 WR3-01-2300	andesite	Yes	<1 <1	7.07	33	90	<0.5 <0.5	<5 <5	6.10	1	48 46	174	94	7.56	0.34	4.14	1210	<2 <2	1.67	100	360	<2 8	9	100	0.53	244	<10 <10	92
WR3-02-2300	andesite	Yes	<1	6.96	14	50	<0.5	<5	5.89	1	46	168	83	7.99	0.28	4.19		<2		107	380	<2	11	130	0.47	245	<10	74
VVI 10-02-2000	I andesite	1 100	_ <1	0.30	14	50	<b>~∪.</b> ∪	<b>\</b> J	5.03	- 1	40	100	00	1.33	0.20	т.13	1100	~~	1.00	100	500	~∠		130	0.50	240	<u> </u>	74

# Rock Leachate Extraction Chemical Analysis Miramar Giant Mine

### **LEACHATE ANALYSIS BY ICP**

SAMPLE ID	Rock Type	Visible Sulphide	D.I. Water Volume (ml)	Sample Weight (g)	pН	Cond. (uS/cm)	Alkalinity (m	Acidity (pH 4.5) g CaCO3/L	Acidity (pH 8.3)	SO4 mg/L	Ag mg/L	Al mg/L	As mg/L	B mg/L	Ba mg/L	Be mg/L	Bi mg/L	Ca mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Fe mg/L
<b>CCME</b> Guidelines for Surface			Ì			,	Ì																
Water										-	-	-	0.025	5	1	-	-	-	0.005	-	0.05	1	0.3
Permit Maximum Average Concentration													0.50									0.30	
Permit Maximum										-	-	-	0.50	-	-	•	-	-	•	•	•	0.30	-
Concentration of any Grab																							
Sample										-	-	-	1.00	-	-	-	-	-	-	-	-	0.60	-
Open Pit A1																							
OPA1-01-2100	schist	Yes	400	200	7.97	104	40.0	0.0	1.3	13	<0.01	<0.2	0.19	<0.1	<0.01	< 0.005	<0.1	13.8	<0.01	<0.01	<0.01	<0.01	<0.03
Open Pit A2																							
OPA2-01-2100	schist	Not Observed		200	7.93	118	42.0	0.0	1.0	17	<0.01	<0.2	0.19	<0.1	<0.01	< 0.005	<0.1	15.9	<0.01	<0.01	<0.01	<0.01	<0.03
OPA2-03-2100	schist	Yes	400	200	7.95	231	44.0	0.0	1.3	79	<0.01	<0.2	0.05	<0.1	<0.01	<0.005	<0.1	33.1	<0.01	<0.01	<0.01	<0.01	< 0.03
Open Pit B1 OPB1-03-2200	andosito	Not Observed	400	200	8.10	129	66.0	0.0	2.0	5	-0.01	<0.2	0.02	-0.1	<0.01	<0.005	-0.1	23.3	<0.01	<0.01	<0.01	<0.01	-0.02
OPB1-03-2200 OPB1-06-2200	andesite schist	Yes	400	200	7.92	98	37.5	0.0	2.0 2.5	10	<0.01 <0.01	<0.2 <0.2	0.02 <b>0.09</b>	<0.1 <0.1	<0.01	<0.005	<0.1 <0.1	23.3 13.4	<0.01	<0.01	<0.01	<0.01	<0.03 <0.03
Open Pit B2	Soriist	103	400	200	7.52	30	37.3	0.0	2.0	10	<b>\0.01</b>	<b>₹0.2</b>	0.03	<b>\0.1</b>	<b>\0.01</b>	<b>\0.000</b>	νο. ι	10.4	<b>VO.01</b>	<b>\0.01</b>	<b>\(\)</b>	VO.01	<b>\0.03</b>
OPB2-05-2100	schist	Yes	400	200	7.99	132	44.0	0.0	1.0	28	<0.01	<0.2	0.04	<0.1	<0.01	<0.005	<0.1	18	< 0.01	<0.01	<0.01	<0.01	< 0.03
Open Pit B3																							
OPB3-03-2200	schist	-	400	200	8.05	108	57.0	0.0	3.5	5	<0.01	< 0.2	0.03	<0.1	< 0.01	< 0.005	<0.1	15.5	< 0.01	<0.01	< 0.01	<0.01	< 0.03
Open Pit B4																							
OPB4-01-2200	andesite	Not Observed	400	200	8.11	148	64.5	0.0	1.5	19	<0.01	<0.2	0.004	<0.1	<0.01	< 0.005	<0.1	31.4	<0.01	<0.01	<0.01	<0.01	<0.03
OPB4-01-A	andesite	Not Observed	400	200	8.14	139	65.0	0.0	1.5	13	<0.01	<0.2	0.003	<0.1	<0.01	<0.005	<0.1	29.1	<0.01	<0.01	<0.01	<0.01	< 0.03
Brock Pit	and soits	Not Observed	400	200	0.47	445	62.0	0.0	4.0	_	.0.04	.0.0	0.04	.0.4	.0.04	.0.005	.0.4	22	-0.04	-0.04	-0.04	0.04	.0.00
OPBR-02-2100 Open Pit C1	andesite	Not Observed	400	200	8.17	115	63.0	0.0	1.0	5	<0.01	<0.2	0.01	<0.1	<0.01	<0.005	<0.1	23	<0.01	<0.01	<0.01	0.01	<0.03
OPC1-01-2100	schist	Not Observed	400	200	8.18	259	67.0	0.0	1.0	82	<0.01	<0.2	0.06	<0.1	<0.01	< 0.005	<0.1	44.7	<0.01	<0.01	<0.01	<0.01	< 0.03
OPC1-05-2100	schist	Not Observed		200	8.20	130	63.0	0.0	1.0	9	<0.01	<0.2	0.01	<0.1	<0.01	< 0.005	<0.1	25.3	<0.01	<0.01	<0.01	<0.01	<0.03
Waste Rock Open Pit A2					0	700	55.5	••	770	-													
WR-OPA2-04-2300	andesite	Yes	400	200	8.01	126	67.5	0.0	1.8	7	< 0.01	<0.2	0.07	<0.1	< 0.01	< 0.005	<0.1	19.4	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03
Waste Rock Open Pit B1																							
WR-OPB1-01-2300	schist/andesite	-	400	200	8.24	149	66.5	0.0	1.0	10	< 0.01	< 0.2	0.11	<0.1	< 0.01	< 0.005	<0.1	24.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.03
Waste Rock Open Pit B3																							
WR-OPB3-01-2300	-	-	400	200	8.03	288	58.5	0.0	3.0	67	< 0.01	< 0.2	0.03	<0.1	< 0.01	< 0.005	<0.1	40.1	< 0.01	< 0.01	< 0.01	0.01	< 0.03
Waste Rock Brock Pit																							
WR-OPBR-02-2300	andesite	Yes	400	200	8.07	141	70.5	0.0	3.5	7	<0.01	<0.2	0.04	<0.1	<0.01	< 0.005	<0.1	22.7	<0.01	<0.01	<0.01	0.01	< 0.03
Waste Rock Open Pit C1																							
WR-OPC1-01-2300	andesite	-	400	200	8.07	115	63.5	0.0	2.0	5	<0.01	<0.2	0.03	<0.1	<0.01	< 0.005	<0.1	19.3	<0.01	<0.01	<0.01	<0.01	< 0.03
WR-OPC1-02-2300	andesite	-	400	200	8.10	120	65.5	0.0	2.5	5	<0.01	<0.2	0.011	<0.1	<0.01	<0.005	<0.1	21.9	<0.01	<0.01	<0.01	<0.01	<0.03
Waste Rock Pile																		-,					
WR1-01-2300	andesite	Yes	400	200	8.20	118	67.0	0.0	0.5	4	<0.01	<0.2	0.0077	<0.1	<0.01	< 0.005	<0.1	21.4	<0.01	<0.01	<0.01	<0.01	<0.03
WR3-01-2300	andesite	Yes	400	200	8.16	126	61.0	0.0	1.0	4	<0.01	<0.2	0.016	<0.1	0.11	<0.005	<0.1	23.3	<0.01	<0.01	<0.01	<0.01	<0.03

# Rock Leachate Extraction Chemical Analysis Miramar Giant Mine

## **LEACHATE ANALYSIS BY ICP**

SAMPLE ID	Rock Type	K mg/L	Li mg/L	Mg mg/L	Mn mg/L	Mo mg/L	Na mg/L	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	TI mg/L	V mg/L	Zn mg/L
CCME Guidelines for Surface		<u> </u>	<u> </u>	<u> </u>	<u>_</u>	<u> </u>	<u>J</u>	<u>J</u> .	<u> </u>	<u>J</u> -		<u> </u>	<u>J</u> -	<u> </u>	<u>_</u>		<u>J</u> -	<u> </u>	
Water		-	-	-	0.05	-	-	-	-	0.01	0.006	-	-	-	-	-	-	-	5
Permit Maximum Average																			
Concentration		-	-	-	-	-	-	0.50	-	0.20	-	-	-	-	-	-	-	-	0.20
Permit Maximum																			
Concentration of any Grab																			
Sample		-	-	-	-	-	-	1.00	-	0.40	-	-	-	-	-	-	-	-	0.40
Open Pit A1							_												
OPA1-01-2100	schist	2	<0.01	5.0	0.055	<0.03	<2	<0.05	<0.3	<0.05	<0.2	<0.2	0.38	<0.03	0.021	<0.01	<0.2	<0.03	<0.005
Open Pit A2			0.04		0.007	0.00			0.0				0.74	0.00		0.04	0.0		
OPA2-01-2100	schist	<2	<0.01	5.9	0.007	<0.03	<2	< 0.05	<0.3	< 0.05	<0.2	<0.2	0.71	< 0.03	0.039	<0.01	<0.2	<0.03	<0.005
OPA2-03-2100	schist	4	<0.01	11.6	0.083	<0.03	<2	<0.05	<0.3	<0.05	<0.2	<0.2	0.64	<0.03	0.047	<0.01	<0.2	<0.03	<0.005
Open Pit B1 OPB1-03-2200	andosita	1.0	-0.01	2.2	0.012	-0.03	-0	40.0E	-0.2	-0.0E	-0.2	-0.2	0.71	-0.03	0.000	-0.01	4O O	< 0.03	-0.00E
OPB1-03-2200 OPB1-06-2200	andesite schist	<2 2	<0.01 <0.01	3.2 4.6	0.012 0.016	<0.03 <0.03	<2 <2	<0.05 <0.05	<0.3 <0.3	<0.05 <0.05	<0.2 <0.2	<0.2 <0.2	0.71 0.52	<0.03 <0.03	0.080 0.023	<0.01 <0.01	<0.2 <0.2	< 0.03	<0.005 <0.005
Open Pit B2	SCHIST	4	<b>CU.U1</b>	4.0	0.010	<0.03	<u> </u>	<b>CU.UJ</b>	ζ0.5	<b>VU.UJ</b>	ζ0.2	ζ0.2	0.32	<0.03	0.023	<b>VU.U1</b>	<0.Ζ	<0.03	<0.003
OPB2-05-2100	schist	2	<0.01	6.7	0.025	< 0.03	<2	< 0.05	<0.3	< 0.05	<0.2	<0.2	0.66	< 0.03	0.026	<0.01	<0.2	< 0.03	<0.005
Open Pit B3	Sornot		<b>40.01</b>	0.7	0.020	٧٥.٥٥	\ <u>_</u>	10.00	٧٥.٥	٧٥.٥٥	<b>40.2</b>	<b>40.2</b>	0.00	٧٥.٥٥	0.020	<b>40.01</b>	<b>40.2</b>	٧٥.٥٥	10.000
OPB3-03-2200	schist	3	< 0.01	5.2	0.032	< 0.03	<2	< 0.05	< 0.3	< 0.05	< 0.2	<0.2	0.45	< 0.03	0.032	< 0.01	<0.2	< 0.03	<0.005
Open Pit B4				<u> </u>															
OPB4-01-2200	andesite	<2	< 0.01	1.6	0.027	< 0.03	<2	< 0.05	< 0.3	< 0.05	<0.2	<0.2	0.52	< 0.03	0.053	< 0.01	<0.2	< 0.03	<0.005
OPB4-01-A	andesite	<2	< 0.01	1.8	0.022	< 0.03	<2	< 0.05	< 0.3	< 0.05	<0.2	<0.2	0.64	< 0.03	0.048	< 0.01	<0.2	< 0.03	<0.005
Brock Pit																			
OPBR-02-2100	andesite	<2	< 0.01	2.3	0.016	< 0.03	2	< 0.05	< 0.3	< 0.05	< 0.2	< 0.2	0.80	< 0.03	0.039	< 0.01	< 0.2	< 0.03	<0.005
Open Pit C1																			
OPC1-01-2100	schist	<2	<0.01	10	0.036	< 0.03	<2	< 0.05	< 0.3	< 0.05	<0.2	<0.2	0.49	< 0.03	0.06	<0.01	<0.2	< 0.03	<0.005
OPC1-05-2100	schist	<2	<0.01	2.2	0.013	< 0.03	<2	< 0.05	<0.3	< 0.05	<0.2	<0.2	0.56	< 0.03	0.034	<0.01	<0.2	< 0.03	<0.005
Waste Rock Open Pit A2																			
WR-OPA2-04-2300	andesite	<2	< 0.01	4.6	0.014	< 0.03	5	< 0.05	< 0.3	< 0.05	< 0.2	< 0.2	1.09	< 0.03	0.064	< 0.01	< 0.2	< 0.03	<0.005
Waste Rock Open Pit B1																			
WR-OPB1-01-2300	schist/andesite	2	< 0.01	4.9	0.028	< 0.03	<2	< 0.05	< 0.3	< 0.05	<0.2	<0.2	0.72	< 0.03	0.041	< 0.01	<0.2	< 0.03	<0.005
Waste Rock Open Pit B3																			
WR-OPB3-01-2300	-	4	< 0.01	10.1	0.039	< 0.03	7	< 0.05	< 0.3	< 0.05	<0.2	< 0.2	0.61	< 0.03	0.121	< 0.01	<0.2	< 0.03	0.013
Waste Rock Brock Pit																			
WR-OPBR-02-2300	andesite	<2	< 0.01	4.2	0.017	< 0.03	3	< 0.05	< 0.3	< 0.05	<0.2	<0.2	0.89	< 0.03	0.103	< 0.01	<0.2	< 0.03	<0.005
Waste Rock Open Pit C1																			
WR-OPC1-01-2300	andesite	<2	<0.01	3.2	0.018	< 0.03	3	< 0.05	< 0.3	< 0.05	<0.2	<0.2	0.97	< 0.03	0.048	<0.01	<0.2	< 0.03	<0.005
WR-OPC1-02-2300	andesite	<2	<0.01	2.5	0.012	< 0.03	3	< 0.05	<0.3	<0.05	<0.2	<0.2	0.98	< 0.03	0.044	<0.01	<0.2	< 0.03	<0.005
Waste Rock Pile																			
WR1-01-2300	andesite	<2	<0.01	2.5	0.010	< 0.03	3	< 0.05	< 0.3	< 0.05	<0.2	<0.2	1.13	< 0.03	0.096	<0.01	<0.2	< 0.03	<0.005
WR3-01-2300	andesite	<2	<0.01	2.0	0.020	< 0.03	3	< 0.05	< 0.3	< 0.05	<0.2	<0.2	0.93	< 0.03	0.077	<0.01	<0.2	< 0.03	< 0.005

# QA/QC - Chemical Analysis Miramar Giant Mine

		ROCK TYPE	Ag	ΑI	As	Ва	Be	Bi	Ca	Cd	Со	Cr	Cu	Fe	K	Mg	Mn	Мо	Na	Ni	Р	Pb	Sb	Sr	Ti	V	W	Zn
	SAMPLE ID		ppm	%	ppm	ppm	ppm	ppm	% <sub> </sub>	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
Š	OPB1-04-2200	schist	1	6.42	404	70	<0.5	<5 3	3.93	12	33	94	123	9.48	0.71	4.72	1100	<2 0	0.50	77	530	10	23	46	0.20	277	<10	156
Roc	OPB1-04-A	schist	1	5.90	461	110	<0.5	<5 :	5.79	13	36	147	99	8.65	1.08	5.33	1335	<2 0	).44	74	340	8	29	38	0.03	227	<10	146
1 4	RPD (%)		0	6	9	28	-	-	24	5	6	27	15	6	26	8	12	-	9	3	31	15	15	13	131	14	-	4
<u>c</u>	OPB4-01-2200	andesite	<1	6.55	47	60	<0.5	<5 (	6.98	1	37	102	111	8.21	0.32	3.16	1400	<2 1	.84	61	400	<2	8	181	0.43	223	<10	86
J S	OPB4-01-A	andesite	<1	6.81	43	50	<0.5	<5 :	5.39	2	47	91	126	9.52	0.23	3.70	1405	<2 1	.83	74	480	<2	8	135	0.56	270	<10	96
Ö	RPD (%)		-	3	6	13	-	-	18	40	15	8	8	10	23	10	0	-	0	12	12	-	0	20	17	12	-	7
S	WR-OPA2-03-2300	andesite	<1	5.93	41	110	<0.5	<5 :	5.77	1	38	190	245	7.45	0.55	3.96	1490	<2 1	.39	69	390	<2	4	67	0.17	228	<10	88
ocks	WR-OPA2-03-A	andesite	<1	5.71	24	70	<0.5	<5 4	4.48	1	41	404	54	8.27	0.46	4.05	2185	<2 1	.76	75	410	<2	8	60	0.39	198	<10	78
%	RPD (%)		-	3	38	32	-	-	18	0	5	43	108	7	12	1	24	-	15	5	3	-	40	7	46	10	-	8
ste	WR-OPC1-01-2300	andesite	<1	6.06	2310	130	<0.5	<5 :	5.17	59	46	438	91	10.22	0.81	4.19	2405	<2 1	1.12	80	450	2	13	101	0.52	248	<10	102
Was	WR-OPC1-01-A	andesite	<1	6.36	46	70	<0.5	<5 :	5.35	2	42	494	107	8.54	0.37	5.30	2090	<2 1	.63	115	310	38	9	93	0.37	217	<10	162
	RPD (%)		•	3	189	44	-	-	2	181	6	8	10	12	<b>57</b>	15	10	-	23	23	26	92	26	6	24	9	-	28
	TSPO2-2300	-	1	5.39	1890	150	<0.5	10 :	5.38	49	21	134	51	6.24	1.40	2.80	1050	<2 0	0.61	57	480	150	181	66	0.06	178	<10	214
S	TSPO2-2300A	-	1	5.98	1760	170	<0.5	<5 :	5.40	45	20	148	56	6.36	1.59	2.89	1060	2 0	0.83	52	480	148	157	72	0.07	194	<10	222
ailings	RPD (%)		0	7	5	8	-	-	0.2	6	3	7	6	1	8	2	1	-	19	6	0	1	10	6	10	6	-	2
a <u>:</u>	TNPO1-2300	-	1	4.81	4740	170	<0.5	<5 4	4.71 >	>100	28	140	2547	5.73	1.45	3.10	870	2 0	).71	92	360	150	107	87	0.06	151	<10	674
-	TNPO1-2300A	-	1	4.87	4990	170	<0.5	<5	4.31 >	>100	27	132	2767	5.54	1.46	2.97	840	2 0	).70	91	340	156	114	82	0.06	150	<10	738
	RPD (%)		0	1	3	0	-	-	6	-	2	4	5	2	0	3	2	0	1	1	4	3	4	4	0	0	-	6

RPD = Relative percent difference RE = Laboratory replicate analysis

# Table 5 QA/QC Table - ABA Analyses Miramar Giant Mine

### **QAQC**

		ROCK	PASTE	S(T)	S(SO4)	AP	NP	NET	NP/AP	CARBONATE
	SAMPLE	TYPE	рН	%	%			NP		NP
	OPB1-04-2200	schist	9.0	0.66	<0.01	20.6	166.3	145.6	8.1	171.7
	OPB1-04-A	schist	8.9	0.92	<0.01	28.8	272.5	243.8	9.5	301.7
	RPD (%)		1	33	-	33	48	50	16	55
υ	OPB4-01-2200	andesite	9.1	0.08	<0.01	2.5	176.3	173.8	70.5	167.5
8	OPB4-01-A	andesite	9.0	0.10	<0.01	3.1	131.9	128.8	42.2	125.8
Pit Rocks	RPD (%)		1	22	-	22	29	30	50	28
<u>e</u>	OPA1-06-2100	schist	9.0	0.18	<0.01	5.6	149.1	143.4	26.5	147.5
Open I	OPA1-06-2100 RE	schist	8.9	0.18	<0.01	5.6	141.6	135.9	25.2	148.3
ŏ	RPD (%)		1	0	-	0	5	5	5	1
	OPB3-02-2200	schist	8.9	0.01	<0.01	0.3	117.8	117.5	377.0	121.7
	OPB3-02-2200 RE	schist	8.9	0.01	<0.01	0.3	117.5	117.2	376.0	120.8
	RPD (%)		0	0	-	0	0	0	0	1
	WR-OPA2-03-2300	andesite	9.1	0.17	<0.01	5.3	157.2	151.9	29.6	155.0
	WR-OPA2-03-A	andesite	9.5	0.06	<0.01	1.9	30.0	28.1	16.0	25.0
×	RPD (%)		4	96	-	96	136	138	60	144
∣ĕ	WR-OPC1-01-2300	andesite	9.3	0.58	<0.01	18.1	42.0	23.9	2.3	33.3
l R	WR-OPC1-01-A	andesite	9.1	0.10	<0.01	3.1	65.3	62.1	20.9	56.7
Waste Rock	RPD (%)		2	141	-	141	43	89	160	52
>	WR-OPC1-01-2300	andesite	9.3	0.58	<0.01	18.1	42.0	23.9	2.3	33.3
	WR-OPC1-01-2300 RE	andesite	9.2	0.58	<0.01	18.1	43.5	25.4	2.4	34.2
	RPD (%)		1	0	-	0	4	6	4	2
	TSPO2-2300	-	8.8	0.21	0.02	5.9	208.1	202.2	35.1	226.7
	TSPO2-2300A	-	8.7	0.19	0.02	5.3	202.5	197.2	38.1	223.3
	RPD (%)		1	10	-	11	3	3	8	1
	TNPO1-2300	-	8.3	1.41	1.14	8.4	170.9	162.5	20.3	184.2
	TNPO1-2300A	-	8.3	1.26	0.98	8.8	170.0	161.3	19.4	180.8
	RPD (%)		0	11	-	4	1	1	4	2
Sgu	TSPO1-2300	-	8.2	0.51	0.06	14.1	213.8	199.7	15.2	237.5
Tailings	TSPO1-2300 RE	-	8.4	0.54	0.06	15.0	218.1	203.1	14.5	236.7
🖺	RPD (%)		2	6	-	6	2	2	4	0
	TSPO2-2300A	-	8.7	0.19	0.02	5.3	202.5	197.2	38.1	223.3
	TSPO2-2300A RE	-	8.6	0.19	0.02	5.3	202.5	197.2	38.1	224.2
	RPD (%)		1	0	-	0	0	0	0	0
1	T-NW-01-2600-01	-	8.5	0.33	0.02	9.7	218.1	208.4	22.5	240.0
	T-NW-01-2600-01 RE	-	8.4	0.34	0.02	10.0	218.4	208.4	21.8	240.8
	RPD (%)		1	3	-	3	0	0	3	0

RPD = Relative percent difference RE = Laboratory replicate analysis

## Chemical Results for Open Pit Sediments Miramar Giant Mine

Open Pit Location			A-1	B-1	B-2
Lab ID	CCME	CCME	L14671-39	L14671-40	L14671-41
Sample ID	Guidelines	Guidelines	OP-A1-SE-2100	OP-B1-SE-01-2200	SE-OPB2-01-2300
Depth (m)	for	for	0.1	0.1	0.1
Date Sampled		Industrial	21-Jul-00	22-Jul-00	23-Jul-00
QA/QC	Land Use	Land Use			
Water Soluble Arsenic					
Total Soluble Arsenic (mg/L)			-	-	-
Total Soluble Arsenic (mg/kg)			-	-	-
Ammonia-N			<1	<1	<1
Antimony			<0.1	2.4	11.2
Mercury	6.6	50	0.05	0.05	0.05
Oil - Gravimetric			200	100	<100
Sulphate (SO4)			258	269	1900
рН			7.1	7.5	7.7
Metals (Strong Acid Rec.)					
Silver			<1	<1	<1
Aluminum			6970	5230	4990
Arsenic (Total)	12	12	101	1200	2070
Barium	500	2000	228	22.9	16.6
Beryllium			<1	<1	<1
Calcium			5900	38800	40800
Cadmium	10	22	<0.5	<0.5	1.9
Cobalt			13	9	24
Chromium	64	87	56.7	33	39.3
Copper	63	91	31	28	85
Iron			25300	25800	38300
Potassium			3920	900	1010
Magnesium			10100	16700	17500
Manganese			330	800	790
Molybdenum			<1	<1	<1
Sodium			700	200	200
Nickel	50	50	36	27	58
Phosphorus			440	280	240
Lead	140	600	12	59	240
Tin	·		<5	<5	<5
Strontium			44	28	23
Titanium			715	120	193
Thallium	1	1	<1	<1	<1
Vanadium	130	130	50	39	43
Zinc	200	360	63.2	80	337

#### Notes:

<sup>1.</sup> Results are expressed in milligrams per kilograms (mg/kg), except for soluble arsenic concentration expressed in mg/L.

<sup>2.</sup> Chromium guidelines are for total chromium. Cr(VI) guidelines are 0.4 mg/kg for Res/Park land use, and 1.4 mg/kg for industrial land use. No Cr(III) guidelines exist.

SEPTEMBER 2001

# TABLE 7 ASBESTOS CHARACTERIZATION RESULTS

002-2418

SAMPLE DESCRIPTION	MATERIAL	ASBESTOS	ASBESTOS
	TESTED	CONTENT (%)	TYPE
P110-CS-01-07/00-AB	SIDING	75-100	CHRYSOTILE
P110-CS-04-07/00-AB	INSULATION	75-100	CHRYSOTILE
P142-CS-06-07/00-AB	INSULATION	75-100	AMOSITE
P134-CS-08-07/00-AB	INSULATION	75-100	CHRYSOTILE
P134-CS-10-07/00-AB	SIDING	25-50	CHRYSOTILE

SEPTEMBER 2001

# TABLE 8 ARSENIC AND RESIDUAL GOLD VALUES

002-2418

SAMPLE DESCRIPTION	TOTAL ARSENIC (MG/KG)	GOLD (MG/KG)	MATERIAL TESTED
P110-CC-02-07/00-AS,AU	80	6	CONCRETE
P110-CS-03-07/00-AS,AU	766	15	WOOD
P142-CC-05-07/00-AS,AU	20	4	CONCRETE
P142-CS-07-07/00-AS,AU	6	24	WOOD
P134-CC-09-07/00-AS,AU	15	34	CONCRETE
P106-CS-11-07/00-AS,AU	158	195	WOOD
P106-CC-12-07/00-AS,AU	9	4	CONCRETE
P106-SD-13-07/00-AS,AU	606	47	RESIDUE
P106-CS-14-07/00-AS,AU	3	<1	WOOD
P101-CS-15-07/00-AS,AU	4	<1	WOOD
P101-CC-16-07/00-AS,AU	0.1	18	CONCRETE

# Acid Base Accounting Results - Tailings Miramar Giant Mine

CLIENT : GOLDER ASSOCIATES PROJECT : GIANT YELLOWKNIFE

PROJECT # : 0033

TEST: MODIFIED SOBEK METHOD ACID-BASE ACCOUNTING

SAMPLE	SAMPLE	PASTE	S(T)	S(SO4)	AP	NP	NET	NP/AP	CARBONATE
	DEPTH (m)	pН	%	%			NP		NP*
South Tailings Pond									
TSPO1-2300	0.5	8.2	0.51	0.06	14.1	213.8	199.7	15.2	237.5
TSPO1-2300 RE	0.5	8.4	0.54	0.06	15.0	218.1	203.1	14.5	236.7
TSPO2-2300	0.5	8.8	0.21	0.02	5.9	208.1	202.2	35.1	226.7
TSPO2-2300A	0.5	8.7	0.19	0.02	5.3	202.5	197.2	38.1	223.3
TSPO2-2300A RE	0.5	8.6	0.19	0.02	5.3	202.5	197.2	38.1	224.2
32711	1.4	8.2	0.30	0.02	9.4	211.1	201.7	22.5	insuf.
32713	3.5	8.1	0.35	0.02	10.9	208.3	197.4	19.1	insuf.
32719	8.5	8.2	0.67	0.02	20.9	228.1	207.1	10.9	insuf.
32724	12.8	8.2	0.39	0.02	12.2	217.7	205.5	17.8	insuf.
32730	16.8	8.2	0.43	0.02	13.4	216.1	202.7	16.1	insuf.
Central Tailings Pond									
TCPO1-2300	0.1	8.6	0.51	0.02	15.3	226.9	211.6	14.8	248.3
TCPO2-2300-02	0.1	8.4	0.27	0.04	7.2	212.5	205.3	29.6	233.3
TCPO3-2300	0.1	8.3	0.95	0.74	6.6	218.1	211.6	33.2	246.7
32761	1.1	8.0	0.46	0.02	14.4	221.1	206.8	15.4	insuf.
32763	3.0	8.0	0.32	0.08	10.0	213.7	203.7	21.4	insuf.
32769	7.9	8.1	0.64	0.02	20.0	225.3	205.3	11.3	insuf.
32777	14.0	8.2	0.69	0.02	21.6	168.3	146.7	7.8	insuf.
32787	19.5	7.2	0.23	0.02	7.2	234.1	226.9	32.5	insuf.
North Tailings Pond									
TNPO1-2300	0.05	8.3	1.41	1.14	8.4	170.9	162.5	20.3	184.2
TNPO1-2300A	0.05	8.3	1.26	0.98	8.8	170.0	161.3	19.4	180.8
TNPO2-2300	0.5	8.4	0.24	0.14	3.1	197.5	194.4	63.2	211.7
TNPO3-2300	0.5	8.4	0.22	0.14	2.5	173.8	171.3	69.5	180.8
TNPO4-2300	0.5	8.4	0.34	0.12	6.9	192.5	185.6	28.0	220.0
1 <sup>st</sup> hole									
32951	0.8	8.1	0.60	0.02	18.8	208.9	190.2	11.1	insuf.
32953	2.3	8.2	0.52	0.02	16.3	211.3	195.1	13.0	insuf.
32957	5.3	8.1	0.38	0.02	11.9	196.4	184.5	16.5	insuf.
32964	9.8	8.1	0.61	0.02	19.1	191.6	172.5	10.0	insuf.
2 <sup>nd</sup> hole			0.0.	0.02					
33001	0.6	7.9	0.46	0.04	14.4	206.0	191.6	14.3	insuf.
33003	2.4	8.0	0.40	0.04	17.8	207.7	189.9	11.7	insuf.
33006	4.6	7.9	0.69	0.02	21.6	189.8	168.2	8.8	insuf.
33011	8.0	8.0	0.09	0.02	21.0	193.4	171.6	8.8	insuf.
Northwest Tailings Pond	0.0	0.0	0.70	0.02	21.3	133.4	171.0	0.0	ilisui.
T-NW-01-2600-01	0.1 - 0.5	8.5	0.33	0.02	9.7	218.1	208.4	22.5	240.0
T-NW-01-2600-01 RE	0.1 - 0.5	8.4	0.33	0.02	10.0	218.4	208.4	21.8	240.8
T-NW-01-2600-01 RE	0.1 - 0.5	8.5	0.34	0.02	8.1	218.4 165.0	208.4 156.9	20.3	240.8 177.5
T-NW-01-2600-03	1.1 - 1.5	8.8	0.30		5.9	124.1	118.1	20.3	120.8
	I			<0.01					
T-NW-01-2600-04	1.6 - 2.0	8.8	0.36	<0.01	11.3	111.6	100.3	9.9	119.2
T-NW-01-2600-05	3.6 - 4.0	9.0	1.05	<0.01	32.8	166.6	133.8	5.1	169.2

AP = ACID POTENTIAL IN TONNES CaCO3 EQUIVALENT PER 1000 TONNES OF MATERIAL.

 $<sup>\</sup>mathsf{NP} \ = \ \mathsf{NEUTRALIZATION} \ \mathsf{POTENTIAL} \ \mathsf{IN} \ \mathsf{TONNES} \ \mathsf{CaCO3} \ \mathsf{EQUIVALENT} \ \mathsf{PER} \ \mathsf{1000} \ \mathsf{TONNES} \ \mathsf{OF} \ \mathsf{MATERIAL}.$ 

NET NP = NET NEUTRALIZATION POTENTIAL = TONNES CaCO3 EQUIVALENT PER 1000 TONNES OF MATERIAL.

NOTE: WHEN S(T) AND/OR S(SO4) IS REPORTED AS <0.01, IT IS ASSUMED TO BE ZERO FOR THE AP CALCULATION.

 $<sup>^{\</sup>star}$  CARBONATE NP CALCULATED FROM TOTAL INORGANIC CARBON (TIC) ASSAY.

RE = REPLICATE; Insuf. = INSUFFFICIENT SAMPLE.

Tailings and Water Treatment Sludge Chemical Analysis Miramar Giant Mine

TEST : METAL SCAN BY ICP (MULTI-ACID DIGESTION) PLUS ARSENIC AND ANTIMONY ASSAYS

	Sample	Ag	Al	As	Ва	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Мо	Na	Ni	Р	Pb	Sb	Sr	Ti	V	W	Zn
SAMPLE ID	Depth (m)	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
South TCA																											
TSPO1-2300	0.5	2	3.90	2610	140	< 0.5	25	4.83	63	32	87	50	6.53	1.17	2.45	1010	2	0.87	67	300	170	129	57	0.04	132	<10	196
TSPO2-2300	0.5	1	5.39	1890	150	< 0.5	10	5.38	49	21	134	51	6.24	1.40	2.80	1050	<2	0.61	57	480	150	181	66	0.06	178	<10	214
TSPO2-2300A	0.5	1	5.98	1760	170	< 0.5	<5	5.40	45	20	148	56	6.36	1.59	2.89	1060	2	0.83	52	480	148	157	72	0.07	194	<10	222
32711	1.4	2.3	1.65	2485	75	-	10	3.00	<1	35	109	69	5.80	0.69	0.46	1177	3	0.03	63	430	304	590	37	0.05	176	<10	267
32711	1.4	2.3	1.56	2440	60	-	15	3.06	<1	36	104	71	5.84	0.68	0.35	1226	3	0.02	67	430	322	635	31	0.05	170	<10	277
32713	3.5	2.2	1.87	2285	70	-	15	2.37	<1	34	105	78	5.55	0.71	0.51	1109	4	< 0.01	63	350	260	285	28	0.03	173	<10	358
32719	8.5	12.2	0.61	2990	60	-	25	3.01	<1	51	58	71	6.42	0.53	0.72	1108	3	< 0.01	73	240	198	270	27	0.04	106	<10	378
32724	12.8	1.5	2.35	2700	70	-	15	2.43	<1	26	105	53	4.64	0.79	0.57	1066	3	<0.01	51	280	214	390	30	0.03	182	<10	214
32730	16.8	3.8	1.39	2295	60	-	20	2.34	3	35	102	73	5.49	0.67	0.44	1080	3	<0.01	57	330	204	245	24	0.04	152	<10	341
Central TCA																											
TCPO1-2300	0.1	1	4.35	3850	130	<0.5	10	5.29	96	36	104	63	6.54	1.11	2.60	1040	<2	0.60	71	400	318	309	61	0.05	139	<10	342
TCPO2-2300-02	0.1	1	5.99	3280	190	<0.5	5	5.28	83	24	133	70	6.41	1.73	2.93	1075	<2	0.78	62	430	332	274	72	0.06	191	<10	340
TCPO3-2300	0.1	1	4.76	2720	120	<0.5	<5	5.12	65	23	112	45	5.33	1.40	3.22	995	2	0.74	51	310	152	123	63	0.04	159	<10	232
32761	1.07	2.1	2.02	2635	70	-	15	2.65	<1	28	96	54	4.90	0.74	0.59	1054	3	<0.01	51	260	252	305	27	0.03	170	<10	307
32763	3.0	1.3	1.47	1995	60	-	20	2.42	<1	30	102	49	5.01	0.64	0.43	1078	3	<0.01	54	280	166	205	25	0.03	160	<10	346
32769	7.9	2.1	0.93	2550	55	-	10	2.89	<1	44	86	58	5.63	0.56	0.58	1105	4	<0.01	73	260	218	215	23	0.03	132	<10	312
32777	14.0	1.9	1.15	2665	50	-	15	2.41	<1	35	71	47	5.14	0.61	0.37	874	4	0.02	62	240	278	745	27	0.02	111	<10	351
32787	19.5	4.0	0.45	1325	55	-	10	3.03	<1	14	105	42	2.97	0.67	0.58	1121	4	0.02	27	240	94	120	26	0.03	106	<10	127
North TCA	0.05		4.04	47.40	470	0.5	_	4 74	400	00	4.40	05.47	F 70	4 45	0.40	070	0	0.74	00	200	450	407	07	0.00	454	40	074
TNPO1-2300 TNPO1-2300A	0.05 0.05	1 1	4.81 4.87	4740 4990	170 170	<0.5 <0.5	<5 <5	4.71 4.31	>100 >100	28 27	140 132	2547 2767	5.73 5.54	1.45 1.46	3.10 2.97	870 840	2 2	0.71 0.70	92 91	360 340	150 156	107 114	87 82	0.06 0.06	151 150	<10 <10	674 738
TNPO2-2300A	0.5		6.41	2430	160	<0.5	<5	4.47	61	20	186	103	5.56	1.88	3.49	905	<2	0.70	56	380	162	66	55	0.05	220	<10	224
TNPO3-2300	0.5	<1	7.29	2550	200	<0.5	<5	4.34	65	21	201	93	6.41	1.93	3.59	930	<2	0.68	71	380	170	46	60	0.07	247	<10	388
TNPO4-2300	0.5	1	5.01	3130	130	< 0.5	<5	4.95	81	30	126	114	6.34	1.34	3.02	985	<2	0.54	72	350	222	99	52	0.04	171	<10	416
32951	0.8	1.6	1.83	3410	95	-	15	3.68	<1	40	125	61	6.01	0.70	0.83	1209	5	0.01	66	360	194	295	39	0.04	161	<10	283
32953	2.3	1.7	1.66	2945	80	-	15	3.49	<1	41	113	84	6.03	0.67	0.69	1192	5	0.01	74	360	200	320	35	0.04	155	<10	323
32957	5.3	2.1	3.24	2095	120	-	15	3.75	<1	29	127	40	4.94	0.74	0.93	1015	3	< 0.01	54	340	326	295	39	0.03	191	<10	497
32964	9.8	6.5	1.92	2615	90	-	20	3.44	<1	41	102	60	5.83	0.68	0.85	1026	3	0.01	74	300	268	370	33	0.05	156	<10	348
33001	0.6	1.3	1.84	2460	85	_	15	3.67	<1	40	108	55	5.84	0.66	0.71	1107	4	0.01	66	320	188	270	42	0.04	159	<10	301
33003	2.4	1.7	2.01	2690	90	_	10	3.58	<1	43	111	84	6.14	0.66	0.74	1044	4	<0.01	81	310	240	260	33	0.04	158	<10	397
33006	4.6	2.4	1.42	3545	85	-	20	2.81	<1	56	101	68	7.48	0.60	0.75	977	5	<0.01	95	240	368	560	25	0.03	142	<10	416
33011	8.0	2.6	1.27	3505	90	-	25	2.87	<1	59	97	67	7.66	0.62	0.71	1032	6	< 0.01	99	260	404	600	30	0.03	138	<10	454
Northwest TCA																											
T-NW-01-2600-01	0.1 - 0.5	1	4.60	3340	120	<0.5	<5	5.91	93	32	109	72	6.66	1.14	2.92	1115	<2	0.73	70	340	274	351	69	0.07	154	<10	272
T-NW-01-2600-02	0.6 - 1.0	1	5.42	2110	120	<0.5	<5	5.11	57	29	165	88	6.69	0.87	2.88	1105	<2	0.98	70	520	146	150	104	0.19	159	<10	196
T-NW-01-2600-03	1.1 - 1.5	<1	6.22	338	110	<0.5	<5	4.35	10	38	131	144	8.47	0.52	3.68	1165	<2	0.92	75	580	26	29	109	0.31	220	<10	122
T-NW-01-2600-04	1.6 - 2.0	<1	6.71	543	170	<0.5	<5	4.28	16	37	146	159	8.44	0.87	3.67	1115	<2	1.14	78	620	44	27	105	0.27	221	<10	126
T-NW-01-2600-05	3.6 - 4.0	<1	7.16	3220	190		<5		86	32	235		6.66			850	<2	0.50	80	540	12	14	59	0.10	237	<10	72
Sludge																											
SL-SE-01-2300	0.1	26	0.68	42300	60	<0.5	10	10.35	<b>~100</b>	61	າາ	>10000	<b>-15</b> 00	0.20	0.50	1000	28	0.14	2286	550	86	5300	566	0.06	44	<10	240
SL-SE-02-2300	0.1	5		10500				>15.00				>10000					6		566	350		758	235	0.05	67		340 184
SL-SE-UZ-Z3UU	J U.1	1 5	2.21	10500	150	<0.5	<0	>10.00	>100	21	4/	>10000	5.44	0.55	2.02	765	0	0.47	000	350	86	/58	235	0.05	07	<10	184
Fire Assay Results		SiO2	Al2O3	Fe2O3		_		K20	TiO2	MnO	P205	Ва	Sr	Zr	Υ	Sc	LOI	Total									
		%	%	%	%	%	%	%	%	%	%	ppm	ppm	nnm	nnm	ppm	%	%									

Fire Assay Results		SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K20	TiO2	MnO	P2O5	Ва	Sr	Zr	Υ	Sc	LOI	Total
		%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	%	%
SL-SE-01-2300	-	13.69	1.55	41.79	5.68	1.56	0.05	0.38	0.02	0.98	3.58	2880	90	40	40	2	30.05	99.62
SL-SE-02-2300	-	20.83	4.62	8.55	29.84	4.70	0.68	0.69	0.30	0.12	0.23	120	270	40	10	10	27.80	98.40

# Tailings Leachate Extraction Chemical Analysis Miramar Giant Mine

## **LEACHATE ANALYSIS BY ICP**

SAMPLE ID	Sample Depth	D.I. Water Volume	Sample Weight	рН	Cond.	Alkalinity	Acidity (pH 4.5)	Acidity (pH 8.3)	SO4	Ag	AI	As	В	Ва	Be	Bi	Ca	Cd	Со	Cr	Cu	Fe
00115 0 1111111111111111111111111111111	(m)	(ml)	(g)		(uS/cm)	(mg CaCO3/L)	(mg Ca	aCO3/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
CCME Guidelines for													_									
Surface Water									-	-	-	0.025	5	1	-	-	-	0.005	-	0.05	1	0.3
Permit Maximum Average																						
Concentration									-	-	-	0.50	-	-	-	-	-	-	-	-	0.30	-
Permit Maximum																						
Concentration of any Grab												4.00									0.00	
Sample									-	-	-	1.00	-	-	-	-	-	-	-	-	0.60	-
South TCA	0.5	400	000	7.00	004	00.0	0.0			0.04				0.04				0.04	0.04	0.04	0.04	0.44
TSPO2-2300	0.5	400	200	7.96	361	63.0	0.0	1.5	114	<0.01	<0.2	1.4	<0.1	<0.01	<0.005	<0.1	50.7	<0.01	0.01	<0.01	<0.01	0.14
32711	1.4	123	41	8.13	710	n/a	n/a	n/a	213	<0.01	<0.2	10.3	0.1	<0.01	< 0.005	<0.1	94.6	< 0.02	0.04	<0.01	0.02	0.20
32713	3.5	186	62	7.98	815	79.0	n/a	n/a	335	<0.01	<0.2	1.6	<0.1	<0.01	<0.005	<0.1	128	<0.01	0.03	<0.01	0.03	0.26
32724	12.8	156	52	8.07	729	81.0	n/a	n/a	248	<0.01	<0.2	2.6	<0.1	<0.01	<0.005	<0.1	86.5	<0.01	0.02	<0.01	0.02	0.40
Central TCA																						
TCPO1-2300	0.1	400	200	8.00	307	59.0	0.0	1.5	100	<0.01	<0.2	0.6	<0.1	<0.01	<0.005	<0.1	49.3	<0.01	0.02	<0.01	0.01	0.05
32761	1.1	196	98	7.83	2150	61.0	n/a	n/a	2170	<0.01	<0.2	2.5	<0.1	0.01	<0.005	<0.2	619	<0.01	0.05	<0.01	0.03	0.23
32763	3.0	83	41.3	7.76	1400	n/a	n/a	n/a	n/a	<0.01	<0.2	0.61	<0.1	0.01	<0.005	<0.1	424	<0.01	0.05	<0.01	0.03	0.62
32777	14.0	182	91	8.20	544	86.0	n/a	n/a	196	<0.01	<0.2	1.5	<0.1	<0.01	<0.005	<0.1	67.0	<0.01	<0.01	<0.01	0.03	0.18
North TCA																						
TNPO1-2300	0.05	400	200	7.95	4200	62.0	0.0	4.5	5220	< 0.02	<0.4	9.5	<0.2	0.04	<0.01	<3	446	< 0.02	0.11	<0.02	0.14	0.1
TNPO1-2300A	0.05	400	200	7.87	4720	61.5	0.0	5.0	6370	<0.02	<0.4	10	<0.2	0.03	<0.01	<3	368	<0.02	0.14	<0.02	0.18	0.09
TNPO3-2300	0.50	400	200	7.93	1055	43.5	0.0	2.0	667	<0.01	<0.2	0.3	<0.1	<0.01	<0.005	<0.1	171	<0.01	0.01	<0.01	0.01	0.05
32951	0.8	152	76	8.20	749	90.0	n/a	n/a	230	< 0.01	< 0.2	0.9	<0.1	<0.01	< 0.005	<0.1	78.9	< 0.01	0.05	< 0.01	0.03	0.39
32953	2.3	180	90	8.27	536	99.0	n/a	n/a	134	< 0.01	< 0.2	0.9	0.1	< 0.01	< 0.005	<0.1	51.6	< 0.01	0.05	< 0.01	0.03	0.43
32964	9.8	210	105	8.20	607	92.0	n/a	n/a	212	<0.01	< 0.2	1.2	<0.1	<0.01	< 0.005	<0.1	73.2	< 0.01	0.02	< 0.01	0.04	0.14
33001	0.6	184	92	7.93	1590	58.0	n/a	n/a	1300	<0.01	<0.2	1.0	0.2	0.01	< 0.005	<0.1	405	< 0.01	0.06	< 0.01	0.04	0.14
33003	2.4	130	65	8.10	915	74.0	n/a	n/a	411	<0.01	<0.2	0.56	<0.1	<0.01	< 0.005	<0.1	135	<0.01	0.04	<0.01	0.07	0.22
33011	8.0	130	65	8.09	784	76.0	n/a	n/a	331	<0.01	<0.2	0.55	<0.1	<0.01	< 0.005	<0.1	106	<0.01	0.02	<0.01	0.02	0.08
Northwest TCA	0.0			0.00			, 🗠	.,,		10.01	10.2	<u> </u>	10	10.0	10.000	10		10.0.	0.02	10.0	0.02	0.00
T-NW-01-2600-01	0.1 - 0.5	400	200	8.03	486	60.0	0.0	2.0	130	<0.01	<0.2	1.3	<0.1	<0.01	<0.005	<0.1	58.3	<0.01	0.03	<0.01	0.01	0.04
T-NW-01-2600-03	1.1 - 1.5	365	183	8.07	280	58.0	0.0	2.0	70	<0.01	<0.2	0.3	<0.1	<0.01	< 0.005	<0.1	45.2	<0.01	<0.01	<0.01	0.01	<0.03
T-NW-01-2600-05	3.6 - 4.0	125	62	8.20	254	75.0	n/a	n/a	57	<0.01	<0.2	<0.2	0.2	<0.01	<0.005	<0.1	42.7	<0.01	<0.01	<0.01	0.01	<0.03
	0.0 1.0	1.20	J.L	0.20		10.0	1,,0	1.70		10.01	10.L	10.L	0,2	40.01	40.000	10.1	12.1	40.01	10.01	40.01	0.01	10.00
Sludges	0.40	2000	4000	7 75	4000	40.5	0.0	4.0	F00	0.04	.0.0	0.04	0.7	0.40	.0.005	.0.4	474	.0.04	0.05	.0.04	0.00	4 74
SL-SE-01, L1	0.10	2000	1000	7.75	1200	43.5	0.0	4.0	503	0.01	< 0.2	0.04	0.7	0.12	< 0.005	<0.1	171	< 0.01	0.65	< 0.01	0.29	1.74
SL-SE-01, L2				7.90	820	50.5	0.0	3.0	412	< 0.01	<0.2	0.088	0.7	0.05	< 0.005	<0.1	129	< 0.01	0.50	< 0.01	0.09	0.64
SL-SE-01, L3	0.40	2000	1000	7.78	564 5740	53.0	0.0	3.3	282	< 0.01	<0.2	0.106	0.6	0.03	< 0.005	<0.1	88.8	< 0.01	0.29	<0.01	0.08	0.18
SL-SE-02, L1	0.10	2000	1000	11.90	5740	1135.0	0.0	0.0	1100	0.01	0.4	0.6	0.2	0.10	< 0.005	<0.1	912	< 0.01	0.47	0.02	1.22	< 0.03
SL-SE-02, L2				11.85	4730	932.0	0.0	0.0	282	< 0.01	0.4	0.0063	<0.1	0.09	< 0.005	<0.1	481	< 0.01	0.09	< 0.01	0.37	<0.03
SL-SE-02, L3				11.70	3450	818.0	0.0	0.0	176	<0.01	0.5	0.3	<0.1	0.10	<0.005	<0.1	430	<0.01	0.05	<0.01	0.29	<0.03

# Tailings Leachate Extraction Chemical Analysis Miramar Giant Mine

# **LEACHATE ANALYSIS BY ICP**

	Sample																		
SAMPLE ID	Depth (m)	K mg/L	Li mg/L	Mg mg/L	Mn mg/L	Mo mg/L	Na mg/L	Ni mg/L	P mg/L	Pb mg/L	Sb mg/L	Se mg/L	Si mg/L	Sn mg/L	Sr mg/L	Ti mg/L	TI mg/L	V mg/L	Zn mg/L
CCME Guidelines for								<u>_</u>		<u>_</u>		<u>_</u>	<u>_</u>				<u>J</u> -	<u>J</u> -	
Surface Water		-	-	-	0.05	-	-	-	-	0.01	0.006	-	-	-	-	-	-	-	5
Permit Maximum Average																			
Concentration		-	-	-	-	-	-	0.50	-	0.20	-	-	-	-	-	-	-	-	0.20
Permit Maximum																			
Concentration of any Grab																			
Sample		-	-	-	-	-	-	1.00	-	0.40	-	-	-	-	-	-	-	-	0.40
South TCA																			
TSPO2-2300	0.5	5	<0.01	13.0	0.026	< 0.03	18	< 0.05	< 0.3	< 0.05	2.2	<0.2	1.19	< 0.03	0.228	<0.01	<0.2	< 0.03	0.005
32711	1.4	24	0.01	23.2	0.022	0.04	32	< 0.05	<0.3	< 0.05	6.6	<0.2	2.44	< 0.03	0.294	<0.01	<0.2	< 0.03	0.008
32713	3.5	19	0.01	29.3	0.041	0.03	29	< 0.05	< 0.3	< 0.05	2.2	<0.2	2.24	< 0.03	0.404	<0.01	<0.2	< 0.03	0.008
32724	12.8	20	0.01	29.7	0.023	<0.03	31	<0.05	<0.3	<0.05	3.6	<0.2	2.61	<0.03	0.318	<0.01	<0.2	<0.03	0.007
Central TCA																			
TCPO1-2300	0.1	3	<0.01	8.7	0.027	<0.03	13	<0.05	<0.3	<0.05	1.1	<0.2	0.76	<0.03	0.132	<0.01	<0.2	<0.03	<0.005
32761	1.1	47	<0.01	171	0.137	0.06	133	<0.05	<0.3	< 0.05	1.1	<0.2	3.01	<0.03	1.33	<0.01	<0.2	< 0.03	0.012
32763	3.0	35	<0.01	47.4	0.081	<0.03	35	<0.05	<0.3	< 0.05	0.8	<0.2	2.22	<0.03	0.777	<0.01	<0.2	<0.03	0.015
32777	14.0	32	<0.01	20.6	0.015	0.06	20	<0.05	<0.3	<0.05	5.0	<0.2	2.31	<0.03	0.066	<0.01	<0.2	<0.03	<0.005
North TCA	0.05		0.05	4440	0.450	0.00	<b>540</b>	0.4	0.0	0.4	0.0	0.4	4.40	0.00	0.04	0.00	0.4	0.00	0.000
TNPO1-2300 TNPO1-2300A	0.05	66	0.05	1140	0.150	0.20	510	<0.1	< 0.6	< 0.1	0.9	< 0.4	1.40	< 0.06	2.31	< 0.02	< 0.4	< 0.06	0.060
TNPO3-2300A	0.05	80	0.05	1450	0.17	0.25	638	<0.1	< 0.6	< 0.1	1	<0.4	1.40	< 0.06	1.98	< 0.02	< 0.4	< 0.06	0.109
	0.50	6	<0.01	53.4	0.055	<0.03	19	<0.05	<0.3	<0.05	<0.2	<0.2	1.42	<0.03	0.49	<0.01	<0.2	<0.03	0.005
32951	0.8	29	<0.01	30.9	0.031	< 0.03	34	<0.05	<0.3	< 0.05	1.1	<0.2	2.08	<0.03	0.246	<0.01	<0.2	< 0.03	<0.005
32953	2.3	29	<0.01	22.8	0.018	< 0.03	24	< 0.05	<0.3	< 0.05	1.1	<0.2	2.05	< 0.03	0.162	<0.01	<0.2	< 0.03	<0.005
32964	9.8	24	<0.01	24.1	0.019	<0.03	30	<0.05	<0.3	< 0.05	1.7	<0.2	2.37	<0.03	0.129	<0.01	<0.2	< 0.03	<0.005
33001	0.6	31	< 0.01	72.3	0.101	0.04	97	< 0.05	< 0.3	< 0.05	1.2	< 0.2	2.66	< 0.03	1.20	< 0.01	< 0.2	< 0.03	0.008
33003	2.4	35	<0.01	30.0	0.030	< 0.03	29	< 0.05	< 0.3	< 0.05	0.4	<0.2	2.01	< 0.03	0.325	< 0.01	<0.2	< 0.03	<0.005
33011	8.0	28	<0.01	31.6	0.024	0.04	22	<0.05	<0.3	<0.05	1.1	<0.2	2.14	< 0.03	0.228	<0.01	<0.2	<0.03	<0.005
Northwest TCA																			
T-NW-01-2600-01	0.1 - 0.5	6	<0.01	13.5	0.060	< 0.03	31	<0.05	<0.3	<0.05	1.6	<0.2	0.84	< 0.03	0.154	<0.01	<0.2	< 0.03	<0.005
T-NW-01-2600-03	1.1 - 1.5	3	<0.01	5.7	0.054	< 0.03	8	< 0.05	<0.3	< 0.05	0.2	<0.2	0.61	< 0.03	0.194	<0.01	<0.2	< 0.03	<0.005
T-NW-01-2600-05	3.6 - 4.0	3	<0.01	7.0	0.022	<0.03	6	<0.05	<0.3	<0.05	<0.2	<0.2	1.15	<0.03	0.168	<0.01	<0.2	<0.03	<0.005
Sludges																			
SL-SE-01, L1	0.10	9	0.01	34.6	0.159	0.12	79	0.07	< 0.3	< 0.05	0.6	<0.2	1.18	< 0.03	1.90	<0.01	<0.2	< 0.03	0.273
SL-SE-01, L2		7	0.01	26.3	0.101	0.14	41	0.06	< 0.3	< 0.05	0.6	<0.2	1.20	< 0.03	1.48	<0.01	<0.2	< 0.03	0.111
SL-SE-01, L3		6	<0.01	18.5	0.056	0.14	18	< 0.05	< 0.3	< 0.05	0.6	<0.2	1.12	< 0.03	1.01	<0.01	<0.2	< 0.03	0.109
SL-SE-02, L1	0.10	75	0.03	<0.1	<0.005	0.07	447	< 0.05	< 0.3	< 0.05	<0.2	<0.2	0.30	< 0.03	3.51	<0.01	<0.2	< 0.03	0.013
SL-SE-02, L2		32	0.02	<0.1	< 0.005	< 0.03	166	< 0.05	< 0.3	< 0.05	< 0.2	<0.2	0.29	< 0.03	2.09	<0.01	< 0.2	< 0.03	0.045
SL-SE-02, L3		14	0.02	0.10	<0.005	< 0.03	65	<0.05	<0.3	<0.05	<0.2	<0.2	0.35	<0.03	1.45	<0.01	<0.2	< 0.03	0.017

# Groundwater Analytical Results-Dissolved Metals Miramar Giant Mine

		Easting	636191	636191	635969	636098	636098	637310
		Northing	6934689	6934689	6934326	6935537	6935537	6934220
		Lab ID	L14821-6	L14821-7	L14821-4	L14821-2	L14821-3	L14821-8
		Sample ID	MW00-01	MW00-01A	MW00-2	MW00-3A	MW00-3B	MW00-4A
PARAMETERS	l	Depth (m)	8.5	8.5	22.7	8.5	16.5	8.5
	Dat	e Sampled	1-Aug-00	1-Aug-00	1-Aug-00	1-Aug-00	1-Aug-00	1-Aug-00
		QA/QC		FD				
Routine Parameters	00 0000	UNITS	115	115	205	107 E	167 F	200
Alkalinity (total field)	as CaCO <sub>3</sub>	mg/L	115	115	205	187.5	167.5	200
Alkalinity (bicarbonate)	HCO <sub>3</sub>	mg/L	155	153	280	251	217	269
Alkalinity (carbonate)	CO <sub>3</sub>	mg/L	<5	<5	<5	<5	<5	<5
Alkalinity (hydroxide)	ОН	mg/L	<5	<5	<5	<5	<5	<5
Alkalinity (total as CaCO <sub>3</sub> )	as CaCO <sub>3</sub>	mg/L	127	126	229	206	178	220
Conductivity (field)	Cond	μS/cm	1624	1624	1170	1240	856	758
Conductivity (lab)	Cond	μS/cm	2040	2070	1530	1790	1260	972
Dissolved oxygen (field)	DO	mg/L	0.35	0.35	2.5	1.5	1.5	4.0
Hardness (as CaCO <sub>3</sub> )	Hard	mg/L	760	757	698	618	526	423
pH (field)	pН	pH units	7.95	7.95	7.72	7.45	7.58	7.80
pH (lab)	pΗ	pH units	7.8	7.8	7.7	7.5	7.7	7.7
Redox potential (field)	Eh_	mV	-79.0	-79.0	65.5	88	87.4	83.1
Temperature (field)	Temp	°C	9.5	9.5	6.5	4.3	3.3	6.5
Total dissolved solids	TDS	mg/L	1340	1350	1090	1190	863	693
Total suspended solids	TSS	mg/L	41	35	7540	2120	1830	3470
Anions								
Chloride	CI	mg/L	291	293	73	132	102	2
Sulphate	SO <sub>4</sub>	mg/L	511	519	548	544	378	337
Nutrients								
Nitrate+Nitrite (N)	N	mg/L	6.5	7.8	0.1	0.3	0.1	0.5
Amonia (N)	NH <sub>3</sub>	mg/L	3.34	3.59	3.17	1.26	0.78	0.18
Nitrate (N)	NO <sub>3</sub>	mg/L	5.7	7.1	0.1	0.3	0.1	<0.1
Nitrite (N)	NO <sub>2</sub>	mg/L	0.74	0.72	<0.05	<0.05	<0.05	<0.05
Hydrocarbons	1102	mg/L	0.74	0.72	<b>~0.03</b>	<0.00	<0.00	<b>VO.03</b>
Oil & Grease		mg/L	<1	<1	<1	<1	<1	<1
Dissolved Metals		mg/L		~1	~1	~1	~1	
Aluminum	Al	mg/L	0.02	0.01	0.09	0.32	0.14	0.20
Antimony	Sb	mg/L	1.80	1.81	0.124	0.0056	0.0183	0.0115
Arsenic 3+	As3+	mg/L	0.305	0.291	0.166	0.0042	< 0.0002	0.093
Arsenic 5+	As5+	mg/L	2.19	2.58	0.0010	0.0318	0.0267	0.0841
Total (diss.) Arsenic	As	mg/L	4.40	4.39	0.275	0.0748	0.0465	0.169
Barium	Ba	mg/L	0.014	0.014	0.053	0.044	0.061	0.013
Beryllium	Be	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Boron	В	mg/L	0.50	0.50	0.15	0.19	0.13	0.06
Cadmium	Cd	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Calcium	Ca	mg/L	218	217	167	156	133	88.1
Chromium	Cr	mg/L	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L	0.066	0.066	0.032	0.052	0.033	0.006
Copper	Cu	mg/L	0.015	0.014	0.002	0.003	0.005	0.015
Iron	Fe	mg/L	0.054	0.061	<0.005	1.23	0.067	0.289
Lead	Pb	mg/L	<0.005	<0.005	<0.005	<0.005	< 0.005	<0.005
Magnesium	Mg	mg/L	52.4	52.2	68.3	55.6	47.2	49.2
Manganese	Mn	mg/L	0.237	0.239	0.494	0.435	0.285	0.118
Melybdonum	Hg	mg/L	0.0014	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum Nickel	Mo Ni	mg/L mg/L	0.027 0.011	0.027 0.011	0.024 0.007	0.011 0.006	0.013 0.004	0.007 0.004
		-						
Phosphorus	P	mg/L	<0.1	<0.1	0.9	7.5	2.5	5.9
Potassium Silver	K Ag	mg/L mg/L	13.3 <0.005	13.3 <0.005	10.9 <0.005	11.5 <0.005	9.1 <0.005	4.3 <0.005
Sodium	Ag Na	mg/L	<0.005 148	<0.005 147	<0.005 83	163	<0.005 86	<0.005 78
Strontium	Sr	mg/L	2.04	2.09	1.43	1.63	1.42	0.357
Thallium	TI	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin	Sn	mg/L mg/L	<0.05 <0.05	< 0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05
Titanium	Ti	mg/L	< 0.001	< 0.001	< 0.001	0.010	< 0.001	0.006
Vanadium	V	mg/L	0.003	0.003	0.001	0.010	0.009	0.006
Zinc	Zn	mg/L	0.010	0.008	0.003	0.003	0.004	0.011
	<del></del>	J					-	-

No applicable groundwater quality criteria

#### Table 13 Groundwater Analytical Results-Total Metals Miramar Giant Mine

		Location			MW00-01	MW00-01	MW00-2	MW00-3A	MW00-3B	MW00-4A
		Easting	CCME GUID	FLINES	636191	636191	635969	636098	636098	637310
		Northing	WATER : CO		6934689	6934689	6934326	6935537	6935537	6934220
		Lab ID			L14821-6	L14821-7	L14821-4	L14821-2	L14821-3	L14821-8
		Sample ID	Maximum	Aesthetic	MW00-01	MW00-01A	MW00-2	MW00-3A	MW00-3B	MW00-4A
PARAMETERS		Depth (m)	Allowable	Objectives	8.5	8.5	22.7	8.5	16.5	8.5
	D:	ate Sampled	Concentration	0.5,0000	1-Aug-00	1-Aug-00	1-Aug-00	1-Aug-00	1-Aug-00	1-Aug-00
	-	QA/QC		(mg/L)	1 7 tug 00	FD	1 7 lug 00	1 7 tag 00	1 7 tag 00	17 lug 00
Total Metals		UNITS								
Aluminum	AI	mg/L	-	_	1.74	0.99	204	43.5	44.9	130
Antimony	Sb	mg/L	0.006	_	1.92	1.92	0.167	0.0031	0.0133	0.0127
Arsenic	As	mg/L	0.025	-	4.91	4.94	2.58	0.0811	0.0667	0.452
Barium	Ва	mg/L	1	-	0.020	0.017	1.10	0.740	0.520	0.627
Beryllium	Ве	mg/L	-	-	<0.002	<0.002	0.004	0.003	<0.002	0.002
Boron	В	mg/L	5	-	0.63	0.65	0.17	0.22	0.14	0.12
Cadmium	Cd	mg/L	0.005	-	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001
Chromium	Cr	mg/L	0.05	-	0.005	0.006	1.07	0.009	0.052	0.310
Cobalt	Co	mg/L	-	-	0.081	0.081	0.382	0.060	0.054	0.147
Copper	Cu	mg/L	-	1	0.028	0.027	0.745	0.021	0.092	0.437
Iron	Fe	mg/L	-	0.3	2.33	1.89	348	22.6	59.5	160
Lead	Pb	mg/L	0.01	-	0.015	0.014	0.111	0.053	0.035	0.038
Manganese	Mn	mg/L	-	0.05	0.314	0.310	8.21	0.963	1.93	3.87
Mercury	Hg	mg/L	0.001	-	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Molybdenum	Мо	mg/L	-	-	0.032	0.032	0.035	0.011	0.014	0.011
Nickel	Ni	mg/L	-	-	0.013	0.012	0.538	0.021	0.037	0.183
Phosphorus	P	mg/L	-	-	0.14	0.14	4.15	9.59	3.08	9.17
Silver	Ag	mg/L	-	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Strontium	Sr	mg/L	-	-	2.27	2.34	2.03	2.17	1.73	0.706
Thallium	TI	mg/L	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin	Sn	mg/L	-	-	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Titanium	Ti	mg/L	-	-	0.018	0.013	8.29	0.204	1.85	7.13
Vanadium	V	mg/L	-	-	0.010	0.008	1.01	0.030	0.149	0.532
Zinc	Zn	mg/L	-	5	0.025	0.026	0.520	0.125	0.158	0.348
Cyanide										
Total Cyanide	CN	mg/L	0.2	-	0.183	0.172	0.160	0.022	0.014	0.010
Charge Balance		٠,			404			400	404	404
Ion Balance		%	-	-	101	98.7	98.8	103	101	104

CCME guidelines for surface water; used for comparative purposes only.

# Groundwater and Surface Water Chemical Types Miramar Giant Mine

			Sampling	
Sample id	Location		date	Water type
BC-DS1	Baker Creek	downstream 1	9/19/2000	Ca-Na-SO4-CI
BC-DS2	Baker Creek	downstream 2	9/19/2000	Ca-Na-SO4-CI
BC-Eff	Effluent discharge		9/20/2000	Ca-Na-Mg-SO4-Cl
BC-US	Baker Creek	up stream of discharge	9/20/2000	Ca-Mg-HCO3
MW00-1	Groundwater	NWPond tails	8/1/2000	Ca-Na-SO4-CI
MW00-2	Groundwater	propane tank farm	8/1/2000	Ca-Mg-Na-SO4-HCO3
MW00-3A	Groundwater	V Lake rd	8/1/2000	Ca-Na-Mg-SO4-HCO3
MW00-3B	Groundwater	V Lake rd, 20m	8/1/2000	Ca-Mg-Na-SO4-HCO3
MW00-4A	Groundwater	North Pond, 10m	8/1/2000	Ca-Mg-Na-SO4-HCO3
OP-B2	Giant surf water	open pit B2	9/19/2000	Ca-Mg-SO4
OP-C1	Giant surf water	open pit C1	9/19/2000	Ca-Mg-SO4-HCO3
TLG-21B	NWPtails seep	propane dam 21B	9/20/2000	Ca-Mg-SO4
TLG-22B	seep	MWPond seep	9/20/2000	Ca-Mg-Na-SO4-Cl
TLG-22CP	seep	NWPond seep	9/20/2000	Ca-Mg-Na-SO4-Cl
TLG-3	seep	north, NPond	9/20/2000	Ca-Mg-SO4
TLG-3C	seep	North pond, north	9/20/2000	Ca-Mg-SO4
TLG-7A-SW	seep	dam 7	9/20/2000	Ca-Mg-SO4
TLG-7B-SW	seep	dam7	9/20/2000	Ca-Mg-SO4-HCO3
TLG-9-SW-09/00	seep	central pond	9/20/2000	Ca-Mg-HCO3-SO4
TLG-NP-SW-09/00	pond water	north pond	9/20/2000	Ca-Na-Mg-SO4-Cl
TLG-NWP	pond water	NWpond water	9/20/2000	Ca-Na-Mg-SO4-Cl
TLG-SP-SW-09/00	pond water	south pond water	9/20/2000	Ca-Na-Mg-SO4-Cl
TLG-TC	Trapper Creek	ditch at propane tanks	9/20/2000	Ca-Mg-SO4-HCO3
TLG-TL	Trapper Lake	inflow	9/20/2000	Ca-Mg-HCO3-SO4
TLG-GL	surface water	off site	9/20/2000	Ca-Mg-HCO3-SO4

										QAQC Results t	or All Water Analy	/ses									
PARAMETERS	Monitoring well L14821-6 MW00-01 1-Aug-00	Monitoring well L14821-7 MW00-01A 1-Aug-00		Open Pit B2 L17746-7 OP-B2-SW-09/00 19-Sep-00	Open Pit B2 L17746-8 OP-B2-SW-09/00-B 19-Sep-00		Baker Creek L17746-3 BC-DS2-SW-09/00 19-Sep-00	Baker Creek L17746-5 BC-DS2-SW-09/00-C 19-Sep-00		Baker Creek L32566-4 BC-DS2-SW-05/01 15-May-01	Baker Creek L32566-5 BC-DS2-SW-05/01-C 15-May-01		Dam 11 L19648-3 TLG-11-SW-10/00 16-Oct-00	Dam 11 L19648-4 TLG-11A-SW-10/00 16-Oct-00		Dam 22B L17833-10 TLG-22B-SW-09/00 20-Sep-00	Dam 22B L17833-13 TLG-22B-SW-09/00-A 20-Sep-00		Dam 7 L19648-1 TLG-7A-SW-10/00 16-Oct-00	16-Oct-00	
Standard Tests	<u> </u>	FD of L14821-6	RPD		FD of L17746-7	RPD		FD of L17746-3	RPD		FD of L32566-4	RPD		FD of L19648-3	RPD		FD of L17833-10 I	RPD		ID	RPD
Alkalinity (total as CaCO <sub>3</sub> )	127	126	0.8	157	157	0.0	83	78	6.2	47	48	2.1	131	_	_	159	158	0.6	161	169	4.8
Conductivity (lab)	2040	2070	1.5	1980	1970	0.5	2220	2140	3.7	156.0	157.0	0.6	151			2040		1.0	-	102	4.0
Hardness (as CaCO <sub>3</sub> )	760	757	0.4	1210	1200	0.8	908	883	2.8	64.0	64.0	0.0		-		835		0.0	_	771	-
pH (lab)	7.8	7.8	0.0	7.7	7.7	0.0	7.7	7.7	0.0	7.5	7.5	0.0	_	_	_	7.6		0.0	_	-	
Total Dissolved Solids	1340	1350	0.7	1670	1650	1.2	1570	1520	3.2	77.0	79.0	2.6	_	-	_	1410		0.7	_	_	_
Dissolved Organic Carbon	-	-	-	9	9	0.0	6	6	0.0	13.0	13.0	0.0	7	6	15	6	7	15	10	9	11
Anions																					
Chloride	291	293	0.7	18	18	0.0	291	285	2.1	4.0	4.0	0.0	-	-	-	222	223	0.4	-	-	-
Sulphate	511	519	1.6	970	970	0.0	679	659	3.0	17.1	17.8	4.0	-	=	-	636	633	0.5	-	=	-
Nutrients																					
Nitrate+Nitrite (N)	6.5	7.8	18	30.2	27.7	8.6	13	12.6	3.1	< 0.1	< 0.1	NC	-	-	-	6.1		0.0	-	-	-
Ammonia (N)	3.34	3.59	7.2	1.27	1.28	0.8	0.28	0.49	55	0.2	0.2	0	< 0.05	< 0.05	-	1.39		0.7	=	=	-
Nitrate (N)	5.7	7.1	22	29.3	26.9	8.5	12.9	12.4	4.0	<0.1	<0.1	NC	3	5.2	54	6.1		0.0	0.7	0.86	21
Nitrite (N)	0.74	0.72	2.7	0.82	0.8	2.5	0.14	0.24	-	< 0.05	< 0.05	NC	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	0.01	-
Dissolved Metals	0.00	0.01		0.01	0.01		0.01	0.01		0.02	0.02	0.0	0.01	0.01		0.01	0.01			0.05	
Aluminum	0.02	0.01	67	<0.01	< 0.01	- 0.0	0.01	<0.01	1.2	0.03	0.03	0.0	<0.01	< 0.01	- 1.0	< 0.01	<0.01	- 2	-	<0.05	-
Antimony	1.80	1.81	0.6	0.388	0.391	0.8	0.671 0.008	0.663	1.2	0.0073	0.0074	1.4	0.511	0.521	1.9	1.38 0.035		2.2	0.106	0.2	-
Arsenic 3+	0.305 2.19	0.291 2.58	4.7 16	0.116 3.96	0.115 3.67	0.9 7.6	0.008	0.008 0.269	0.0 13	0.015	0.0148 0.0808	1.3	0.395 1.94	0.395 1.87	0.0 3.7			0.0 6.8	0.196	=	-
Arsenic 5+ Total Dissolved Arsenic	4.40	2.58 4.39	0.2	3.96 4.11	3.67 4.15	1.0	0.307	0.269	13	0.0798 0.0933	0.0808	1	2.33	2.26	3.7	1.28 1.53		4.0	1.12 1.32	1.4	5.9
Barium	0.014	0.014	0.2	0.028	0.029	3.5	0.35	0.316	15	0.0933	0.0927	0	0.035	0.035	0.0	0.036		2.8	1.32	0.04	5.9
Beryllium	<0.001	< 0.001	-	<0.001	< 0.001	3.3	<0.001	< 0.001	- 13	<0.001	< 0.001	NC	<0.001	< 0.001	0.0	< 0.001	< 0.001	2.0	_	< 0.005	-
Boron	0.50	0.50	0.0	0.15	0.15	0.0	0.5	0.49	2.0	<0.001	< 0.05	NC NC	0.3	0.3	0.0	0.55		1.8	_	0.2	-
Cadmium	< 0.001	< 0.001	-	< 0.001	< 0.001	-	< 0.001	< 0.001	_	< 0.001	< 0.001	NC	< 0.001	< 0.001	-	< 0.001	< 0.001	-	_	< 0.002	_
Calcium	218	217	0.5	308	307	0.3	267	260	2.7	15.3	15.3	0.0	273	275	0.7	227		0.0	_	203	-
Chromium	< 0.005	< 0.005	-	< 0.005	< 0.005	-	< 0.005	0.005		< 0.005	< 0.005	NC	< 0.005	< 0.005	-	0.005		46	_	< 0.01	
Cobalt	0.066	0.066	0.0	0.042	0.042	0.0	0.062	0.068	9.2	< 0.002	< 0.002	NC	0.074	0.074	0.0	0.072		1.4	=	0.03	-
Copper	0.015	0.014	6.9	0.004	0.004	0.0	0.021	0.024	13	0.005	0.005	0.0	0.246	0.246	0.0	0.049	0.046	6.3	=	0.01	-
Iron	0.054	0.061	12	< 0.005	< 0.005	-	< 0.005	< 0.005	-	0.097	0.097	0.0	< 0.005	< 0.005	-	0.357	0.411	14	=	< 0.03	-
Lead	< 0.005	< 0.005	-	< 0.005	< 0.005	-	< 0.005	< 0.005	-	< 0.005	< 0.005	NC	< 0.005	< 0.005	-	< 0.005	< 0.005	-	-	< 0.01	-
Magnesium	52.4	52.2	0.4	106	106	0.0	58.7	56.8	3.3	4.76	4.71	1.1	96	97.4	1.4	65.1	65.2	0.2	-	64.2	-
Manganese	0.237	0.239	0.8	0.273	0.268	1.8	0.028	0.046	49	0.065	0.065	0.0	0.388	0.391	0.8	0.708	0.785	10	-	0.046	-
Mercury	0.0014	0.0002	150	-	-	-	-	-	-	< 0.0002	< 0.0002	NC	< 0.0002	< 0.0002	-	< 0.0002	< 0.0002	-	-	< 0.00005	-
Molybdenum	0.027	0.027	0.0	0.032	0.033	3.1	0.023	0.024	4.3	< 0.005	< 0.005	NC	0.028	0.029	3.5	0.03		3.4	-	< 0.03	-
Nickel	0.011	0.011	0.0	0.078	0.076	2.6	0.101	0.102	1.0	0.002	0.002	0.0	0.039	0.039	0.0	0.031		3.3	-	< 0.05	-
Phosphorus	< 0.1	< 0.1	-	<0.1	< 0.1	-	<0.1	< 0.1	-	< 0.1	<0.1	NC	<0.1	< 0.1	-	< 0.1	< 0.1		-	-	-
Potassium	13.3	13.3	0.0	10.6	10.6	0.0	11.9	11.9	0.0	1.5	1.4	6.9	10	10.1	1.0	13.0		0.0	-		-
Silver	< 0.005	< 0.005	-	< 0.005	< 0.005		< 0.005	< 0.005	-	< 0.005	< 0.005	NC	< 0.005	< 0.005		< 0.005	< 0.005		=	< 0.001	-
Sodium	148	147	0.7	26	23	12.2	155	142	8.8	4.0	4.0	0.0	99.2	100	0.8	120	121	0.8	-	81	-
Strontium	2.04	2.09	2.4	0.778	0.788	1.3	2.18	2.18		0.051	0.051	0.0	-0.05	-0.05		-0.05	-0.05			0.002	
Thallium	< 0.05	< 0.05	-	<0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	<0.05	NC NC	<0.05	< 0.05	-	< 0.05	<0.05	-	-	0.002	-
Tin Titanium	<0.05 <0.001	<0.05 <0.001	-	<0.05 <0.001	<0.05 <0.001	-	<0.05 <0.001	<0.05 <0.001	-	<0.05 <0.001	<0.05 <0.001	NC NC	<0.05 <0.001	<0.05 0.003	-	<0.05 0.001	<0.05 0.001	0.0	-	-	-
Vanadium	0.003	0.003	0.0	0.003	0.003	0.0	0.001	0.001	0.0	<0.001	< 0.001	NC	0.004	0.003	0.0	0.001		0.0	=	=	- 1
Zinc	0.003	0.003	22	0.003	0.003	25	0.002	0.002	183	0.005	0.005	0.0	0.004	0.004	22	0.004		100	_	< 0.005	-
	0.010	0.008		0.018	0.014	23	0.001	0.023	105	0.003	0.003	0.0	0.010	0.02	22	0.000	0.002	100	-	<0.005	
Total Metals	1.74	0.00		0.05	0.55	450	0.15	0.02		1.42	1.55	21.2	0.01	0.70		0.02	0.05	0.			
Aluminum	1.74	0.99	55	0.06	0.75	170	0.15	0.02	153	1.43	1.77	21.3	0.91	0.79	14	0.02		86	-	=	-
Antimony	1.92 4.91	1.92	0.0	0.389	0.425	8.8 5.2	0.685	0.78	13	0.0196	0.0206	5	0.516	0.469	9.5 6.2	1.35		0.0	=	-	-
Arsenic Barium	0.020	4.94 0.017	0.6 16	4.13 0.029	4.35 0.033	13	0.365 0.025	0.37 0.024	1.4 4.1	0.231 0.033	0.229 0.034	0.9 3.0	2.66 0.042	2.5 0.034	21	1.34 0.035		0.0	_	-	-
Beryllium	<0.002	<0.002	- 01	<0.002	<0.002	-	<0.002	< 0.024	4.1	<0.002	< 0.002	NC	<0.042	< 0.002	- 21	<0.002	< 0.002	0.0	_	-	-
Cadmium	<0.002	< 0.002	-	<0.002	< 0.002	-	< 0.002	< 0.002	_	<0.002	< 0.002	NC	<0.002	< 0.002	-	<0.002	< 0.002		=	-	-
Calcium	0.001		-	292	334	13	260	282	8.1	15.3	15.2	0.7	264	270	2.2	216		0.0	=	-	-
Chromium	0.005	0.006	18	< 0.005	< 0.005	-	0.007	0.008	13	<0.005	< 0.005	NC	< 0.005	0.005		0.006		0.0	_	_	-
Cobalt	0.081	0.081	0.0	0.047	0.054	14	0.075	0.09	18	0.005	0.005	0.0	0.068	0.065	4.5	0.067		0.0	_	-	-
Copper	0.028	0.027	3.6	0.019	0.006	104	0.028	0.04	35	0.018	0.018	0.0	0.252	0.24	4.9	0.053		0.0	_	-	_
Iron	2.33	1.89	21	< 0.005	1.38	-	0.257	< 0.005	-	0.869	1.08	21.7	0.916	0.997	8.5	0.402		3.2	-	-	-
Lead	0.015	0.014	6.9	< 0.005	< 0.005	_	< 0.005	< 0.005	-	0.006	0.007	15.4	< 0.005	< 0.005	-	< 0.005	< 0.005	-	=	-	_
Magnesium	0.314	0.310	1.3	83.2	91.4	9.4	49.6	53.6	7.8	5.1	5.1	0.0	91.2	65.4	33	58		1.9	-	-	-
Manganese	< 0.0002	< 0.0002	-	0.298	0.365	20	0.055	0.062	12	0.079	0.080	1.3	0.389	0.372	4.5	0.799		0.0	-	-	-
Molybdenum	0.032	0.032	0.0	0.033	0.039	17	0.027	0.031	14	< 0.005	< 0.005	NC	0.027	0.027	0.0	0.03	0.029	3.4	-	-	-
Nickel	0.013	0.012	8.0	0.085	0.099	15	0.122	0.14	14	0.008	0.008	0.0	0.015	0.039	89	0.031		0.0	-	=	-
Phosphorus	0.14	0.14	0.0	0.06	0.17	96	0.07	0.08	13	0.17	0.18	5.7	0.07	0.08	13	0.07	0.07	0.0	=	=	-
Potassium	-	-	-	8.9	9.7	8.6	9.4	10.1	7.2	1.8	1.8	0.0	9.6	8.9	7.6	13		0.8	-	-	-
Silver	< 0.005	< 0.005	-	< 0.005	< 0.005	-	< 0.005	< 0.005	-	< 0.005	< 0.005	NC	< 0.005	< 0.005	-	< 0.005	< 0.005	-	-	-	-
Sodium	-	-	-	17	18	5.7	199	199	0.0	4	4	0.0	97	131	30	118		1.7	-	-	-
Strontium	2.27	2.34	3.0	0.779	0.911	16	2.31	2.53	9.1	0.10	0.10	0.0	1.24	1.2	3.3	1.27		0.8	-	-	-
Thallium	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	NC	< 0.05	< 0.05	-	< 0.05	<0.05	-	-	-	-
Tin	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	-	< 0.05	< 0.05	NC	< 0.05	< 0.05	-	< 0.05	<0.05	-	=	=	-
Titanium	0.018	0.013	32	0.001	0.013	171	0.008	0.004	67	0.087	0.061	35.1	0.035	0.028	22	0.003		0.0	=	-	-
Vanadium	0.010	0.008	22	0.003	0.006	67	0.003	0.003	0.0	0.004	0.005	22.2	0.006	0.005	18	0.004		0.0	=	=	-
Zinc	0.025	0.026	3.9	0.032	0.026	21	0.009	0.059	147	0.024	0.034	34.5	0.101	0.008	171	0.009	0.006	40	=	-	-
Cyanide				I						I			I			I					

< 0.002

Zinc **Cyanide** Total Cyanide

Table 15
QAQC Results for All Water Analyses

PARAMETERS		Dam 7	Dam 7		Dam 11	Dam 11	
Name	DADAMETERS	L19648-2	3353-3		L19648-3	3353-1	
Standard Tests	PARAMETERS						
Aklafining (tool as CaCO) Conductivity (tool as CaCO) Cond				RPD			RPD
Conductivity (abb)	Standard Tests						
Hardmans (as CasCO)							
Disable							
Total Dissolved Solids		-		_	_		
Maintenant		-	-	-	-	-	-
Caloride		9	8.7	3.4	7	6.1	14
Sulphate							
Natrianes Nitrate (N)			-	-	_	-	-
Nitrate (N)							
Nitrie (N)		-	-	-	-	-	-
Nirie (N)		-	-	-		-	-
Dissolved Metals				-			71
Aluminum		<0.05	0.001	-	<0.05	0.006	-
Antimony Arsenic 3+  Ausenic 3+  0.0548		_	< 0.05	-	< 0.01	< 0.05	_
Assenic 5- 10297 -		-		-			2.2
Troat Dissolved Arsenic Barlum			-	-		-	-
Barium				-		-	
Beryllim     -				16			
Boron		_		-			
Calcium         -         166         -         273         296         8.1           Chobalt         -         -         -         -         -         -         -         -         -         0.01         - <td></td> <td>-</td> <td></td> <td>-</td> <td></td> <td></td> <td>0.0</td>		-		-			0.0
Chromium         -         -0.01         -         -0.005         -0.01         -           Cobalt         -         0.01         -         0.074         0.06         21           Copper         -         -0.001         -         0.246         0.21         16           Iron         -         -0.003         -         -0.005         -0.00         -           Magnesium         -         -0.055         -         368         9.84         2.5           Mangamese         -         -0.055         -         368         9.84         2.5           Mangamese         -         -0.055         -         3.333         15         Stream           Molybdenum         -         -0.005         -         -0.0002         <0.00005		-		-			
Cobalt         -         0.01         -         0.074         0.06         21           Copper         -         -         -         0.03         -         0.005         -         16           Iron         -         -         -         -         -         -         0.005         -         -         0.01         -         -         -         -         -         -         -         0.005         -         -         0.000         -		-		-			
Copper         -         -0.01         -         0.246         0.21         16           Iron         -         -0.003         -         -0.005         -0.03         -           Magnesium         -         -0.001         -         -0.005         -0.001         -           Manganese         -         -0.0005         -         -0.0002         -0.000005         -           Mercury         -         -         -0.003         -         -0.0002         -0.000005         -           Nickel         -         -         -         -0.003         -         -0.002         -0.00005         -           Nickel         - <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td>				-			
Iron		_		_			
Magnesium         -         42.5         -         96         98.4         2.5           Manganese         -         0.055         -         0.388         0.333         15           Molydenum         -         <0.003		-		-	< 0.005	< 0.03	-
Mangamese         -         0.055         -         0.388         0.333         15           Mercury         -         <0.00005         -         <0.0022         <0.00005         -           Mickel         -         <0.005         -         0.028         <0.03         -           Phosphorus         -         -         <0.01         -		-		-			
Mercury         -         <0.00005		-		-			
Molybelenum         -         <0.03         -         0.028         <0.03         -           Nickel         -         <0.05         -         0.039         <0.05         -           Phossphorus         -         -         -         <0.1         -         -           Phossphorus         -         -         -         0.01         -         -           Sodium         -         -         0.001         -         99.2         111         11           Storotium         -         36         -         99.2         111         11           Storotium         -         -         0.001         -         <0.05         0.002         -           Tin         -         -         -         -         <0.05         -         -           Tin         -         -         -         -         -         0.001         -         -           Tin         -         -         -         -         -         -         -         -         -           Tin         -         -         -         -         -         -         -         -         -         -         -				_			
Nickel         -         <0.05         -         0.039         <0.05         -           Phosphorus         -         -         -         0.01         -         -           Phosphorus         -         -         -         10         -         -           Silver         -         0.0001         -         0.005         0.001         -           Sodium         -         0.001         -         0.005         0.002         -           Thallium         -         0.001         -         0.005         0.02         -           Titanium         -         0.001         -         0.001         -         <		-		-			-
Potassium		-	< 0.05	-	0.039	< 0.05	-
Silver         -         <0,001         -         <0,005         <0,001         -           Sodium         -         36         -         99.2         111         11           Strontium         Thallium         -         0.001         -         <0.05		-		-		=	-
Solition   Strontium   Stron		-		-		- 0.001	-
Strontium				-			
Tin			30		77.2	***	••
Titanium         -<	Thallium	-	0.001	-	< 0.05	0.002	-
Vanadium         -         -         0.005         -         0.016         0.015         6.5           Total Metals         Secondary		-	-	-		=	-
Zinc         -         <0.005         -         0.016         0.015         6.5           Total Metals           Aluminum         -         -         0.91         -         -           Antimony         -         -         0.516         -         -           Arsenic         -         -         2.66         -         -           Barium         -         -         0.042         -         -           Barium         -         -         0.002         -         -           Cadmium         -         -         0.002         -         -           Cadmium         -         -         0.001         -         -           Calcium         -         -         0.001         -         -           Calcium         -         -         0.001         -         -           Chromium         -         -         0.001         -         -           Chromium         -         -         0.005         -         -           Cobalt         -         -         0.0068         -         -           Copper         -         -         0.005         - </td <td></td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>=</td> <td>-</td>		-	-	-		=	-
Total Metals   Aluminum			< 0.005			0.015	
Aluminum			10.005		0.010	0.015	0.5
Antimony Arsenic		_	_	_	0.91	_	_
Barium         -         -         0.042         -         -           Beryllium         -         -         -         -0.002         -         -           Cadmium         -         -         -         -0.001         -         -           Calcium         -         -         264         -         -           Chromium         - <td< td=""><td></td><td>-</td><td>-</td><td>-</td><td></td><td>-</td><td>-</td></td<>		-	-	-		-	-
Beryllium         -         -         <0.002		-	-	-		-	-
Cadmium         -         -         <0.001		-	-	-		-	-
Calcium         -         -         264         -         -           Chromium         -		-	-	-		-	-
Chromium         -         -         <0.005		-	-	-		-	_
Copper         -         -         0.252         -         -           Iron         -         -         0.916         -         -           Lead         -	Chromium	-	-	-		-	-
Iron		-	-	-		-	-
Lead       -		-	-	-		-	-
Magnesium         -         -         91.2         -         -         Manganese         -         -         0.389         - <td></td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>-</td> <td>-</td>		-	-	-		-	-
Manganese         -         -         0.389         -         -           Molybdenum         -         -         0.027         -         -           Nickel         -         -         0.015         -         -           Phosphorus         -         -         0.07         -         -           Potassium         -         -         9.6         -         -           Silver         -         -         0.005         -         -           Sodium         -         -         97         -         -           Strontium         -         -         -         0.05         -         -           Thallium         -         -         -         0.05         -         -           Tin         -         -         -         0.05         -         -           Titanium         -         -         -         0.035         -         -           Vanadium         -         -         -         0.006         -         -           Zinc         -         -         0.101         -         -		-	-			-	_
Nickel         -         -         0.015         -         -           Phosphorus         -         -         0.07         -         -           Potassium         -         -         9.6         -         -           Silver         -         -         -         0.005         -         -           Sodium         -         -         -         97         -         -           Strontium         -         -         -         0.05         -         -           Tallium         -         -         -         -         -         -         -           Titanium         -         -         -         -         0.035         -         -           Vanadium         -         -         -         0.006         -         -           Zinc         -         -         0.101         -         -           Cyanide         -         -         -         0.101         -         -		-	-	-		-	-
Phosphorus         -         -         0.07         -         -           Potassium         -         -         9.6         -         -           Silver         -		-	-	-		-	-
Potassium         -         -         9.6         -         -           Silver         -         -         -         -         -         -         -           Sodium         -         -         97         -         -         -           Strontium         -         -         1.24         -         -         -           Thallium         -		-	-	-		-	-
Silver     - <td< td=""><td></td><td>l -</td><td>-</td><td>-</td><td></td><td>=</td><td>-</td></td<>		l -	-	-		=	-
Sodium         -         -         97         -         -           Strontium         -         -         1.24         -         -           Thallium         - <td></td> <td>I -</td> <td>-</td> <td>-</td> <td></td> <td>-</td> <td>-</td>		I -	-	-		-	-
Thallium     -     -     -     -     -       Tin     -     -     -     -     -       Titanium     -     -     -     0.035     -     -       Vanadium     -     -     -     0.006     -     -       Zinc     -     -     -     0.101     -     -       Cyanide     -     -     -     -     -		-	-	-		-	-
Tin <0.05 Titanium 0.035 Vanadium 0.006		-	-	-	1.24	=	-
Titanium 0.035 Vanadium 0.006		-	-	÷		-	-
Vanadium     -     -     -     0.006     -     -       Zinc     -     -     -     0.101     -     -       Cyanide     -     -     -     -     -		l -	-	-		<del>-</del>	-
Zinc 0.101 Cyanide		l -	-	-		<del>-</del>	-
		-	-	-		-	-
Total Cyanide 0.005 0.018 113 0.027 0.053 65				4			-
	Total Cyanide	0.005	0.018	113	0.027	0.053	65

N:\Finall2003\1413\03-1413-009\Appendix \Table 15 QAQC All Water Analysis

# Surface Water Quality Total Metals for Baker Creek (Sept. '00 May '01) Miramar Giant Mine

			Location Northing Easting			Quality ge Permit	Baker Creek 6932932 635938	Baker Creek 6932932 635938	Baker Creek 6931262 635860	Baker Creek 6931262 635860	Baker Creek 6933915 635720	Effluent Discharge 6933802 636168	Baker Creek 6933917 635727
PARAMETERS			Lab ID Sample ID Sample Date QAQC	CCME Aquatic Life	Maximum Average Concentration	Maximum Concentration of Any Grab Sample	L17746-4 BC-DS1-SW-09/00 19-Sep-00	L17833-3 BC-DS1-SW-09/00 -D 20-Sep-00 Filter blank	L17746-3 BC-DS2-SW-09/00 19-Sep-00	L17746-5 BC-DS2-SW-09/00-C 19-Sep-00 FD of L17746-3	L17833-1 BC-US-SW-09/00 20-Sep-00	L17833-2 BC-EFF-SW-09/00 20-Sep-00	L32566-1 BC-US-SW-05/01 15-May-01
Total Metals		UNITS	MDL										
Aluminum				0.005-0.1			0.08	0.03	0.15	0.02	0.05	0.06	0.07
Antimony	Sb	mg/L					0.721	0.0005	0.685	0.78	0.0015	0.872	0.0019
Arsenic	As	mg/L		0.005	0.5	1	0.342	< 0.0004	0.365	0.37	0.0145	0.549	0.0399
Barium	Ba	mg/L					0.022	< 0.003	0.025	0.024	0.01	0.019	0.013
Beryllium	Ве	mg/L					< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Cadmium	Cd	mg/L		0.000017			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Calcium	Ca	mg/L					263	< 0.5	260	282	22	332	12.7
Chromium	Cr	mg/L					0.007	< 0.005	0.007	0.008	< 0.005	0.005	< 0.005
Cobalt	Co	mg/L					0.082	< 0.002	0.075	0.09	< 0.002	0.095	< 0.002
Copper	Cu	mg/L		0.002-0.004	0.3	0.6	0.036	0.001	0.028	0.04	< 0.001	0.042	0.003
Iron	Fe	mg/L		0.3			< 0.005	0.038	0.257	< 0.005	0.166	0.548	0.179
Lead	Pb	mg/L		0.001-0.007	0.2	0.4	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Magnesium	Mg	mg/L				-	50.3	< 0.1	49.6	53.6	7.4	70.6	4.4
Manganese	Mn	mg/L					0.055	0.002	0.055	0.062	0.025	0.135	0.097
Mercury				0.0001			=	< 0.0002	-	-	< 0.0002	< 0.0002	< 0.0002
Molybdenum	Мо	mg/L		0.073			0.029	< 0.005	0.027	0.031	< 0.005	0.034	< 0.005
Nickel	Ni	mg/L		0.025-0.15	0.5	1	0.127	< 0.002	0.122	0.14	< 0.002	0.138	< 0.002
Phosphorus	P	mg/L				-	0.06	0.1	0.07	0.08	0.21	0.08	0.08
Potassium	K	mg/L					9.7	0.1	9.4	10.1	1.6	16.8	1.5
Silver	Ag	mg/L		0.0001			< 0.005	< 0.005	< 0.005	< 0.005	-	< 0.005	< 0.005
Sodium	Na	mg/L					190	<1	199	199	5	176	3
Strontium	Sr	mg/L					2.34	< 0.002	2.31	2.53	0.078	2.83	0.052
Thallium	Tl	mg/L		0.0008			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin	Sn	mg/L					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Titanium	Ti	mg/L					0.002	< 0.001	0.008	0.004	< 0.001	0.003	0.001
Vanadium	V	mg/L					0.003	< 0.001	0.003	0.003	< 0.001	0.004	< 0.001
Zinc	Zn	mg/L		0.03	0.2	0.4	0.013	0.018	0.009	0.059	0.02	0.027	0.004
Cyanide													
Total Cyanide	CN	mg/L		0.005	0.8	1.6	0.054	-	0.036	0.046	-	0.048	-
Ion Balance Calculation	n												
Ion Balance		%					101	-	101	99.8	107	97.7	107

Notes:

Date Printed: 9/07/01

All concentrations in mg/L, unless otherwise stated.

### Date Printed: 9/07/01

# Table 16 Surface Water Quality Total Metals for Baker Creek (Sept. '00 May '01) Miramar Giant Mine

			Location Northing Easting			Quality ge Permit	Baker Creek 6933804 636071	Baker Creek 6932904 635934	Baker Creek 6931184 6366021	Baker Creek 6931184 6366021
PARAMETERS			Lab ID Sample ID Sample Date QAQC	CCME Aquatic Life	Maximum Average Concentration	Maximum Concentration of Any Grab Sample	L32566-2 BC-EFF-SW-05/01 15-May-01	L32566-3 BC-DS1-SW-05/01 15-May-01	L32566-4 BC-DS2-SW-05/01 15-May-01	L32566-5 BC-DS2-SW-05/01-C 15-May-01 FD of L32566-4
Total Metals	- 1	UNITS	MDL							
Aluminum	Al	mg/L		0.005-0.1			0.72	0.56	1.43	1.77
Antimony	Sb	mg/L					0.0258	0.131	0.0196	0.0206
arsenic	As	mg/L		0.005	0.5	1	0.166	0.662	0.231	0.229
Sarium	Ba	mg/L					0.019	0.010	0.033	0.034
Beryllium	Ве	mg/L					< 0.002	< 0.002	< 0.002	< 0.002
admium	Cd	mg/L		0.000017			< 0.001	< 0.001	< 0.001	< 0.001
Calcium	Ca	mg/L					19.4	22.6	15.3	15.2
Chromium	Cr	mg/L				1	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	Co	mg/L					< 0.002	< 0.002	0.005	0.005
Copper	Cu	mg/L		0.002-0.004	0.3	0.6	0.006	0.008	0.018	0.018
ron	Fe	mg/L		0.3			0.633	0.874	0.869	1.08
ead	Pb	mg/L		0.001-0.007	0.2	0.4	< 0.005	< 0.005	0.006	0.007
Iagnesium	Mg	mg/L					6.4	5.3	5.1	5.1
/langanese	Mn	mg/L					0.081	0.049	0.079	0.080
Mercury				0.0001			<0.0002	< 0.0002	< 0.0002	< 0.0002
Molybdenum	Мо	mg/L		0.073			< 0.005	< 0.005	< 0.005	< 0.005
lickel	Ni	mg/L		0.025-0.15	0.5	1	0.004	0.003	0.008	0.008
hosphorus	P	mg/L					0.08	0.08	0.17	0.18
otassium	K	mg/L					2.2	1.7	1.8	1.8
ilver	Ag	mg/L		0.0001			< 0.005	< 0.005	< 0.005	< 0.005
odium	Na	mg/L					5	3	4	4
trontium	Sr	mg/L					0.064	0.054	0.10	0.10
'hallium	Tl	mg/L		0.0008			< 0.05	< 0.05	< 0.05	< 0.05
in	Sn	mg/L				1	< 0.05	< 0.05	< 0.05	< 0.05
itanium	Ti	mg/L				1	0.087	0.013	0.087	0.061
anadium	V	mg/L					0.002	0.002	0.004	0.005
inc	Zn	mg/L		0.03	0.2	0.4	0.022	0.006	0.024	0.034
yanide										
otal Cyanide	CN	mg/L		0.005	0.8	1.6	< 0.002	< 0.002	< 0.002	< 0.002
on Balance Calculation										
on Balance		%					102	104	106	105

Notes:

All concentrations in mg/L, unless otherwise stated.

September 2001 **Table 17** 002-2418

## Sediment Sampling Location in Baker Creek and Yellowknife Bay Near Giant Mine

	Sample Location	Sample Site Description	Sample Code	Analysis
В	aker Creek			
1	Baker Creek Upstream	Baker Creek upstream of the mine discharge	BC-US-SD-09/00-01 -02	Total Metals as Spec'n TOC
2	Baker Creek "effluent"	Upstream end of the large pond into which the effluent discharges	BC-EFF-SD-09/00-01 -02	Total Metals as Spec'n TOC
3	Baker Creek Downstream #1	Baker Creek downstream of effluent discharge point in marshy area west of the mill/shaft	BC-DS1-SD-09/00-01 -02	Total Metals as Spec'n TOC
4	Baker Creek Downstream #2	Baker Creek prior to flowing into Yellowknife Bay – approximately 10 m upstream of outlet	BC-DS2-SD-09/00-01 -02	Total Metals as Spec'n TOC
5	Yellowknife Bay near Baker Creek Outlet Marsh (Downstream #3)	Marsh area in Yellowknife Bay on the west side of the dyke	BC-DS3-SD-09/00-01 -02	Total Metals as Spec'n TOC
6	Yellowknife Bay (Downstream #4)	East side of the dyke in Yellowknife Bay	BC-DS4-SD-09/00-01 -02	Total Metals as Spec'n TOC

N:\Final\2003\1413\03-1413-009\Appendix I\Rep 1118 2004 Giant Mine Geochem SRK A & R.doc

### Chemical Analyses of Baker Creek Sediments, Giant Mine

Location Sample Control Number Date Sampled	CCME 1999 Interim Freshwater Sediment Quality Guidelines ISQG	CCME(1999) draft Freshwater Sediment Quality Criteria PEL	BC-US-SD-09/00-01 L17890-7 21/09/00	BC-US-SD-09/00-02 L17890-8 21/09/00	BC-EFF-SD-09/00-01 L17890-9 21/09/00	BC-EFF-SD-09/00-02 L17890-10 21/09/00	BC-DS1-SD-09/00-01 L17890-11 21/09/00	BC-DS1-SD-09/00-02 L17890-12 21/09/00	BC-DS2-SD-09/00-01 L17890-13 21/09/00
Carbon									
Organic Carbon (%)			1.80	1.70	0.20	0.10	1.30	1.70	0.80
Inorganic Carbon (%)			0.08	0.11	1.83	1.77	1.24	1.70	0.80
Total Carbon (%)			1.90	1.80	2.10	1.77	2.50	3.10	1.50
Total Carbon (76)			1.90	1.00	2.10	1.50	2.30	3.10	1.50
Arsenic									
Arsenic +3			85.1	132	973	940	642	724	1320
Arsenic +5			30.6	40.4	544	1050	421	94.1	350
Arsenic (5+,3+)			116	172	1520	1990	1060	818	1670
Soluble Arsenic			nm	nm	3.45	3.76	3.9	5.8	9.29
Total Arsenic	5.9	17	171	205	1940	2490	3380	3190	5030
Total Metals									
Aluminum			6700	6500	21200	20900	20900	24400	19900
			<1		2 1200	20900	3	24400 5	19900
Ammonia Barium			77.9	<1 75.1	12.8	15	58.4	82.7	60.5
Beryllium Calcium			<1 3400	<1 3400	<1 42200	<1 39700	<1 28600	<1 38200	<1 18500
Cadmium	0.6	3.5	<0.5	<0.5	4.2	4.3	1.3	1.1	3.1
Chromium	37.3	90	29.9	29.3	59.8	58.8	59.9	73.2	62.2
Cobalt	01.0		6	7	29	29	44	33	41
Copper	35.7	197	20	18	97	70	328	211	295
Iron	33.7	137	13600	13900	64900	62800	40900	41500	58700
Lead	35.0	91	10	19	644	647	218	177	463
Phosphorus	33.0		380	410	330	310	430	410	430
Potassium			1150	970	860	1130	2000	2650	1880
Magnesium			4930	5010	20200	19500	20400	23900	15400
Manganese			840	920	830	780	620	650	520
Molybdenum			<1	<1	1	1	1	1	1
Nickel		49	15	16	71	66	105	84	99
Silver		2.2	<1	<1	<1	<1	2	1	1
Sodium			200	100	200	200	300	300	300
Strontium			15	14	30	28	30	37	26
Thallium			<1	<1	<1	<1	<1	<1	<1
Tin			<5	<5	<5	<5	<5	<5	<5
Titanium			362	325	52	49	476	530	308
Vanadium			32	24	66	67	70	80	65
Zinc	123	315	53.2	67.3	822	828	316	281	820
			00.2	00	<u> </u>	020	0.0		0_0

#### Notes:

<sup>1)</sup> All concentrations are in micrograms per gram (mg/kg).

### Chemical Analyses of Baker Creek Sediments, Giant Mine

Location Sample Control Number Date Sampled	CCME 1999 Interim Freshwater Sediment Quality Guidelines ISQG	CCME(1999) draft Freshwater Sediment Quality Criteria PEL	BC-DS2-SD-09/00-02 L17890-14 21/09/00	BC-DS3-SD-09/00-01 L17890-15 21/09/00	BC-DS3-SD-09/00-02 L17890-16 21/09/00	BC-DS4-SD-09/00-01 L17890-17 21/09/00	BC-DS4-SD-09/00-02 L17890-18 21/09/00
October 1							
Carbon			0.00	0.40	0.00	0.00	0.40
Organic Carbon (%)			0.60	0.40	0.80	2.30	0.40
Inorganic Carbon (%)			0.52	0.09	0.09	0.38	1.09
Total Carbon (%)			1.10	0.50	0.80	2.60	1.50
Arsenic							
Arsenic +3			616	17.3	23.2	445	377
Arsenic +5			24.8	34.8	13.5	47.1	145
Arsenic (5+,3+)			640	-	36.3	492	536
Soluble Arsenic			2.86	nm	nm	2.78	1.9
Total Arsenic	5.9	17	2240	47	81.2	1110	1440
Total Metals			00500	47000	17000	40000	04400
Aluminum			20500	17200	17300	19800	21400
Ammonia			5	<1	<1	3	2
Barium			113	133	143	119	87.5
Beryllium			<1	<1	<1	<1	<1
Calcium		0.5	14400	3300	3700	9100	13900
Cadmium	0.6	3.5	1.8	<0.5	<0.5	0.5	0.6
Chromium	37.3	90	52.8	41.5	42.1	53	61.2
Cobalt			24	9	8	28	52
Copper .	35.7	197	223	38	36	264	266
Iron			34000	25800	20800	28200	35300
Lead	35.0	91	222	10	14	64	70
Phosphorus			440	460	410	470	450
Potassium			3290	3160	3190	3330	3090
Magnesium			11900	6790	6820	10800	13100
Manganese			400	220	200	320	480
Molybdenum			<1	<1 !	<1	<1	1
Nickel		49	65	24	25	72	90
Silver		2.2	<1	<1	<1	<1	<1
Sodium			400	300	300	500	500
Strontium			39	36	35	39	37
Thallium			<1	<1	<1	<1	<1
Tin			<5	<5	<5	<5	<5
Titanium			496	554	562	583	624
Vanadium			61	46	46	59	74
Zinc	123	315	544	63.2	62.1	195	246

Notes:

September 2001

1) All concentrations are in micrograms per gram (mg/kg).

September 2001 Table 19 002-2418
Concentration of Water-Soluble and Total Arsenic Concentrations
in Baker Creek Sediments

Sampling Location	Leachable/Water-soluble arsenic concentration	Total arsenic concentration (mg/kg)	Percent leachable/water- soluble arsenic (%)
Golder (2000):	(mg/kg)		
BC-EFF-SD-01	3.45	1940	0.17
BC-EFF-SD-02	3.76	2490	0.15
BC-DS1-SD-01	3.9	3380	0.12
BC-DS1-SD-02	5.8	3190	0.18
BC-DS2-SD-01	9.29	5030	0.18
			0.18
BC-DS2-SD-02	2.86	2240	0.13
BC-DS4-SD-01	2.78	1110	0.25
BC-DS4-SD-02	1.9	1440	0.13
Mace (1998)			
Baker Creek - #16	11	1764	0.62
Baker Creek - #18	68	2838	2.40
Baker Creek - #20	78	1736	4.49

N:\Final\2003\1413\03-1413-009\Appendix I\Tbl0403 - TableA1-21.doc

### Relative Percent Difference Chemical Parameters of Baker Creek Sediments

Location Sample Control Number Date Sampled	CCME 1999 Interim Freshwater Sediment Quality Guidelines ISQG	CCME(1999) draft Freshwater Sediment Quality Criteria PEL	BC-US-SD-09/00-01 L17890-7 21/09/00	BC-US-SD-09/00-02 L17890-8 21/09/00	RPD %	BC-EFF-SD-09/00-01 L17890-9 21/09/00	BC-EFF-SD-09/00-02 L17890-10 21/09/00	RPD %	BC-DS1-SD-09/00-01 L17890-11 21/09/00	BC-DS1-SD-09/00-02 L17890-12 21/09/00	RPD %
Carbon											
Organic Carbon (%)			1.80	1.70	5.7%	0.20	0.10	66.7%	1.30	1.70	26.7%
Inorganic Carbon (%)			0.08	0.11	31.6%	1.83	1.77	3.3%	1.24	1.37	10.0%
Total Carbon (%)			1.90	1.80	5.4%	2.10	1.90	10.0%	2.50	3.10	21.4%
Arsenic											
Arsenic +3			85.1	132	43.2%	973	940	3.5%	642	724	12.0%
Arsenic +5			30.6	40.4	27.6%	544	1050	63.5%	421	94.1	126.9%
Arsenic (5+,3+)			116	172	38.9%	1520	1990	26.8%	1060	818	25.8%
Soluble Arsenic			nm	nm	-	3.45	3.76	8.6%	3.9	5.8	39.2%
Total Arsenic	5.9	17	171	205	18.1%	1940	2490	24.8%	3380	3190	5.8%
Total Metals											
Cadmium	0.6	3.5	<0.5	<0.5	NC	4.2	4.3	2.4%	1.3	1.1	16.7%
Chromium	37.3	90	29.9	29.3	2.0%	59.8	58.8	1.7%	59.9	73.2	20.0%
Copper	35.7	197	20	18	10.5%	97	70	32.3%	328	211	43.4%
Lead	35.0	91	10	19	62.1%	644	647	0.5%	218	177	20.8%
Nickel		49	15	16	6.5%	71	66	7.3%	105	84	22.2%
Zinc	123	315	53.2	67.3	23.4%	822	828	0.7%	316	281	11.7%
							•	-			-

#### Notes:

RPD = Relative Percent Difference

NC = Not calculated (one or both of the values are below the detection limit)

RPD values greater than 50% arebolded

<sup>1)</sup> All concentrations are in micrograms per kilogram (mg/kg).

### Relative Percent Difference Chemical Parameters of Baker Creek Sediments

Location Sample Control Number Date Sampled	CCME 1999 Interim Freshwater Sediment Quality Guidelines ISQG	CCME(1999) draft Freshwater Sediment Quality Criteria PEL	BC-DS2-SD-09/00-01 L17890-13 21/09/00	BC-DS2-SD-09/00-02 L17890-14 21/09/00	RPD %	BC-DS3-SD-09/00-01 L17890-15 21/09/00	BC-DS3-SD-09/00-02 L17890-16 21/09/00	RPD %	BC-DS4-SD-09/00-01 L17890-17 21/09/00	BC-DS4-SD-09/00-02 L17890-18 21/09/00	RPD %
Carbon											
Organic Carbon (%)			0.80	0.60	28.6%	0.40	0.80	66.7%	2.30	0.40	140.7%
Inorganic Carbon (%)			0.68	0.52	26.7%	0.09	0.09	0.0%	0.38	1.09	96.6%
Total Carbon (%)			1.50	1.10	30.8%	0.50	0.80	46.2%	2.60	1.50	53.7%
Arsenic											
Arsenic +3			1320	616	72.7%	17.3	23.2	29.1%	445	377	16.5%
Arsenic +5			350	24.8	173.5%	34.8	13.5	88.2%	47.1	145	101.9%
Arsenic (5+,3+)			1670	640	89.2%	-	36.3	-	492	536	8.6%
Soluble Arsenic			9.29	2.86	105.8%	nm	nm	1	2.78	1.9	37.6%
Total Arsenic	5.9	17	5030	2240	76.8%	47	81.2	53.4%	1110	1440	25.9%
Total Metals											
Cadmium	0.6	3.5	3.1	1.8	53.1%	<0.5	<0.5	NC	0.5	0.6	18.2%
Chromium	37.3	90	62.2	52.8	16.3%	41.5	42.1	1.4%	53	61.2	14.4%
Copper	35.7	197	295	223	27.8%	38	36	5.4%	264	266	0.8%
Lead	35.0	91	463	222	70.4%	10	14	33.3%	64	70	9.0%
Nickel		49	99	65	41.5%	24	25	4.1%	72	90	22.2%
Zinc	123	315	820	544	40.5%	63.2	62.1	1.8%	195	246	23.1%

#### Notes:

RPD values greater than 50% arebolded

All concentrations are in micrograms per kilogram (mg/kg).

RPD = Relative Percent Difference

NC = Not calculated (one or both of the values are below the detection limit)

# Table 21 Arsenic Concentrations in Aquatic Sediments at other Mine Sites

LOCATION	AS CONCENTRATION (mg/kg)	REFERENCE
Background Concentrations:		
Canada	<20	Mace, 1998
Canada	100-5000	CEPA 1993
NWT creek	6.5	Mace 1998
Halifax Harbour	65	CEPA 1993
Nova Scotia	262	CEPA 1993
Several provinces in Canada	100-200 (average) 650 (maximum)	CEPA 1993
Yellowknife River	6	Mace, 1998
Yellowknife area, natural sediment concentration Yellowknife Bay area	6-100, median 68 7-104	Ollson, 1999
Baker Creek Background	41-114	Mace 1998
Western Coast of Washington State and British Columbia	7-37	Mace, 1998
Upper Mississippi River	0.6-6.2, mean 2.6	Eisler, 1988
Lake Michigan	5-30	Eisler, 1988
Oceanic	<0.4-455, mean 33.7	Eisler, 1988
Lacustrine	5-26.9	Eisler, 1988
Impacted Sites:		
Yellowknife, NWT Area:		
Giant Yellowknife Mine Yellowknife Bay Beach Tailings area Baker Creek Upstream of effluent discharge Downstream of effluent discharge	1193-3140 64.6-1016 41-114 238-3821	Mace 1998
Giant Yellowknife Mine Baker Creek: Upstream of effluent discharge Downstream of effluent discharge Marsh at mouth Yellowknife Bay	171-205 1940-5030 47-81 1110-1440	Golder, in progress
Giant Yellowknife Mine Tailings Pond effluent 1975 Yellowknife Bay Back Bay Giant Yellowknife Mine	1.5-20.4 4-3000 6-534	Moore et al. (1978)  Back Bay TLG
Back Bay Tailings	15-3685	Investigation 2000

# Table 21 Arsenic Concentrations in Aquatic Sediments at other Mine Sites

	T	
LOCATION	AS CONCENTRATION (mg/kg)	REFERENCE
Con Mine		Ollson, 1999
Kam Lake, downstream from Con		
Mine	130-1571, mean 1110	
Meg Lake	174-865	
Keg Lake	132-2150	
Peg Lake	79.8-5550	
Great Slave Lake Outflow	10-380	
Baker Creek (downstream of Giant		
discharge), Kam Lake (downstream		
of historical Con discharge), and		
Keg Lake (drainage system of Con		
effluent discharge)	380-3821, median 1164	
Keg Lake, Great Slave Lake outflow,	· ·	
Yellowknife Bay, Back Bay, and		
Baker Creek outflow	155-681, median 302	
Kam, Grace, Keg, Likely, and Chitty	,	
Lakes	6-3500 (total)	
Yellowknife Back Bay Area	7.68-~2500	Jackson et al. 1996
Back Bay	<0.08-0.12	Sutherland, 1989
Yellowknife Bay	79-633	
Beach Area	65-1016	Mace, 1998
Yellowknife River and Yellowknife		
Bay	6-3140	
Baker Creek		Mace, 1998
Baker Creek Pond	1736	
Mill Samples	2838-3821	
Downstream	1764-1946	
Baker Creek Marsh	278-1825	
Areas around Canada:		
<u>Ontario</u>		Mace, 1998
Moira Lake	545-1000	
Miscellaneous Areas:		
From areas contaminated by		Eisler, 1988
smelteries, arsenical herbicides, or		
mine tailings:		
Surface	198-3500	
Subsurface	12-25	
Gold mines & abandoned precious	700-5000	CEPA 1993
metals refinery	18,650 (maximum)	
Gold mine, S. Colombia		Grosser et al., 1994
Background	46.3-110.6	
Impacted Sites	980.8-6300.9	
Coeur d'Alene River, Idaho	10.68-209.09	Mok & Wai, 1990
Panther and Blackbird Creek, Idaho	42.1-2550.4	Mok & Wai, 1990

Table A1-21

Concentration of Water-Soluble and Total Arsenic Concentrations in Baker

Creek Sediments

Sampling Location	Leachable/Water- soluble arsenic concentration (mg/kg)	Total arsenic concentration (mg/kg)	Percent leachable/water- soluble arsenic (%)
Golder (2000):	( 0 0/		
BC-EFF-SD-01 BC-EFF-SD-02	3.45 3.76	1940 2490	0.17 0.15
BC-DS1-SD-01 BC-DS1-SD-02	3.9 5.8	3380 3190	0.12 0.18
BC-DS2-SD-01 BC-DS2-SD-02	9.29 2.86	5030 2240	0.18 0.13
BC-DS4-SD-01 BC-DS4-SD-02	2.78 1.9	1110 1440	0.25 0.13
Mace (1998)			
Baker Creek - #16	11	1764	0.62
Baker Creek - #18	68	2838	2.40
Baker Creek - #20	78	1736	4.49

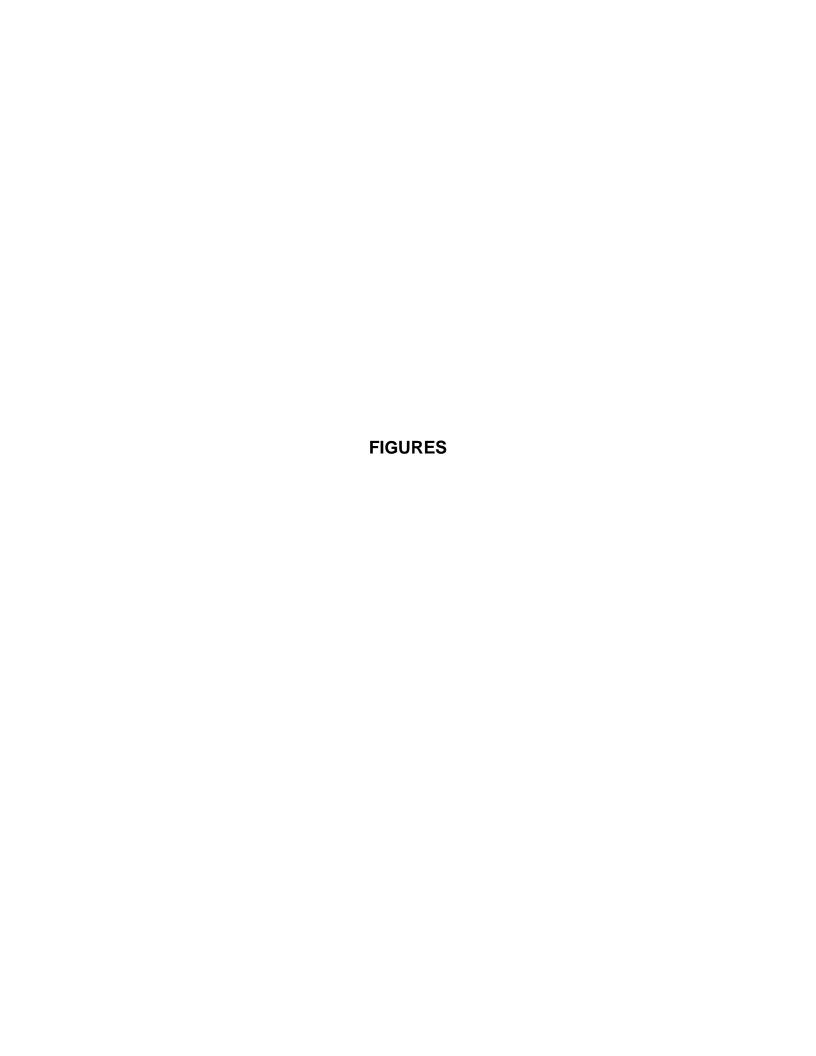
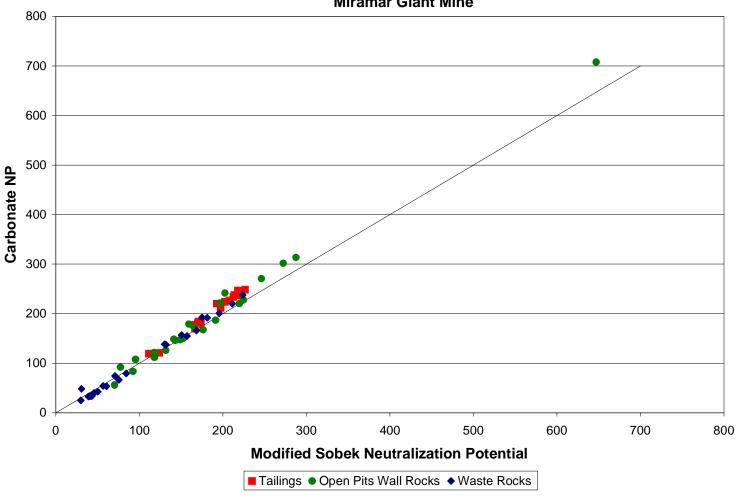


Figure 1
Carbonate NP vs Modified Sobek NP
Tailings, Open Pit Walls and Waste Rock Pile Samples
Miramar Giant Mine



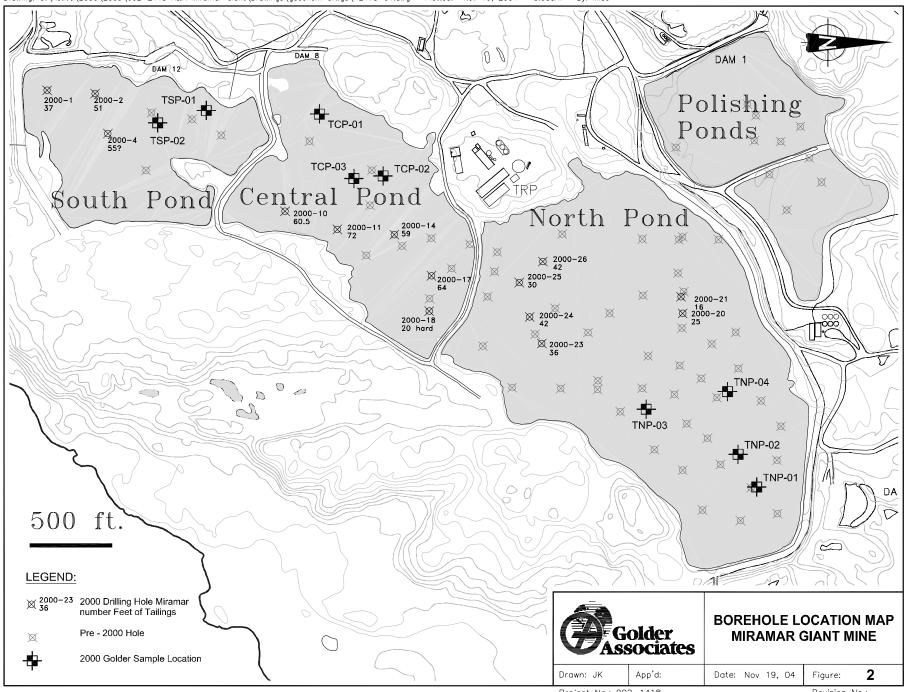
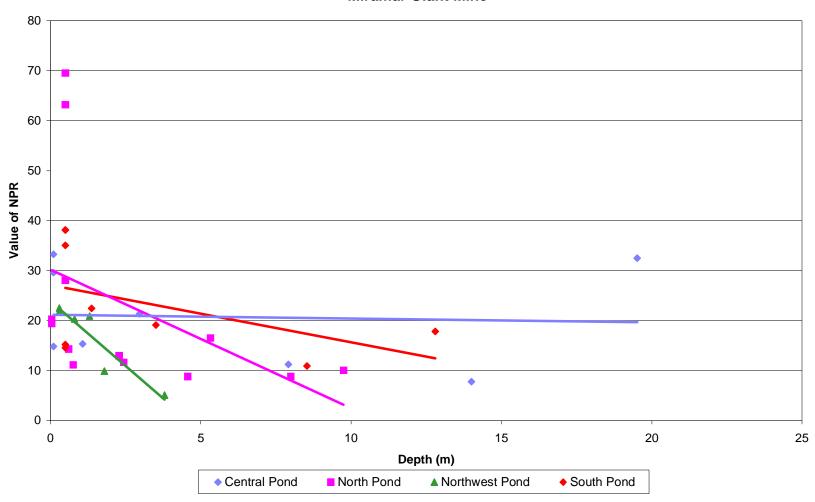
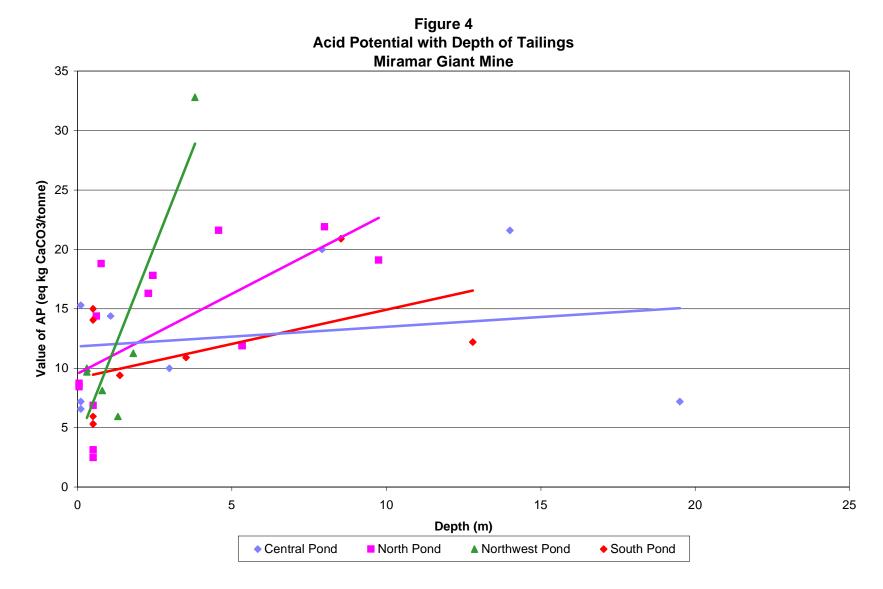


Figure 3
NPR with Depth of Tailings
Miramar Giant Mine





Golder Associates

Figure 5
Total vs Water-Soluble Arsenic - Tailings and Rock
Miramar Giant Mine

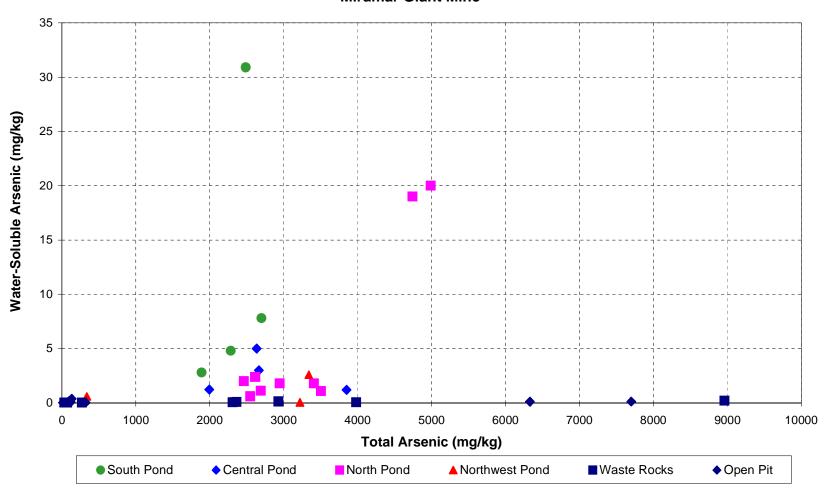


Figure 6
Leachable Arsenic Concentration of Tailing vs Depth
Miramar Giant Mine

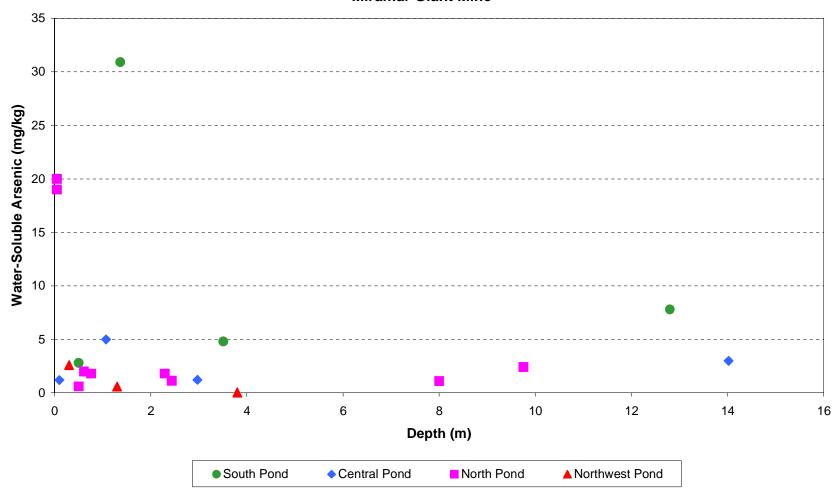


Figure 7
Sequential Leach Extraction of Water Treatment Sludge
Miramar Giant Mine

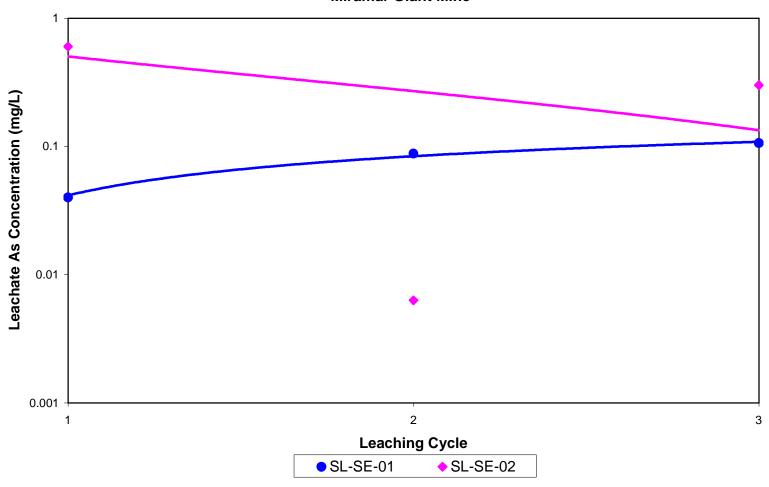
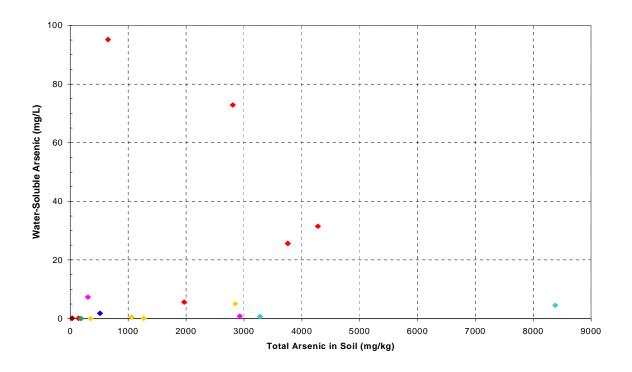
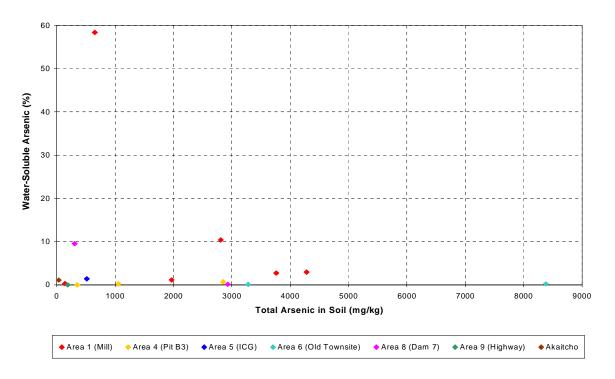
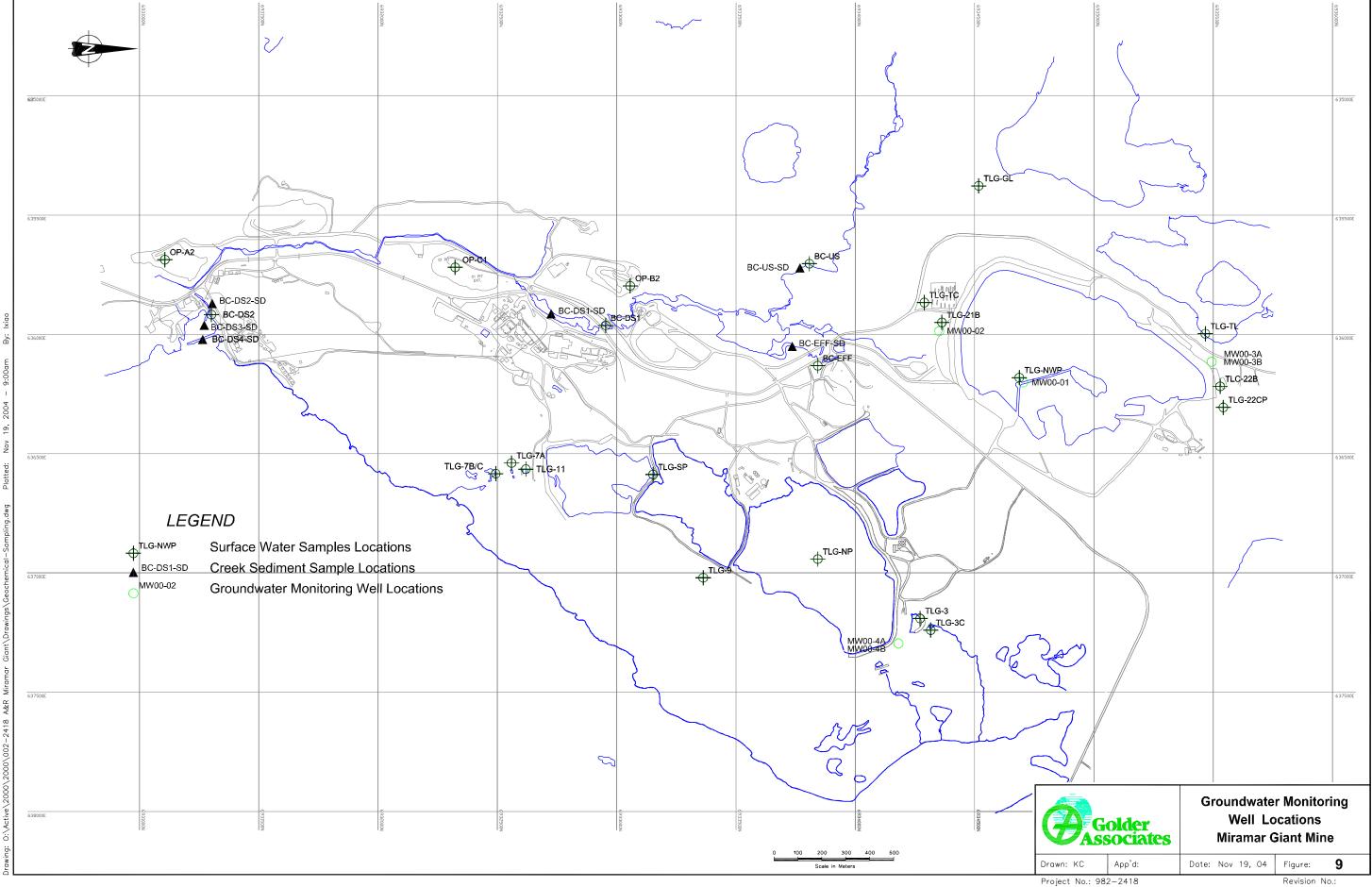


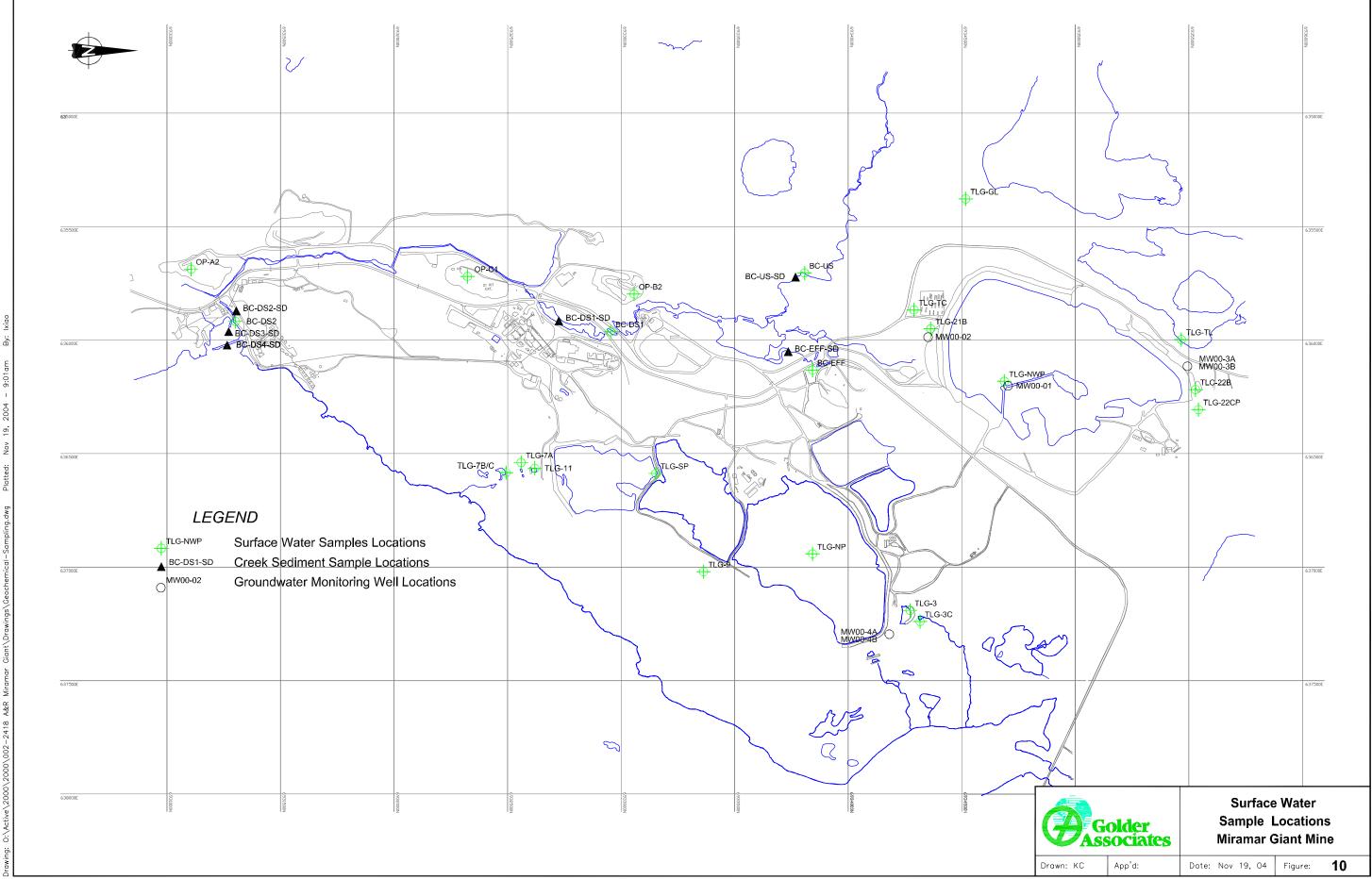
Figure 8

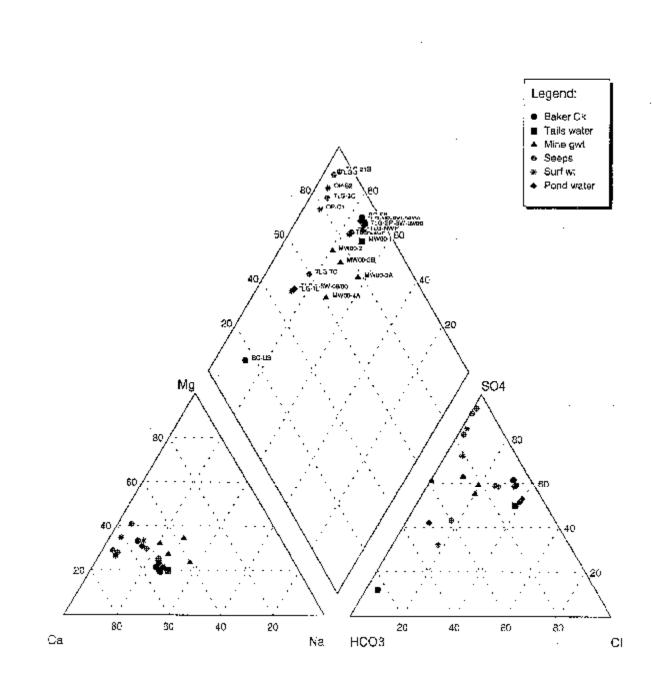
# Total vs Water-Soluble Arsenic Concentrations Miramar Giant Mine









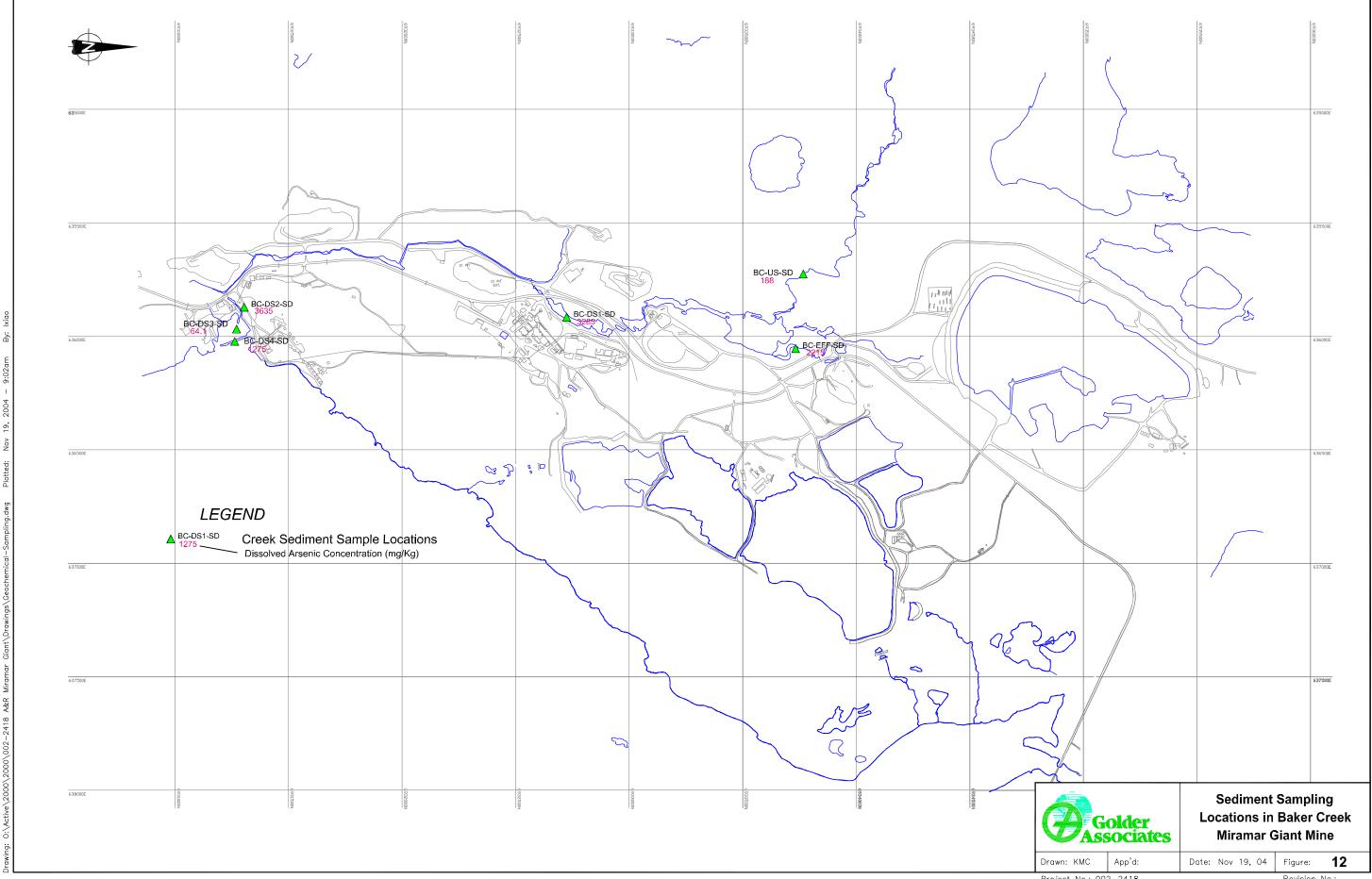




Drawn ..... Drawn Heviewed ...... Date ......

002-2418

Project No. ....



## APPENDIX 1

OPEN PIT ROCK, WASTE ROCK AND TAILINGS CEMI LABORATORY ANALYTICAL REPORTS

# CEM Inc.

Canadian Environmental and Metallurgical Inc.

# DATA REPORT

Date:

February 2, 2001

CEM inc. File No.

0033

Report On:

Giant Yellowknife Samples

Report To:

Golder Associates

500-4260 Still Creek Drive

Burnaby, 3C V5C 6C6

Attention:

Ms. Valerie Bertrand

Received:

July 31, 2000

CUENT PROJECT PROJECT # TEST

: GOLDGR ASSOCIATES : GRANT YFLL DWYKNIFE : 9033 : METAL SCAN BY ICP (MULTI-ACID DIGESTION) PLUS ARSENIC AND ANYIMONY ASSAYS

																																				_				_		_		•		
25	ᄪ	325	퍨	300	272	3 !	è i	20 4	3 8	9 1	ě	<u> </u>	4 29	35	49	ల	4	r.	27 (	B	£Υ	n	æ.	ec (	æ ç	77.	দ া	~ (	2 7	42	Ф	<b>⇒</b>	43	ë	ភាព	D ()	" ~			′⊼	. ^	. 💝	_			
A.S	25	١	'	•	L	'	•		•		'	'	' '	'	'	'		'	'	:	'	'	4.02	٠	'	'	'	'			Ċ	·	Ċ													
As	H Od	2610	1890	3850	3280	8720	2,40	2430	2550	3130	1799	9	1830	4,983	1370	ಸ	,	293	য় :	3	9	3610	×10000	479	3 H	3	ς :	₹:	24	? ₹	8	46	27.1	7	e s	= 8	7	1 0000	3 5	7 17415	2410	23:00	5.	ö	`\	,
ភ	HE	198	2.2	375	0%	7	4	ŽŽ.	88	416	S P	2 9	38	234	5	ტ  -	ස	50	₽ ;	120	<b>9</b> ;	8	₹	Ę.	<u>5</u>	20	2	3 :	řì	5 5	121	102	70	8	æ i	Ξ8	N 8	- 0	88	5 5	1 5	2 2	12	167		
₹	Ę	ę	ę,	9	9:	9 !	Ş ;	₹.	₩.	<u>ا</u> و	9 9	2 9	5	ŧ	ş	9	운	÷	₽,	<u>-</u>	Ŷ	9.	ç	ç	₹ :	<b>≜</b> 5	₹	0 3	î	7	ç	Ψ	5	t C	9 9	5 6	<u>-</u>	2 9	2 9	7	2 5	Ž	. 00	Ş		
>	nid	132	1/8	139	<u>-</u>	159	151	3	4	12.	38	2 6	88	£	224	221	228	215	198	Ę	55	出	282	224	£ 3	2 3	6	3	212	3 2	8	249	225	26.6	£ 3	491	777	9	2	9 C	9 6	2	324	Ĭ.		
E	*	3	80,0	202	8	ğ	9. <b>G</b> E	916	0.67	200	) (100 ×	E (1)	3 5	0.13	0.30	0.37	0.17	0.50	9,39	2	5.63	3.05	3.5	0.89	0.05	200	0.23	643	96.0	100	03	C.48	0.35	16,9	<b>£</b> 6	1000	0.47	8 5 0 5	0.42	300	60.0	99	į	2.37		
																																			108											
윤	E	0/1	150	343	33	152	5	182	<u>۾</u>	222	연합	50	4 6	132	9	4	상	o	٧	٧	얾	ব	Si	V	₹ ;	4	₹ (	V (	yο	4 43	Ð	Ŋ	ŋ	٧	۷ ۲	Q	42	Ŋ,		γ;	<u>†</u> :	ę.	<b>14</b>	. 66		
																																			2											
																																			35											
																																			207											
9	22	. N	Ŷ	٥.	٥ ٧	N	0.	å	Ŋ	8	7	N	ৰ ণ	40	8	v	Ŷ	Ÿ	çų V	₹	٠ -	٠ ٧	٧	7	7	N	es i	4	Ġ,	ÝΩ	, A	Ŷ	Ç	7	7	Ÿ	Ÿ	Ÿ	٧	ÿ	Ø	Ø:	7 %	9	•	
																																			066											
																																			9,84 48,6						_					i
																																			9770											
																																			6.50											
																																			ΊΪ											
			_	_	_		_								_		_									۵	10									159				216	105			385		
٥	•		3.0	è	£	3 42	7 140	186	•	0 126	0 148	7 132	230		10	3 402	190	7 204	404	23 24	8 183	0	0 138	4 118	т Ж	r-	eo -1	e.	800 T	)   		2.14	2 253	0 237	8 173	91	9	5	34 27		£	÷	ਚੋਂ ! ਉਸ	8 3 9 1	ر ا	
ů			3 4			N	~	×		8	ង	ē.	86 86		, 4	₹	ř.	£6	<del>آ</del>	ই	-	ři m	4	eù e	4	÷	io M	4	m:	آب به - به	9 30		4	٠ د		.4	. 4		. 60	/- 4.		5	69	e (	r N	
Ġ		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 ¥	i 3*	**	89	7	<u>ه</u>	39	.a	_	, v	N 3	4				Ę.		`	49	٠.	\$ >100			97.0	۸۰	_		- ~		. =>	ın	v m		5	0 5	ı Ç	9		λ	_	I-	y ı	۵.	
Ç	; ?	84	7	500	# (5)	5 12	7	4	ें च	4.55	5.40	i) T	80 C	000	6	5,03	57.5	5.83	4	). Cú	5.86	4	28	8	2,83	12.50	£.75	ති (	ري د د د	9 6	7	9	7.76	4	15 24 24	5	9 2	**	( 1) ( 10)	÷					E.	
ē		E !!	3 5	2	, IC	ιŋ	Ÿ	λ	â	Ą	5	Ą	Å.	9 5	, re	₩	ķ	ç	V	Ą	'n	Ю	У	Ŧ	ŋ	٧	7	Ç,	7 4	7 4	7	٧	٧	Ŷ	v	r.	, K	, n	7	40	' ∜	÷			7	
á	ì	E 400	9 0	9 6	8	<0.5	<0.5	40.5	40.5	<0.5	c0.5	<b>0</b> .5	9	9 6	000	0.05	40.5	40,5	40.5	9,5	Ş	20.5	<0.5	2),6	Ĉ.	A US	70.5	Ç.,	9 V	9 6	1	9	<0.5	60.6	Ş	0	7 V	9.09	V	9	300	<0.5	<0.5	50.5	5	
ž	ī	100		8 8	8	120	173	100	7.00	33	170	£	8	2 %	8	8	110	5	22	160	130	120	22	8	170	39	35	¥	<u> </u>	4 8	Ę	33	6	ę	33	100	38	8 8	8 2	3	150	45	130	81	2	
7	? ;	8 9	) ) () ()	2 4 2 5 2 5	26 (46)	6.70	4.81	6.41	7.29	0.01	5.86	4.87	G. 7	2 u	3	5.82	5.93	5.07	5.73	5.33	2	6.78	5.73	4.50	6.73	1.42	5.38	3	8 6 9	n C C C	38	6.47	6.79	7.15	G.	0	5 10	000	2.40	200	2 33	6.39	8.05	6.9	5.36	
ž	ť	ē,	V 4		-	-	-	-	V	-	-	•	Ÿ °	•	۷,	¥	٧	٧-	v	V	Ū	⊽	၈	٧	v	τ-	v	⊽	7 3	7	V	7	٣	T	₹	7	7	7 7	~ ~	7	7	^	v	ō	~	
		CI EL GMAG	TSF01.2500	005-ZD461.	TCD02207415	448Z-8018-01.	10501-2031	TAP02.2303	TAP03/200	78740-VI	TSFOS-2000A	18-01-23036	WR-0:-81-03-2300	W/P-0-01-02-2950	0000 10 EVE C 1000	00K2-50-50-0-50-0	WR-0PA2-03-2308	W: 4-DHA2-64-2300	W-2-OPM2 25-A	OPA2-C1-2:00	OPA243-2105	DPA2442*00	00/21-01-21-00	OPA1405-2100	OPA1-09-2:00	0201-01-2100	0.901-0.50100	00/01-05-2100	POLC: DEBRICO	Q28R Q2 2133	OPE2.04.2410	OP82-05-211X1	WR3-01-23.0	WR1-02-2333	WE-11-700		WF2-03-2:00	WH2-01-2:00	WR3 (D-229)	DECA-STORING TO THE	WSC-0510-40-500	0000 2076100707	WR GPC1-31-73db	WR-CP-01-02-2300	VR-CPC1-01-A	

CLIENT PROJECT PROJECT # TEST

: GOLDER ASSOCIATES : GIANT YELLOWKNEE : 0033 : METAL SCAN DY ICP (MULTI-ACID DIGESTION) PLUS ARSENIC AND ANTIMONY ASSAYS

g	띭	₽	æ	m	22	g	23	17	8	<del>‡</del>	9	73 73	351	150	29	22	받	738	300
8					,	,	,	,			,	,	,	1	٠			55	23 5
1 As	ā	_	r-1	_		6			:0	-+	:5	`	ਲ ਕ	8	e.	œ.	ěč re	4 > 10.	9 7
uz.	ã	6	 ?;	ਣ 	<u>ة</u>	÷.	Š.	×.	ă -	ah O	85 G	Ŧ	27	ē	2	2	~	5	34
≴	E.	ç	V	7	ş	۲	ŕ	ř	ť	7	7	Ť	₹.	4	ĭ	Ť	Ÿ	Ť	Ÿ
>																			
Ę																			
ည	Ę	<u>}-</u>	ģ	8	9	201	9	æ	<b>1</b> 84	123	135	33	ŝ	40,7	139	135	3	88	566
5	E	ß	16	QC	4	٨	5	4	Ÿ	V	٧	20	27.4	.¥0	98	4	일	\$8	99
n.	<b>u</b> dd	Ę	470	320	SPS SPS	) (4)	933	306	400	450	<b>4</b> BC	340	940	220	380	920	ž	88	Š
Z	FOO	32	9	Ë	45	38	[- [-	87	6	Ę	Σ	Ž	6	۶	2	5	Ů.	986	22B6
Š	%	1,37	96.0	0.56	0.53	503	0.50	0.4€	1.84	131	£83	1744	673	86,0	78'6	<u>.</u> .	0.50	0.43	1
Mo.	ПQQ	٧	٧	Ö	ζ!	۷5	Ÿ	Ŋ	Ŋ	٥	٧	Ÿ	Ņ	ÿ	Ŋ	Ÿ	Ÿ	න	8
Ē	mada	325	1285	950	1105	1330	1100	613	1480	1245	1405	1335	1115v	1105	1166	1115	150	765	1990
2	28	15 60	3.0	200	345	3670	7,72	Z,E3	3,16	2.27	3.70	5.33	252	2.88	3.68	3.87	3.68	2.62	0.50
¥	8	0.63	8	0.27	1.63	0.20	0.11	1.07	0.32	0.44	0.23	1.03	1.1	6.87	59.0	6.37	204	0.55	0.20
										6.4.8									
3		12	2	6,	6	191	23	77	Ť	4/1	123	6	2	88	4	\$	8	2000	< 000001 < 1
ث	a.u.	ķ	108	139	200	8	3,	194	102	61	50	14.	60;	.65	131	:46	235	É	8
ê		[3	4	7	3	3 8	8	200	34	27	ě	38	8	e N	8	ħ	32	ব	2
5				٠,	1 (1)	0	2	ė	-	N	01	<u>.</u>	60	57	9	10	98	9	,
																			10.35
										49								٠.	
	_	_																	60.5
																			8
																			0.68
										7									28.
•	• :	_	2 :																
	2 2 2	SAMPLETO	nzz-l włęzłostka	W(-0)*9+1 2020/	OFES 22/22/81	markerson of	Of the Action Co.	0.000 000 0000	00000 00 00000	CONTRACTOR AND CONTRACTOR	CICRADAL	4,00,000	CALIFORNIA SECTION	T-MW-01-2600L03	SECTION AND LOCATION OF THE SECTION	T. N.W.O.C. 36EG 84	Turnound and the	51 -55 - 40 - 930 B	SIASE-401-2300

	Potal	98.40 99,62
	១ %	27.60 30.05
	Sc ppm	ů z
	, γ	6. 64
	Z; ppm	40 40
	Sr ppm	270 90
	R Mdd	120 2080
	P205	0.23 3.58
	50 O %	0.12 0.98
	Tib2	0.30
	K2D %	0.89 0.38
	Na20	0.68 0.05
	MgG %	4,70 :.56
	Ca C	29.84 5.68
ATES NIFE (ALYSIS	Fe2O3	8.55 #1.79
RASSOCI FLLOWK ROCK AN	Alzoa Fezoa	4.62 1.55
: GOLDER ASSOCIATES : GIANT YELLOWKNIFE : 0033 : WHOLE ROCK ANALYSIS	\$i02	20.83
CLIENT PROJECT PROJECT # TEST		<b>SZMP</b> LF ID SL/SE-02-2000 SL/SE-01-2000

CLIENT : GOLDER ASSOCIATES PROJECT : GIANT YELLOWKNIFE

PROJECT #: 0033

TEST : MODIFIED SOBEK METHOD ACID-BASE ACCOUNTING

SAMPLE	PASTE pH	\$(T) %	S(SO4) %	ΑP	NP	NET NP	NP/AP	CARBONATE NP1
TSPO1-2300	8.2	0.51	0.06	14.1	213.8	199.7	15.2	237.5
TSPO1-2300 RE	8.4	0.54	0.06	15.0	218.1	203.1	14.5	236.7
TSP02-2300	8.8	0.21	0.02	5.9	208.1	202.2	35.1	226 7
TCPO1-2300	8.6	0.51	0.02	15.3	226.9	211.6	14.8	I
TCPO2-2300-02	8.4	0.27	0.04	7.2	212.5	205.3	29.6	:
TCPO3-2300	8.3	0.95	0.74	6.6	218.1	211.8	33.2	•
TNPO1-2300	8.3	1.41	1.14	8.4	170.9	162.5	20.3	
TNPO2-2300	8.4	0.24	0.14	3.1	197.5	194.4	63.2	211.7
TNP03-2300	8.4	0.22	0.14	2.5	173.8	171.3	69.5	180.8
TNPO4-2300	8.4	0,34	0.12	69	192.5	185.6	28.0	
TSP02 2300A	8.7	0.19	0.02	5.3	202.5	197.2	38,1	223.3
TSP02-2300A RE	8.6	0.19	0.02	5.3	202.5	197.2	38.1	224.2
TNPO1-2300A	8.3	26	0.98	8.8	170.0	161.3	19.4	180.8
WR-OPB1-03-2300	8.8	0.32	<0.01	10.0	181,3	171.3	1	191.7
WR-OPB1-02-2300	8.8	0.56	<0.01	17.5	211.3	193.8	12.1	220.0
WR-OPB1-01-2300	9.0	1.94	<0.01	60,6	223.8	163.1	3.7	237.5
WR-OPA2-01-2300	9.2	0.99	<0.01	30,9	84.4	53.4	2.7	79.2
WR-CPA2-02-2300	9.4	0.16	<0.01	5.0	56.6	51.6	11.3	54.2
WR-OPA2-03-2300	9.1	0.17	<0.01	5.3	157.2	151.9	29.6	155.C
WR-OPA2-04-2300	9.1	0.62	<0.01	19.4	168.4	149.1	8.7	165.8
WR-OPA2-03-A	9.5	0.06	<0.01	1,9	30.0	28.1	16.0	25.0
OFA2-01-2100	9.1	0.05	<0.01	1.6	143.1	141.6	91,6	145,8
OPA2-03-2100	9.2	4.01	0.01	125.0	287.5	162.5	2.3	313.4
OFA2-04-2100	9.1	0.64	<0.01	20.0	224.7	204.7	11.2	227.5
OPA1-01-2100	9.3	6.47	0.01	201.9	246.3	44.4	1.2	270.9
OFA1-05-2100	9.8	0.90	<0:01	28.1	70.3	42.2	2.5	55.8
GPA1-06-2100	9,0	0.18	<0.01	5.6	149.1	143.4	26.5	147.5
CFA1-06-2100 RE	6.9	0.18	<0.01	5.6	141.6	135.9	25.2	148.3
CPC1-01-2100	9.1	1.52	<0.01	47.5	646.9	599.4	13.6	707.5
CPC1-03-2100	9.0	0.05	<0.01	1.6	191.3	189.7	122.4	186.7
CPC1-05-2100	9.2	0.07	<0.01	2.2	152.2	150.0	69.6	150.0
CPBR-01-2100	9.2	0.22	<0.01	6.9	118.1	111.3	17.2	111.7
CP6R-02-2100	9.3	<0.01	<0.01	0.0	92.5	92.5	_	83.3
CF82-03-2100	9.1	0.18	<0.01	5.6	198.9	191.3	35.0	221.7
CPB2-05-2100	9.0	0.32	<0.01	10.0	159.4	149.4	15.9	179.2
<u> </u>								

AP = ACID POTENTIAL INTONNES CACOS EQUIVALENT PER 1000 FONNES OF MATERIAL

INP = NEUTRALIZATION POTENTIAL IN YOMNES GROOM EQUIVALENT PER 1000 TONNES OF MATERIAL.

NET NET NEU NEUTRALIZATION POTENTIAL - TONNES CACOS EQUIVALENT PER 1008 TONNES OF MATERIAL.

NOTE: WHEN S(T) AND/OR S(804) IS REPORTED AS <0.01, IT IS ABSUMED TO BE ZERO FOR THE AP CALCULATION.

<sup>1</sup> CARBONATE NP GALCULATED FROM TOTAL (NORGANIC CARBON (T/c) ASSAY.

RF = RFPLICATE.

CLIENT : GOLDER ASSOCIATES PROJECT : GIANT YELLOWKNIFE

PROJECT #: 0033

TEST : MODIFIED SOBER METHOD ACID-BASE ACCOUNTING

SAMPLĖ	PASTE pH	S(T) %	S(SO4) %	ΑP	NP	NET NP	NP/AP	CARBONATE NP*
	P.,		. "			''		
OPB2-06-2100	8.9	0.05	<0.01	1.6	153.1	151.6	98.0	150.8
WR1-01-2300	9.2	0.22	<0.01	6.9	75.3	68.4	11.0	
WR1-02-2300	9.1	0.10	<0.01	3.1	. 50.3	47.1	16.1	42.5
WR2-01-2300	9.2	0.11	<0.01	3.4	71.1	67.7	20.7	
WR2-03-2300	9.3	0.13	<0.01	4.1	30.9	26.5	7.6	48.3
WR3-01-2300	9.3	0.05	<0.01	1.6	60.8	59.2	38.9	533
WR3-02-2300	9.2	0.11	<0.01	3.4	39.0	35.6	11.3	32.5
WR-02BR-02-2300	9.1	0.56	< 0.01	17.5	150.6	133.1	8.6	156.7
WR-026R-01-2300	9.4	0.09	<0.01	2.8	40.3	37. <b>4</b>	14.3	33.3
WR-OPB3-01-2300	8.8	1.13	<0.01	35.3	195.6	160.3	5.5	200.8
WR-OP63-02-2300	9,1	1.02	<0.01	31.9	175.0	143.1	5.5	192.5
WR-0PC1-01-2300	9.3	0.58	<0.01	18,1	42.0	23.9	2.3	33.3
WR-OPC1-01-2300 RE	9.2	0.58	<0.01	18.1	43.5	25.4	2.4	34.2
WR-OPC1-02-2300	9.3	0.68	<0.01	21.3	45.8	24.5	2.2	40.0
WR-0PC1-01-A	9.1	0.10	<0.01	3.1	65.3	62.1	20.9	56.7
WR-OPB4-01-2200	9.0	0.24	<0.01	7.5	131.9	124.4	17.6	137.5
WR-02B4-02-2200	9.0	0.21	<0.01	6.6	130.3	123.8	19.9	138.3
OPB3-02-2200	8.9	0.01	< 0.01	0.3	117.8	117.5	377.0	121.7
OP83-02-2200 RE	8.9	0.01	<0.01	0.3	117.5	117.2	376.0	120.8
<sup>1</sup> OPB3-03-2200	9.4	0.25	<0.01	7.8	202.5	194.7	25.9	241.7
.OPB1-03-2200	9.0	0.41	<0.01	12.8	95.6	82.8	7.5	107.5
OPB1-04-2200	9.0	0.66	<0.01	20.6	166.3	145.6	8.1	. 171.7
OPB1-06-2200	9.0	0.39	<0.01	12.2	77.5	65.3	6.4	
OPB4-01-2200	9.1	0.08	<0.01	2.5	176.3	173.8	70.5	167.5
OPB4-02-2200	9.0	0.13	<0.01	4.1	220.0	215.9	54.2	220.0
OPB4-01-A	9.0	0.10	<0.01	3.1	131.9	128.8	42.2	125.8
IOPB1-04-A	8.9	0.92	<0.01	28.8	272.5	243.8	9.5	301.7
T-NVV-01-2600-01	8.5	0.33	0.02	9.7	218.1	208.4	22.5	240.0
T-NW-01-2600-01 RE	8.4	0.34	Ç.02	10.0	218.4	208,4	21.3	<b>2</b> 40.8
T-NW-01-2600-02	8.5	0.30	0.04	8.1	165.0	156.9	20.3	177.5
T-NW-01-2600-03	8.8	0.19	<0.01	5.9	124.1	118.1	20.9	120.8
T-NW-01-2600-04	8.8	0.36	<0.01	11.3	111.6	100.3	9.9	119.2
T-NW-01-2600-05	9.0	1.05	<0.01	32.8	166.6	133.8	5.1	169.2
<u></u>	<u> </u>					· · · · · · · · · · · · · · · · · · ·		<u> </u>

AP - ACID POTENTIAL INTONNES CACOS EQUIVALENT PER 1000 FONNES OF MATERIAL.

MP = NEUTRALIZATION POTENTIAL IN TONNES C2003 EQUIVALENT PER 1800 TONNES ÓF MATERIAL.

MET NP = NET NEUTRALIZATION POTENTIAL = TONNES C2003 EQUIVALENT PER 1800 TONNES OF MATERIAL

NOTE WHEN S(T) AND/OR S(SO4) IS REPORTED AS <0.01 IT IS ASSUMED TO REFER FOR THE AF CALCULATION.

\*\*CARGONATE NP CALCULATED FROM TOTAL INGRIGANIC CARBON (TIC) ASSAY.

RE = REPLICATE.

SEQUENTIAL LEACH TEST PROJECT: Giast Yellowknife PROJECT #: 0033

;

		PISTULED								
STAGE.	DATE	WAYER	SAMPLE	WATER	Ηď	CONDUCTIVITY] ALKALINI: Y	ALKALINI: Y	ACIDITY	ACIDITY	SUBPHATE
		VOLUME	WEIGHT	RECOVERED		(moisyl)	(mg CaCO3/L)	(pH 4.5)	(pH 8.3)	(Tigin)
		(mi)	(3)	(min)				(ang CaCO3/1) (mg CaCO3/L	(mg CaCO34L)	
SAMPLE	SAMPLE: SL-SE-01									
	08-Aug-00	2000	1000	1440	7.75	1200	43.5	0.0	4.0	503
7				1455	7.90	820	50.5	0.0	3.0	412
n				1520	7.78	564	53.0	0.0	3.3	282
SAMPLE	SAMPLE: SL-SE-02									
	08-Aug-00	2000	1000	1440	11.90	5740	1135.0	0.0	0.0	1100
^				1450	11,85	4730	932.0	0.0	0.0	282
3				1340	11,70	3450	818.0	0.0	0.0	176

# SEQUENTIAL LEACH TEST PROJECT: Giant Yellowknife

PROJECT#: 0033

## LEACHATE ANALYSIS BY ICP

ľ	Sample	Name:	5	SL-SE-01		5	SL-SE-02	
	•	Stage:	1	2	3	. 1	2	3
Į		CEMI#:	02891	02892	02893	02888	02889	02890
į	Dissolved	Metals						
ļ	A!	mg/L	<0.2	<0.2	<0.2	0.4	0.4	0.5
1	Sb	mg/L	0.6	0.6	0.6	<0.2	<0.2	<0.2
	As	mg/L	0.040	0.088	0.106	0.6	0.0063	0.3
	Ba	mg/L	0.12	0.05	0.03	0.10	0.09	0.10
	₿ę	mg/L	< 0.005	<0.005	<0.005	< 0.005	<0.005	<0.005
					-			
ł	Bí	mg/L	<0.1	<0.1	<0.1	<0.1	< 0.1	<0.1
	В	mg/L	0.7	0.7	0.6	. 0.2	<0.1	<0.1
	Cd	mg/L	< 0.01	< 0.01	<0.01	<0.01	< 0.01	<0.01
	Ca	mg/L	171	129	88.8	912	481	430
	Çr	mg/L	<0.01	<0.01	<0.01	0.02	<0.01	<0.01
					İ			
	Co	mg/L	0.65	0.50 -	0.29		0.09	0.05
	Сu	mg/L	0.29	0.09	0.08		0.37	0.29
	Fe	mg/L[	1.74	0.34	0.18	< 0.03	<0.03	<0.03
F	Pb	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ì	Li	mg/L	0.01	0.01	<0.01	0.03	0.02	0.02
1		1			i			
	Mg	mg/L	34.6	26.3	18.5	<0.1	< 0.1	0.10
	Mn	mg/L	0.159	0.101	0.056	<0.005	< 0.005	<0.005
	cM	mg/L	0.12	0.14	0.14	0,07	< 0.03	< 0.03
	Ni	mg/L	0.07	0.06	<0.05	<0.05	<0.05	<0.05
	₽	mg/L	< 0.3	< 0.3	<0.3	<0.3	<0.3	<0.3
		.	_	_	_			
	K	mg/L	9	7	ô	75	32	14
	Se	mg/L	< 0.2	<0.2	<0.2	<0.2	< 0.2	<0.2
	Si	mg/ <b>L</b>	1.18	1.20	1.12		0.29	0.35
	Ag	mg/L	0.01	< 0.01	<0.01	0.01	<0.01	<0.01
	Na	mg/L	79	41	18	447	166	65
	Sr	mg/L	1.90	1.48	1.01	3.51	2.09	1.45
!	Ti	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
•	. <b>S</b> ກ	mg/L	<0.03	< 0.03	< 0.03	<0.23	< 0.03	<0.03
	Ti	mg/Lj		<0.01	<0.03	<0.03	<0.03	<0.01
	Ÿ	mg/L	< 0.03	<0.03	<0.03	<0.03	< 0.03	<0.03
	•	nig/s	-0,00	~0,05	~0.00	~0.00	~0.00	ت 0.0-
	Zn	mg/L	0.273	0.111	0.109	0.013	0.045	0.017
	<b>∠</b> :1	ingr.	0,210	G. ( , )	J. 100.	Ų. <b>U</b> 13	υ.ψ−ψ	0.017

CLIENT PROJECT : GOLDER ASSOCIATES : GIANT YELLOWKNIFE

PROJECT#

: 0033

TEST

: LEACH EXTRACTION TEST

	DISTILLED							
SAMPLE	WAT±R	SAMPLE	. рН	CONSUCT.VITY	ALKALINITY	AÇIDITY	ACIDITY	SULPHATE
1	VQ:::IMB	WEIGHT		(88/cm)	(mg CaCOWL)	(pH €.5)	(pH 5.3)	(mgA.)
1	(mL)	(g)			<u> </u>	(mg CaCO3/L)		
TSP02-2300	400	200	7.96	361	63.0	0.0	1.5	114
TCPO1-2300	400	200	8,00	307	59.0	0.0	1.5	100
INPO1-2300	400	200	7.95	4200	62.0	0.0	4.5	5220
TNP03-2300	400	200	7.93	1055	43.5	0.0	2.0	667
TNPO1-2300A	400	200	7.87	4720	61.5	0.0	5.0	6370
WR-OP81-01-2300	400	200	8.24	149	66.5	0.0	1.0	10
WR-OPA2-04-2300	400	200	8.01	126	67.5	0.0	1.8	[ 7]
OPA2-01-2100	400	200	7.93	115	42.0	0.C	1.0	[ 17
IOPA2-03-2100	400	200	7.95	231	44.0	0.0	1.3	79
OPA1-01-2100	400	200	7,97	104	40.0	0.0	1.3	13
OPC1-01-2100	400	200	8.18	259	67.0	0.0	1.0	82
OPC1-05-2100	400	200	8.20	130	63.0	0.0	1,0	ទ
OPBR-02-2100	400	200	8.17	115	63.0	0.0	1.0	5
OP82-05-2100	400	200	7.99	132	44.0	0.0	1.0	28
WR1-01-2300	400	200	8.20	118	67.0	0.0	0.5	4
WR3-01-2300	400	200	8.16	126	61.0	0.0	1.0	4
WR-02BR-02-2300	400	200	8.07	141	70.5	0.0	3,5	7
WR-0983-01-2300	400	200	8.03	288	58.5	0.0	3.0	67
WR-0201-01-2300	400	200	8.07	115	63.5	0.0	2.0	5
WR-0201-02-2300	400	200	8.10	120	65.5	0.0	2.5	5
OP83-03-2200	400	200	8.05	108	57.0	0.0	3.5	5
OPB1-03-2200	400	200	8.10	129	66.0	0.0	2.0	5
OPB1-06-2200	400	200	7.92	98	37.5	0.0	2.5	10
OP84-01-2200	400	200	8.11	148	64.5	0.0	1.5	19
OPB4-01-A	400	200	8.14	139	65.0	0.0	1.5	13
T-NW-01-2600-01	400	200	8.03	486	60.0	<b>0</b> .0	2.0	130
3-NW-01-2600-03	365	183	8.07	280	58.0	0.G	2.0	70
T-NW 01-2600-05	125	62	8.20	254	75.0	in/a	n/a	57
32711	123	41	8.13	710	n/a	n/a	n/a	213
32713	186	62	7.98	815	79.0	n/a	n/a	335
32724	156	52	8.07	729	81.0	n/a	n/a	248
32761	196	98	7.83	2150	61.0	n/a	п/а 🕚	2170
32763	83	41.3	7.76	1400	n/a	n/a	n/a	n/a
32777	182	91	. 8.20	544	86.0	n/a	n/a	196
32951	152	76	8.20	749	90.0	n/a	n/a	230
32953	180	90	8.27	536	99.0	n/a	ถ/a	134
32964	210	105	8.20	607	92.0	n/a	n/a	212
33001	184	92	7.93	1590	53.0	n/a	n/a	1300
33003	130	65	8.10	915	74.0	n/a	n/a	411
33011	130	65	8.09	784	76.0	n/a	n/a	331

n/a ≃ not available due to insufficient sample volume.

CLIENT

: GOLDER ASSOCIATES

PROJECT

: GIANT YELLOWKNIFE

PROJECT#

: 10033

TEST

: LEACH EXTRACTION TEST

# LEACHATE ANALYSIS BY ICP

							~—
							WR-0281-01-
Sample Name	<u>):</u>	TSP02-2300	TOPO1-2300	TNPO1-2300	TNPQ3-2300	TNPO1-2300A	. 2300
	CEM!#	03178	03179	03180	23181	03182	03183
Dissolved Me	als	· · · · · · · · · · · · · · · · · · ·				•	
(mg/L)	İ						
Aluminum	Al	<0.2	<0.2	<0,4	< 0.2	< 0.4	<0.2 <sup>t</sup>
Antimony	Sb	2.2	5.1	0.9	<0.2	1.0	<0.2
Arsenic	As ]	1.4	06	8.5	0.3	10.0	0,105
Barium	Ва	<0.01	<0.01	0.04	<0.01	0.03	<0.01
Beryllium	Бе	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005
Bismuth	Bi	<0.1	<0.1	<3	<0.1	<3	<0.1
Boron	В	<0.1	<0.1	<5.2	<0.1	< 0.2	<0.1
Cadmium	Cd	< 0.01	< 0.01	< 0.02	< 0.01	< 0.02	<0.01
Calcium	Ca	50.7	49.3	446	171	368	. 24.5
Chrom/um	Cr	<0.01	<0.01	<0.02	< <0.01	<0.02	<0.01
Cobalt	Co	0,01	0.02	0.11	0.01	0.14	<0.01
Copper	Cu	<0.01	0.01	0.14	0.01	0.18	<0.01
Iron	Fe !	0.14	0.05	0.10	0.05	0.09	<0.03
Lead	РЪ	<0.05	< 0.05	< 0.3	<0.05	<0.1	<0.05
Lithium	Li	< 0.01	<0.01	0.05	<0.01	0.05	<0.01
  Magnesium	Mg .	13.0	8.7	1140	53.4	1450	4.9
Manganesa	Mn	0.026	0.027	0.15	0.055	0.17	0.028
Molybdenum	Mo	<0.03	<0.03	0.20	<0.03	0.25	< 0.03
Nickel	Ni	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05
Phosphorous		<0.3	<0.3	<0.6	<0.3	`<0.6	<0.3
Potassium	к	5	3	66	. 6	80	. 2
Selenium	Sa	<0.2	<0,2	<Ū.4	<0.2	<0.4	<0.2
Silicon	S:	1.19	0.76	1.4	1.42	1.4	0.72
Silver	Ag	<0.01	10.¢>	<0.02	<0.01	<0.02	<0.01
Sodium	Ne	18	1.3	510	19	638	<2
Strontium	Sr	0.223	0.132	2.31	0.490	1 98	0.341
Thailium	}	<0.2	<0.2	<0.4	<0.2	<0.4	<0.2
Tin	Sr.	<0.03	< 0.03	<0.06	<0.03	<0.06	<0.03
Titanium	Ti	<0.01	<0.01	<0.32	<0.01	<0.02	<0.01
Vanadium	ν''	<0.03	<0.03	< 0.06	<0.03	<0.02	<0.00
Zina	Zn	0.005	<0.005	0.060	0.005	0.109	<0.008

CLIENT

: GOLDER ASSOCIATES

: GIANT YELLOWKNIFE

CLIENT PROJECT PROJECT#

: 0033

TEST

: LEACH EXTRACTION TEST

### LEACHATE ANALYSIS BY ICP

		WR-0PA2-04-					
Sample Name						°C1-C1-21C0 OF 03188	°C1-05-2100; :03189
	CEMI#	03184	03185	53186	03187	03100	03100:
Dissolved Mea	ais ;						
(mg/L)	:		-0.0	an n	-0.0	~0.0	<0.2
Aleminum	Al j	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	Sb !	<0.2	< 0.2	<0.2	<0.2	<0.2	0.0146
Arsenic	As j	0.065	0.191	0 053	0.190	0.055	0.0145 <sub>3</sub> <0.01i
Barum	Ба	<0.01	<0.01.	< 0.01	<0.01	<0.01	
Beryläum	Be	<0.005	<0.005	<0.005	<0.005	<0.005	<0,005
Bismuth	Bi ·	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boren	В	<0.1	<0.1	.<0.1	<0.1	<0.1	<0.1
Cadmium	Cd	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Calcium	Ca	19,4	15.9	33.1	13.8	44.7	25.3
Chromium	C-	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.01
Cobalt	Co	<0.01	<0.01	<0.01	- <0.01	<0.01	<0.01
Сорвег	Çu	< 0.01	< 0.01	<0.01	< 0.01	< 0.01	<0.01
Iron	Fe	<0.03	< 0.03	<0.03	<0:03	< 0.03	<0.03
Lead	Po .	<0.05	< 0.05	<0.05 -	< 0.05	<0.05	<0.05
Lithium	<b>L</b> i	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Magnesium	Mg }	4.6	5.9	11.6	5.0	10.3	2.2
Manganese	Mn	0.014	0.007	0.083	0.055	0.038	0.013
Molybdenum	Mo	<3.03	<0.03	<0.03	< 0.03	<0.03	< 0.03
Nickel	Ni I	<9.05	< 0.05	<0.05	< 0.05	<0.05	<0.05
Phosphorous		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Potassium	к	<2	<2	4	2	< <u>2</u>	<2
Setenium	Se	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silicon	Si	1.09	0.71	0.64	0.38	0.49	0.56
Silver	Ag	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.61
Sod um	Na	5	<2	<2	<2	<2	<2
	_		0.000	0.017	0.004		÷ 034
Strontium	Sr	0.064	0.039	0.047	0.021	0.060	0.034
Thallium	Tŧ .	<0.2	<0.2	<0.2	<0.2	< 0.2	<0.2
Tin	Sn	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Titanium	Ti	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.51
Vanadium	У ¦	<0.03	<0,03	<0.03	<0.03	<0.03	< 0.03
iZinc	Zn	<0.005	<0.005	<0.005	<0.005	< 0.005	<0.005

: GOLDER ASSOCIATES

PROJECT

: GIANT YELLOWKNIFE

PRCJECT #

: 0033

TEST

: LEACH EXTRACTION TEST

## LEACHATE ANALYSIS BY ICP

				<del></del>			
		CP5R-02-				WR-OPBR-02-	WR CP83-01-
Sample Name	a: ·		P82-05-2400	WR1-01-2300	WR3-01-2300	2350	2300
	CEMI#	03190	03191	03192	63193	03194	03195
Dissolved Met	als	· · · · · ·	· · · · · · · · · · · · · · · · · · ·				
(mg/L)			•				İ
Aluminum	AI L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Antimony	Sb	< 0.2	< 0.2	<0.2	<0.2	<0.2	<0.2
Arsenic	As	0.0069	0.036	0,0077	0.0156	0.042	0.029
Barum	Ва	<0.01	< 0.01	< 0.01	0.11	< 0.01	<0.01
Beryllium	Ве	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.805
	1						أدم
Bismuth	Bi	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron	В	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	Cq [	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Calcium	Ca [	23.0	18.0	21.4	23.3	22.7	40.1
Chromium	Cr ]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
  Cobalt	Co	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	C:	0.01	<0.01	<0.01	<0.01	0.01	0.01
i.toti	Fe	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead	Pb	<0. <b>05</b>	<0.05	<0.05	<0.05	<0.05	<0.05
Lithium	Li L	<0.01	<0.01		<0.01	<0.01	<0.01
	}						
Magnesium	Ng	2.3	8.7	2.5	,2.0	4.2	10.1
Manganese	Ma	0.016	0.025	0.010	0.020	0.017	0.039
Molybdenum	Mo }	<0.03	< 0.03	<0.63	<0.03	< 0.03	<0.03
Nicke:	Ni ]	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05
ู้ Phosphorous	P	< 0.3	<0.3	<0.3	<0.3	<0.3	5.0×
( Potassium	ĸ	<2	2	<2	<2	<2	4
Selenium	Se	<0.2	<0.2	<0.2	~0.2 <0.2	<0.2	<0.2
Silicon	Si	0.80	0.66	1.13	0.93	0.89	0.61
Silve:			<0.00	<0.01	<0.93	<0.01	<0.01
Sodium	Ag	<0.01	<2	3	3	~0.01	7
Socialis	Na ]	2	~~	ა	3	3	'
Strontium	Sr	0.039	0.026	0.098	0.077	0.103	0.121
Thattum	1	<0.2	<0.2	< 0.2	<0.2	<0.2	<0.2
Tin	\$n	<0.03	< 0.03	<0.03	<0.03	< 0.03	<0.03
Titanium	Ti	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.51
Vanadium	٧	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
j Izina	: ا	-0.00 <i>0</i>	~0.00E	~0.005	<0.005	<0.005	0.013
Zind	Zri	<0.005	<0.005	<0.005	~0.00\$	~0.003	

: GOLDER ASSOCIATES

PROJECT

: GIANT YELLOWKNIFE

PROJECT#

: 0033

TEST

: LEACH EXTRACTION TEST

## LEACHATE ANALYSIS BY ICP

		WR-09 <b>61</b> -01- W					
Sample Name		2300			°91-03-2200 OF		
	C⊆MI#	93196	03197	03198_	03199	03200	03201
Dissolved Me	tals						
(mg/L)							.0.0
Atuminum	At	<0,2	<0.2	<0.2	<0,2	<0.2	<0.2
Antimory	Sb ļ	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arsenio	As {	0.025	0.9112	0.032	0.015	0.093	0.0037
Barium	Bar	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Beryllium	Вc	<0.005	<0.005	<0.005	<0.005	<0.005	<0.009
Bismuth	Bi	<0,1	<0.1	<g,1< td=""><td>&lt; 0.1</td><td>&lt; 0.1</td><td>&lt;0.1</td></g,1<>	< 0.1	< 0.1	<0.1
Вогоп	Б	<0.1	<0.1	<3.1	<0.1	<0.1	<0.1
Cadmium	Cdi	<0.01	<0.01	<0.01	<0.01	< 0.01	<0.01
Carcium	Ca	19.3	21.9	15.5	23.3	13.4	31.4
Chromium	Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobait	Co	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.0
Copper	Cu .	<0.01	< 0.01	<0.01	<0.01	< 0.01	<0.0
Iran	≓e	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	<0.0
Lead	2b	<0.05	< 0.05	<0.05	< 0.05	< 0.05	<0.0>
Lithium	u ¦	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3
Magnesium	Mg	3.2	2.5	5.2	3.2	46	1.1
Manganese	Mn	0.018	0.612	0.032	0,0121	0.016	0.02
Molybdeกยกา	Mo	< 0.03	< 0.03	< 0.03	<0.03	< 0.03	<0.0
Nickel	Ni !	<0.05	< 0.05	<0.05	<0.05	< 0.05	<0.0>
Phosphorous	P .	<0.3	<0.3	<0.3	<0.3	<0.3	<0.
Potassium	ĸ	<2	<2	3	< <u>2</u>	2	<
Selenium	\$ę	<0.2	<0.2	<0.2	< 0.2	< 0.2	<0.
Silicon -	S.	0.97	0.98	0.45	0.71	0.52	0.5
Silver	Ag	<0.01	<0.01	< 0.01	<0.01.	<0.01	<0.0
Sodium	Ne	3	3	<2	<2	<2	•
Strontium	Sr.	0.048	0.044	0.032	0.080	0.023	0.05
Thallium	T	< 0.2	< 0.2	<0.2	<0,2	<0.2	<0
Tin	Sn	<0.03	<0.03	<0.03	<0.03	< 0.03	<0.0
Titanium		<0.01	<0.01	< 0.01	< 0.01	< 0.01	<0.0
Variadium	Ÿ	<0.03	<0.03	<0.03	<0,03	<0.03	<0.6
Zinc	Zn	<0.005	<0.005	<0.005	<0.005.	<0.005	<0.00

: GOLDER ASSOCIATES

PROJECT

: GIANT YELLOWKNIFE

PROJECT#

: 0033

TEST

: LEACH EXTRACTION TEST

## LEACHATE ANALYSIS BY ICE

·.		JVV-01-2600 T-N	ይህ ጉረ <u>ግ</u> ደጉባ ቸገ	Wat-01_0800°		1
٠.			444-22020 1-1	44.600		1
	OP84-01 A	Q1	<b>)</b> 3	05	32711	32719
MI#	03202	08293	03204	03205	03817	03318
\$		·				. :
i	<0.2	<0.2	< 0.2	<0.2	< 0.2	<0.2
b	<0.2	1.6	0.2	<0.2	6.6	2.2
s	0.0031	1.3	0.3	0.1	10.3	1.6
a	< 0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01
e·	<0.005	<0.005	<0.005	<0.005	<0.006	<0.005
i	<n 1<="" td=""><td>&lt;∩ 1</td><td>&lt;0.1</td><td>&lt;0.1</td><td>&lt;0.1</td><td>&lt;0.1</td></n>	<∩ 1	<0.1	<0.1	<0.1	<0.1
.						<0.1
						<0.01
- [						128
						<0.01
·	-0.01	-0.01	.0.51	0.01	-0.01	•
o	< 0.01	0.03	< 0.01	< 0.01	0.04	0.03
u	< 0.01	0.011	0.01	0.01	0.02	១.០ន
e	<0.03	0.04	<0.03	< 0.03	0.20	9.26
5	< 0.05	<0.05	< 0.05	< 0.05	< 0.05	<0.05
i	<0.01	<0.01	<0.01	<0.01	0.01	0.01
ia l	1.8	13.5	5.7	7.0	23.2	29 3
- 1						0.041
- 1						9.03
ř						<0.05
	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
. }	_	_			0.4	19
· [						
						<0.2
						2.24
						< 0.01
fa <sup>.</sup>	<2	<b>Ş1</b>	8	6	32	29
ir !	0.048	0.154	0.194	3,168	0.294	0 404
j .	<0.2	<0.2	<0.2	<2.2	<0.2	<0.2
in :	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
-	<0.01	<0.01	<0.01	< 0.01	<0.01	<0.01
<i>f</i>	<0.03	<0:03	<0.03	<0.03	<0.03	<3.03
'r .	<0.005	<0.005	<0.005 ·	<0.005	0,008	0.908
	sa e da roueb grió e ga r n	<pre></pre>		<0.2		

: GOLDER ASSOCIATES

PROJECT

: GIANT YELLOWKNIFE

PROJECT#

; 0033

TEST

: LEACH EXTRACTION TEST

## LEACHATE ANALYSIS BY ICP

_					-			
	Sample Name		32724	32731	32763	32777	32951	3,2963
L		CEM#	03319	7.3320	03321	03322	03323	03324
į[	Dissolved Met	als						Ī
	(mg/L)	- 1						
1	Aluminum	At	<0.2	<0.2	<0.2	< 0.2	<0.2	<0.2
-  /	\ntimony	S5	3.6	1.1	8.0	5,0	1.1	1.1
1	Arsenic	As	2.6	2.5	0.61	1.5	0.9	0.9
E	3arium	Ва	<0.01	0.01	0.01	<0.01	<0.01	<0.01
į,	3eryllium	Üе	<0.005	<0.005	<0.005	<0.005	<0.005	<0.095
	Bismuth	Bì	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1
:1	Boron	8 :	<0.1	<0.1	<0.1	<0.1	<0.1	C.1
įι	Cadmium	Cd ¦	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.01
-   (	Daloium	Ça	86.5	619	424	67.0	78.9	51.6
	Chromium	Cr	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Cobalt	ಾ	0.02	0.05	0.05	<0.01	0.05	0.05
- 1	Copper	Cu	0.02	0.03	0.03	0.03	0.03	0,03
- 1	ron	Fe !	0.40	0.23	0.62	0.18	0.39	0.43
	Lead	Pb	< 0.05	<0.05	< 0.05	< 0.05	< 0.05	<0.35
- 1	Lithium	Li	0.01	<0.01	< 0.01	< 0.01	< 0.01	<0.31
	Magnesium	Mg	29,7	171	47.4	20,6	30,9	22.8
٠.	Manganese	Min	0.023	0.137	0.081	0.015	0.031	0.018
•	Molybdenum	Mo	<c.03< td=""><td>0.06</td><td>&lt; 0.03</td><td>0.06</td><td>&lt; 0.03</td><td>&lt; 0.03</td></c.03<>	0.06	< 0.03	0.06	< 0.03	< 0.03
	Nickei	Ni l	<0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05
- 1	Phosphorous		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	D-4:	. }	20	47	35	32	29	29
- 1	Potassium;	K	20 	47 <0.2	<0.2	<0.2	<0.2	<0.2
	Selenium	Sa C	<0.2		2.22	2.31	2.08	2.05
	Silicon	Si	2.61	3.01			<0.00 <0.01	<0.01
- 1	Silver	Aş	<0.01 ··	<0.01	<0.01	< 0.01		24
1	Sodium	Na	31	133	35	20	34	24
	Strontlum	Sr	0.318	1.33	0.777	0.066	0.248	0,162
	Thallium	T:	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
- 1	~in	Sn {	<0.03	<0.03	<0.03	< 0.03	<0.03	<0.03
- 1	Titanium	Ti ļ	< 0.01	<0.01	<0.01	< 0.01	<3.01	<0.01
1	Vanadium	V	<0.03	<0,03	<0.03	<0.03	<0.03	· <0 03
į	Zino	Zn	0.007	0.012	0.015	< 0.005	<0.005	<0.005

: GOLDER ASSOCIATES

PROJECT

: GIANT YELLOWKNIFE

PROJECT#

: 0033

TEST

: LEACH EXTRACTION TEST

## LEACHATE ANALYSIS BY ICP

"	•				
Sample Name	<u>;</u>	32964	33001	33003	33011
·	CEMI#	03325	03326	03327	03328
Dissolved Me	tais				
(mg/L)	- 1				
Aluminum	Al	<0.2	<0.2	<0.2	<0.2
Antimony	Sb	1.7	1.2	0.4	1.1
Arseni <b>c</b>	As	1.2	1.0	0.56	0.55
Barium	Ва	<5.01	0.01	< 0.01	< 0.01
Berylllum	Be	<0.005	<0.005	<0.005	<0.005
:Bismuth	Bi	<0.1	<0.4	< 0.1	<0.1
Boron	В	< 0.1	0.2	< 0.1	<0.1
Cadmium	Cd i	< 0.01	<0.01	<0.01	< 0.01
Caicium	Ca	73.2	40 <b>5</b>	135	106
Chromium -	Cr	<0.01	<0.01	<0.01	<0.01
! !Cobalt	Co	0.02	0.06	0.04	0.02
Соррет	Cu	0,04	0.04	0.07	0.02
Iron	Fe	0.14	0.14	0.22	0.08
Lead	₽b	<0.05	< 0.05	<0.05	< 0.05
Lith um	Đ.	<0.01	<0.01	<0.01	<0.01
Magnesium	Mg	24.1	72.3	30.0	31,6
Manganese	Мn	0.019	0,101	0.030	0.024
Molybdenum		<0.03	0.04	<0.03	0.04
Nickel	Ni	<0.05	< 0.05	<0.05	< 0.05
Phosphorous	Р	<0.3	<0.3	<0.3	<0,3
Potassium	κĺ	24	31	35	28
Selenium	Se !	< 0.2	<0.2	< 0.2	<0.2
Silicon	Si	2.37	2.66	2.01	2.14
Silver	Ag (	<0.01	< 0.01	<0.01	<0.01
Sodium	Na	30	97	29	22
់ Strontium	Sr j	0.129	1.20	0.325	0.228
Thallium	71	<0.2	< 0.2	< 0.2	<0.2
Tip	Sn	< 0.03	<0.03	<0.03	<0.03
Titanium	Τi	< 0.61	< 0.01	<0.01	< 0.01
Vanad um	V	<0.03	<0.03	< 0.03	<0.03
Zina	Zn ·	<0.005	800.0	<0.005	<0.005



# CHEMICAL ANALYSIS REPORT

Date:

October 18, 2000

ASL File No.

M10167

Report On:

Release 826 Water Analysis

Report To:

Canadian Environmental and

Metallurgical Inc. 1636 West 75th Avenue

Vancouver, BC

V6P 6G2

Attention:

Mr. Sonan Basra

Received:

August 16, 2000

ASL ANALYTICAL SERVICE LABORATORIES LTD. per:

Juanne Paprick, B.Sc. - Project Chemist Can Dang, B.Sc. - Project Chemist.



File No. MIO16r

Sample ID		02889	02890	02892	02893	garacolik.
Sample Date		00 08 11	CO 08 11	00 08 11	11 80 00	
Disselved Me Aluminum Artimony Arsenie Barium Beryilium	t <b>als</b> D-Al D-Sb D-As D-Ba D-Be	0.4 <0.2 0.0063 0.09 <0.005	0.5 <0.2 0.3 0.10 <0.005	<0.2 0.6 0.088 0.05 <0.005	<0.2 0.6 0.106 0.03 <0.005	<0.0 <0.0 <0.0 <0.05
Bisinath	D-Bi	<0.1	<0.1	<0.1	<0.1	30.1
Boron	D-B	<0.1	<0.1	0.7	0.6	30.01
Cadmium	D-Cd	<0.01	<0.01	<0.01	<0.01	20.01
Calchen	D-Ca	481	430	129	88.8	20.0
Chromium	D-Cr	<0.01	<0.01	<0.01	<0.01	30.01
Cobalt	D-Co	0.09	0.05	0.50	0.29	
Copper	D-Cu	0.37	0.29	0.09	0.08	
Iron	D-Fe	<0.03	<0.03	0.64	0.18	
Load	D-Pb	<0.05	<0.05	<0.05	<0.05	
Lithium	D-Li	0.02	0.02	0.01	<0.01	
Magnesium	D-Mg	<0.1	0.1	26.3	18.5	0.5
Manganese	D-Mn	<0.005	<0.005	0.101	0.056	0.0 8
Melybdemum	D-Mo	<0.03	<0.03	0.14	0.14	4).53
Nickel	D-Ni	<0.05	<0.05	0.06	<0.05	4).5
Phosphorus	D-P	<0.3	<0.3	<0.3	<0.3	4)
Potassium	D-K	32	14	7	6	8
Selenium	D-Se	<0.2	<0.2	<0.2	<0.2	<0.0
Silicon	D-Si	0.29	0.35	1.20	1.12	<0.84
Silvei	D-Ag	<0.01	<0.01	<0.01	<0.01	<0.01
Sedium	D-Na	166	65	41	18	<2
Strontium	O-Sr	2.09	1.45	1.45	1.01	0013
Thalijum	D-Ti	<0.2	<0.2	<0.2	<0.2	<b>41.3</b>
Tia	D-Sn	<0.03	<0.03	<0.03	<0.03	40.43
Tianium	D-Ti	<0.01	<0.01	<0.01	<0.01	40.41
Vanadium	D-V	<0.03	<0.03	<0.03	<0.08	40.43
Zine	D-Zn	0.045	0.017	0.113	0.109	0.000

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.



## Appendix 2 - METHODOLOGY

File No. M1016r

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

## 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: ASL 'Collection & Sampling Guide'

End of Report

anaiytical service. laboratories.



# CHEMICAL ANALYSIS REPORT

Date:

October 19, 2000

ASL File No.

L9877r

Report On:

Release No. 825 Water Analysis

Report To:

Canadian Environmental and

Metallurgical Inc. 1636 West 75th Avenue

Vancouver, BC

V6P 6G2

Attention:

Mr. Sohan Basra

Received:

August 11, 2000

ASL ANALYTICAL SERVICE LABORATORIES LTD. per:

trick, B.Sc. - Project Chemist Can Dang, B.Sc. - Project Chemist



File No. L9877r

Sample ID	·	territ.			02888	02891
<u>Dissolved Met</u> Aluminum Antimony Arsenic Barium Beryllium	tals D-Al D-Sb D-As D-Ba D-Be	D.E. D.E. D.E. D. 105	<b>41.3</b> 41.3 41.4 0.04 41.405	<b>♦ 2</b> <b>♦ 2</b> <b>♦ 3</b> <b>9</b> <b>9</b> <b>9</b>	0.4 <0.2 0.6 0.10 <0.005	<0.2 0.6 0.040 0.12 <0.005
Bisimith Boron Cadmium Calcium Chromium	D-Bi D-3 D-Cd D-Ca D-Cr	0. 31 38 39. 40. 1	<0.1 <0.01 <0.01 3.24 <0.11	<0.2 02 <0.01 <0.01 302 <0.01	<0.1 0.2 <0.01 912 0.02	<0.1 0.7 <0.01 171 <0.01
Cobalt Copper Iron Lead Lithtura	D-Ca D-Cu D-Fe D-Pb D-M	00: 00: 01: 05: •0.1	<0.61 0.05 <0.03 <0.05 <0.01	00 <0.01 <0.03 <0.05 003	0.47 1.22 <0.03 <0.05 5.03	0.65 0.29 1.74 <0.05 0.01
Magnesium Wangauese Molybdenum Nickel Phosphorus	D-Mg D-Mn D-Mo D-Nt D-2	37 0990 <0.43 <0.45 05	0.3 0.344 <0.03 <0.05 0.3	1 5 03 60 010 <1.05	<0.1 <0.005 0.07 <0.05 <0.3	34.6 0.159 0.12 0.07 <0.3
Polassium Selenium Silicon Silver Sodium	D-X D-Se D-Si D-Ag D-Na	<22 <2.5 01.3 <2.31 <3	<2 <0.7 0. 5 <0.01 <2	16 <0.5 <0.01 G	75 <0.22 0.30 0.0 1 447	9 <0,2 1.13 0.01 79
Strontium Thallium Tin Titanium Vanadium	D-Sr D-Tl D-Sn D-Ti D-V	0 584 < 1.2 < 1.33 < 1.31 < 1.33	0.1 21 <0.2 <0.03 <0.0 <0.03	1. 4 <0.03 <0.01 <0.03	3.5 1 <0.2 <0.03 <0.01 <0.03	1.90 <0.2 <0.03 <0.01 <0.08
Zinc	D-Zn	2 .9	3.07	1.8	0.0 13	0 <b>.2</b> 73

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.



## Appendix 2 - METHODOLOGY

File No. L9877r

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

## Mctals 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: ASL "Collection & Sampling Guide"

End of Report



# CHEMICAL ANALYSIS REPORT

11.45

Date:

November 27, 2000

ASL File No.

M2564r

Report On:

Release 839 Water Analysis

Report To:

Canadian Environmental and

Metallurgical Inc. 1636 West 75th Avenue

Vancouver, BC

V6P 6G2

Attention:

Mr. Sohan Basra

Received:

September 26, 2000

ASL ANALYTICAL SERVICE LABORATORIES LTD. per

Joanne Patrick, B.Sc. - Project Chemist Can Dang, B.Sc. - Project Chemist



File No. M2564r

Sample ID		03194	031 <b>9</b> 5	03196	03197	03198
<u>Pissolved Met</u> Aluminum Antimony Arsenic Barium Beryllinn	<u>als</u> D-Al D-Sb D-As D-Ba D-Be	<0.2 <0.2 0.042 <0.01 <0.005	<0.2 <0.2 0.029 <0.01 <0.005	<0.2 <0.2 0.025 <0.01 <0.005	<0.2 <0.2 <0.2 0.0112 <0.01 <0,005	<0.2 <0.2 0.032 <0.01 <0.005
Bismuth Boron Cadmium Calcium Chromium	D-Bi D-B D-Cd D-Ca D-Cr	<0.1 <0.1 <0.01 22.7 <0.01	<0.1 <0.1 <0.01 40.1 <0.01	<0.1 <0.1 <0.01 <0.01 19.3 <0.01	<0.1 <0.3 <0.01 21.9 <0.01	<0.1 <0.01 <0.01 15.5 <0.01
Cobsit Copper Iron Lead Lithium	D-Co D-Cu D-Fe O-Pb D-Li	<0.01 0.01 <0.03 <0.05 <0.01	<0.01 0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01
Magnesium Mznganese Molybdenum Nickel Phosphoros	D-Mg D-Mn D-Mo D-Ni D-P	4.2 0.017 <0.03 <0.05 <0.3	10.1 0.039 <0.03 <0.05 <0.3	3.2 0.018 <0.03 <0.05 <0.3	2.5 0.012 <0.03 <0.05 <0.3	5.2 0.082 <0.03 <0.06 <0.3
Potassium Selemum Silicon Silver Sodium	D-K D-Se D-Si D-Ag D-Na	<2 <0.2 0.89 <0.01	4 <0.2 0.61 <0.01 7	<2 <0.2 0.97 <0.01 8	<2 <0.2 0.98 <0.01 3	3 <0.2 0.45 <0.01 <2
Strontium Thailium Tisi Titanium Variadium	D-Sr D-TI D-Sn D-Ti D-V	0.108 <0.2 <0.03 <0.01 <0.03	0.121 <0.2 <0.03 <0.01 <0.03	0.048 <0.2 <0.03 <0.01 <0.03	0.044 <0.2 <0.03 <0.01 <0.03	0.032 <0.2 <0.03 <0.01 <0.03
Zine	D-Zn	<0.005	0.013	<0.003	<0.00 <b>5</b>	<0.005

Results are expressed as milligrams per litre except where noted, < = Loss than the desection limit indicated.



File No. M2564r

Sample ID		03199	03200	03201	03202	03203
<u>Pissolved Met</u> Aluminum Anlimony Arachie Barium Becyllium	tals D-Al D-Sb D-As D-Ba D-Be	<0.2 <0.2 0.015 <0.01 <0.005	<0.2 <0.2 0.093. <0.01 <0.005	<0.2 <0.2 5.0037 <0.01 <0.005	<0.2 <0.2 0.003 1 <0.01 <0.005	<0.2 1.6 1.3 <0.01 <0.005
Bismuth	D-Bi	<0.1	<0.1	<0.1	<0.1	<0.1
Boron	D-B	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	D-Cd	<0.01	<0.01	<0.01	<0.01	<0.01
Calcium	D-Ca	23.3	13.4	31.4	29.1	58.3
Chromium	D-Cr	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt Copper Iron Lead Littum	D-Co D-Cu D-Fe D-Ph D-U	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.03 <0.05 <0.01	0.03 0.01 0.04 <0.05 <0.01
Magnestum	D-Mg	3.2	4.6	1.6	1.8	13.5
Manganese	D-Mn	0.012	0.016	0.027	0.022	0.060
Molybdenum	D-Mo	<0.03	<0.03	<0.08	<0.03	<0.03
Nickel	D-Ni	<0.05	<0.05	<0.05	<0.05	<0.05
Phosphorus	D-P	<0.3	<0.3	<0.3	<0.3	<0.3
Potassium	D-K	<2 <0.2 <0.71 <0.01 <2	2	<2	<2	6
Selenium	D-Se		<0.2	<0.2	<0.2	<0.2
Silicon	D-Si		0.52	0.52	0.64	0.84
Silver	D-Ag		<0.01	<0.01	<0.01	<0.01
Sodium	D-Na		<7	<2	<2	31
Strontiam	D-Sr	0.080	0.028	0.053	0.048	0.154
Thallium	D-T1	<0.2	<0.2	<0.2	<0.2	<0.2
Tin	-D-Sn	<0.03	<0.03	<0.03	<0.03	<0.03
Ytanium	D-T1	<0.01	<0.01	<0.01	<0.01	<0.01
Vanadium	D-V	<0.03	<0.03	<0.03	<0.03	<0.03
Zinc	D-Zn	<0.003	<0.005	<0.005	<0.0055	<0.605

Results are expressed as milligrams per litre except where noted, < = Less than the detection limit indicated.



File No. M2564r

Sample ID		03204	03205
	····		
<u>Plasolved Mor</u> Aluminum Antichor,y Arsenic Bartum Beryllium	tals D-Al D-Sb D-As D-Ba D-Be	<0.2 0.2 0.3 <0.01 <0.005	<0.2 <0.2 0.100 <0.01 <0.005
Bismuth	D-Bi	<0.1	<0.1
Boron	D-B	<0.1	0.2
Cadmium	D-Cd	<0.01	<0.01
Calcium	D-Ca	45.2	42.7
Chronaum	D-Cr	<0.01	<0.01
Cobalt	D-Co	<0.01	<0.01
Copper	D-Cu	0.01	0.01
Iron	D-Pe	<0.03	<0.03
Lead	D-Pb	<0.05	<0.05
Lithium	D-M	<0.01	<0.01
Magneshten	D-Mg	5.7	7.0
Mangar;ese	D-Mn	0.054	0.0:22
Molybdernum	D-Mo	<0.03	<0.03
Nickel	D-Ni	<0.08	<0.05
Phosphorus	D-P	<0.3	<0.3
Potassium	D-K	3	3
Selenium	D-Se	<0.2	<0.2
Silicon	D-Si	0.61	1.15
Silver	D-Ag	<0.0±	<0.01
Sodium	D-Na	8	6
Strontium	D-Sr	0.194	0.168
Thallium	D-Ti	<0.2	<0.2
Tin	D-Sn	<0.03	<0.03
Titacium	D-Ti	<0.01	<0.01
Vanadium	D-V	<0.03	<0.03
Zinc	D-Zo	<0.005	<0.⊜05

Results are expressed as milligrams per litre except where noted, < = Less than the detection limit indicated.



File No. M2564r

Water		03198	03198
			QC # 213855
Dissolved Me Aluminum Antimony Arsenie Barium Beryllium	tals D-Al D-Sb D-As D-Ba D-Be	<0.2 <0.2 0.032 <0.01 <0.005	<0.2 <0.2 0.031 <0.01 <0.005
Bismuth	D-Bi	<0.1	<0.1
Boron	D-B	<0.1	<0.1
Cadmium	D-Cd	<0.01	<0.01
Calcium	D-Ca	18.5	15.5
Chromium	D-Cr	<0.01	<0.01
Cobalt	D-Co	<0.01	<0.01
Copper	D-Cu	<0.01	<0.01
Iron	D-Fe	<0.03	<0.03
Lead	D-Pb	<0.05	<0.06
Lithium	D-M	<0.01	<0.01
Magnesium	D-Mg	5.2	5.3
Manganese	D-Mn	0.032	0.032
Molybdenum	D-Mo	<0.03	<0.03
Nickel	D-Ni	<0.05	<0.03
Phosphorus	D-P	<0.3	<0.3
Potassium	D-K	3	3
Selemum	D-Se	<0.2	<0.2
Sflicon	D-Si	0.45	0.45
Silver	D-Ag	<0.01	<0.01
Sodium	D-Na	<2	<2
Strontium	D-Sr	0.032	0.032
Thallium	D-13	<0.2	<0.2
Tin	D-Sn	<0.03	<0.03
Thanium	D-Ti	<0.01	<0.01
Vanadium	D-V	<0.03	<0.03
Zinc	D-Zr2	<0.005	<0.005

Results are expressed as milligrams per litre except where noted,  $<\simeq$  Less than the detection limit indicated.



## Appendix 2 - METHODOLOGY

File No. M2564r

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

## 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:

ASL "Collection & Sampling Guide"

End of Report



# CHEMICAL ANALYSIS REPORT

Date:

October 17, 2000

ASL File No.

M3012

Report On:

Release 842 Water Analysis

Report To:

Canadian Environmental and

Metallurgical Inc. 1636 West 75th Avenue

Vancouver, BC

V6P 6G2

Attention:

Mr. Sohan Basra

Received:

October 6, 2000

ASL ANALYTICAL SERVICE LABORATORIES LTD.

per:

Joanne Parrick, B.Sc. - Přőject Chaddat Can Dang, B.Sc. - Project Chemist



File No. M3012

Sample ID				03317	03318	03319
Sample Date		00 10 03	00 10 03	00 10 03	00 10 03	00 10 03
Dissolved Me						
Aluminum	D-Al	<0.2	0.	<0.2	<0.2	<0.2
Antimony	D-Sb	<0.2	0.2	6.6	2.2	3.6
Arsenic	D As	<0.2	0.2	10.3	1.8	2.6
Bartum	D-Ba	<0.01	0.0	<0.01	<0.01	<0.01
Beryilium	D-Se	<0.005	0.105	<0.005	<0.035	<0.005
Bismuth Boron Cadmium Calelum Chronnum	D-Bi D-B D-Cd D-Ca D-Cr	<0.2 <0.01 <0.15 <0.01	0. 0. 0.01 0.01 0.01	<0.1 0.1 <0.02 94.6 <0.01	<0.1 <0.1 <0.01 128 <0.01	<0.1 <0.01 <0.01 86.5 <0.01
Cobalt	D-Ce	<0.01.	-0.01	0.04	0.03	0.02
Copper	D-Cu	<0.03.	-0.01	0.02	0.08	0.02
Fron	D-Fe	<0.08.	-0.03	0.20	0.26	0.40
Lead	D-Pb	<0.00.	0.1	<0.05	<0.05	<0.06
Lithium	D-Li	<0.00.	-0.01	0.01	0.01	0.01
Magnestum	D-Mg	< 0.1	40.5	23,2	29.8	29.7
Manganese	D-Mn	< 0.045	40.03	0.022	0.041	0.023
Melybdenum	D-Mo	< 0.03	40.03	0.04	0.03	<0.03
Nickel	D-Ni	< 0.05	40.03	<0.05	<0.05	<0.05
Phosphorus	D-J'	< 0.3	40.3	<0.3	<0.3	<0.3
Votassium	D-K	d	<0.2	24	19	20
Selenium	D-Se	≪.2	<0.2	<0.2	<0.2	<0.2
Sflicon	D-Si	⇔.0	<0.05	2.44	2.24	2.61
Silver	D-Ag	√.0	<0.01	<0.01	<0.01	<0.01
Sodium	D-Na	√	<0.01	32	29	31
Strontium	D-Sr	<1.005	<0.005	0.294	0.404	0.518
The!Bum	D-Tl	<1.2	<0.2	<0.2	<0.2	<0.2
Tin	D-Sn	<1.01	<0.63	<0.03	<0.03	<0.03
Titanium	D-Ti	<1.01	<0.01	<0.01	<0.01	<0.01
Vanadium	D-V	<1.01	<0.03	<0.03	<0.08	<0.03
Zine	D- <b>Zn</b>	0.56	o <b>1</b> 85	0.008	0.008	0.007

Remarks regarding the analyses appear at the beginning of this report. Results are expressed as milligrams per litre except where noted. < = Loss, that the detection limit indicated.



File No. M3012

Sample ID		03320	03321	03822	03323	03324
Sample Date		00 10 03	80 01 00	00 10 03	00 10 03	00 10 03
Dissolved Me Aluminum Antimony Arsenic Bartum Beryllium	tals D-Al D-Sb D-As D-Ba D-Ba D-Be	<0.2 1.1 2.5 0.01 <0.005	<0.2 0.8 0.61 0.01 <0.005	<0.2 5.0 1.5 <0.01 <0.005	<0.2 I.1 0.9 <0.01 <0.005	<0.2 1.1 0.9 <0.01 <0.005
Bismuth Boron Cadraium Calcium Chromium	D-Bt D-B D-Cd D-Ca D-Cr	<0.2 <0.1 <0.01 619 <0.01	<0.1 <0.1 <0.01 424 <0.01	<0.1 <0.1 <0.01 <0.01 67.0 <0.01	<0.1 <0.1 <0.01 78.9 <0.01	<0.1 0.1 <0.01 51.6 <0.31
Cobalt Copper Iron Lead Lithium	D-Co D-Cu D-Fe D-Pb D-M	0.05 0.03 0.23 <0.05 <0.01	0.05 0.03 0.62 <0.05 <0.01	<0.01 0.03 0.18 <0.05 <0.01	0.05 0.03 0.39 <0.05 <0.01	0.05 0.03 0.43 <0.05 <0.01
Magnesium Manganese Molybdenum Nickel Phosphorus	D-Mg D-Mn D-Mo D-Ni D-F	171 0.137 0.06 <0.05 <0.3	47.4 6.081 <0.03 <0.05 <0.3	20.6 0.015 0.06 <0.05 <0.3	30.9 0.031 <0.05 <0.05 <0.3	22.8 0.018 <0.03 <0.05 <0.3
Potassium Selenium Silleon Silver Sodium	D-K D-Se D-Si D-Ag D-Na	47 <0.2 3.01 <0.01 153	35 <0.2 2.22 <0.01 35	32 <0.2 2.31 <0.01 30	29 <0.2 2.08 <0.03 34	29 <0.2 2.05 <0.01 24
Strontium Thallium Tin Titantum Vanadium	D St D-Ti D-Sn D-Ti D-V	1.33 <0.2 <0.03 <0.01 <0.03	0.777 <0.2 <0.03 <0.01 <0.03	0.036 <0.2 <0.03 <0.01 <0.03	0.248 <0.2 <0.03 <0.01 <0.03	0.162 <0.2 <0.03 <0.01 <0.03
Zine	D-Zn	0.012	0.015	<0.005	<0.005	<0.005

Remark's 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.

 ${\mathcal O}$ 



File No. M3012

Sample ID		03325	03326	03327	03328	
Sample Date		00 00 08	00 10 03	00 10 03	00 10 03	00 10 03
Dissolved Me	<u>tals</u> D-Al	<0.2	<0.2	<0.2	<0.2	.4.0
Antimony Arsenic Serium Beryllium	D-Sb D-As D-Ba D-Be	1.7 1.2 <0.01 <0.005	1.0 1.0 0.01 <0.005	0.4 0.56 <0.01 <0.005	1.1 0.55 <0.01 <0.005	<0.01 <0.01 <0.003
Bismuth Beron Cadmium Caleium Chroinfum	D-Bi D-B D-Cd D-Ca D-Cr	<0.1 <0.1 <0.01 73.2 <0.01	<0.1 0.2 <0.01 405 <0.01	<0.1 <0.1 <0.01 135 <0.01	<0.1 <0.1 <0.01 106 <0.01	<0. <0. <0.01 569 <0.01
Cobalt Copper Iron Lead Lithium	D-Co D-Cu D-Fe D-Pb D-I4	0.02 0.04 0.14 <0.05 <0.01	0.06 0.04 0.14 <0.05 <0.01	0.04 0.07 0.22 <0.05 <0.01	0.02 0.03 0.08 <0.05 <0.01	0.21 0.05 <0.43 <0.45 <0.01
Magnesium Manganese Melybdenum Nickel Phosphorus	D-Mg D-Mn D-Mo D-Ni D-P	24.1 0.019 <0.03 <0.05 <0.3	72.3 0.101 0.04 <0.03 <0.3	30.0 0.030 <0.03 <0.05 <0.3	31.6 0.024 0.04 <0.05 <0.3	2.8 0.4.4 <0.43 <0.45 <0.45 <0.45
Potassium Selenium Silicon Silver Sodium	D-K D-Se D-Si D-Ag D-Na	24 <0.2 2.37 <0.01 30	31 <0.2 2.66 <0.01 97	35 <0.2 2.01 <0.01 29	28 <0.2 2.14 <0.01 22	6 <4.2 9.1 <0.61 10
Strontlum Thallium Tin Titanium Vanadium	D-Sr D-Tl D-Sn D-Tl D-V	0.129 <0.2 <0.03 <0.01 <0.03	1.20 <0.2 <0.03 <0.01 <0.03	0.325 <0.2 <0.08 <0.01 <0.03	0.228 <0.2 <0.03 <0.01 <0.03	0.008 <0.0 <0.03 <0.01 <0.03
Zinc	D-Zn	<0.005	0.008	<0.005	<0.005	0.149

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.



File No. M3012

Water	·	03320	03320
		00 10 03	QC # 215558
<u>Dissolved Met</u> Aluminum Antimoty Arsenie Barium Beryllium	ials D-Al D-Sb D-As D-Ba D-Be	<0.2 1.1 2.5 0.01 <0.005	<0.2 1.0 2.1 0.01 <0.005
Bismuth	D-B:	<0.2	<0.2
Boron	D-B	<0.1	<0.1
Cadmium	D-Cd	<0.01	<0.01
Calcium	D-Ca	619	674
Chromium	D-Cr	<0.01	<0.01
Cobait	D-Co	0.05	0.03
Copper	D-Co	0.03	0.03
Iron	D-Fe	0.23	0.21
Lead	D-Pb	<0.05	<0.05
Lithlum	D-Li	<0.01	0.01
Magnesium	D-Mg	171	158
Manganese	D-Mn	0.137	0.127
Molybdenum	D-Mo	0.06	0.06
Nickel	D-Ni	<0.05	<0.05
Phospitorus	D-P	<0.3	<0.3
Potassium	D-K	47	43
Selenium	D-Se	<0.2	<0.2
Silicon	D-St	3.01	2.81
Silver	D-Ag	<0.01	<0.01
Sodium	D-Na	133	122
Strontium	D-Sr	1.33	1.22
Thallium	D-Tl	<0.2	<0.2
Tin	D-Sn	<0.03	<0.03
Titandum	D-Tl	<0.01	<0.01
Vanadium	D-V	<0.03	<0.03
Zinc	D-Z <sub>13</sub>	0.012	0.011

Remarks regarding the analyses appear at the beginning of this report. Results are expressed as milligrams per litre except where noted. < = loss than the detection limit indicated.



## Appendix 2 - METHODOLOGY

File No. M3012

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

## Chloride in Water

This analysis is carried out using procedures adapted from APHA Method 4500 "Chloride". Chloride is determined using the ferricyanide colourimetric method.

Recommended Holding Time:

Sample: 28 days Reference: APHA

For more detail see ASL "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 edither 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: ASL "Collection & Sampling Guide"

End of Report

rost journ education and four expression



# CHEMICAL ANALYSIS REPORT

Date:

November 27, 2000

ASL File No.

M2452r

Report On:

Release 838 Water Analysis

Report To:

Canadian Environmental and Metallurgical Inc. 1636 West 75th Avenue

Vancouver, BC

V6P 6G2

Attention:

Mr. Sohan Basra

Received:

September 22, 2000

ASL ANALYTICAL SERVICE LABORATORIES LTD. per;

Joanne Fatflek, B.Sc. - Project Chemist Cam Dang, B.Sc. - Project Chemist



## REMARKS

File No. M2452r

The detection limits were increased for the metals for the samples "O3163", "O3180", and "O3182" due to sample matrix interferences.



· File No. M2452r

Sample JD				Second,		03178
Sample Date		00 0à 1 <del>a</del>	00 09 19	00 09 18	00 09 19	00 09 19
Dissolved Mer Aluminum Antimony Arseoic Berjum Beryllium Bismuth	lals D-Al D-Sb D-As D-Ba D-Be D-Be	√0.8 ◆0.8 ◆0.1 €0.105	40.1 40.1 40.1 40.005	< .005	0.5 30.2 30.2 40.01 40.005	<0.2 2.2 1.4 <0.01 <0.005
Beson Cadmium Caleium Chyomium	D-B D-Cd D-Ca D-Cr	0. 0.81 21.1 0.01	0.01 25.01 45.01	<0.0 0.D 8.D <0.01	00 II 0.05 9.67 -0.01	<0.1 <0.1 <0.01 50.7 <0.01
Cobalt Copper Iron Lead Lithlum	D-Co D-Cu D-Fe D-Pb D-LI	<ul> <li>→ .91</li> <li>→ .93</li> <li>→ .95</li> <li>→ .85</li> </ul>	40.01 √0.03 √0.03 √0.03 √0.01	0.03 0.03 0.03 <0.05 <0.01	0.05 0.02 0.96 0.08 ⊲0.01	0.01 <0.01 0.14 <0.05 <0.01
Magnesium Manganese Molybdenum Nickel Phosphorus	D-Mg D-Mn D-Mo D-Ni D-P	0,6 0,0 5 0,0 5 < 1,6 5 < 1,3	0.5 0.012 <0.03 <0.05 <0.3	60 0249 <0.03 012 <0.0	8.5 0.243 <0.03 <0.05 <0.3	13.0 0.026 <0.03 <0.05 <0.3
Potassium Selenium Silicon Silver Sodium	D-K D-Se D-St D-Ag D-Na	<	V 0 0 V V	<0.3 <0.3 3.36 <0.6 <2	7 4).: 222: √).>1 √2	5 <0.2 1.19 <0.01 18
Strontfum Thallium Tin Titanfum Vanadium	D-St D-Tt D-Sn D-Ti D-V	01144 < 1.2 < 1.03 < 1.01 < 1.03	01438 <0.2 <0.08 <1.08 <1.01 <1.03	0.24 <0.2 <0.03 <0.01 <0.63	0,0 1 <0.1 <0.3 <0.11 <0.3	0.228 <0.2 <0.03 <0.01 <0.03
Zinc	D-Źn	0.005	<0.005	0.766	4.6. \	0.905
		(	r, d	100 14	L WAY	

Remarks regarding the analyses appear at the beginning of this report. Results are expressed as milligrams per litre except where noted. <  $\approx$  Less than the detection limit indicated.



File No. M2452r

Sample ID		03179	03180	03181	03182	03183
Sample Date		00 09 19	00 00 10	00 09 19	00 09 19	00 09 19
Dissolved Mer Aluminum Antimony Arsento Barium Beryllium	tals D-Al D-Sb D-As D-Pa D-Be	<0.2 I.l 0.8 <0.01 <0.005	<0.4 0.9 9.5 0.04 <0.01	<0.2 <0.2 0.3 <0.01 <0.005	<0.4 1.0 10.0 0.03 <0.01	<0.2 <0.2 0.105 <0.01 <0.005
Bismuth Boron Cadmium Calcium Chromium	D-Bi D-8 D-Cd D-Ca D-Cr	<0.1 <0.1 <0.01 49.3 <0.01	<3 <0.2 <0.02 146 <0.02	<0.1 <0.1 <0.01 171 <0.01	<3 <0.2 <0.02 368 <0.02	<0.1 <0.1 <0.01 24.5 <0.01
Cobalt Copper Iron Lead Lithium	E Co B-Cu D-Fe D-Pb D-M	0.02 0.01 0.05 <0.05 <0.01	0.11 0.14 0.10 <0.1 0.05	0.01 0.01 0.05 <0.05 <0.01	0.14 0.18 0.09 <0.1 0.05	<0.01 <0.01 <0.03 <0.05 <0.01
Magnesium Manganese Molybdenum Nickel Phosphorus	D-Ni	8.7 0.027 <0.03 <0.05 <0.3	1140 0.15 0.20 <0.1 <0.6	53.4 0.065 <0.03 <0.05 <0.3	1450 0.17 0.25 <0.1 <0.6	4.9 0.028 <0.03 <0.05 <0.8
Potassium Selenium Silicon Silver Sodiem	D-K D-Se D-Si D-Ag D-Na	3 <0.2 0.75 <0.01 13	66 <0.4 1.4 <0.02 510	6 <0.2 1.42 <0.01 19	80 <0.4 1.4 <0.02 638	2 <0.2 0.72 <0.01 <2
Stronttum Thatium Tin Titanium Vanadium	D-Sr D-T: D-Sn D-T: D-V	0.132 <0.2 <0.03 <0.01 <0.08	2.31 <0.4 <0.06 <0.02 <0.05	0.490 <0.2 <0.03 <0.01 <0.03	1.98 <0.4 <0.06 <0.02 <0.06	0.041 <0.2 <0.03 <0.01 <0.03
Zine	D-Zn	<0.005	0.060	0.005	0.109	<0.005

Remarks regarding the analyses appear at the beginning of this report. Results are expressed as milligrams per lifts except where noted. < z Less than the detection limit indicated.



File No. M2452r

Sample ID			03154	CS155	03188	03187	C318\$
Sample Date				00 09 19	00 09 19	00 09 19	00 09 19
Dissolved Met	tais D-Al		<0.2		<0.2		<0.2
Antimony Arsenie Bartum Bervillum	D-Sb D-As D-Ba U-Be		<0.2 0.065 <0.01 <0.005	0.191 <0.01	<0.9 0.053 <0.01 <0.005	<0.2 0.190 <0.01 <0.005	<0.2 0.058 <0.01 <0.005
Bismuth Boron Cadmissin Caleium Chromium	D-Bi D-B D-Cd D-Ca D-Cr		<0.1 <0.1 <0.01 19.4 <0.01	<0.1 <0.1 <0.01 15.9 <0.01	<0.1 <0.1 <0.01 33.1 <0.01	<0.1 <0.1 <0.01 13.8 <0.01	<0.1 <0.1 <0.01 44.7 <0.01
Copper Iron	D-Fe D-Pb		<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.06 <0.01
Magnestum Mangaricse Molybdenum Nickel Phosphorus	D-Mñ D-Mp D-Ni	:	4.6 0.014 <0.03 <0.05 <0.3	<0.03 <0.05	11.6 0.083 <0.03 <0.05 <0.3	<0.03 <0.05	10.0 0.538 <0.03 <0.05 <0.3
Potassium Selenium Silicon Silver Sodium		·	<0.2 1.09 <0.01 5	<2 <0.2 0.71 <0.01 <2	4 <0.2 0.64 <0.01 <2	2 <0.2 0.38 <0.01 <2	<2 <0.2 0.49 <0.01 <2
Strontium Thailium Tin Titanium Vanadium	D-Sr D-Tl D-Sa D-Ti D-V		0.064 <0.2 <0.03 <0.01 <0.03	0.039 <0.2 <0.03 <0.01 <0.03	0.047 <0.2 <0.03 <0.01 <0.03	0.021 <0.2 <0.03 <0.01 <0.03	0.060 <0.2 <0.03 <0.01 <0.03
2ine	D-Z5		<0.005	<0.005	< 0.005	<0.0055	<0.005

Remarks regarding the analyses appear at the beginning of this report. Results are expressed as milligrams per litre except where noted.  $< \cong$  Less than the detection limit indicated.



File No. M2452r

Sample ID		03189	08190	C3191	03192	03193
Sample Date	:	00 09 19	00 09 19	00 09 19	00 09 19	00 09 19
Dissolved Me Aluminum Antimony Arsenie Barium	tals D-Al D-Sh D-As D-Ba D-Be	<0.2 <0.2 0.0146 <0.01	<0.2 <0.2 0.0069 <0.01	<0.2 <0.2 0.036 <0.01	<0.2 <0.2 >0.077 <0.01	<0.2 <0.2 0.0156 0.11
Beryllium Bismuth Beron Cadmium Calekun Chromium	D-Bi D-B D-Cd D-Ca D-Cr	<0.005 <0.1 <0.1 <0.01 25.3 <0.01	<0.005 <0.1 <0.1 <0.01 23.0 <0.01	<0.005 <0.1 <0.1 <0.01 18.0 <0.01	<0.005 <0.1 <0.1 <0.01 21.4 <0.01	<0.005 <0.1 <0.1 <0.01 23.3 <0.01
Cobalt Copper Iron Lead Lithium	D-Co D-Cu D-Fe D-Fb D-Li	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 0.01 <0.03 <0.03 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.05 <0.01
Magnesium Mangauese Molybdenum Nickel Phesphores	D-Mñ	2.2 0.013 <0.03 <0.05 <0.3	2.3 0.016 <0.03 <0.05 <0.3	6.7 0.025 <0.03 <0.05 <0.3	2.5 0.010 <0.03 <0.05 <0.3	2.0 0.020 <0.03 <0.05 <0.3
Potassium Selenium Silicon Silver Sodium	D-K D-Sc D-Si D-Ag D-Na	<2 <0.2 0.56 <0.01 <2	<2 <0.2 0.80 <0.01 2	2 <0.2 0.66 <0.01 <4	<2 <0.2 1.13 <0.01 3	<2 <0.2 0.93 <0.01 3
Strontium Thelitum Tin Titanium Vanadium	D Sr D-Ti D-Sa D-Ti D-V	0.034 <0.2 <0.03 <0.01 <0.03	0.039 <0.2 <0.03 <0.01 <0.63	0.026 <0.2 <0.03 <0.01 <0.03	0.096 <0.2 <0.03 <0.01 <0.03	0.077 <0.2 <0.03 <0.01 <0.03
Zir.e	D Zn	<0.005	<0.005	<0.005	<0.005	<0.005

Remarks regarding the analyses appear at the beginning of this report. Results are expressed as milligrams per libro except where noted. < = 1.05 than the detection limit indicated.



. File No. M2452r

Water		03163	03163
		00 09 19	GC # 213399
<u>Dissolved Mel</u> Aluminum Animony Arsenic Barium Beryllium	tals D-Al D-Sb D-As D-Ea D-Be	<0.4 <0.4 <0.4 <0.02 <0.01	<0.4 <0.4 <0.4 <0.02 <0.01
Bisniuth	D-Bi.	<0.2	<0.2
Boron	D-B	<0.2	<0.2
Cadmium	D-Cd	5.76	5.79
Calcium	D-Ca	2.3	2.3
Chromium	D-Cr	<0.02	<0.02
Cobalt	D-Co	0.32	0.32
Copper	D-Cu	18.4	18.4
Iron	D-Fe	13.9	14.0
Lead	D-Po	4.5	4.3
Lithium	D-Li	<0.02	<0.02
Magnesium	D-Mg	<0.2	<0.2
Manganese	D-Mn	0.15	0.15
Molybdemum	D-Mo	<0.06	<0.06
Nickel	D-Ni	0.1	0.2
Phosphorus	D-P	<0.6	<0.6
Potassitum	D-K	<4	<4
Selendum	D-Se	<0.4	<0.4
Silcon	D-Si	3.4	3.4
Silver	D-Ag	<0.02	<0.02
Sodtum	D-Na	<4	<4
Stroniium	D-Sr	0.81	0.81
Thallitum	D-TI	<0.4	<0.4
Tin	D-Sn	<0.06	<0.06
Titanitum	D-TI	<0.02	<0.02
Vanaditum	D-V	<0.06	<0.06
Zinc	D-Zn	314	512

Remarks regarding the analyses appear at the beginning of this report. Results are expressed as milligrams per little except where noted. < > Less than the detection limit indicated.



File No. M2452r

Water		03171	03171
		00 09 19	QC # 213400
<u>Dissolved Mer</u> Aluminum Antimony Arsenic Barinan Beryldum	tals D-Al D-Sb D-As D-Ba D-Ba	<0.2 <0.2 <0.2 <0.01 <0.005	<0.2 <0.2 <0.2 <0.01 <0.005
Bismath Boron Cadniium Calcium Chromium	D-Bi D-B D-Qd D-Ca D-Cr	<0.1 0.2 <0.01 7.42 <0.01	<0.1 0.2 <0.01 7.57 <0.01
Cobalt Copper Iron Lead Lithium	D-Co D-Cu D-Fe D-Pb D-U	0.60 0.30 <0.03 <0.05 0.01	0.61 0.31 <0.03 <0.05 0.02
Magnesium Manganese Molybdenum Nickel Phosphorus	D-Mg D-Mn D-Mc D-Ni D-P	5.0 0.152 <0.03 <0.05 <0.3	5.0 0.155 <0.03 <0.05 <0.3
Potassium Selenium Silicon Silver Socium	D-K U-Se E-Si D-Ag D-Na	12 <0.2 12.1 <0.0	13 <0.2 12.3 <0.01 12
Strondum Thallium Tin Titenium Vanadium	D-Sr D-Ti D-Sn D-Ti D-V	<0.005 <0.2 <0.03 <0.01 <0.03	<0.005 <0.2 <0.03 <0.01 <0.03
<b>Z</b> ine	n-Zn	0.230	C.233

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.



File No. M2452r

Water		03182	03182
		00 69 19	QC # 213401
Dissolved Met Aluminum Antimony Arsenic Banum Beryilium	a <b>ls</b> D-A1 D-Sb D-As D-Ba D-Be	<0.4 1.0 10.0 0.03 <0.01	<0.4 1.1 10.3 0.03 <0.01
Bismuth	D-8i	<3	<3
Beron	D-8	<0.2	<0.2
Cadmium	D-Cd	<0.02	<0.02
Calcium	D-Ca	368	376
Chromium	D-Cr	<0.02	<0.02
Cobalt	D-Co	0.14	0.14
Copper	D-Cu	9.18	0.18
fron	D-Fe	0.09	0.09
Lead	D-Pb	<0.1	<0.1
Lithium	D-Li	0.05	0.05
Magnesium	D-Mg	1450	1470
Manganese	D-Mn	0.17	0.17
Molybdenum	D-Vo	0.25	0.25
Nickel	D-Ni	<0.1	<0.1
Phosphorus	D-P	<0.6	<0.6
Potassium	D-K	80	80
Selenium	D-Se	<0.4	<0.4
Silicon	D-S:	1.4	1.4
Silver	D-Ag	<0.02	<0.02
Sodium	D-Na	638	644
Stront an	D-Sr	1.98	2.02
Thallium	D-Tl	<0.4	<0.4
Tin	D-Sn	<0.06	<0.05
Titanium	D-Ti	<0.02	<0.02
Vanadium	D V	<0.05	<0.06
Zinc	D-7:0	0.109	0.109

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.



File No. M2452r

Water	·	03191	03191
		00 09 19	QC # 21.3402
<u>Dissolved Met</u> Aluminum	D-A:	<0.2	<0.2
Antimony	D-Sb	<0.2	<0.2
Arsenle	D-As	0.036	0.035
Barium	D-Ba	<0.01	<0.01
Beryllium	D-Be	<0.005	<0.005
Bismuth	D-Bi	<0.1	<0.1
Boron	D-3	<0.1	<0.01
Cadmium	D-Cd	<0.01	<0.01
Calcium	D-Ca	18.0	17.7
Chromium	D-Cr	<0.01	<0.01
Cobalt Copper Iron Lead LiUnun	D-Co D-Cu D-Fe D-Pb D-Li	<0.01 <0.01 <0.03 <0.05 <0.01	<0.01 <0.01 <0.03 <0.03 <0.05 <0.01
Magnesium	D-Mg	6.7	6.6
Manganese	D-Mn	0.025	0.623
Molybdenum	D-Mo	<0.03	<0.03
Nickel	D-NI	<0.05	<0.05
Phosphotus	D-P	<0.3	<0.3
Potassium	D-K	2	2
Selenium	D-Se	<0.2	<0.2
Silteon	D-Si	0.66	0.65
Silver	D-Ag	<0.01	<0.01
Sodium	D-Na	<2	<2
Swontium	D-Sr	0.026	0.026
Thallium	D-71	<0.2	<0.2
Tin	D-Sn	<0.03	<0.03
Titanium	D-71	<0.01	<0.01
Vanadium	D-V	<0.03	<0.03
Zine	D-2n	<0.005	<0.005

Remarks regarding the analyses appear at the beginning of this report. Results are expressed as miligrams per litre except where noted. < = Less than the detection limit indicated.



## Appendix 2 - METHODOLOGY

File No. M2452r

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

## 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:

Ž

Sample: 6 months

Reference: EFA

For more detail see: ASL "Collection & Sampling Guide"

End of Report

No. 1931 page Lot Z.

# CHAIN OF CUSTODY RECLAD/ANALYSIS REQUEST

Golder Associates

do to Using Remarks Schart 201587 40/4. 100 CO. X z × X -70 7 y Leteratory Name: X TelephonoiPux: Address Selated SCN (over) Gant / AER Plan / Yellaystmike CAQC Code (ever) 9 Satuple 1yps (9/et) Per-trand 002-241874100 Sampled HH:NEW) (Y/X/X) 23/7/00 が行む Sumpled Copper Courses. VOICETTE (reject Number: (over) Medic بلا چي Sandyle Sample Ē Oumaby, Brillah Defumaia, Garada VSC 608 Telepirizne (604) 298-0523 - Fex (604) 298-5263 1 Wasie Rick 82 93 Joseph Port VLSAC NOT 304 9000 1014 Sample Excation 500 - 4260 Still Creak Orive -01-2200-14 W8-0994 15 WROTR 08 WK2-01 - 03 - (500 - 03 WF2-03 - 04 - 2300 - 04 WA3 - 02 - 06 WR1-02 , 02 10 - 01 - 25cc - 01 2350 - 05 Sample Cowing Number (SCN)

WISTE: Colidor Copy assible forther analysis

Scal Infact: YOUNGWELCTS CA

Shipment Coadifion:

Waylall No.

2NK; 1db l≥turns with Fick if Report

Company

Received by Signature

ä

Company

Relinquismed by: Signature

Relinquished by: Signature

Method of Stagment

Shipped by:

( portions for

kg unused

Commonstance Samples and

Sumple Storage (\*\*)

ij

Cerapany

Conspany

Renaised by: Signature

Time

Received for Lab by:

Ë

٥

fersp (%) (Cuotez operad by:

No. 02 phgs2.ol2

# CHAIN OF CUSTODY REC 3D/ANALYSIS REQUEST

A Golder Associates

500 - 4260 Sill Crook Drive

Laboustory Name: Projes Newton

<b>Bungby, Dritish</b> Colombia, Carena V6C 6C6 Telephone (604) 298-6f23 - Fax (604) 298-5	ola, Carenou V6C 6C6 23 - Fax (604) 298-5253	C 6C6 298-525		Colda Gunnat.	Į, g	Per Trand	ار م			Telephone/Jiux:	<u>3</u> /1;	Signan Fresto	zsko J
	- 1		1								American		
	-				416(	į	ofmore, S	CSALDE	Kelated .	I.	vitaliyats recipining		
Nample Coom	Lecation		Depth	Medaix	Sampled Sampled	Sampled	Ę,	44.0	SICIN	<b>\</b> -			ites
			(m)	(pv:ri)	(D/M/Y)	(HH:MM)	(uver)	(aver, '	(nver)	100 CO CO CO	33		Remarks (over)
35	SANGE PART I			<u> </u>	०मे.हट		.,			IZNI			do As Osing hystriole
							•			× × ×			
10.1 - 17.1 - 18	7									X X			
-1	As Pit									X X			
240-WZ						ļ	:			スタス			
WR-5842 #													
WE-0142	···	i					į			ス 以 ス			
W-3-0712 BB				=-	>			4		メメメ			>
£9-						:							
- 10						•							
- 11		·			. :						-		
- 12			[ :								•		
- 13		.									-		
- 14	•												
- 15						22.50							No.
Santiana Signatura	C C		Relanquis	Relanguished by: Signature	athre		Company	;	Date		Received by: Signature	aisiliagi	Congany
Surreyto Sterrage (°C.)		_	Refinencial	Relineationed by: Signature	angre.	1	Company	<u>  e                                   </u>	Date	ж Ш.Т.	Received by: Nguatule	);guaidle	Compan.
Comments: CCX	Color		Methor, o	Method of Shipment			Waytell No.:	  ;;		Received for Latiby:	3	Linke	15m2
THE CHIST		talens (a.) V CANVAI	Shipped by:	54			Shipment ( Seal brace	Shipment Condition: Seel brace:		Temp (*C) Coaler opened by		Oate	Time
Ш		7. 2.				2000			(in Assid	pick 1.0 behres with faciliseped			

Wittle: Golder Copy

YELLOW: tabs Copy

PINK: Lob Rehams with Final Report

Page 2 of 2 No. 5839

### CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

Golder Associates

7.50.

S A Saran Basta ζ ζ 1635 West 75 thave 1612 15 1- 135 A Gjornt-Mireman/A&R Plan valence Bertrand 4 8 ODZ-24-18iken Iitle:

3 G 12 G X 4 TOO STIMBLE Remarks Company Coupranty 40/2 Line Received by: Signature Repayed by: Signature Analyses Required ä Received for Lab by: . line Х × × 8 B-マ-交ら SS (over) COVO (2000) O Š Wageful No.: Char Cumpany adenes 3.00 (9.00) (HH.MM) Sampled (D/M/Y) Sampled 23/7 ğ tellippoistant by Signature ⇒ telinguished by: Signature 776 805 <del>م</del> کا Method of Shipment: Sample (naker) Magaix Spring 황 Ê Dunaby, British Columbia, Canada VSC 606 Tefophone (804) 298-5683 Fux (604) 298-5233 83.# Serape Jorafini ample Signification 900 <u>-</u> 57.07.8K 1 5 ş - 10 ٠ ت ₹ 607 듺 lample Steeler (C) WKOPBA 6 # O. O. O. 00094. 8 USK ofc! € Sample Control, Narabor (SCN)

WHITE CAMPLE COLD

Shipped by

teep usuald perhien - further analyses.

10

VIFLOW: Lob Copy

Seal Jagar

PINK: Lob Retorus with Bhat Report

ij

3 0

Ceoter openial by

(C)

Shipment Condition.

### CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

My Waster women

Golder	der			Cojest Municer	1ster:	00418 - 814C-	CA.	-		The shortenery Name:	ĒĒ		
<b>)</b>	Clarcs			Short Tiller	2 1 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2 4	1001	o'''   o	127	めないれいけれる「一つXalphy	Ì	Jen (	
son - 4260 Still Omek Driva	Oriva		7	Ĵ	CAMP I'V	INTERNAL (En INVISE		3	36.	107% (20)	\$ [		
Burnaby, British Coltimbia, Causda V5C COB Telephone (604) 298-6623	nhin, Canada V5 3623 - Fax (604)	Sanada V5C COB Fax (807) 208-5253		Cicycler Cam	E ANE	Cityle Compact. Buttond	لم م	, إ		Telephune/201 2264		Poelacity of Beston	
			1	<u>.</u>						?	Analyses Kirquised		
Sunasle Cantrol	Sengt	Sari	Sample	Sample	Site	Trans	Sample	2000	Related		/////3		Γ
Niverfeet (SCN)	3.ocation	_	Depth		Sanciers	Numerical	:	Code	SCN	Sally Sally		To Park	
			Ē	(cover)	(D/M/Y)	(TIFEMM)	(uver)	(mass.)	(over)	15 15 15 15 15 15 15 15 15 15 15 15 15 1		(aver)	]
8901-01-44				TOCK !	4/12		Stab			×		22 balloal	
CO42 COL. 43		ĺ		•	11					×		Las Sam Old	13
\$6.500 B		İ			1.5					× 1		-	
C 20103 60					1/27					×			
Orbi-08 68	<del> </del>				1/					X 1			
00% os &					21/2.					×			
06.52 do 4			 		7/12					×			
0°84-01				-	£/28					· · · · · · · · · · · · · · · · · · ·		_	
25.15°					21/7					<u>×</u>		-	
35C 105 10					11					×			
CF. 502. 13					Į,					, X			
WK 0081-18					23/7					<u>×</u>			
JR-0472-0					34					× -			
JE 1201-					ř					.×			
1875-3M				<b>A</b>	ŀ		>			メ			-
	-											Zar	
Snamper's Signature			Relinguished by		Syre O		技		11 10%	2000 Time	Received by: Signifime	Centpony	
Name of the Storage (TC)			Hedinguis.	Refinquished by: Signature	valuic		Samplery		Vale(I	HIE)	Received by: Signature	Синраф	
							17 15 15 15 15 15 15 15 15 15 15 15 15 15	1		Transmissed from Lab last	[]	Time	

Keep whitelet without of Shipman Levisther and agreenting VELLOW: rib Copy

Shipment Condensus

Waybill No.:

HINK: £ab Returns w(th Floot Report)

Time

D<sub>if</sub>C ä

Temp (\*C.) | Choser upoxyl by

Received for Lub by-

# CHAIN OF CUSTODY RECURD/ANALYSIS REQUEST

No. 1195 page 1 of Z

Golder Ssociates	

Burnaby, British Columbia, Conoda VSC 606 Twiestone (604) 290-0020 Fox (904) 299-5253 500 - 4250 SM Crark Criva

TelephonerPax:	Stologe Nambor:	Laboratory Nuns:	
CORRECTOR DENTIFICATION PROPERTY. PROPERTY. Language Jase	- COZ-74:8 T4:00	(CEM)	
Box Trong	Tide:	Address:	
	Fields Contact Charles Control	Telephore/Pag:	22

		1 (a) (a) (a) (a) (a)	1		Harry Commercial							
							-				Apalyses Required	]
Kannske (Zente)	Same	Sast	Semple	Sample	Date	J. Linne	Sample	CAQC	Reduted		1/1/4/	
Manufact (SCN)	Pointary		Dood	Marina	Sumpled	Sampled	3.14.	Code	SCN	\	1 1 1 20	1
			É	(over)	(D/M/7)	(HEMM)		(년 년	(מאיז)	27.57. (A) (A) (A) (A) (A) (A) (A) (A) (A) (A)		Remarks (over)
CW2-010	II.	OPA2-UP		2000	-		بد ق			₩.		Re As USing
2007	١	-2360		į	7,7,7,00			-				1 VAL 127
142-03 80 112 P	lı	57-7540 2162-			00/±/12		gr.k			XXX		Method
Q87 54 60	И.	अन्दर्भ वर्ष १			2)/4/00		Reck			/ / /		
100 N	ta	10 C	:		21/zla		Perc			メスメ		
CAN - 0505	jź	6PX (-65)			01/2/10		77.25	-		メ メ メ メ ×		
000 W	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	22711-015 Z4001		1	21/2/00		2			У Х ×		
10.15.0 10.15.0 10.15.0	:	OPT1-6:			71/7/00	į	73			У У		
3C1.92.88	4.4	1000 1000 1000 1000			2/17/0		-¥ 28			XXX		
09:01-05:00	1. 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	150 100 100 100 100 100 100 100 100 100			21/2/0		Pook			X X X		     
25.85 25.85	Brack Pit	व % (क्रि.) (क्रि.)	<u></u>		2/1/68		Prok			У Х Х		
OPEK-OZ Z	Breck 附	695×-02			00/±/172		S.Y.			×		
SP2-50-50	E2 11	15.00 15.00			21/7/00		Reck			×		
Cont05	P2 P4			1	2.1/400		Sec.			× × ×		
2000万円	T	28.7°		2	21/7fec	 	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	į į		×		>
	1	<u> </u>						<u> </u>				
				1								The same of the sa
Constitution Signature	ومعونسيا		Rechinquis	Redinguished by: Signature	;neture		Company	_	Dale	Tine	Received by: Signature	Company
4 2			=							-		

WHITE Coldor Copy

PiNK: 1,qip Kosums with Final Report

Company

Received by: Signature

100

Cate

Received for Lah by:

1130

Date

Temp (°C) | Cooler opened by

Shipepent Conditions

Seal Intirel

Waybill Nu.:

Compacy

Seitneyrished by. Signature

dedaed of Shipment;

Shipped by:

resilible firstly analysis

Comments: Cross, Scrint

Sample Standys (\*\*)

YPLOW: Lab C

No. 194 / page Z of Z

### CHAIN OF CUSTODY REC. D/ANALYSIS REQUEST

というない

Short Title - 1 A JR Plan / Yellowknite Nojec Number 202 -- 24118

Son - 4980 Offi Creek Orlys	k Dithe		-	1500	~	Sel. /木文	7 140	<u>0</u>	6275Th				
Bunaby, British Ordushia, C Talsabore (604) 248-8623	Burnaby, British Ordumhia, Carrada VKC 5C6 Talcabane (604) 298-6623 - Pax (304) 238-5253	38 -5258	<u> </u>	Golder Contact:		alenc	Bert	tram	_	Telephnostrat		Schan Basa	262
		****	╟	-	-						Analyse	Jace Required	
Sample Coursel	Sannale Sa.*		Sample 5	Sample	Date	Tilk		00400	Related	`	74		
Number (SCN)					Sampled	Sampted		Code	NOS ,		03		467
			(18)	) <del></del> (tr.wo)	(D/M/Y)	(HA:MM)	(nver)	(0000)	(oact)				(IIVEE)
20-7-4-101 -22-27-	53 P.H. Gres. 12	5 CZ	<del>                                    </del>	7007	25/2/22		Rock :			×			dn As Using hydride
8	85.8°t	24-23	.   		. a9+/22		Rock			` X X			 
100 SOL 100 SOL	BIRT	 	<u></u>	8	20/4/27		Rock .			×			
\$ 10.00 P	B1 97.7-	10 10 10 10 10 10 10 10 10 10 10 10 10 1	<u> </u>		55/2/cs		₹ack			<u> </u>			
00-81-00-1830	Bi Pit 1220	       33			27/17/2		Å.				×		
00-10-10-00 00-10-10-00	74 74	្រុ			00/±/27		Patck.			XXX			
50-1810 -27-02	5	<u> </u>		171	22/+/as	:	Z Z Z			<u>^</u> X X	メ		<u>-</u>
20 Table	124 Pil	1			22/7ps		Krek	FI)		XX			
07.81-4-670	<u>a</u>	<u> </u>	<u></u> .	<b>-</b>	27/4/2		Rek	FD		×	×		`,>
+	i	<u></u>									<u></u> .		
-11	 	1											
- 12													
- 13			·· - {	į			• • • •						
*													İ
-T-		$\dashv$	╬   										
Sample of Superior	1	[ <u>-28</u> _	rcushed	Refrequished by Signature	245		Company	- <del>-</del>	Pate	anu -	Received by Signature		Centrany
Sample Surege (°C)	244	2	enquistre	Relanguished by: Signature	WERE		Соприч		Dete	) june	Reneived by: Signeture		Company
Commerces: Graph	S. Grude Samples and		Method of Shipment	fitpnient;			Waybil: No.	-    -,		Received Entrah by:		Date	Tirac
11/2 2010		=											[    -  -

WHIE Golder Copy

Shipped by:

YELLOW: Lab Copy

Stainment Condition: Seal Inlant. PINK: Lab Returns with Final Report

43;tze

femp (\*C) | Ceoler spened by:

48.11 Hgs

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 5840 page 1 of 1

Project Number: CO2 - 24 18 - 43 CO	Liboratory NCDC	
Smorth Gant Wiraman / As R flan	WIGSS West 75 Th	Straw Van 3
World Veries Betton	(Telephyletik) 2364-	Contact Cas ax

			Preject Number:	1			Total Branchistory	***************************************	d shoratory Nerv		The state of the s	
Associates			,	- 7Q	2418-43co	436	D D			<u>-</u>		
503 - 4260 SEP Creek Orion			Short Tide:	3.03	7	2mar	/#K.F	of Miraman/As, R. Alan	559)	West	75 thave Van	Van 3
	Sanada VMC 605 Fax (004) 998 5259		Colday (fcz	Walterie Berton	. Ber.	tor	5		(Telephynylla) 2364	2364	Contact	Contact Cas (22
-			j .							WV A	lysee Recained	
Sample Control Sample Number (SA)	e g	Sample .	Sanpe Saux	Sampled	Sampled	Semple Type	\$ 0 5 5 5	Related	70 mg	10 S.		
		Ê	(cwa)	(0.00.00)	(MM:Htt)	(over)	(ovel)	(00.62)	TO ALL STATES	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Remarks (over)
10 MVIII	  } 		Adils	26/07		യും	 !		× 1			las almadi
TJW01-05 (98)			- <u>-</u>	1		·			× -	-		has all
734401 - 63									*			Samoles.
1.3002 - <b>48</b>									×			-
10001-			· ·			<del></del>			×			
174201- 65								TNPOI -23004	*			!     
TAIRSI - 6							£	TNP0!-2300	×			
TALPOS - 68			<u> </u>	<b>→</b>		-39	·	:	<b>-</b>			
<del>\$\frac{1}{2}</del>												
01/-			•				-	i . :				
/- 11	· · · - · ·		[									
/ -12		: :							1		<u>}</u>	
/ -13												
-14			i	į	     		į					
-15												
Sample of Street		Kelinguish	Keliaguished by Egrature	Service On A		Conjuin	7	1 7 2 E	14,00 Trum	L'accivired hy	d by Signature	Con bases
Nample Storego (*C)		Kennquish	Kennquished by: Signatime	/ ) 학교 기본		Charles	[	Date	Firos	Receive	Received by: Signature	Сэпразу
Continuers:	Sept.	Method of	Method of Shipment:			Wayoili No.:	2		Received for Lab by:	.fq.	Date	'l ime
ANTARA CANADA	. 0 %	Shippod liv.				Shapmen, Condition: Seal lists	Condition		Temp (**) Cooler systed by	When eyeared iny	Duse	Time
							 	SING O	to which can do the	Stool Bonot		  -  -  -

VELOW: LONDON

PINK 1 on Relation with Fine Paris

page 1. of 1. No. 5843

# CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

cont Lac (entr TRACE AND AS sy volution As Maly Mos de ketion Li Jours - Level Receive (AVCT) Control Parsize Company Company 3105 Time Received by: Signature Received by Signature flame : 3000 Cool a opened by: Received for task by: aboratory Name: Pelephone/Pux: Time Terre  $\times$ X Х × Capital (C) Address ÷ 24 24 CO Reinted (over) 3 million Glant - A/R flan Shipment Condition: (Mer) Waysell No.: idite Levie Bockors Company Collect Number: Collect - ALLS - ALLO Country Sample (SWer) (HR:MM) Sampled Time (DIMINA) Sampled !વ્યત્ 1999 Reflact Report of Stephens clinquished by: Signature ارار ا victiced of Shiptnent: 42.4 Sampic Mairis (cver) <u>ال</u>ا الا Keep unand fethor shipped by Sample Depti Teephone (604) 298-6829 Fax (504) 298-5253 Burnaby, British Columbia, Csuada VijG 6Gö Associates Semple Judgiour 500 - 4266 Still Orsek Brive PROTEINSON 32747-6 32.451 - 32.953 - 32.953 - 33.053 - 33. 5 unpler's Signiture: 3300 | · 🐯 330057 🐯 4 7 anje Storage (°C) 83- Arice 32761-18 32964 - 👪 32711-6年 32.4 13・略 # - banco Sumple Control
Nanther (SCN) 1000 Commerts:

DINEST TO SERVICE With Live Deport

Seul 1 ract:

i To logi. No. 028

# CHAIN OF CUSTODY REC .. D/ANALYSIS REQUEST

-

	9		2						1	Theorem 5					
Caller Golder	lder Vistes			Presject Mineber:	2 24.18	$\frac{1}{1}$	400			Hadronakoy Karoose (2709) I	(2) 참		۸i		•
: 500 - 4265 Still Crack Drive	Cortive		-	Short Tiffe:	Z.	i PAMR	R. / 128	જી. ∀.	WERMAR / REA Plan/ UKllowini	Address:	[3]	1635	West-	140th	art Var
Burnaby, British Columbia, Canada VSC 1876 Tokophone (604) 298-6023 Fax (604) 298-53	rabia, Canada V5C 1978 1902a - Fax (604) 298-5253	1878 98-5253		Goldler Connect:	Va Kri	80	Betond	3		Escaponediax:	10/Fax:	1 1 (1	23(4	Charactic Lines	CONTRA FASTER
					THE CO. LANSING								Sylenk.	Analyses Required	
Sample Could	·	82.4	Sample	Semple Seminary	Date	France	Satopie	2AQC	Related	- V.	ورا	N.	No.		
Namber (SCN)	m.1.2001		12 (TE)	(ower)	(D/M/Y)	(HH-MM)	(dwer)	(pwer)		Tilk THE S			1		R prompks (nver).
1500 - 61	South God		ζ.	zi.e	23/07-						×.	X			AS am
TSP025- 60	*		0.5							<u> </u>	L				W.S.co.
Ι.	Cantal Port		0.5							1	¥	×		~	lywidhide.
	û		3.5				:		i		×	×			mortuach
12.6-152- 60	11		50.0	i						-	×	×			
	North Pord		50.0							-	×	×			
<b>(80</b>	12		D.N		•				-			×			
- COS C	1,		5,0						·			×			
THEOM - 60	1/	•••	iΛ	<b>&gt;</b>	ે પૃં						 ×	×			
-0 <del>1</del>						. ;									
<u>                                     </u>	•	-		•											 
TSP 2212	SCHIL FOO		75.0	8	73/St						\  X	×		·	
71/1004-13	Nettin Pencl		200	<del>,</del> <del>k</del> a.15	2407		:				\ \	X			
- 14															
- ES			COMMISSION OF THE PARTY OF THE	Q. Caldio							     ;				1
Sumport Victorian			Actings sm	Retangisired by Signature	aturt.		Company		Dale 1, 16, 00		Time		Received by: Signature	r. Signature	Co.apary
Sample Sterner (C)			Relinquiely	Relinquished by: Signature	atarre		Company		Cats		Fire		Received hy	Received by. Signature	Соперацу
Connects: CPULNEO	Led polition of each service	<u>ئۇ.</u>	Medana of	Shipment:	10 Kg		Waybal No.:			Received for Lab by:	& for La			Calle	Thate
toc feerly		Ŋ	Shirpod by:		ጉ		Sixporent Condition:  Seaf Inter:	Condition:		Temp (C.)	į	ske paliado injune:	oct by:	Date	Timo
!!			ji  -  -				: 								

WITE COLDSTORY

YELLOW: LGD Č

PAR: Lab Reluna with Final Report

# CHAIN OF CUSTODY RECURD/ANALYSIS REQUEST

10 to 10 to			•									
	der.			Project Number:	nber:					Laboratory Niene:		
Accordates	visite a			Ŏ	002-2418	21 to				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
	PLANTELY			Shur Tita	-		,		<i>,</i>	Address:	-4 1	
\$90 - 4260 Still Chark Drive	: Drive			610 W	2MT /7	8 E A ROY / KC		ジン	Jawk Dite	1635   1865		Vanstavet
Bumaby, Brillsh Columbia, Carrarta V6G 6DB Telesilania (804) 298-0020 - 3-8x (904) 298-50	ntsa, Canarta V6C 6Cti ()020 - 3-tx (304) 296-5253	3 6CL 296-5252		Colder Con	Cotter Communication	Zo	Bertand	- 		Toephone/Pux: 694-7672364	Contaction 135 has	Posts
	<u></u>		1			3	TANKS TO COLUMN	1				Ы
Sample Coom	No Heavy	N.	Sample	Sympton	Paris	Teme	Saugle	0000	Related	7	nambars spectrum	
Number (SCN)		 	Deyh	Madrix	Sampled	Sampled	- ed.ć.j	Orde .		100 m		100
			Ĵ	(man)	(EVMAY)	(HH.MM)	(awti)	(sver)	(0,00)		5.5	Rena k
13-43/4-01	NW Pond		10		tails 76/7/0					- X X X	, , , , , , , , , , , , , , , , , , , ,	As and seis
T-NW-0	· - - -		9.0				:			X X X		
- Z8000Z-	<u> </u>		2 2 1	1								—
1-100-02 WW	i		1.5m	_		-				X X Z		In the d
10-00-F			0 N		<del>-</del>					<u> </u>		
10/10/11	>	1	194		>							
			1								1	
- 00		1		}				-				
- 07												-14-14
80 -												
60 -												
- 10												
-11												
- 12												
- 13			:									
- 14												
51 -		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										
	_									IJ		
Sample's Signature:			Retinguist	Retingmalkal by: Signafare	natare		Compray		Date July C	OC Think	Rereived by: Signature	Compuny

WITE: Colder Copy

Stipment Chadidate Seal Intact YELLOW: Leb Copy

PINK: Lab Refurs with Froi Report

Contention by:

Teap (C)

Сощрину

Received by: Signature

Jine

š ğ

Received for Lab by:

Waybill No.:

Conspany

Relinquistied by Signature

Method of Shipmans

Shipport by:

### **APPENDIX II**

MINERALOGICAL ASSESSMENT REPORT LESLIE INVESTMENTS LTD.

### MINERALOGY OF WASTE-ROCK AND TAILINGS SAMPLES FROM THE GIANT MINE, YELLOWKNIFE, NORTHWEST TERRITORIES

Prepared for: GOLDER ASSOCIATES LTD.

Burnaby, British Columbia

December 2000



J.L. Jambor Leslie Investments Ltd Research and Consulting 316 Rosehill Wynd Tsawwassen, B.C. V4M 3L9 Ph: (604)948-1368

Fax: (604)948-1369 E-mail: jlj@wimsey.com

### EXECUTIVE SUMMARY

Seven samples of waste rock and nine samples of tailings from the Giant mine at Yellowknife, N.W.T., were examined by transmitted- and reflected-light microscopy, and by X-ray diffractograms of bulk samples. All but one of the waste-rock samples contain a quartz-dolomite assemblage in which the proportion of dolomite far exceeds that of sulfide minerals. The sole different waste-rock sample is mainly a dark greenish rock, interpreted to be a chloritized volcanic flow, which contains minor to accessory amounts of calcite and is almost barren of sulfides. The principal sulfides in the waste rocks are pyrite and arsenopyrite, neither of which has been affected by surficial oxidation.

The tailings samples are variably rich in dolomite and calcite, and are sulfide-poor. In none of the tailings samples are there indications that the sulfide minerals have been altered by weathering, but in all except possibly one sample there are zoned iron oxides that are interpreted to be the waste residues from the roasting of sulfide concentrates. Thus, the roaster wastes were apparently combined with flotation tailings and the two were co-disposed to the tailings impoundments. The possible exception to this scenario is the deepest sample (3.6-4.0 m) from the NW Pond, which contains only a trace of roaster-type iron oxide, but also has the highest sulfide content of the tailings samples. In this sample the main source of arsenic content is arsenopyrite ± pyrite, but in all other tailings samples the principal identified host for arsenic is incompletely roasted sulfide-mineral residues; it is likely, however, that additional arsenic resides with the zoned iron oxides even where these lack sulfide remnants.

### INTRODUCTION

Sixteen samples from the Giant mine at Yellowknife, N.W.T., were received from Golder Associates via Canadian Environmental and Metallurgical Inc. on November 21, 2000. The request was for a general mineralogical examination, especially whether mineralogical variations are evident among tailings samples that had been collected at different depths from the same borehole. The following summarizes the chain-of-custody record for 17 samples, of which 16 were received.

Sample	Sample	Comments
Number	Location	
OPA1-01	Pit Al	crushed grab sample
OPA2-01	Pit A2	no sample received
OPA2-03	Pit A2	crushed grab sample
OPC1-01	Pit C1	crushed grab sample
WR3-1	WR Pile	crushed grab sample
WR-OPA2-04	WR A2	crushed grab sample
WR-OPB1-01	WR B1	crushed grab sample
WR-OPC1-01	WR C1	crushed grab sample
TCP01	Central Pond	tailings, depth 0.5 m
TCP-02	Central Pond	tailings, 3.5 m
TNP01	North Pond	tailings, 0.05 m
TNP02	North Pond	tailings, 0.5-0.6 m
TNP03	North Pond	tailings, 0.5 m
TNP04	North Pond	tailings, 5.5 m
TNW-01-01	NW Pond	tailings, 0.1-0.5 m
TNW-01-03	NW Pond	tailings, 1.1-1.5 m; pulverized
TNW-01-05	NW Pond	tailings, 3.6-4.0 m; pulverized

All of the received samples were examined by X-ray diffractometry and by transmittedand reflected-light optical microscopy of polished thin sections; all sections are 26 × 46 mm. All of the as-received rock samples consisted of crushed material rather than intact, single hand specimens. A brief note on the as-received material and the corresponding chips that were used for the preparation of the polished thin section is given in the description for each sample.

### RESULTS

### Sample OPA1-01

The sample, which is from pit A1, consists of coarse chips of light greenish grey rock, with the two largest chips about  $1 \times 1.5 \times 5$  cm. The rock is poorly foliated (possibly sheared?),

and the colour and appearance suggest a quartz-sericite (muscovite) -chlorite assemblage. Sulfides megascopically appear only as disseminated, pinprick-size grains.

Rather than selecting one of the two largest chips for the polished thin section, it was thought that a more representative sample would be obtained by randomly choosing several smaller chips. Thus, the resulting polished thin section contains about 15 chips, the largest of which is approximately  $0.4 \times 1$  cm. In marked contrast to the impression obtained from the asreceived rock, the section megascopically shows that nearly all of the chips are rich in sulfide minerals.

Examination of the section in transmitted light shows that all of the chips except one are grossly similar insofar as they have muscovite, quartz, and carbonate as the major minerals. The sole exception is a small chip, 1 × 5 mm, that consists almost wholly of carbonate minerals (Fig. 1) whose grain sizes are in the range 5 – 100 μm across; these sizes are in the same general range as for carbonate minerals in the quartz- and muscovite-bearing rock chips, although locally a few carbonate grains are up to 500 μm across. The proportions of muscovite, quartz, and carbonates vary from chip to chip, but the aforementioned three minerals are consistently the major constituents. Chlorite is a minor mineral and generally has a habit similar to that of muscovite. Small amounts of a turbid, semi-opaque mineral, thought to be aggregates of rutile, are present. Prismatic apatite occurs as an accessory mineral.

Reflected-light microscopy shows that the principal sulfide mineral is pyrite. Nearly all of the pyrite is in subhedral to anhedral grains, the coarsest ~600 µm along an edge, and only a few aggregates of grains are larger. Fractures and brecciation of the pyrite are common (Fig. 2). The infill is mainly by carbonate, with quartz and muscovite occurring only locally and sparsely.

Arsenopyrite is widespread but is less abundant than pyrite. Arsenopyrite grain sizes are the smaller, typically  $<75 \, \mu m$ , and some grains occur as inclusions in pyrite. Other sulfides are quantitatively insignificant; traces of tetrahedrite occur as veinlets in fractured pyrite and arsenopyrite, and traces of chalcopyrite are present as minute, isolated grains, or rarely as a companion to tetrahedrite.

An order-of-magnitude estimation is that total sulfide abundance is about 5 vol%. The ratio of pyrite to arsenopyrite is highly variable from chip to chip. However, most chips have pyrite >> arsenopyrite, and overall magnitude is of the order pyrite: arsenopyrite = 50:1.

An X-ray diffractogram of the bulk sample is shown in Figure 3. The diffractogram

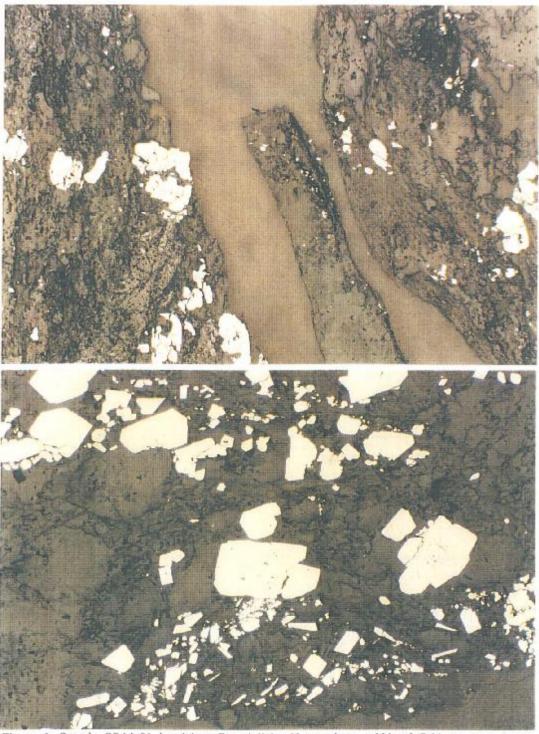
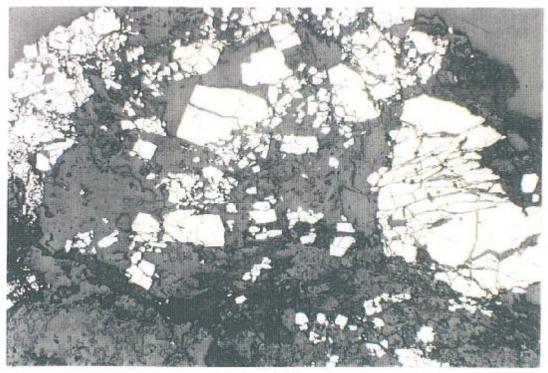


Figure 1. Sample OPA1-01 in plain reflected light. Upper photo, width of field 5.1 mm, shows disseminated pyrite (white) in quartzose chips (i.e., rock fragments) that form the left and right sides of the photo. Between them is an elongate, sulfide-poor chip that consists almost wholly of polycrystalline dolomite. Lower photo, width of field 2.6 mm, shows coarse grains of pyrite that, along the bottom of the photo, are accompanied by abundant smaller, elongate to rectangular grains of arsenopyrite.



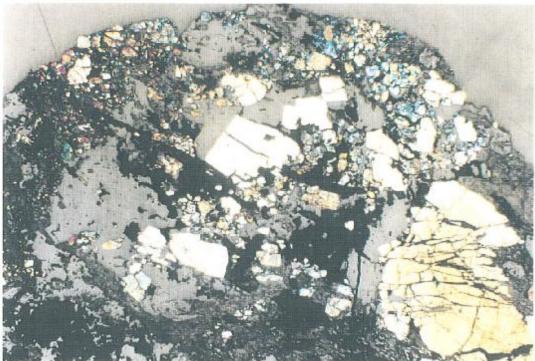


Figure 2. Sample OPA-01 in plain reflected light, width of field 5.1 mm, showing coarse grains of brecciated pyrite accompanied by finer grained arsenopyrite. Lower photo is the same field, after etching with 1.7 HNO<sub>3</sub>. Etching has left the pyrite unaffected except for minor local yellowing, whereas arsenopyrite has taken on a multicoloured stain.

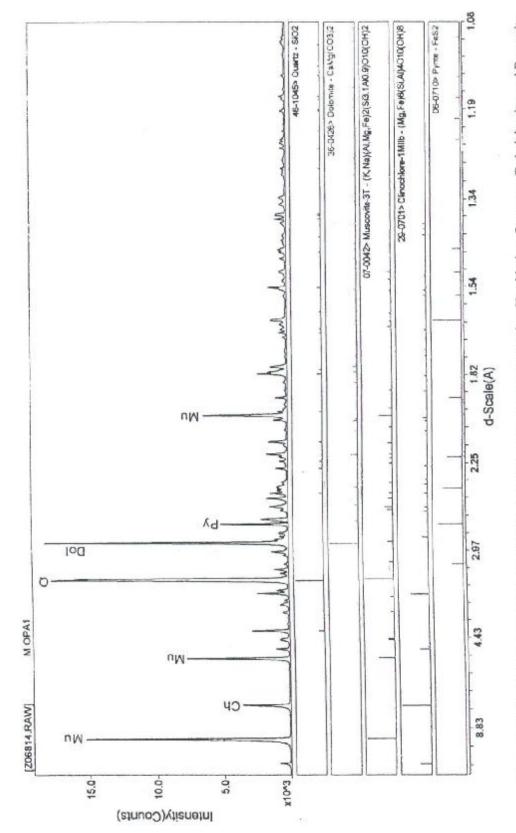


Figure 3. X-ray diffractogram of sample OPA-01. Labelled peaks are Mu muscovite, Ch chlorite, Q quartz, Dol dolomite, and Py pyrite.

confirms the major-mineral abundances observed microscopically and shows that all, or nearly all, of the carbonate mineral is dolomite. Calcite and siderite, if present, are <1% of the total carbonates.

### Sample OPA2-03

The sample, which is from pit A2, is slightly lighter grey but otherwise appears megascopically to be similar to preceding sample OPA1-01. The as-received material varies from fine sand to coarse chips, the largest of which is about  $1 \times 3 \times 5$  cm. As for OPA1-01, a group of smaller chips was selected for the preparation of the polished thin section. The resulting section contains slightly fewer than 20 chips, the largest of which is about  $0.3 \times 1.1$  cm. The sulfide content of the chips can be seen megascopically to vary from sparsely disseminated to percentage amounts.

Transmitted-light microscopy shows the sample to be similar to OPA1-01 in overall texture and in the predominance of the quartz-muscovite-carbonate assemblage. A few grains and aggregates of quartz are coarser and more monomineralic than in OPA1-01, but the difference between the two samples is not appreciable.

The principal sulfide observed in reflected light is pyrite. Content of the pyrite in individual chips varies from nil to about 20 vol%, and the average is of the order of 3–4%. The pyrite varies from euhedral to anhedral; euhedral grains are common, in part reflecting the absence of extensive fracturing or brecciation in this sample. Even where aggregates of pyrite are present, they are typically simple composites of only a few grains rather than complex, polycrystalline intergrowths. Arsenopyrite is widespread, commonly euhedral, and like in the preceding sample, is typically in grains smaller than those of pyrite. The ratio of pyrite to arsenopyrite is highly variable from chip to chip, but the average is probably not different from that of the preceding sample. Traces of chalcopyrite, but no tetrahedrite, were observed.

The X-ray diffractogram of a bulk sample of OPA2-03 is shown in Figure 4. The predominance of the muscovite-quartz-dolomite assemblage is evident. No calcite is detectable; siderite, if present, is negligible relative to dolomite.

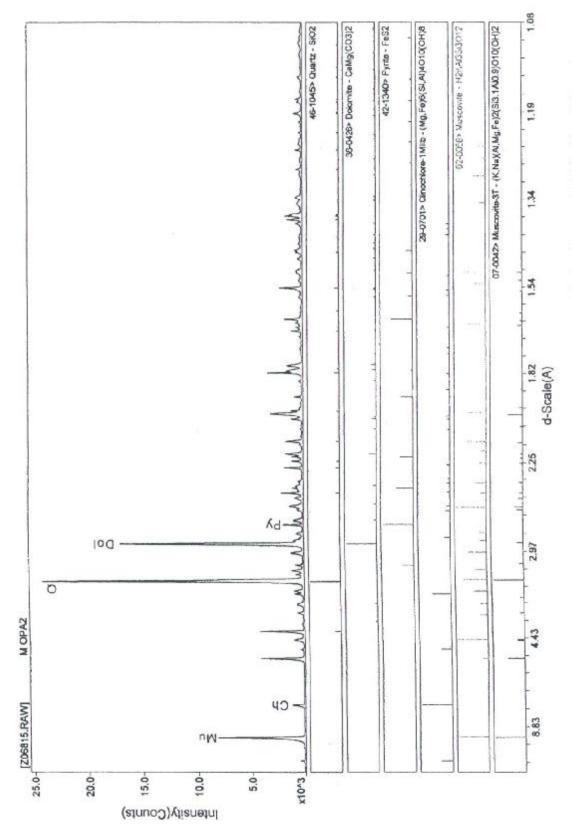


Figure 4. X-ray diffractogram of sample OPA2-03. Labelled peaks are Mu muscovite, Ch chlorite, Q quartz, Dol dolomite, and Py pyrite.

### Sample OPC1-01

The sample, from pit C1, consists of dark greenish grey, massive, irregular fragments up to  $1 \times 2 \times 2$  cm. One chip,  $0.5 \times 1.5 \times 2$  cm, is schistose, as are a few of the smaller chips. Fine-grained, disseminated pyrite appears to be sparse and is confined mainly to the schistose chips.

The polished thin section contains about 10 chips averaging 3–4 mm across, and a few smaller ones. Microscopy shows that the rock is non-foliated and consists almost wholly of quartz and carbonate. A few chips also contain abundant muscovite and chlorite, but in these too the silicates and quartz are quantitatively minor relative to carbonate.

Reflected-light microscopy shows that the main sulfide is pyrite, which varies from almost nil to several percent in individual chips. Arsenopyrite is common, but is subordinate to pyrite, and the ratio of the two roughly approximates that of the preceding samples. The sulfides vary from concentrations in layers (Fig. 5), to irregular 'trains' of grains (Fig. 6); no veinlets of continuous sulfide are present. Almost all pyrite is in grains <150 µm across, and arsenopyrite is typically slightly finer grained. Overall abundance of the carbonates far exceeds that of the sulfides.

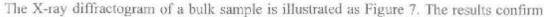
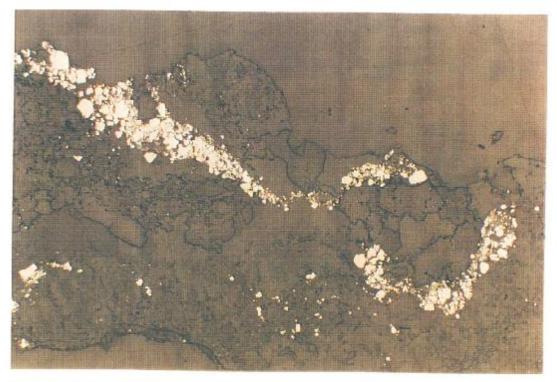




Figure 5. OPC1-01 in reflected light, width of field 5.1 mm, showing concentration of sulfides in layers. Coarse grains are pyrite, and many of the fine grains are arsenopyrite, in a carbonate-rich matrix containing quartz and abundant chlorite. Barren chip at upper left consists almost wholly of dolomite.



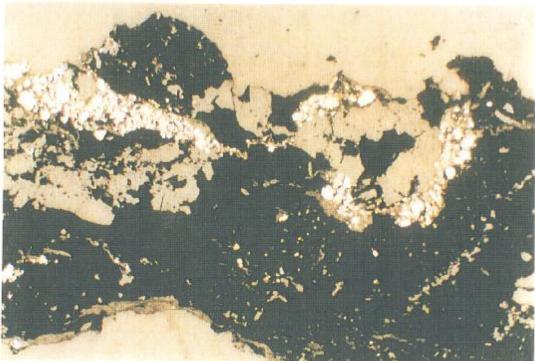


Figure 6. Sample OPC1-01, width of field 5.1 mm. Upper photo, in plain reflected light, shows a 'train' of sulfides, mainly pyrite but with arsenopyrite among the finer grains. Lower photo of the same area in plain transmitted light shows the distribution of dolomite, here stained black by acid treatment; unaffected areas are mainly quartz.

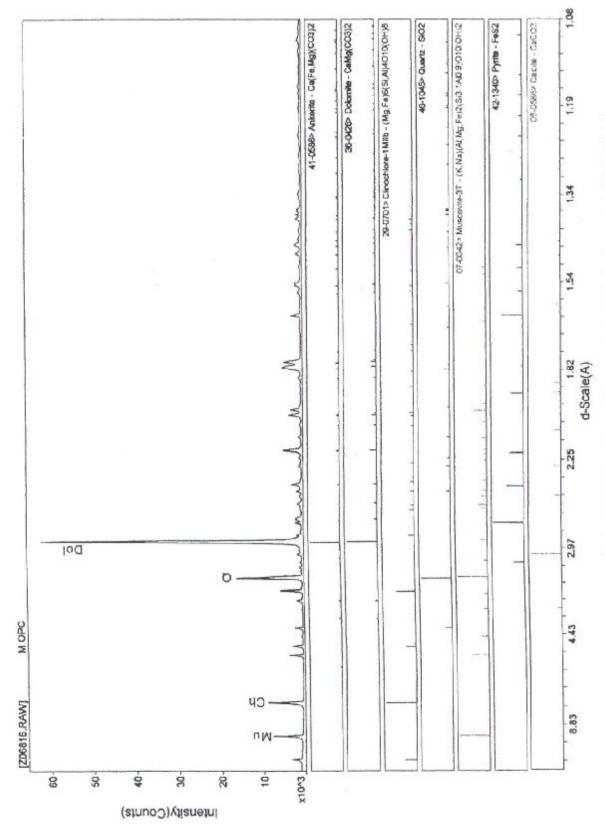


Figure 7. X-ray diffractogram of sample OPC1-01. Labelled peaks are Mu muscovite, Ch chlorite, Q quartz, and Dol dolomite.

the optical observations and indicate that the carbonate mineral is dolomite. Siderite and calcite, if present, are negligible relative to dolomite.

### Sample WR3-1

The as-received sample consists of crushed rock in which the largest piece is  $1 \times 2.5 \times 2.5$  cm. About half of the sample consists of fragments that are less than 1 cm across. The fragments have sharp edges, are of irregular shape, and their distinctly greenish colour suggests a chloritic character. Sparsely disseminated sulfides are evident.

The polished thin section contains about eight chips (fragments) that are 3-4 mm, and several small (1-2 mm) ones. Megascopically visible sulfides are sparse and are mainly in one chip.

Microscopic examination shows the principal rock type to consist of a fine-grained chlorite-amphibole-plagioclase assemblage that is interpreted to be a highly chlorite-altered volcanic flow (Fig. 8). Replacement by carbonate is also common, and one chip has abundant epidote as a polycrystalline mass. Two of the chips are coarser grained, containing plagioclase laths to 300 μm in length and amphibole grains of a similar size; these chips may represent an intrusive phase, perhaps a dyke. The two chips, although less altered than the extrusive rock, also contain abundant chlorite and have traces of carbonates in veinlets and patches.

Most of the chips are barren of sulfides or contain only a few disseminated grains of pyrite. The pyrite occurs as subhedral to anhedral grains to 120 µm across. Commonly spatially associated with pyrite, but not intergrown with it, are anhedral grains of chalcopyrite whose maximum size is 30–40 µm. One chip contains several blebs of chalcopyrite, but no pyrite. No arsenopyrite was observed, and average sulfide content is probably less than 0.1%. Carbonate content is far in excess of that of the sulfides.

The X-ray diffractogram of WR3-1, given as Figure 9, shows that the predominant mineral is chlorite. Albite and amphibole are other major aluminosilicates, mica is present in minor amounts, and quartz is abundant. The peak for calcite indicates that several percent of the mineral is present. A small amount of dolomite seems to be indicated, and the presence of siderite cannot be discounted. Nevertheless, dolomite and siderite combined are no more than minor relative to the abundance of calcite.

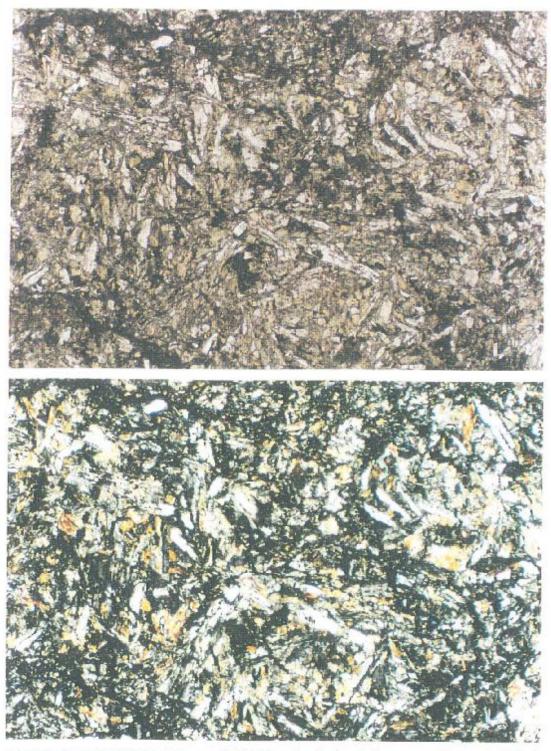


Figure 8. Sample WR3-1 in plain transmitted light (top) and with polarizers crossed (bottom), width of field 2.6 mm, showing a relatively unaltered area. Colorless laths are plagioclase, and the more birefringent grains (coloured grains in lower photo) are amphibole.

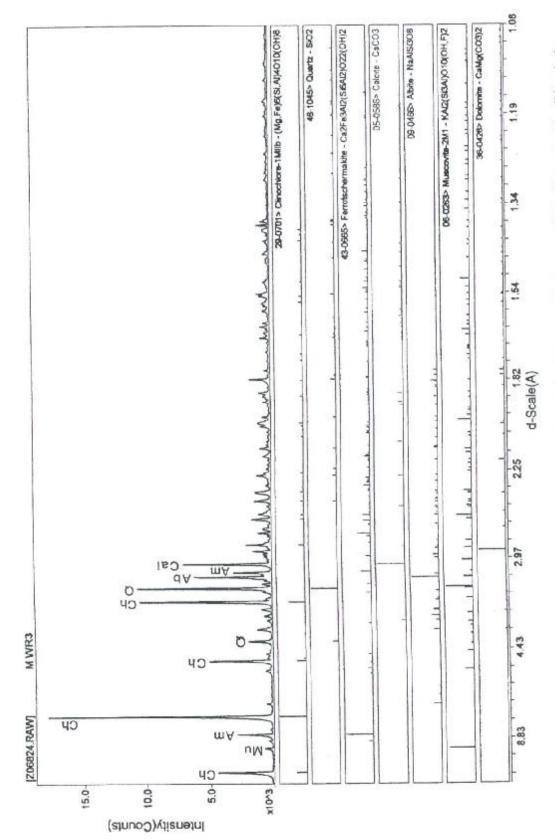


Figure 9. X-ray diffractogram of sample WR3-1. Labelled peaks are Ch chlorite, Mu muscovite, Am amphibole, Q quartz, Ab albite plagioclase, and Cal calcite.

### Sample WR-OPA2-04

The as-received sample is megascopically medium greyish green and quartzose, but the quartz is not present as distinct veinlets. The maximum size of the rock fragments is about 1 × 2 × 3 cm. A few disseminated grains of sulfide are visible. The minus ¼ inch (6 mm) fraction was used for the polished thin section and X-ray diffractometry.

The polished thin section contains 40-50 chips, the largest 3 × 4 mm and nearly all of them >2 mm across. Many of the chips appear megascopically to be sulfide-barren, with about eight chips accounting for >90% of the sulfide. Except for one particle that approaches 1 mm along an edge, the sulfides are fine-grained and disseminated.

Transmitted-light microscopy shows the chips to be predominantly a blend of chloritized effusive volcanics, of the type observed in WR3-1, and the quartz-carbonate-chlorite-muscovite assemblage of the type observed for the OP pit samples. Two of the chips consist of relatively coarse, clean, strained quartz accompanied by undeformed carbonate-mineral grains. Carbonate is present in all of the rocks types but is most abundant in the quartz-carbonate-chlorite-muscovite assemblage.

Pyrite, arsenopyrite, and chalcopyrite occur in all rock types but are mostly in the quartz-carbonate type, and also in a fine-grained, layered, quartz-carbonate-chlorite rock that resembles a quartzose metasediment (Figs. 10, 11). Sulfides, however, are almost absent in the chloritic volcanics, wherein the principal opaque mineral is ilmenite. Some chips contain more arsenopyrite than pyrite, and the overall proportion of arsenopyrite to pyrite, possibly about 5:1, is much higher than in other samples. Chalcopyrite is also more common but is nevertheless sparse relative to pyrite and arsenopyrite. The carbonate-mineral content far exceeds that of total sulfides.

The X-ray diffractogram of the bulk sample is shown in Figure 12. The diffractogram indicates that the principal carbonate is dolomite. Siderite, if present, is quantitatively insignificant, but a minor amount of calcite is present. The dolomite, as is suggested from previously noted associations, probably originates with the quartz-carbonate-chlorite-muscovite rock whereas the calcite occurs in the altered volcanics.



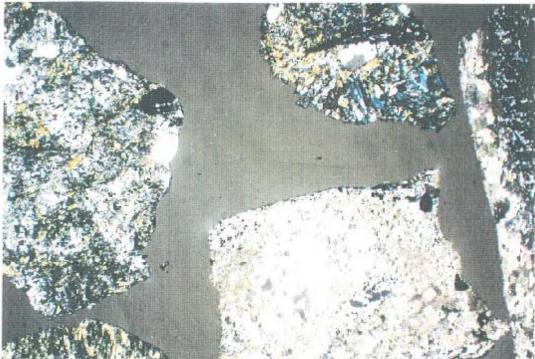


Figure 10. Sample WR-OPA2-04 in plain reflected light (top) and in transmitted light with polarizers crossed (bottom); width of field is 5.1 mm. The chip on the far right (almost vertical) has, from left to right, a layer of polycrystalline dolomite, then fine-grained arsenopyrite, then a chlorite-quartz layer. The nearby chip at the upper left is probably an altered volcanic; the light grey mineral in the upper photo is ilmenite, and in the lower photo the bluish mineral is chlorite. The chip below consists of a pyritiferous quartz-carbonate assemblage; in the lower photo the quartz shows as white to grey, and the associated, more coloured grains are dolomite. See also Figure 11.



Figure 11. Enlargement of the right side of Figure 10, width of field 2.6 mm, showing WR-OPA2-04 in plain reflected light. In the chip on the right, the abundant white grains are arsenopyrite. In the chip on the left, the white grains are pyrite, and an irregular, yellow grain of chalcopyrite is at the far right of the chip.

### Sample WR-OPB1-01

The as-received sample is light grey and quartzose; the largest fragments have an irregular shape and are up to 3 cm long and 1.5 cm across. A few small, blackish, presumably chloritic fragments are also present. Sparse, fine-grained sulfides are visible, and traces of ochreous staining occur along fracture surfaces.

The polished thin section contains approximately 40 chips, the largest of which is about 4 mm across, and almost all of the chips are larger than 1.5 mm across. The sulfide content of individual chips varies from nil to percentage amounts.

Transmitted-light microscopy shows that three of the chips are of the coarser grained, amphibole-bearing, dyke-type rock, and all other chips are of the quartz-carbonate-muscovite-chlorite type. In reflected light the dyke-type rock is seen to be barren of sulfides, whereas the quartz-carbonate chips vary from barren to sulfide-rich (Figs. 13, 14). In one chip the pyrite grains are euhedral and up to 0.5 mm along an edge; the grains are clustered, and most have been

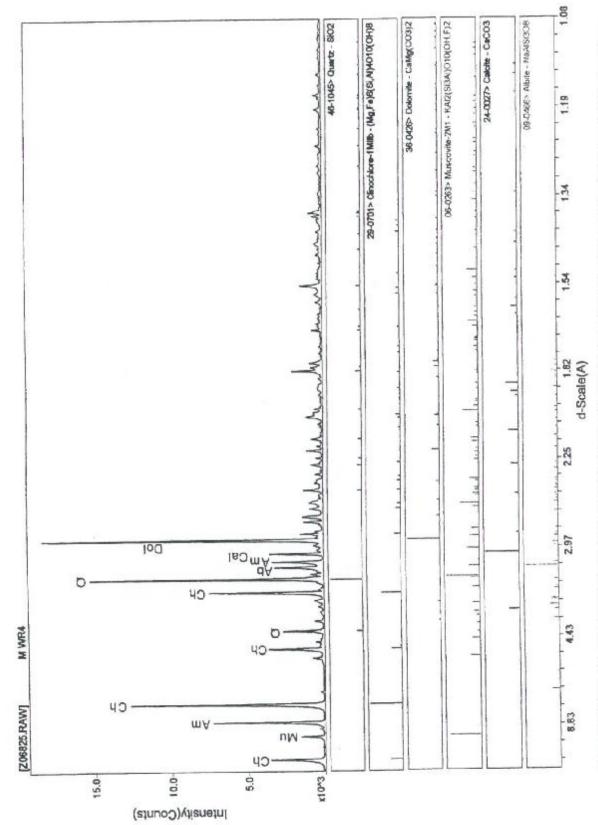


Figure 12. X-ray diffractogram of WR-OPA2-04. Labelled peaks are Ch chlorite, Mu muscovite, Am amphibole, Q quartz, Ab albite plagioclase, Cal calcite, and Dol dolomite.

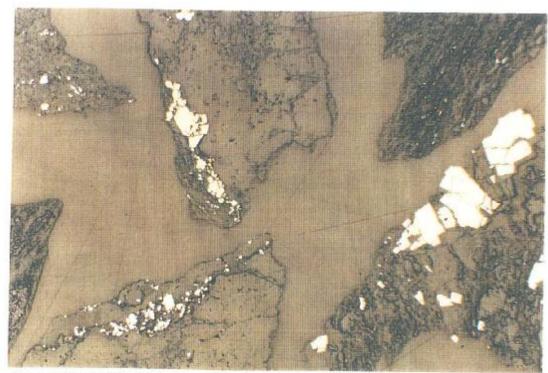


Figure 13. Sample WR-OPB1-01 in plain reflected light, width of field 5.1 mm, showing the general variation and distribution of the sulfide minerals. Most of the white grains are pyrite, but in the chip at the bottom left the main sulfide is arsenopyrite. In the chip at the top centre, most of the sulfide grains are pyrite, but the accompanying minute grains are arsenopyrite and chalcopyrite.

brecciated and healed by carbonate. One of the grains has a  $20 \times 50~\mu m$  inclusion of tetrahedrite, which also occurs elsewhere in the section in minute amounts. Arsenopyrite is widespread in the section and is more abundant than pyrite in some chips. Nevertheless, pyrite is by far predominant overall, and the ratio of pyrite to arsenopyrite is probably not significantly different from that described for the preceding quartz-carbonate rock samples. One quartz-carbonate chip contains no pyrite or arsenopyrite, but has a grain of pyrrhotite,  $200~\mu m$  across, with an attached smaller grain of chalcopyrite.

The X-ray diffractogram of a bulk sample is shown in Figure 15. The aluminosilicate assemblage is as was observed microscopically; the principal carbonate mineral is dolomite, but an appreciable amount of calcite is present. Pyrite is detectable, but the carbonate-mineral content far exceeds that of the sulfides.



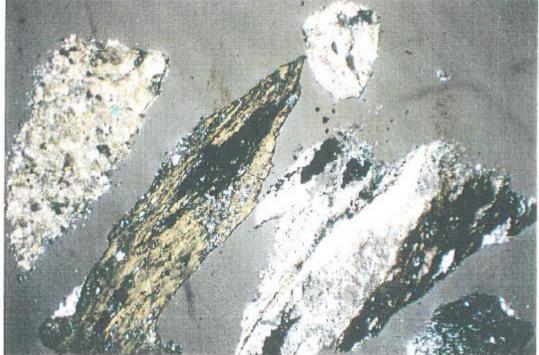


Figure 14. Sample WR-OPB1-01 in plain reflected light (top) and in transmitted light with polarizers crossed (bottom); width of field is 5.1 mm. The sulfide-barren chip on the far left consists almost wholly of polycrystalline dolomite. To its right is an elongate chip consisting largely of chlorite (greenish), and above it is round to elliptical small chip of quartz and dolomite. The pyritiferous chip on the right contains a quartz-carbonate-chlorite-muscovite assemblage.

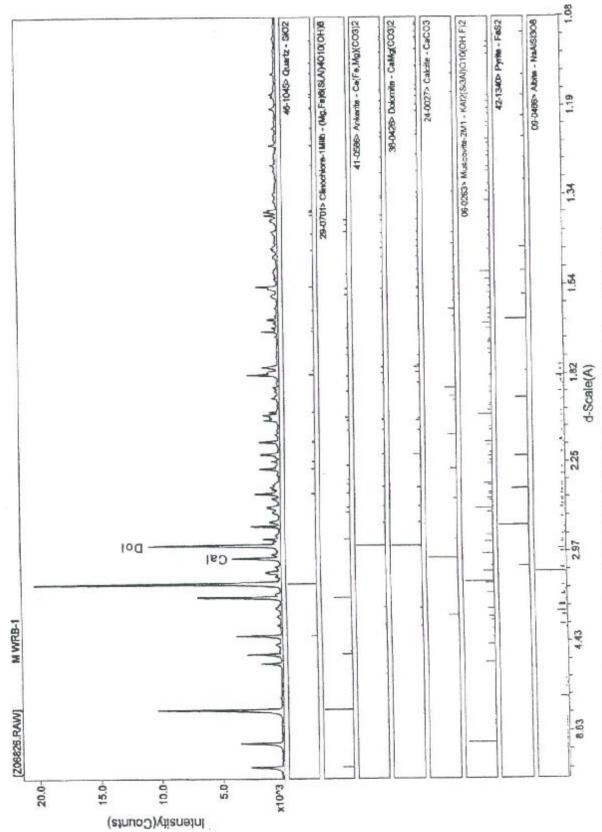


Figure 15. X-ray diffractogram of sample WR-OPB1-01. Labelled peaks are Cal calcite, and Dol dolomite.

### Sample WR-OPC1-01

The as-received sample is a dark greenish grey crushed rock for which the fragments are irregular, massive, and up to  $1 \times 2 \times 2$  cm. One fragment,  $0.5 \times 1.5 \times 2$  cm, and a few smaller ones, appear to be slightly schistose and contains abundant, fine-grained, disseminated pyrite that is concentrated in micaceous or chloritic layers. The polished thin section of the sample contains about 35 chips, the largest of which is  $4 \times 7$  mm, and most are >3 mm. Most of the sulfides, other than a few disseminated grains, are concentrated in six of the chips.

Transmitted-light microscopy shows that the majority of the chips are amphibole- and chlorite-rich rocks, interpreted to be altered extrusive volcanics, and three of the chips are coarser grained, dyke-type rock (Fig. 16). About a third of the chips is of the quartz-carbonate rock type. Some of amphibole-bearing chips contain small amounts of carbonate, presumably calcite, but the chief alteration is extensive chloritization. The quartzose rocks are highly calcareous (presumably dolomite) and also host nearly all of the sulfides.

The altered volcanics are seen in reflected light to contain only a few blebs of chalcopyrite and pyrite, and most of the chips of this rock type are devoid of sulfides. One of the chips of dyke rock contains two adjacent particles of sulfide mineral, each particle about 100 µm across; one of the particles consists of a polycrystalline aggregate of marcasite, and the other consists of roughly equal amounts of pyrite and marcasite. Blebs of chalcopyrite and additional pyrite were also observed, but all are <5 µm across and are quantitatively insignificant. The bulk of the sulfides occurs in the quartz-carbonate rock type. Pyrite and arsenopyrite are predominant, a trace of chalcopyrite is present, and the textures, proportions, and associations are similar to those already described for other quartz-carbonate waste-rock samples.

The X-ray diffractogram of a bulk sample of WR-OPC1-01 is illustrated in Figure 17.

The high content of amphibole and chlorite largely reflects the presence of the altered volcanics.

Both calcite and dolomite are abundant, with the latter predominant. The carbonate content far exceeds the sulfide content.

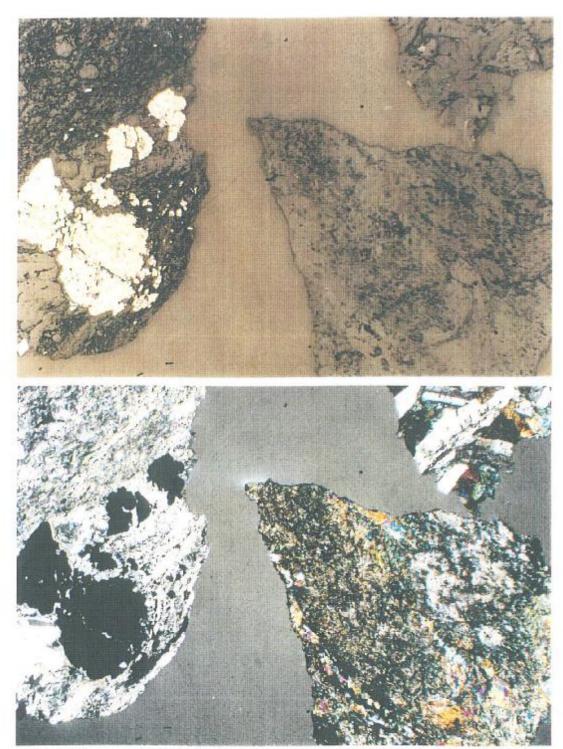


Figure 16. Sample WR-OPC1-01 in plain reflected light (top) and in transmitted light with polarizers crossed (bottom), width of field 5.1 mm. Upper photo shows the variation in sulfide content; white grains on the left are mainly pyrite, but an isolated diamond-shape crystal of arsenopyrite is evident at the extreme bottom-left corner. Lower photo shows relatively coarse plagioclase laths in the dyke-type rock at the top right. Below it is a calcite-bearing chip of altered volcanic rock in which the bright colours are from amphibole. At the far left is a chlorite-rich chip containing the quartz-carbonate-muscovite assemblage.

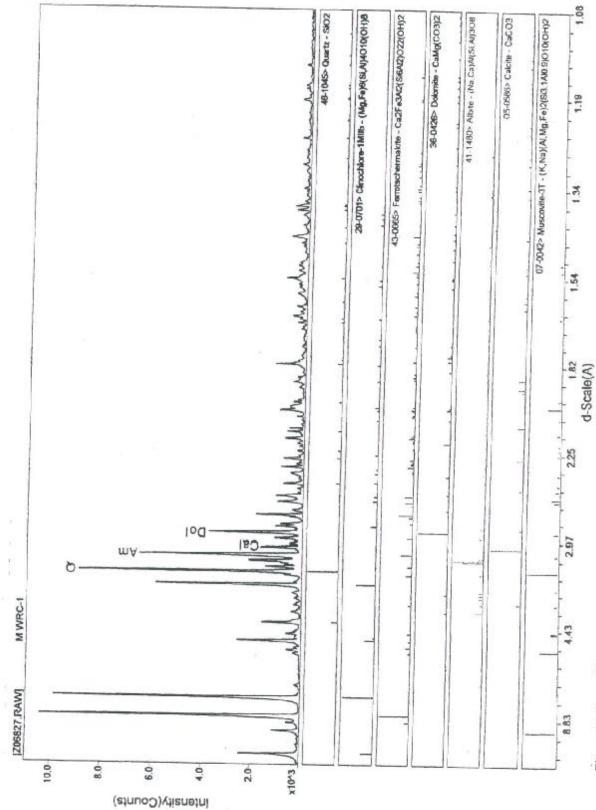


Figure 17. X-ray diffractogram of sample WR-OPC1-01. Labelled peaks are Q quartz, Am amphibole, Cal calcite, and Dol dolomite.

### Samples TCP01 and TCP-02

Samples TCP01 and TCP-02 are fine-grained tailings from 0.5 m and 3.5 m, respectively, in the Central Pond. As-received material of TCP01 is medium greenish grey, finely silty, with numerous slightly cohesive lumps, most <0.4 cm in diameter, that are easily disintegrated by only slight pressure. Sample TCP-02 is similar, but the colour is slightly brownish rather than greenish.

Microscopic examination of TCP01 is in accord with a tailings origin. Maximum grain size is of the order of 150  $\mu$ m, but most grains are <50  $\mu$ m. Almost all of the coarser grains are quartz and carbonate, and the finer portion consists predominantly of these two minerals and shreds or laths of muscovite and chlorite.

Opaque minerals are common but form only a small proportion of the assemblage (Fig. 18). Pyrite and hematite predominate, and the latter is almost invariably finely zoned. A few grains of pyrrhotite, arsenopyrite, and a trace of chalcopyrite are present. None of these sulfide minerals has rims or replacements that are characteristic of alteration that occurs by oxidation



Figure 18. Overview of sample TCP-01 in plain reflected light, width of field 2.6 mm. Greyish grains, including the well-zoned one below and right of centre, are Fe oxide that is interpreted to be roaster waste. White grains are sulfides, some of which are rimmed by Fe oxide (see Fig. 19).



Figure 19. Sample TCP-01 in plain reflected light, width of field 0.625 mm, showing a zoned grain of roaster-type Fe oxide. To its left is a grain of pyrite that is rimmed by Fe oxide, indicating that roasting did not consume some of the sulfide grains. Whitish grains to the left and far right are unoxidized pyrite, presumably from the flotation tailings.

during weathering; in such a setting the most common oxidation products are goethite ( $\alpha$  – FeOOH) and Fe<sup>2+</sup> sulfates. However, numerous sulfide grains show partial, zoned replacement by an iron oxide with the optical properties of hematite (Figs. 19, 20). The textures and associations are typical of incompletely roasted sulfides, and the conclusion is that sample TCP01 represents a combination of co-disposed flotation tailings and wastes from roaster processing.

Sample TCP-02 is noticeably finer grained than TCP01. In TCP-02, more than 90% of the grains are finer than 40  $\mu m$ . The non-opaque minerals are chiefly quartz and carbonate, and the opaque minerals are mainly zoned hematite and subordinate amounts of incompletely roasted pyrite. The most noticeable difference between these two Central Pond tailings samples is the finer grain size of the deeper sample.

The X-ray diffractograms of the two TCP samples are given in Figure 21. Both patterns show the prevalence of chlorite, muscovite, quartz and carbonates, the latter consisting of dolomite and calcite. The most conspicuous mineralogical difference between the two samples is the higher proportion of calcite in TCP-02.



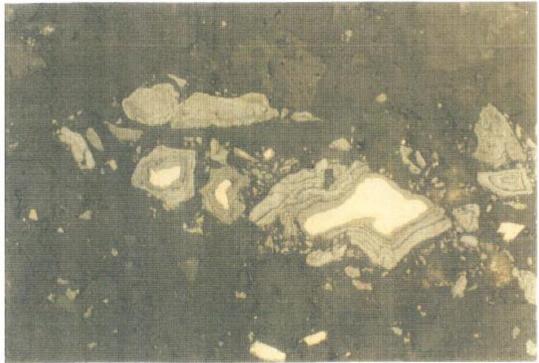


Figure 20. Sample TCP-01 in plain reflected light, width of field 0.3 mm, showing roaster-type oxides, some with unoxidized cores of pyrite.

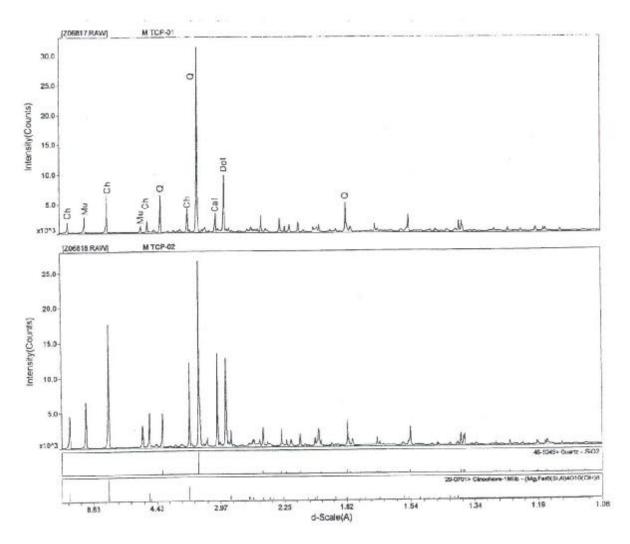


Figure 21. X-ray diffractograms of sample TCP-01 and TCP-02. Labelled peaks are Ch chlorrite, Mu muscovite, Q quartz, Cal calcite, and Dol dolomite.

### Sample TNP01

Sample TNP01, collected at a depth of 0.05 m, is the shallowest of a downward succession of four samples from the North Pond tailings. The as-received material of TNP01 is pulverulent and light brownish. Lumpy portions are poorly cohesive and are easily disintegrated by finger pressure.

Optical microscopy indicates that the tailings are a blend of relatively coarse (~150 µm) and finer particles. The principal minerals are quartz and carbonates, with minor chlorite and muscovite. The chief opaque mineral as observed in reflected light is sparse hematite that is zoned and is optically identical to the roaster-type hematite from the Central Pond (Fig. 22). Pyrite is also common, occurring both as fresh grains and as cores rimmed by hematite. Traces of liberated pyrrhotite are present, and the grains are unaltered. As for the Central Pond, this shallow sample from the North Pond is interpreted to be a mixture of flotation tailings and roaster wastes.



Figure 22. Sample TNP01 in plain reflected light, width of field 0.625 mm, showing roaster-type oxides, some with unconsumed sulfide cores.

### Sample TNP02

The sample is from the North Pond tailings at a depth of 0.5-0.6 m, i.e., approximately half a metre below TNP01. The deeper sample as received is light tan and is predominantly lumpy rather than a free-flowing powder.

Optical microscopy of the polished thin section shows the material to be extremely finegrained; the coarser grains are only about 30  $\mu m$  across, and most grains are <20  $\mu m$ . The nonopaque portion is rich in quartz, carbonates, muscovite, and chlorite.

The opaque fraction is relatively sparse, as in TNP01, and the fine grain size is at the limit for optical identifications. Nevertheless, fresh, liberated grains of pyrite and arsenopyrite are evident, as are particles of zoned hematite and apparently incompletely roasted sulfides. Thus, both the opaque and non-opaque assemblage seems to be the same as in TNP01, with the principal difference being the much finer grain size of TNP02.

X-ray diffractograms of TNP01 and TNP02 are shown as Figure 23. The former contains a trace of gypsum and almost all of the carbonate mineral is dolomite. Sample TNP02 differs in that gypsum is not detectable, the proportion of muscovite is higher, and calcite, although minor relative to dolomite, is slightly more abundant than in TNP01.

### Sample TNP03

Sample TNP03 is from the North Pond tailings at a depth of 0.5 m, i.e., approximately the same depth as TNP02. Sample TNP03 is the finest grained of the North Pond tailings samples, with more than 90% of the particles <20 µm across. The non-opaque assemblage consists predominantly of quartz, chlorite, muscovite, and carbonates. The principal opaque mineral is pyrite. Zoned grains of hematite are observable, as are a few zoned grains of sulfides that are interpreted to be the products of incomplete roaster processing. The proportion of pristine, unreacted sulfides seems to be higher than in other samples, suggesting that more tailings and fewer roaster wastes are represented.

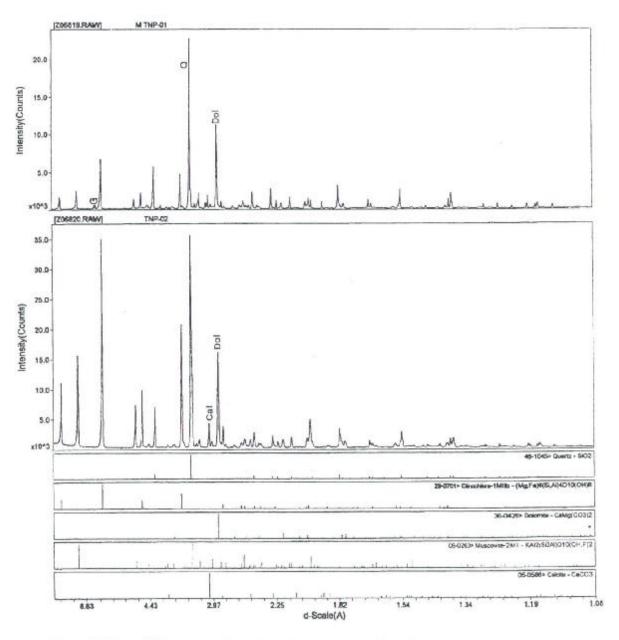


Figure 23. X-ray diffractograms of sample TNP-01 and TNP-02. Labelled peaks are G gypsum, Q quartz, Cal calcite, and Dol dolomite.

### Sample TNPO4

Sample TNP04 is coarser than TNP03, with much of the material in TNP04 in the 50-100  $\mu$ m range. The non-opaque assemblage in both samples appears to be mineralogically similar. Zoned, roaster-type hematite is more abundant in TNP04 than in TNP03, and some unaltered sulfides, mainly pyrite but with traces of arsenopyrite, were also observed. Thus, the proportion

of roaster versus flotation wastes may have varied among the TNP samples, but all of these samples apparently consist of a combination of flotation and roaster products.

The X-ray diffractograms of TNP03 and TNP04 are shown in Figure 24. The X-ray patterns indicate that there is little mineralogical difference between the two samples; both contain abundant dolomite with subordinate amounts of calcite

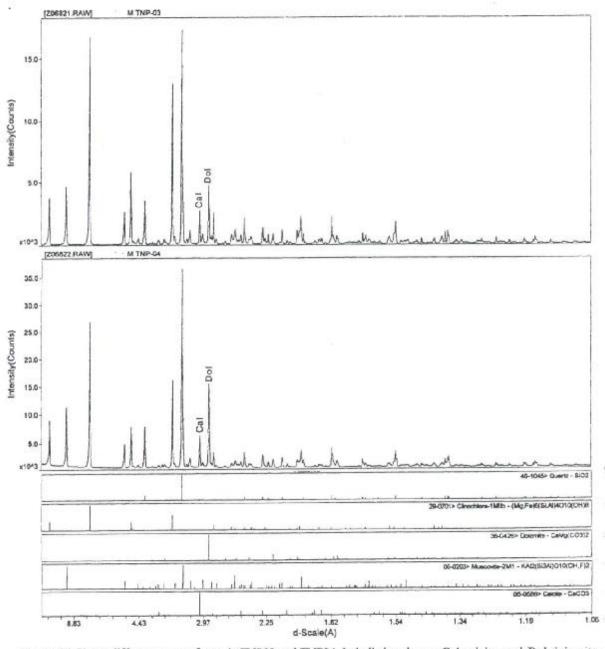


Figure 24. X-ray diffractograms of sample TNP03 and TNP04. Labelled peaks are Cal calcite, and Dol dolomite.

### Sample TNW-01-01

The sample is from the NW tailings pond at a depth of 0.1-0.5 m. The as-received material is grey, pulverulent and partly lumpy, and lacks the brownish cast that is evident in the tailings samples from the North Pond.

The polished thin section shows that a major proportion of the grains is in the size range 50–100 µm. The principal non-opaque minerals are quartz and carbonates, which are accompanied by abundant muscovite and chlorite. Reflected-light microscopy shows that zoned, roaster-type hematite is common and does not appear to be different from that in the North Pond tailings. Also present are liberated, unaltered grains of pyrite, several grains of unaltered pyrrhotite, and traces of unaltered arsenopyrite, all of which are characteristic of flotation tailings. As well, a few zoned grains typical of incompletely roasted sulfides are present.

The X-ray diffractogram of the sample is given in Figure 25. Quartz, chlorite, and muscovite are abundant, and both calcite and dolomite, the former the predominant mineral, are major constituents. Traces of amphibole and albite are detectable, suggesting that a small amount of altered volcanics (wallrock?) was processed.

### Sample TNW-01-03 (CEM sample 02853)

Sample TNW-01-02 is from the NW tailings pond at a depth of 1.1-1.5 m, that is, about 1 m deeper than TNW-01-1. The as-received powder is distinctly greenish, and the sample is reported to have been pulverized.

The material in the polished thin section has a few grains up to  $100 \mu m$  across, and although nearly all of the grains are smaller than  $100 \mu m$ , the effects of pulverizing are not apparent insofar as the material is coarser than that of some of the tailings samples from the Central Pond. The non-opaque assemblage is mainly quartz-carbonate, with abundant chlorite, minor muscovite, and accessory epidote.

The principal opaque mineral is unaltered pyrite, almost all (>99%) of which is in grains  $<50 \mu m$ , and most is  $<20 \mu m$  across. Several grains of chalcopyrite and traces of unaltered pyrrhotite are present. Only a few grains of roaster-type hematite, much fewer than those of the sulfides, were observed.

The X-ray diffractogram of the sample is shown in Figure 26. The large proportion of chlorite in combination with abundant albite suggests that the source rocks (mill feed) included

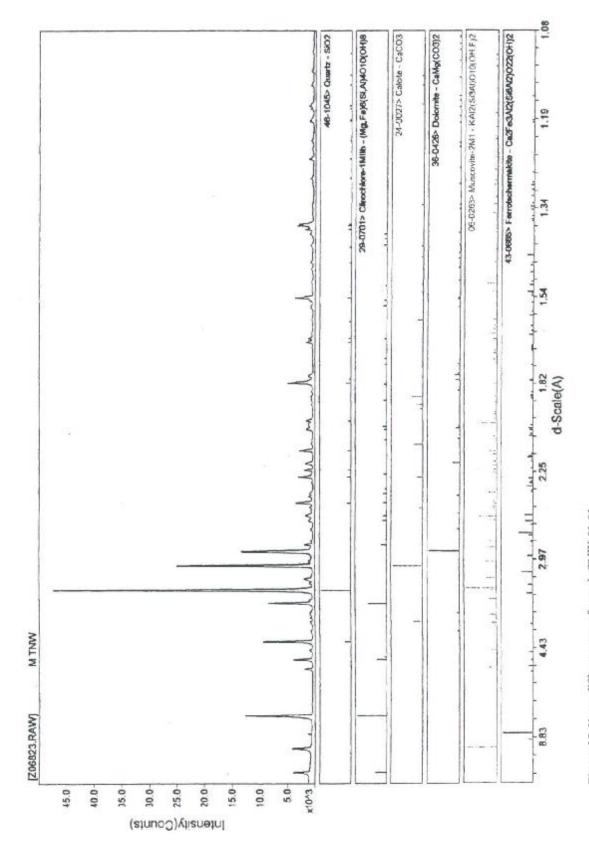


Figure 25. X-ray diffractogram of sample TNW-01-01.

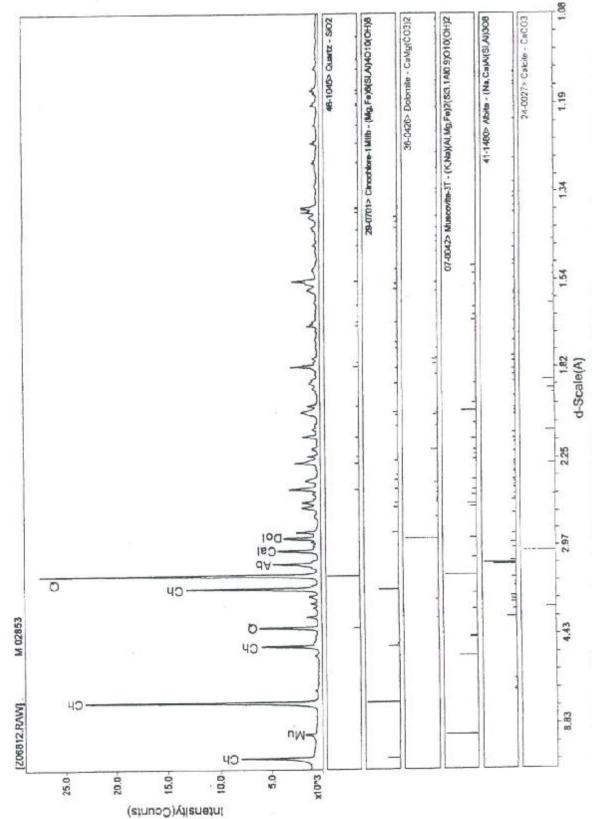


Figure 26. X-ray diffractogram of sample TNW-01-03. Labelled peaks are Ch chlorite, Mu muscovite, Q quartz, Ab albite plagioclase, Cal calcite, and Dol dolomite.

strongly chloritized volcanics. Both calcite and dolomite occur in subequal, major or high minor amounts; thus, the assemblage is primarily chlorite-quartz-albite-calcite-dolomite. The opaque constituents indicate that these are chiefly flotation tailings, which are accompanied by a small amount of roaster wastes.

### Sample TNW-01-5 (CEM sample 02855)

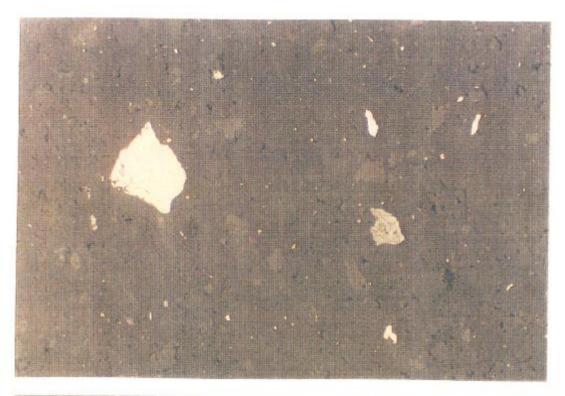
The sample is from the NW tailings pond at a depth of 3.6-4.0 m, about  $2\frac{1}{2}-3$  m deeper than TNW-01-03. Both the -03 and the -05 samples have the same greenish colour, and both are indicated as having been pulverized.

Optical microscopy of TNW-01-05 indicates a predominant quartz-carbonate-chlorite assemblage, with less chlorite and more muscovite than in TNW-01-03, and with negligible epidote. Grain sizes are mainly <50 µm, and grains as large as 100 µm are rare.

Reflected-light microscopy shows this to be the most sulfide-rich of all of the tailings samples. Grains of arsenopyrite are common, and the proportion of arsenopyrite to pyrite is at least as high as that observed in the waste-rock samples. Only two or three particles of roaster-type hematite were observed in the section; as well, a few apparently hematitic particles that have a spongy rather than a zoned texture are present, but these are of uncertain origin. At the highest optical magnifications available (20 × 40 X), some of the sulfide grains appear to have reaction rims, but this observation is somewhat indefinite (Fig. 27).

The X-ray diffractogram of the sample is shown in Figure 28. The principal mineralogy is in accord with the microscopic observations, except that low-minor albite is also present. The X-ray pattern indicates that the carbonate minerals are dolomite and very minor calcite.

The derivation of the opaque minerals in the sample is debatable. The occurrence of roaster-type hematite in the sample is rare enough that the contamination from up-hole material cannot be discounted. However, the amount of sulfides in the sample could be deemed as higher than normal, and there are tenuous indications of foetal reaction rims (Fig. 27). Thus, the sample may be a combination of flotation tails and roaster wastes, with the latter having been almost unaffected by the roast processing. Regardless, the bulk of the sulfur and arsenic currently reside in the sulfides rather than in oxidized roaster-derived products.



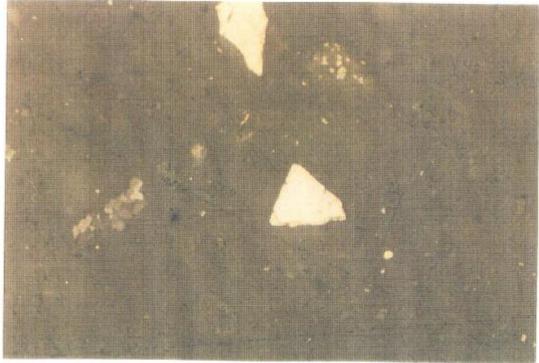


Figure 27. Sample TNW-01-05 in plain reflected light. Upper photo (width of field 0.625 mm) shows one of the few particles of zoned Fe oxide (right of centre) in the sample. The large, whitish sulfide grain on the left is pyrrhotite. Lower photo, width of field 0.3 mm, shows a triangular grain of pyrite, apparently with a narrow, barely visible reaction rim.

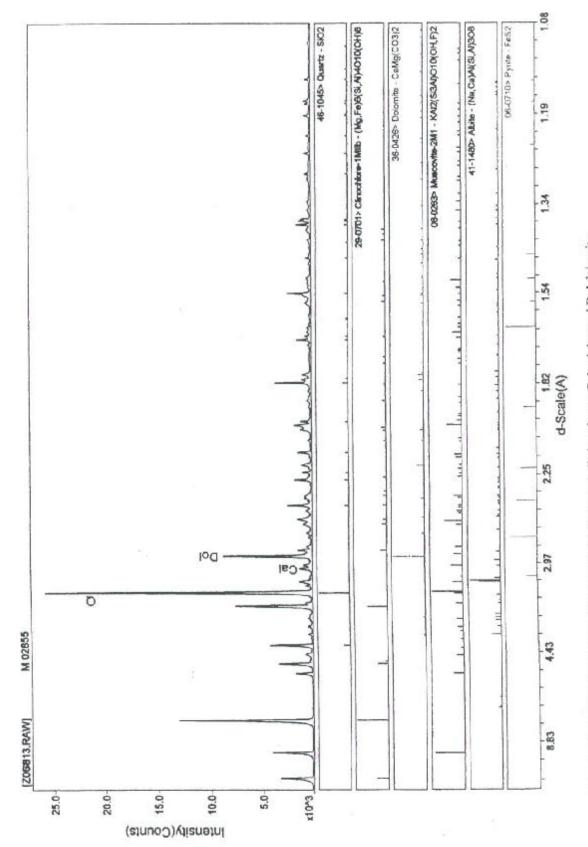


Figure 28. X-ray diffractogram of sample TNW-01-05. Labelled peaks are Cal calcite, and Dol dolomite.

### SUMMARY AND CONCLUSIONS

All of the samples examined, both of the waste rock and tailings, are rich in carbonate minerals. The least calcareous rocks are the altered volcanics and dyke-rock, which nevertheless contain at least accessory amounts of calcite and are almost devoid of sulfides. All other waste-rock samples are characterized by the presence of a quartz and carbonate-mineral assemblage that hosts nearly all of the sulfides. The prevalent carbonate mineral in the quartz-carbonate rocks is Ca(Mg,Fe)(CO<sub>3</sub>)<sub>2</sub>, which throughout this report has been referred to as dolomite because the amount of Fe<sup>2+</sup> substitution for Mg, and hence the progression to ankerite (mol Fe > Mg), is not known. There is a good correlation between rock type and carbonate mineralogy; the presence of appreciable amounts of calcite in bulk samples of waste rock invariably signalled the presence of altered volcanic and dyke rocks.

The principal sulfide minerals in the waste rocks are pyrite and arsenopyrite, with the former predominant. Both minerals are potential generators of acidity, but in all of the samples of waste rock and tailings, the carbonate minerals are far in excess of those required to neutralize any potential acidity generated by sulfide oxidation. No indication of sulfide-mineral oxidation attributable to weathering was observed in any of the samples.

All of the tailings samples are carbonate-rich, and are sulfide-poor relative to the abundance of carbonates. All of the tailings samples except TNW-01-05 contain numerous grains of zoned iron oxide that are interpreted to have been derived by the roasting of sulfide concentrates. In the Central Pond, North Pond, and NW pond, the roaster wastes, which also include incompletely consumed sulfides, were apparently co-disposed with the flotation tailings. The deepest sample in the NW Pond, sample TNW-01-05, is the most sulfide-rich and contains only traces of roaster-type products.

Potential sources of arsenic in the waste rocks are arsenopyrite and possibly pyrite if the latter is arsenian. As was mentioned, however, the waste rocks are carbonate-rich and no signs of oxidation of sulfides were observed in any of the samples examined in this study. In the tailings samples, all of which are also carbonate-rich, sulfides are sparse and liberated arsenopyrite is rare. The principal hosts for arsenic in these samples are incompletely roasted sulfides, especially arsenopyrite, and probably the iron oxide that was formed by the roaster processing. Electron-microbeam studies, which were not included within the scope of this investigation, would be necessary to determine whether arsenic is specifically associated with the iron-oxide residues.

Other than in possible trace amounts, arsenic cannot be accommodated in the structure of an iron oxide such as hematite; however, appreciable (percentage) amounts of arsenic can be sorbed to such material and would therefore be amenable to potential release in solution.

# CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

The state of the s	O to to			002	002-2418-4100	ソイス	1	8		7	公子	Lern Jamps	からい		
ASSOCIALES	Clarics		150	hort Tille:	Sian	-/ AR	RP	an	Short Tille: Grant / Az R Plan / Yknife		88	1117	Jay, T	Address Roseivill Way, TSAWMASSON	200
umaby, British Columbia, Celephone (604) 298-6523	500 - 4200 Still Creek Dive Burnaby, British Columbia, Canada VSC 6C6 Telephone (604) 298-6523 Fax (504) 298-5253	3C6 8-5253	19	Jolder Cont	Vale	colder contaglaterie Betternol	なな	70		1	Messone Face 1368	89	8	Cogract Jerry boy	Z
			-									A	nalistics Required	ned	
Sample Control Number (SCN)	Sample S Location	Sa.# S	Sample Depth (m)	Sample Matrix (over)	Sampled (D/M/Y)	Time Sampled (HH-MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	Jo John Control	1000	28 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Remarks (over)
CPA1-01-61	Pi+AI			Jak	rock Julyoo		grab			-	×			Ψ,	incl report
CPAZ-03 18 PTAZ	PTAZ			ė,	, _		_			× -	×				
OPCI-01- 65	PitCl			11						×	×			7000	water for
CPA2-01-80	P:+42			"						× -	×			48-	As-bearing
1	WRAIR			11						7	×			PWSK +	1 + 20
	WR AZ			"						×	×			25.	surtides exper
1	WR B)			"						×	×			3	Re: Meter
	WR CI			11						×	×				Leaching
	Central Pend		0.5	4ils						× -	×				
1801 - 40	MONTHOI - 18 NOW PEND	D	20.05	ij						×	×				
TNP03-1	North Bad		150	11						× -	×				
1/2-01-01	NW Pend		5.0	11			9	(core)		× -	×	-			
MUN O -03 M	NW Pend		12.	11				11		×	×	pully	N. Bee	pulverized sermole	
1	NWPond	×6	3.6.0	11	->		>	-		× -	×	2270	er 2	-pullen 2xel sur	- Jake .
TAIP-OF TO	North Porch		50	1				4		7	X		)		

WHITE: Golder Copy

PINK: Lab Returns with Final Report

Time

Chate

Cooler opened by:

Temp (°C)

Shipment Condition: Seal Intact:

YELLOW: Lab Copy

Time

Date

Received for Lab by:

Waybill No.:

3

Method of Shipment:

Shipped by:

Received by: Signature

No. 25, 200

Relinquished by Statute Co.

Relinquished by: Signature

Sample's Signature:

Comments:

No. 6151 page 2012

# CHAIN OF CUSTODY RECCRD/ANALYSIS REQUEST

Golder Golder

202-248-400	John Jampal	J
Short File A & R Plan / Upllowknife	Address 316 ROSHINDAY	Way, Tawa sser
Golder Contact:   Les ton	Telephonoffax:	Contact Dambor

Sum may, the color of so so it can be been a supple of control of the color of th	Associates	ciates		٥	27/1	1181 130	3				3	3	5	
Colder Connect:				Short Title	tres.	A 8. 1	SPay	190/	lowknife	Acdress 31	0 100	シニン	1 BR	wa ssen
Sample Date         Time Date         Sample Gode         Code         Related         Analyses Required           Day th Matrix Sampled Sampled Type Code         Time Company         SCN         SCN         Analyses Required           Day Code of Matrix Sampled Sampled Type Company         Date         Time Company         Naybill No.           Date of Matrix Sampled Sa	Bornatty, British Colur Telephone (604) 298-	mbla, Canada V5C 6C6 6523 Fax (604) 298-52		Golder Cor	Hact: 1/	entra	2 m	1		Telephone Telephone	E 1368	0 7	OBFIN JA	mbal
Sample   Sample   Date   Time   Sample   Type   Code   SCON   SCON   Scondard   Type   Code   SCON   SCON   SCON   SCON   Scondard   Type   Code   SCON												Analyses	cquired	
Central ford 3.5 tails 23/07 — 9(ab x x x x x x x x x x x x x x x x x x x	Sample Control Number (SCN)	7.07 A 12.00	Sample Depth (m)	Sample Matrix (over)	Date Sampled (D / M / Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	To State of	S. S. S. S. S. S. S. S. S. S. S. S. S. S	2000		Remarks (nver)
Central (Bod 3.5   4d;   5   20%)		North Brod	100	tails	23/07		1	State		人	X			
Central (Bod 3.5   4a   5 27/07   Company	<del>压的</del> 02													see shart
Religious by Signature   Company   Date   Received by Signature   Received by Signature   Received by Signature   Received by Signature   Received by Signature   Received by Signature   Received by Signature   Received by Signature   Signature		Cenhal Bod		19:15	7/07			grap		X	×		+	-
Religious by Signature   Company   Date   Time   Received by: Signature   Company   Date   Time   Received by: Signature   Company   Date   Time   Received by: Signature   Company   Date   Time   Received by: Signature   Company   Date   Condense   Co	40													
Rijaquicked by: Signature  Company Refrequeled by: Signature  Company Refrequeled by: Signature  Refrequeled by: Signature  Refrequeled by: Signature  Refrequeled by: Signature  Received by: Signature  Maybill No.:  Received by: Signature  Signature  Waybill No.:  Received for Lab by:  Signature  Sal Innoc.:  Received by: Signature  Received for Lab by:  Date  State Innoc.:  Time  Received by: Signature  Received for Lab by:  Date  State Innoc.:  Temp (°C)  Cooler opened by:  Signature  Sal Innoc.:  Sal Innoc.:  Temp (°C)  Sal Innoc.:  Temp (°C)  Sal Innoc.:  Temp (°C)  Sal Innoc.:  Temp (°C)  Sal Innoc.:  Temp (°C)  Sal Innoc.:  Sal	- 05									1		1	+	
Redigipative bed by: Signature  Redigipative bed by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Redirequished by: Signature Shipped by: Signature Signature Shipped by: Signature Signa	90 - \												+	
Religioguished by: Signature Company Date Received by: Signature Company Date Received by: Signature Religioushed by: Signature Company Date Received by: Signature Shipped by: Signature Shipped by: Signature Shipped by: Signature Sal Inner: Sal Inner: Seal I	70 - \									1				
Rejinquished by: Signature Refinquished by: Received by: Signature Received for Lab by: Signature Signature Received by: Received by: Signature Received by: Receiv	80 - \									+		1	+	
Refinquished by: Signature  Company Refinquished by: Signature Refinquished by: Signature Refinquished by: Signature Refinquished by: Signature Refinquished by: Signature Refinquished by: Signature Refinquished by: Signature Refinquished by: Signature Received for Lab by: Shipped by: Signature Sal Innet: Received for Lab by: Shipped by: Signature Sal Innet: Seal Innet: Date	60 -											1	+	
Religiquished by: Signature Soft of Stipment.  Method of Stipment.  Stipped by: Signature Shipped by: Signature Shipped by: Signature Shipped by: Signature Stipped by: Signature Shipped by: Shipped by: Signature Shipped by: Shipped by: Shipped by: Shipped by: Shipped by: Shipped by: Shipped by: Shipped by: Shipped by: Shipped by: Shipped by: Shipped by: Shipped by: Shippe	110												+	
Religiquished by: Signature Company Date Time Received by: Signature Company Date Time Received by: Signature Method of Shipment.  Method of Shipment.  Shipped by: Signature Combiners Combiners Shipment Condition: Temp (°C) Cooler opened by: Date Shipped by: Seal Intact: Seal I	_											1	+	
Refire quished by: Signature Company Date Received by: Signature Company Date Received by: Signature Refire quished by: Signature Company Date Received for Lab by: Signature Shipped by Skipment Condition: Temp (°C) Cooler opened by: Date Seal Intact:												+	+	
Refinquished by: Signature Company Date Time Received by: Signature Company Date Time Received by: Signature Received by: Signature Waybill No.:  Shipped by: Seal Intact:  Reliance of Salphrent Condition:  Temp (**C) Cooler opened by:  The Received for Lab by: State Date  Seal Intact:  Seal Intact:  Temp (**C) Cooler opened by:  Temp	1											1	+	
Relinquished by: Signature   Couppany   Date   Date   Time   Received by: Signature   Redirquished by: Signature   Company   Date   Time   Received by: Signature   Received by: Signature   Waybill No.:   Received for Lab by:   Date   Shipment Condition:   Temp (**C)   Cooler opened by:   Date   Seal Intact:   Seal Int	- 14											-	+	
Refinquished by: Signature Company Date Time Received by: Signature Company Date Time Received by: Signature Waybill No.:  Method of Shipment Condition: Temp (°C) Cooler opened by: Date Date Seal Intact:	- 15													
Rediriquished by: Signature   Company   Date   Time   Received by: Signature	Sampler's Significant	burd	Relinquist	ed by: Sign	DOS (D)		Company	12b	Nov 20,20	7.7	١	Received by: S	ignature	Company
Method of Supment.  (EXILI 1 P. Shipment Condition: Temp (°C) Cooler opened by: Date Seal Intact:	Sample Storage (°C)		Refirepoist	red by: Sign	nature		Company		Jate	Time		Received by: 5	ignalure	Company
Shipment Condition: Temp (°C) Cooler opened by: Date Seal Intact:	Comments		Method of	Supment	, ng		Waybill N	70		Received for	Lab by:		Jale	Time
	1	1	Shipped b	7			Shipment Seal Intact	Condition:		Temp (°C)	Cooler opened		Jate	Time

WHITE: Golder Copy

YELLOW: Lab Copy

PINK: Lab Returns with Final Report

### APPENDIX III

OPEN PIT AND BAKER CREEK SEDIMENTS
ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY RECORDS

•		



### ASSAYING GEOCHEMISTRY ANALYTICAL CHEMISTRY ENVIRONMENTAL TESTING

10041 Delles Drive, Kambops, B.C. V2C 8T4 Phone (250) 573-5700 Fex (250) 573-4567 amed: nottech@oirect.ce

### **CHEMICAL ANALYSIS REPORT**

Date:

22-Aug-00

Et. File No.

AK 2000-26

Report On:

Acid I Base Accounting No. of samples received: 18 Sample type: Tailings Project #: Miraman Con Mine

Samples submitted by: B. Hauser

Report To:

GOLDER ASSOCIATES LTD.

500 - 4260 Still Creek Road

BURNABY, BC VSC 6C6

Attention:

Valarie Bertrand

ECO-TECH LABORATORIES LTD.

реп

Frank J. Pezzotti, A.Sc.7. B.C. Certified Assayer

### POTENTIAL ACID PRODUCTION / NEUTRALIZATION

			Si	ulfur % (a	ıs Ş)	Tonnes Ca	CO <sub>2</sub> Equivalent	per 1000 Tonnes
			3(304)		5(11)		NP	Net Neutralization
Et.#	Teg#	Pasta pH	Sulfate	Sulfide	Sulfur	Production	Neutralization	(ETAP Potential
32	3271	8.17	0.02	0.26	0.30	9.4	211.1	201.7
34	32713	8.08	0.02	0,33	0.35	10.9	208.3	197.4
46	32719	8.21	0.02	0.65	0.87	20.9	228.1	207.1
45	32724	8.20	0.02	0.37	0.39	12.2	217.7	205.5
51	32730	8,15	0.02	0.41	0.43	13.4	216 1	202.7
78	32761	7.89	0.02	0.44	0.46	14.4	221.1	206.8
60	32763	7.99	0.08	0.24	0.32	<b>10</b> .0	213 7	203.7
86	32769	8.08	0.02	0.62	0.64	20.0	225 3	205.3
94	32777	8.19	0.02	0.67	0.69	21.6	168.3	146.7
104	32787	. 7.24	0.02	0.21	0.23	7.2	234.1	226.9
215	32951	8.07	0.02	0.58	0.60	3.81	208.9	190.2
217	32953	8.17	0.02	0.50	0.52	16.3	211.3	195.1
221	32957	8.05	0.02	0.36	0.38	11,9	196.4	184.5
228	32964	6.12	0.02	0.59	0.61	19.1	191.6	172,/
250	33001	7.92	0.04	0.42	0.46	14.4	206.0	191.6
252	33003	7.98	0.02	0.55	0.57	17.8	207.7	189.9
255	3 <b>3006</b>	7.86	0.02	0.67	0.69	21.8	199.8	198.2
260	33011	7.98	0.02	0.68	0.70	21.9	193.4	171.0
QC/DAT	TA							
Repeat	·							
32	32711	8.15	C.D2	0.26	0.28	8.8	211,3	202.6
260	33011	6.00	0.02	D.GB	0.70	21.9	192.2	170.3
Standar	ng).							
N9M-f		_		_	0.3?	6.7	40.5	22.6
NBM-1		_		-	0.31	9.7	40.5	30.8
		-	•	-	0.51	9.7	40.9	31.3

XLS/00

End of Report

Golder Associates Ltd. Miramar Con Mine Project Acid Base Accounting

### METHOD OF TESTING

### Acid Base Accounting

A modified Sobek procedure was requested and performed for these determinations. The modification required that samples not be bolled after addition of HCl but rather be allowed to remain in contact with the acid for 24 hours at 25-35° C. Additionally the titration and point pH was changed to 8.30 from the usua, 7.00.

### ICP Metal Determination

A cold multi acid attack was requested and used for sample dissolution. The dissolution entailed the addition of HNCs, HCl, HF and HClO4 in sequence and at room temperature and allowing each acid to react for 10 minutes prior to the addition of the next acid. Half gram samples were used for the analyses which were made up to 10 million with water prior to the ICP scan.

24-0:00:00

CCO-TFOH LABORATORIES LTD. 10041 Dakes Orba ICAMJOOPS, B.C.

V2C 674

Phose: 604-670-6780 Fax::: 604-673-4557

ICP CERTIFICATE OF ANALYSIS AK 2000-0269

GOLDER ANNOCIATES LTD. 533-4280 Rdf: Orest Road BURNAEY, RC VSC 6UE

CECENTED SEP - 5 200

AT FEMINOR: Voterie Bertrand

No. of switchin raviewer: 18 of 280 Swiple type: Talkings Project #: None Given Shipmont #: None Given Samples sobmitted by: Il Tennor

represeden
otherwise
850
mdd
Volues ir

Z	767	196	378	41.2	Ā		8	345	345	32	123	582	0000	767	348	尼		204	<b>₹1</b> 0	797
>	ļ	¥	V	,	¥		Ÿ	۶	Ÿ	V	V	Ų	V	٧	Ÿ	Ÿ		σ	٧	Ç
\$	þ	ę	ŧ	ę	ę		Ŷ	9	÷	7	÷	Ş	9	Ç	ę,	9	:	Ş	Ŷ	Ş
>	92	173	10.65	182	ŝ		370	160	482	<del></del>	108	1	9	Ē	記	133		3	3	133
5	120	ŧ	ŝ	Ç	Ş		Ç	<u>0</u>	ę	ş	ů	Ę	문	7	ļ	9		÷	Ş	무
ж Г	900	60 0	0.0	0.03	<b>₹</b> 000		6,03	0.03	0.03	0.02	500	<b>7</b>	50.0	500	0.05	0.2	i	\$	60.0	0.03
å		8	27	S	칣		23	22	23	23	88	#	120	Ŕ	8	양	,	÷	ķ	æ
ត្	, 18	ନ୍ଦ	Ş	Ş	Ş		8	Ŗ	8	87	₹	Ş	959	Ş	Ŗ	Ŗ	i	Ş	Ş	ş
នី	100	208	270	Ü	2		305	202	215	745	2	295	320	202	370	230		200	980	BÜÜ
ź	308	280	19.8	2	33		797	\$	216	270	Ě	=	200	320	268	£	;	Ž	368	ğ
a.	430	350	240	087	336		260	203	280	240	240	360	360	윷	300	330		25	240	790
垃	63	B	C	ű	23		2	Ŗ	73		8	ė	74	8	74	8	;	č	Ж	R
26 85 27	60,0	0.01	10.0	17.0	10.05		6.3	0.01	10.0	4.02	0.02	0.0	9.04	10.01	10.0	Ð,	į	5	£(1,1)	10.01
	6			N EN	9		v re	ø	v	*		v.	V)	'n	n	4		y T	4)	m v
Ē		1106	130	1065	₹ 200		1054	10řB	1105	*. 6.	157	1209	1182	1015	102B	1103		¥.	873	1032
* 1	070	1	8 0	0.57	\$		0.69	0.43	0.58	0.37	0.58	683	0.63	0.93	0.85	0.71		ť	<b>€</b> ⊅	0.71
5	1012	\$	ŧ	οţ	ţ		ę	ş	۸ <del>۱</del> ۵	9	Ş	9	410	ş	¢\$0	ş	;	⊋ (r	Ş	ş
¥	181	D.74	0.53	0.79	787		Σ Σ	8	11.58	0.01	0.07	0.70	790	0.74	800	0.08		Ü	9	8
7. 1.	5.80	5.65	6 42	4.67	5,49		7.80	5.64	38	5 34	8) 24	5	8	4 2	5	5.84	;	P. 9		7,66
ភ្	100	93	7	æ.	5		à	Ą	35	t,	ą	5	8	₽	60	99		ó	99	63
ដ	ş	8	3	Ş	3		8	102	28	T.	ş	128		424	102	3	;	Ξ.	ē	84
ပိ	Ą	<b>4</b>	ផ	8	88		28	8	य प्र	쏬	*	ş	÷	R	Ŧ	Ġ	!	ŗ	ä	8
ij	5	¥	7	ΰ	æ		٧	7	⊽.	٧ 	ν	7	ē	7	٥	Ţ	,	T	V	٣
CB 7%	3,	233	Ę,	2.43	ž		2,65	2.45	2.69	7	3,033	3,030	3,43	3,75	8. 44.	8,67	i	Š	78. 78.	2.87
ā	⊋	46	Ŋ	Ę.	8		뿌	S	10	Ć.	#	<u>*</u>	15	뚜	몺	ş	ţ	2	8	য়
												#55								
												<b>5</b> ,								
왕	1.05	1.B7	0.64	2.35	1.39		2.03	Ŷ	0.83	.,	0.45	1,83	4.88	8.25	1.92	164	2	7.0	1.42	127
\$	5. 5.	2,2	42.5	ir:	3,8		Z	6	2.1	1.9	<del>\$</del>	3	1,7	2	Ę	ŗ	,	_	4.	8,6
ļ																				
*	32711	32713	32715	32724	32730		32761	32763	82789	32777	32707	12951	32953	22867	32864	33003		CHOCO.	330116	35017
ē Ē	32	F	ę	Ç.	5	i	2	8	8	Š	104	215	217	223	228	8		202	200	260

24-Asy 39

ICP CFRTIFICATE OF ANALYSIS AK 2000-0265

GDLDER ASSOCIATES LTD. 500 - 4260 SLH Creek Hond RURNARY, BC: 96C 6/30

>-3 > = St 0.38 S g 윤 A. Ŧ Ou Fe % K % La Mg % Kin Mo No % ტ გ ठ FIR. Tay# Ag Al% As Ra Di Ca%

퉏

OC DATA: Rivedt 32 32742

10 3.08 9 20. 1.55 2세0

7 葦 ĸ Ţ

5,34 0.88 <10 0.05 1226

3 0.02

83

ĐÇV

385

8 **839** 

277 Ţ

ÿ

<10 17**0** 

0.05

돐

ECO-TECHTOROPAYORIES LID. Frank ... Pozzotti, A.Ba.T. R.C. Certifical Assaya

ditinireman XI.S/00 EAX 662400 7050

Varlings.

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 5842 pres 2 of 2

produced Response (Javo) Ŝ an ple Flank Pezzulti Company 10/16 E Ξij Hock! It has dr. Know loops ŝ reguest Send Pialysta, Kenusreis Scened by Signature <u>م</u> 12 <u>1</u> A SOUTH OF THE PARTY OF THE PAR Laboration Manie: Choles opened by: 物質がある Received (or Lab by. Х ¥ X STATE OF STA Х (CC) dissol × ж Though, loca Related (12ve) Ş Sv-granan Condition: 8 (000) Code 4300 Scalinia . . Wayfield No: Bertiand Charleshed by Signature (fox to Lab Lumpan) Sample S Se (page) 24.5 (D7M/Y) GILLMM) Sampled Time -2418 Softer Coplant Sumpled Date 18. U.S. Short Title Sangle Moderix Method of Shipprent: (10,40) Shipped by: Sample Ò Self B \ چ Ē γ. γ. 32 Tulcytrone (604) 298 8623 Fex (604) 293-3253 Rumaby, British Octumbia, Connda VSC BC6 # 13013 Brd angle Stomes ITT Bolo HOLLEN Golder Associates Sample Lycerism ₹ 6 500 - 4250 SNI Cross Deive, 6 \$ - 14 . 15 \* S. 6 - 08 - 10 . 12 - 13 Someplar's Signature: 32953-18 32-4-82 - 69 買 32%中國 Wirpunga Sample Control Namba (SCN) ounnerst:

WHIE: Coidor Cray

Distant VINO

YOLLOW: Nob Copy

PINZ: jab Retums with Final Report

# CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 5841 page / or Z

Lahermory Name: 011-10 Phylect Number:

Sociates	rates			200	7-2	24-18				, (J)	Eco 1	Tech L	ab.	
SUD - 42HO Still Creek Drive	Drīve		17		_	Miramor /A R Pan	3	AR	\$\$	Address:	% 004(	Dallas	edr. Kaustoogs	M Coops BC
Burnaby, British Columbia, Canada VSC 606 Telephane (604) 299-6622 - 34x (504) 259-5	Dia, Carada VSC 606 923 - Pax (B04) 258-5253	: #C6 258-5253	<del>.=</del>	Colder	1 ≪ 1	Berts.	6			Selephone.	1 %	90		, , <del>, , , , , , , , , , , , , , , , , </del>
			-									172	nations Rejuined	A 100 COLUMN 1 100
Sample Cowed	Sample	5.5 f	Sample	Sample	Date	Time	Sample	OAQC	Kelaked	٠٥	`			
romines (SCIN)	Tocarion		(un)	(over)	(A / W / CI)	(HH3MM)	(aver)	(over)	SCN (mer)	GRANE S		16.00 ST		Remarks
32711-69	South Book		45	Rilim.			8 75	2		<u> </u>	<b>∦</b> ≯		7	capan
32713- KG	//		11.5	ر ا						×	×	<u>-</u>		Seal of
32719-03	XI.	7	28							×	7		7	) 
32724-04	4	,	42						: : 	×	~			
32730-05	//		35					· · - 4-		*	ъ.			
32-161-06	Central Amal		2.5					   		<b>×</b>	٧			
32763-07	ħ	<u>.</u>	Seb						:	<u>×</u>	×			
32.7GA - 08	ړ,		77							×	×			
3217.09	"	<u>-</u>	4	!						×	*		i [	
828子10	11		64							×	×			
33cel - 11 N	Noth Perol		2.0			•				×	*			
33007-12	7		∞	_		. '		-		×	×			
33006-13	1)		Ś							×	ゲ			
33011-14	-		26.25							×	×	: : :		
32951-15			12.5	€	<del>-</del>		€			× 	×			
Supplies Significe	67	3	else V	Kuludatshed by Superinc		arc fo	Couroant		Bull Anol B, C	CO Time		Rependent	Signature ( x-ox foot	Corroriny
Ţ	કરાજી મુજા	ত্র ত	clinquisho	Relinquished by: Signature	,	Moger	Сомрану		Pate J	T int		Received by	Signature	Cortpany
C knipkidki		≥	Messad of Shipmest:	វិជាខ្នុំកាមទាន		·	Waybi'l No.			Received for Lub by:	r turb byg		Unic	7 trre
		(R.,	Sel political				Shipment Cerebion: Seal Intact:	eraktion:		Temp (*C.)	Cooler opmed by:	ned by:	Doce	Time

Wilder Golder Copy

WHOW: Lab Capy

PINE TOTO REPORTS WITH PRODURATION



SECTIVE FROM STATE

### CHEMICAL ANALYSIS REPORT

Date:

November 17, 2000

ASL File No.

M4159

Report On:

002-2418 Soil Analysis

Report To:

Golder Associates Ltd.

500 - 4260 Still Creek Drive

Burnaby, BC V5C 6C6

Attention:

Ms. Valerie Bertrand

Received:

November 8, 2000

ASL ANALYTICAL SERVICE LABORATORIES LTD.

per:

Brent C. Mack, B.Sc. - Project Chemist Heather A. Ross, B Sc. - Project Chemist



### RESULTS OF ANALYSIS - Sediment/Soil

File No. M4159

Sample ID		P\$Q-14- 2200-01	TSO-14- 2200-02	PSO-15- 2200-02	P\$O-15- 2200-33	PSO-12- 2200-02
ASL ID		j	2	\$	4	5 .
<u>Total Metals</u> Arsenic	T-As	9880	4890	782	1320	1420C

Results are expressed as milligrams per dry kilogram except where noted.



### RESULTS OF ANALYSIS - Sediment/Soil

File No. M4159

Sample ID	PSO-12- 2200-03	PSO-14- 2200-03	PSO-18- 2200-02	PSO 18- 2200-03	PSO-18- 2200-04
ASL ID	6	7	8	9	10
Total Metals Arsenic T-As	679	1630	1990	1330	1740

Results are expressed as milligrams per dry kilogram, except where noted.



### RESULTS OF ANALYSIS - Sediment/Soil

File No. M4159

Sample ID	PSO-37- 2300-02	
ASL ID	II	
Total Metals Arsenic T-As	8360	

Results are expressed as milligrams per dry kilogram except where noted.



### Appendix 1 - QUALITY CONTROL - Replicates

File No. M4159

Sediment/Sott

PSO-15-2200-03 PSO-15-2200-03

QC # 220036

Total Metals Arsenic

T-As

1320

1240

Results are expressed as milligrams per dry kilogram except where noted.



### Appendix 2 - METHODOLOGY

File No. M4159

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

### Metals in Sediment/Soil

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 Method 3050B or Method 3051, published by the United States Environmental Protection Agency (EPA). The sample is manually homogenized and a representative subsample of the wet material is weighed. The sample is then digested by either hotplate or microwave oven using a 1:1 ratio of nitric acid and hydrochloric acid. Instrumental analysis is by atomic absorption spectrophotometry (EPA Method 7000 series) and/or inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

Method Limitation: This method is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become "environmentally available." By design, elements bound in stlicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

Recommended Holding Time:

Sample/Extract: 6 months (Mercury = 28 days)

Reference: EPA

For more detail see: ASL "Collection & Sampling Guide"

End of Report



Appendix

CHAIN OF CUSTODY FORMS

# CHAIN OF CUSTODY RECURD/ANALYSIS REQUEST

F Golder Associates

500 - 4260 Stiff Creek Drive Burreby, British Colombia, Canada VSC 606 Telentrona (304) 298 6633 - Fax (604) 298-5253

WINO. WIBE page & ct		Jan San	Consect Consec
SIS REQUEST	Lakin alocy Name:	Address: Vicini	Telephuse∏u <u>r.</u> 1.50 ⊝
HAIN OF CUSTODY RECURD/ANALYSIS REQUEST	/30	15000	Survey S
CUSTODY 1	19.30 NO.30	Spellasting	J. 1777
HAIN OF	Poject Number,	Shine Title:	Golder Conlact:

particular frage base of the particular to the p				10 m 10 m 10 m 10 m 10 m 10 m 10 m 10 m		
						- L
				Analyses	Analyses Required	
Sumple Control	Somple	Date		2		1
Number (SCN)	Matrix	Sampled		The state of the s		1
A Contract	(nwer)	(DYMAY)		The same	1	* Remarks
**************************************						
		***		-	-	
Control of the second	.,	~:				
\$0.57 - Sec. 19.4	7.			2 3		
10 July 20 Jul	÷	,		3 %		 
きない	:					:
<b>3</b>	`	7.		>		
**************************************	: :	,,		+		       
● かままで、アン	ċ			1 2		7-14-14-14-14-14-14-14-14-14-14-14-14-14-
100 m		ļ				X 2
	   					-
		č		×		:
. 12						
- 13					<u> </u>	
- 14		! !				
- 15						
Samplace Sugarante	Reliationstact by: Signature	sature è P	Churpany Date	Time Received by: Signature		Company

	Nompletic Squares	Reliativished by: Signature	Coppeny Date	Time Received by: Signiffure	Company
	(A) 10 10 10 10 10 10 10 10 10 10 10 10 10	Simples in thousand from # 14 bands into a the Market Make which	1 1 to Later (1964) 12 6 14 14 14 14 14 14 14 14 14 14 14 14 14	$\mathcal{K}_{\mathbf{c}}[acincist]$ ( $\langle b acincist$ ) and (	
		Legindrighed by Blandup	, 🥵 Jaza Takang	Time ' Management Signature	Сопрому
		-;- ;;	10070 000 100 100 0000 0000 0000 0000 0		
ŵ	F. Firmonia 17		Wayfall No.	Remained for Lab by: Thate	Fine
,					
	これのとは、そうないのうできのはないというには		Shipment Condition:	Trimp (°C) Coules opened by.   Date	Eme
			Cand large.	_	_

Wifels Cordor Copy

YELLOW: tab Copy

Pitek: Tota Returns with Final Report

Celastration (Micha) 30.35 × 87 (mart of 20 more of , #3 195\_095 3more = 500 c 200 - 3-5YC :,--78U, 457-5314

беждени (Самовежа) boarsid Sillyglans. 21d Hat 12108 - Rei \$1660 Ethnorion, AB

.56 DX5 Printer - (779) 910 526: 780, 484-4802

Caiment Reviol (1212 - 446) Ave. N. F. 20 00 ty, A : 122 01 5 States (190) 291-989 (

-37

(602) 251-0243

Syssello Probles 9305 - Street Simple Finish 49 FOR SOME Provide: (780) 519-5195. (700) 512 (1%)

ാജ്യാരണ 199 Votermany Bosto. barawona ak 4/80 085 Photes: (363) 868-8971 184 / 7360) 688 5353 1,800,000,0585

Mindpey Mindpey News Mindpey Mi (35.7g) Phone: 10(%) 845-3705 72(4) 845-0763 Ve.

2280, An Bag 091 Barton (West Park S. Bay, ON 48657 File (et l. 1897), 020-0435 0607-000-7030

230002 (andSicapote)(1/65/45) 7015-70 - kurent 806 -WINES Preca, CN 864.0 one. 1099 ray- bas 901a) 4284 (b)

Magnetian -20 fertise Firm (1 year 9600 Windows 82801 frame: 7067, 156-6048 80 (207, 206-606 -500 665--365

izeada 983a Phane: -309-500-9075

रिवर्णकार Catago Reg. -600-286 79 9

mm.cosseggass.com

### EqL

### CHEMICAL ANALYSIS REPORT

GOLDER ASSOCIATES LTD

ATTM: VALERIE BERTRAND 500 4250 STILL CREEK DRIVE

BURNAEY BO VECAÇO

DATE: January 31, 2001

Lab Work Order #:

Sampled By:

DAMIAN PANAYS

Date Received: 01-AUG-00

Project P.O. #:

002-2418

Project Reference: 4500

APPROVED BY:

Comments:

ADD TIONAL 14-NOV-00 15:56 ADDITIONAL 30:00T-00 14:52

The Elquid:soil retic for the water scrubts arsento is \$11.

IONES \_Manaiger

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN SULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY. ALL, SAKENES WILL BE DISPOSED OF AFTER 30 CAYS FOLLOWING ANALYSIS FLASS CONTACT THE LAB IF YOU REQUITE ADDITIONAL SAMPLE STORAGE TIME.

ACCREDITATIONS: STANDARDS COUNCIL OF CANADA (SCC), WI COOPERATION WITH THE CANADIAN ARRICHATION FOR ENVIRONMENTAL ARACHTICAL CABORATORIES (CACAL), FOR SPECIFIC TESTS AS REGISTERED BY THE COUNCIL, GOMORTON, CALCARY SASKATION, WINNERS, THUNDER BAY)
AMERICAN RECISTRAL PROLEDE ASSOCIATION (NHA! FOR INDUSTRIAL HYGIENE ANALYSIS (EDMONTON, WI STANCAPUS COUNCIL OF TANADA HI COOPERATION ATTO IT I E CANADIAN FOOD INSPECTION AGENCY (CRIA, FOR HELD), MATERIAL BY CERTAIN (SASKITON);

### **ENVIRO-TEST CHEMICAL ANALYSIS REPORT**

Lab Down	Saropte 32	Tes: Sesonation	Result	D.L.	Onits	Extracted	Analyzed	<u></u> Ry
14671-1	PSO-01-2200-01				į .			Ī
ampie Date	1 22-3JL-00					:	!	
fatrix:	30 L			:	:	-	:	
					i			İ
	Antimony (Sb)		1.6	១ថ	mg/kg		15-AUG-00	co
	Arsenio (As)		j 641	0.1	mg/kg		115-AUG-00	00
	Mercury (Hg)		0.09	0.01	mg/kg		15-AL/G-00	0:
	Ox-Gravimetric		2900	. 100	mg/kg	   C4+AUG-00		1
	Metals (Strong Acid	101	. 2500		markg	: C4-800-00	00-AUG-00	Z)
	Silver (Aq)	i Kot.;	<1	1	ing/kg		15-AUG-03	C:
	Aicmisum (Al)		7490	10	mg/kg	!	15-AUG-00	C(
	Bartom (Aa)		86,2	0.5	ing/kg		15-ALG-00	, C:
	Serykiem (Be)		\</td <td>1</td> <td>mg/kg</td> <td>:</td> <td>15-AO-00</td> <td>  CX</td>	1	mg/kg	:	15-AO-00	CX
	Calcium (Ca)		460CD	100	mg/kg	i	15-AUG-00	C:
	Cadmium (Cd)		<0.5	0.5	mg/xg	1	15 AUG-00	! c:
	Cobalt (Co)		s:	1	mg/kg	İ	16-Ad3-63	C
	Chromium (Cr)		131 .	9.5	mg/kg	ļ	16-ABG-00	_ C
	Copper (Cu)		. 64	. 1	lmg/kg	ļ	15 AUG-00	į c
	Iron (Fe)		28200	100	mg/kg		15-AUG-00	C
	Potessium (K)		1:63	2C	mg/kg	İ	15-AUG-00	] C
	Magnesium (Mg)		<b>124</b> 00	10	mg/kg		15-A_G-00	į c
	Manganese (Mn) Motybdenum (Mo		480		ոց/kg		15-AuG-00	C.
	Sodium (Na)		5 : 200 :	:	აღვ <i>მ</i> ავ		15-AUG-03	C:
	Nicker (Nj.)		89	100 2	nag/kg ma%a		nS-AHG-00 He AH© on	0
	Phosonarus (P)		. 640	10	mg/kg mg/kg		15-AUG-00 15-AUG-00	. 0
	Leac (Pb)		20	5	mg/kg			, C
	. "in (Sn)		· <5 .	5	Img/kg	i	15-AUG-00	. 0
	Stronäum (Sr)		45	1	ma/kg		15-AUG-00	c
	Ticsnium ( i ji		300	5	mg/itg		. 15-AUG-00	C)
	Thal8um (₹I)		<1 '	1	:mg/kg		15-AUG-00	· C
	Vanadism (V)		i 58 .	1	mg/kg	ļ	15-AUC-00	C
	Zinc ( <b>Z</b> e)		75.4	0.5	mg/kg	:	j 15-AUC-00	C
-571-2	PSO-02-#200-01					· <del>·-</del> ··· · ·	<del>:</del>	-:
tipio Date	22-JUL-30		:		İ	:	i	İ
trix:	SCI				İ		ļ	ļ
			i			:		
	Ammonie-N		. <- ;	1	mg/kg		C9 AUG 00	: : EH
	Antimany (Sb)		0.2	0.4	jing/kg		15-AUG-00	100
	Aiseiro (As)		192	0.1	.wk/kb lea	i	11.5-AUG-00	100
	Mercury (Hg)							
	O !-Gravimetric		0,04	0.01	ល <b>្ង/ខ្មែ</b>		15-AUG-00	<u> </u> 00
			<100	190	mgAtg	04-AUG-00	00-AUG-00	24
	Sulphate (SO4)		120	2.5	mg/kg	•	23-A0G-00	1 -2
	рd		7.4	0.1	ρ⊣		08-AUG-00	R
	Metals (Strong Acid	Rec.)	: .			-	:	
	Silver (Aç)		<1	1	mg/kg		15-AU⊈-00	C
	Aluminum (Al)		22000	10	mg/kg		16-AUG-00	; c
	Barium (Ba)		142	3.5	mg/kg		115-AU/3-00	i CO
	Bery⊀jum (Be) Cateiom (Co)		<1 .	1	mg/kg		15-AUG-00	0
	Calcium (Ca) Cacadum (Cd)		4960 40.5	190	u.ayra		15-AUG-00	00
	Cobalt (Co)		<0,5	0.5 *	rmg/kg		15-AUG-00	00
	conan (ca)		19	•	mg/kg		15-AUG-00	_ C(

### ENVIRO-TEST CHEMICAL ANALYSIS REPORT

. د کا فیلی	Sample ID	Test Description	Result	3 L.	Units	Extracted	Analyzed	∃y
14671-2	PSO-02-2200-01							Ť
lamble Date 12	22-JIJI -06		:		:			İ
Zatrixo Ş	SOIL		:					İ
					:		:	i
	Motals (Strong Acid	Rec.)		i	i	1	i	į
	Chromium (Cr)	,	71.8	0.5	mg/kg	i	15-AGG-00	oc.
	Copper (Cu)		31	1	mg/kg	ļ	45-AUG-00	1 00
	Iron (Fe)		27800	100	mg/kg		15-AUG-00	C
	Potassium (K)		1520	20	mg/kg		15-AJG-00	00
	Magnesium (Mg)		9320	-0	img/kg		115-AUG-00	C
	Manganese (Mn)		380	20	mg/kg		15-AUG-00	C
	Molybdenum (Mo)		<b>1</b> <1	. 1	mg/kg		15-AUG-00	C
	Sodium (Na)		290	100	raig/kg	i	5-AUG-00	000
	Nickel (Ni)		. 42	. 2	mg/kg		15 AUG 00	00
	Pitescherus (₽)		140	15	mg/kg	'	15 AUG-00	o.
	Lead (Pb)		12	5	prog/kg	:	15-AUG-00	C
	Tin (Sn)		<b>&lt;</b> 5	5	ing/kg	1	15-AUG-00	: 00
	Strongum (Sr)		17	į ,	mg/kg		15-AUG-00	C
	Titaniam (Ti)		: 508	5	mg/kg		; 15-AUG-00	00
	Thalilions (TI)		ব	1	mg/kg	i	15-AUG-50	c
	Vanadium (V)		48	. 1	(Big/kg	!	f5-AUG-00	Ċ.
	Zlna (Zn)		50.3	0.5	mg/kg		15-AUG-00	. 00
i87 [-3"	PSQ-11-2200-01		T	<u>!</u>				<u>.                                    </u>
mpie Data i 23	2-JUL 00		i	:			İ	i :
derix: S	OIL		-		i	!	!	:
			ļ		•	İ	İ	i
	Ammonia-N		. <b>≼</b> 1			1		!
	Artmany (St)			1	mg/kg		39-AUG-08	¦≡κ
			1.5	0.1	i ng/kg	:	115 AUG-00	00
	Arsenic (As)		2440	0.1	mg/kg	1	18-AUG-00	1 00
	Mercury (Hg)		0.10	0.01	mg/kg	!	15-AUG-00	ilaa
	Oil-Cravimento		200	100	mg/kg	04-AUG-00	08-AUG-00	. ZV
	Sulphate (SG4)		1720	2.5	jing/kg			JZ
	£Н		7.3	0.1	D		23-AUG-00	
	Metals (Strong Acid)	One)	1.3	0. :	·p~		00-90A-80	. ?₹¶
	Silvar (Ag)	Red.j	: : <:	1	wa 4 4			:
	A(uminum (Al)		1 31600	10	mg/kg ma/kg	İ	15-AUG-20	CC
	Banum (Ba)		42.0	10 0.5	mg/kg Imalika		13-AUG-00	00
	Borykium (Be)		51 i	J.5 1	mg/kg eve/ke		15-AUG-00	00
	Calaium (Ca)		47500	100	mg/kg		15-AUG-00	000
	Cadmium (Cd)		47500 . 0.9 ;	0.5	lmg/kg tos/kg		.15-AUC-00	00
	Ceball (Co)		; 48 ·		itng/kg		15-AUC-00	CC
	Chromium (C:)		122	1 0.5	mg/kg mg/kg		15-AUC-00	, 00
	Cooper (Cu)		122	ა.s 1	mg/kg		15 AUG 00	00
	Iron (Fe)		78700	100	img/kg	•	16 AUG-00	cc
	Potassjum (K)		600		m <b>g</b> /kg		15-AUG-00	00
	Manganess (Mr.)		\$20	20 20	ing/kg lmaka i		15-AUG-00	cc
	Mickyhdanem (Mb)		2	<i>-</i> 20	mg/kg iotoAur		15-AUG-00	00
	Sodiem (Na)		200	400	mg/kg		15-AUG-00	CC
	Nicke/ (Ni)		200 104	100	mg/kg		15-AUG-00	ÇÇ
	Fnosprorus (F)			2	Img/kg j		18-AUG-00	Ü
	Lead (45)		345	(D	.mg/kg		15-AUG-00	i cc
	Tia (Sn)		43	5	mg/kg .		16-AL:G-30	. 20
	Stronburn (Sr)		<5	ē.	mg/kg {		15-ALG/00	(75)
	DEVI-90.17 (DI)		43	7	mg/kg		75-AUG-00	CO

	Sample ID	Lest Description	Result	D.L.	Linita Linita	Extracted	Analyzed	<u>.</u>
<b>4</b> 671-3	P80-11-2200-01		;			:		İ
	22-31/1-00		į			:		
le.trix:	SOIL		•	:		!		İ
	Metals (Strong Artif	Rec.)				:		
	Titanium (Ti)		243	5	mg/kg		15-AUG-30	00
	That ium (13)		<1	; 1	mg/kg		15-AUG-00	00
	Variadium (V)		104	1	.mg/kg		15-AUG-00	00
	Zinc (Zn)		159	į C.5	mg/kg		115-AUG-00	! co
1873-4 570.60	PSO-12-2200-61 22-JUL-00			i			Ī	
nipe Dake trix:	50L							
:иж:				•			İ	
	Water-Soluble Atsenjo	Species			1.	i	!	: .
	Arsenic (As)		25.5	3.1	ಬರೆ\*		22-SEP-00	-J
	Ammon a-N		<1	:	maka		<sup>1</sup> 09-AUC-00	, Ек
	Antimony (\$5)		2.5	0.1	mg/kg	İ	15-AUG-00	: c:
	Arsanio (As) 3+		608	0.1	img/kg		122-SEP-00	ال !
	Arstnic (As) 5+		1590	0.1	mg/kg		22-SEP-90	JJ
	Mercury (Hg)		i 0.26	0.01	mg/kg		15-AUG-D0	0:
	Oil-Gravitoeuric		300	100		74 5176 80		
					mg/kg	04-AUG-00 	:08-AUG-00	Z\
	Sulphate (SO4)		210	2.5	mg/kg	ļ	28-AUG-00	, JZ ,
	pΗ		83	0.1	l <b>⊅</b> ∺ I	:	. 03-AUG-50	: -K
	M <b>etat</b> s ( <b>Strong Acto</b> : Silver (Ag)	Rec.)	<1	: 1	income(tro			: ~
	Aiumham (Al)		21400	10	img/kg mg/kg		15-AUG-00 16-AUG-00	) G:
	Banum (Ba)		78.4	0.5	ing/kg		13-AUG-30	G:
	Bervillum (Be)		45	: 1	rig/kg	1	15-AUG-00	: 0:
	Caldium (Ca)		33600	100	mg/kg		15-AUG-00	c:
	Cadm.uin (Cd)		C.3	0.5	:□⊋/kg	:	15-AUG-00	2:
	Copalt (Co)		4G		ma/kg		15-AUG-00	03
	Chremjum $(\mathbb{C}^r)$		Q6.4	0.5	mg/kg		15-AUG-00	Ç.
	Copper (Cu)		. 69	1	<sub>i</sub> mg/kg		(15-AL'G-00	, C
	iran (Fe)		45 <b>5</b> 00	100	mg/kg		15-AUG-30	. C
	Pótāss um (K)		1190	20	mg/kg	İ	15-AUG-00	Ċ
	Мяфлев um (Mg)		19500	10	mg/kg	!	15-AUG-00	C:
	Manganese (Wn)		. 7 <del>3</del> 0	20	mg/kg	!	15-AUG-20	C(
	Violyodanum (Mo)		. 2	1	រាជៈវិស្ត	I	15-AUG-00	, C:
	Sodium (Na) Nickel (Ni)		230	400	morkg	<u> </u>	15-AUG-00	; C
	Phosphorus (P)		85 420	. 2	тужу		15-AUG-00	0
	Head (Ph)		. 74	10	mg/kg		15 AUG-00	C
	Tin (Sn)		:	5 5	mg/kg Imarka	:	15-AUG-00 15-AUG-00	C
	Stor fion (Sr)		27		тұлқа тұлқа		15 AUG-30	C
	Tisanlom (Ti)		331	5	rwang ragike		15-AUG-00	É
	Thallum (T.)		51		.mg/kg		15-AUG-00	900
	Va. acion (V)		. 89		mg/kg		15 AUG 30	. 00
	Zinc (Zh)		147	0.5	mg/kg		15-AUG-00	0.00
	Arsenic (As)		:		!aa		!	Ĭ
	Arsenia (As)		2290	0.1	jmg/kg	:	22-65F400	1 4.5
	Arsenta (As)		3760	0.1	mg/kg	: !	15-AUG-90	00
					!	- 	<del></del>	<del>-</del>

LebID	Sample ID	lest Bescription		Result	A	D.L.,	<u>i</u> Units	_ Extracted	, Analyzec	]
.14671-5	PSO-14-2200-01					· . <u> </u>	<del></del>	· · · · · · · · · · · · · · · · · · ·		
ample Date	22-JUL 00		;							
Matrix:	50/L						į			į
	Ammonta44		i		:				!	i
			:	<b>~1</b>	:	1	mg/kg		09-AUG-00	: Ei
	Antimony (Sp)			27.7	•	9.1	mg/kg		15-AUG-00	ં ૦
	Arsenic (As)			6160		0.1	mg/kg	İ	15-AUG-00	10
	Mercury (Hg)			S.48		6,01	jm⊑/kg			1
	Oil-Gravimento			f100	:	100	1 '		15-AUG-30	0
	Sulphate (SO4)						img/kg	94-AUG-00	08-ALIG-00	. 7
	orași (a. € 1)			6\$6 		2.5	mg/kg		23 AUG-00	J.
				7.7	:	0.1	βH	1	08-AUG-00	R
	Metals (Strong Acid Re Silver (Ag)	¢r)			•		:	Ι.		
	Aluminum, (A <sub>r</sub> )		i	<1	:	1	mg/kg		. 15-AUG-00	C
	Barium (Ba)		į	22000	i	1C	твия	!	18-AUG-00	C
	Boryllium (De)		•	30.0		9.5	'xg/kg		15-AUG-00	C
	Calcium (Ca)		İ	<1			jing/kg	:	15-AUG-00	C(
	Cadmium (Cd)			44105		100	յուն/кմ		16-AUG-00	00
	Cobak (Cd)		!	1.5	Ì	0.5	mg/kg		15-AUG 00	100
	Chromium (Cr)			57		1	<sub>i</sub> mg/kg		15-AUG-00	1.00
	Copper (Ca)		- 1	*02		C.5	l/mg/kg	ļ	15-AU3-90	, C0
	Iron (Fe)			133	:	1	mg/kg		15-AUG-00	C
	Potessium (X)		į	64000		100	rrg/kg	:	15-AUG-00	00
	Magnesium (Mg)		ı	790		20	jmg/kg		15-AUG-00	00
	Marganese (Mn)			2:200	i	10	mg/kg		15-AUG-(4)	$\alpha$
	Mo'yixisaum (Ma)		!	850	i	20	jmg/kg		15-AUG-00	' C3
	Sod um (Na)		'	2	•	1	mg/kg	İ	15-AUG-C0	$\cdot \alpha$
	Nickeř (Nř)			300	:	100	mg/kg	1	15-AUG-00	, 00
	Chosphorus (P)			95 320		2	mg/kg		15-AUG-00	00
	_sac (°t)		i	239	•	10	mg/kg	İ	15-AUG-00	, cc
	™in (Sn)			239 <5		5	Kng/kg	:	15-AUG-00	; C:
	Strontum (Sr)			35		5	mg/kg	i	15-AUG-00	0.0
	Titorilam (Ti)		•	262			mg/kg	!	15-AUG-05	1 00
	Thoillam (TI)		•	602		5	mg/kg		15-AUG-00	00
	Vanadium (V)		į	78	:	1	n g/kg		15 AUG-50	CO
	∡inc (Zn)		i	75 262			jmg/kg	!	15-AUG-00	! ca
E74%	PSO-14-2200-02					C.5	mg/kg	i	15-AUG-00	00
npie Date   22			:					ļ ·		·
	DI⊾		:		į				1	
	~ IL				:		1	!	!	
			:					i	:	i
	Ammonia-N			<1	i	1	jmg/kg		-02-403-00	L
	Antimony (Sb)			1.7			lmg/kg			EK
	Arsenic (As)			943				ı	15-AUG-00	CC
	Mercery (Hg)		į			0.1	. നമ്ഷം		!15-ΛUG-00	CC
	• • • • • • • • • • • • • • • • • • • •		i	0.09		0.01	mg/kg		15-AUG-03	CC:
	Or-Gravimetris		:	400		100	m⊈/kg	04-A0G-00	: 08-AUG-00	ZW
	Quiphate (SO4)			75 <del>5</del>		2.5	æg/kg		28-AUG-00	JZ
	p-		į	7,8		Q.1	.ee pP		:	
	Metals (Strong Actri Rec.)	ı	!	. 13-		V. 1	Pri:		_08-AL/G-00	RT
	Sliver (Ag)			س		1	l Malen		ا ۔۔ ۔۔۔ ا	
	A Braileum (Ai)		:	26300			mg/kg . Marka		15-AUG-00	CC:
	Banum (Ba)			2303B 34.!;			mg/kg		16 AUG-00 1	008
	Beryilluch (≗e)		:	4.1 4.1			/mg/λg ; ma/ka l		15-AUG-00	COS
			1	. 1			mg/kg ¦		<sup>1</sup> 15-AUG 00 ;	COS

் சூம் ! இ - ஆம் ! இ	Sample ID Tost Descript	ion Rasult		units	Extracted	. Analyzed	Ву
14677-5 Seesale (1844)	F\$O 14-2200-02				:	!	":· <del>-</del>
	1 22 JUL 03			ļ			:
latix:	SOAL		:		:	:	-
		,			į	1	
	Metals (Strong Acid Rec.)			i	:	i	
	Caldium (Ca)	į 44000	100	'mg/kg		. 15-AUG-00	00
	Cadmium (Cd)	; <0.5	0.5	mg/kg	1	: 15-AUG-00	cc
	Cobalt (Co)	35	1	maikg	i	15-AUG-05	; 00
	Chromium (Cr)	12⊅	0.5	mg/kg	!	15-AUG-00	0.0
	Copper (Cu)	, 8s	ı î	mg/kg		; 15-AUS-00	0.0
	iron (Fe)	! 84800	100	mg/kg		16-AUG-00	1 00
	Proassium (K)	. 840	20	m <u>ó</u> ⁄kg	:	16-AUG-00	, 00
	Magnesium (Mg)	21900	: · G	img/kg	!	15-AUG-00	GC
	Manganese (Mn)	930	20	img/kg	ļ	15-AdG-00	cc
	Molybdenim (Mo)	· 3	1	mg/kg		15 AUG-00	į ¢¢
	Sodium (Ng)	260	100	ing/kg		15-AUG-00	CO
	Nickel (NI)	·	2	:rig/kg	I	15-AUG-00	C
	Fhospherus (P)	390	19	/mg/kg		15-AUG 00	100
	Lead (Pb)	i 35	. 5	img/kg	!	15-AUG 00	, co
	Tin (Sin)	<ŏ	i 5	:mg/kg	:	15-AJG-50	Ç
	Strondum (Sr)	34	1	mg/kg	i	15-AUG-00	į Ç:
	l itanium (TI)	859	. 5	mg/kg	ļ	15-AUG-20	i di
	Tratium (Ti)	j <1	•	rmg/kg		13-AUG-00	Co
•	Vanadium (V)	:13		mg/kp		15-AUG-00	C
S. = 77-	Zinc (Zn)	94,4	0.5	(mø/kg		15-AUG-00	. 00
871-7	PBO-15/2200-01				<del> </del>		
rtiple Date	22-JUL-00	' !		(	ı	1	I
errix:	SOIL	1			i		ļ
		: .		. !	İ	!	
	Απ'ποηίο Υ	; <1 .	4				:
	Arainony (85)			mg/kg		C9-AUG-00	! Ek
		0.9	0.1	mg/kg		15-AUC-00	, co
	Arsenic (As)	1830	D.1	,mg/kg		15-AUG-00	co
	Mercury (Hp)	: 0.09	0.01	mg/k⊈ j		15-AUG-00	Ç(
	O3 Gravimetric	; 500 .	100	mg/kg	04-Au-G-00	08-AUG-06	
	Sulchale (SO4)	64	2.5		6+-M.3(3-;X.	i	ZV
	ρΉ			mg/kg		25-AUG-00	j۷
	•	8 Ú .	91	jaH j		108-AUG-00	! हा
	Metals (Strong Acid Rec.) Silver (Ag)			i i		!	
	Aisminum (Al)	<1		mg/kg		16-AUG-00	: 00
	Barum (Ba)	25-00	10	<sub> </sub> m∋/kø		16-AUG-00	00
	Søryllium (Bo)	18.3	0.5	mg/kg j		; 15-AUG-00	CC
	Calcum (Go)	! <1 .	1	mg/kg !		15-AUG-00	j od
	Calcoli (Cd)	49800	100	mg/kg		15-AUG-00	i sc
	Cabalt (Co)	<0.5	0.6	mg/kg		15-AUG-00	CO
	Corom um (Cr)	46	1	mg/sg		15-AUG-60	CC
	Cooper (CL)	103	0.5	m3/k3		15-AUG-00	റവ
	Pon (Pe)	111	3	ing/kg i		15-AUG-QC	ಂ
	Polassium (K)	68700	100	mg/kg		16-AUG-00	00
	Magnesium (Mg)	520	20	mg/kg		15-AUG-00	CC
	мациезин: (мg) Мендилезе (Мn)	21300	10	mg/kg		15-AUG-00	င်င
		. 530	20	mo/kg	:	15-AUG-00 :	CC
	Midybdenum (Mo)	2.	1	mg/kg		15-AUG-00	ÇD
	Sodium (Na)	203	>90	lmg/kg j			GC:
	Mickel (M)	. 88	- 50	4 15/45 1		15-ALG-00	0.00

Labrid	Sample ID Test Description	Result	D.L.	Unlis	, Exhacted	Analyzed	. Зу
14671-7	₽\$O-15-2200- <b>0</b> 1				;		T <i>'</i>
ampro Dato	22-Jul00						
/arrix:	801	:					
	Metals (Strong Acid Rec.)					İ	
	Enosphorus (P)	280	10	lmg/kg	:	15-AJG-00	co
	Lead (Pb)	<del>4</del> 2	5	riig/kg	į	15-AJG-C0	ÇC
	Tin (Sa)	⋖5 .	8	inig/kg		15-AUG-00	CC
	Strentiem (Sr)	34	1	mg/xg		15-AUG-00	) co
	Titanium (Ti)	1449	5	туку	i	j 15-AUG-00	0.0
	Trallium (Tl)	ব	1	lang/kg	:	15-AUG-00	CC
	Vacadium (V)	12B	1	img/kg		16-AUG-00	co
	Zinc (Za)	125	0.5	:mg/kg	!	15-AUG-00	co
4871-8	FSO-16-2255 0K				i	1	
-	22-JUC-00					į	
atrix:	SOL	! :				;	
		!		I			
	Ammonia-N	<1	-	mg/kg		09-AUG-00	ĖΧ
	Antimony (Sb)	0.5	0.1	mg/kgj		19-AUG-00	CC
	Arsanic (As)	753	0.1	1	i		
	Marcury (Fig)			img/kg	:	15-AUG-80	C
		0.06	0.01	<sub>[</sub> mg/kg	İ	15-AUG-00	00
	Oil-Gravimetric	200	100	mg/kg	D4-AUG-CS	08-AUG-00	2%
	Sulphate (\$Q4)	1160	2.5	mg/kg	į	23-AUG-00	إز
	bl÷	7.8	0.1	p∺	!	08-AUG-00	i at
	Metals (Strong Acid Rec.)	•		ľ		i	
	Silver (Ag)	; <1		lmg/kg	1	15-AUC-00	00
	Aluminum (Al)	27100	10	mg/kg		16-AUC-00	00
	Велут (Ва)	15.7	0.5	mg/kg		15 AUG 00	00
	Beryllium (3e)	- <b>-</b>	1	mg/kg		15-AUG-00	) 00
	Cotolum (Ca)	40000	100	നള⁄k©	:	16-AUG-00	j do
	Cadmium (Cd)	<0.5	0.5	լուն/ <b>k</b> ઉ		16-AUG-00	CC
	Cobalt (Co)	43	1	വ്യാkg	i	15-AUG-00	00
	Chromium (Cr)	75.6	0.3	aig/kg		15-AUG-00	00
	Copper (Cu) Yon (Se)	56 :	1	irrig/kg	:	15-AUG-00	CC
	Potassium (K)	6750C .	t90	mg/kg	ļ	15-AUG-00	CC
	Magnesium (Mg)	450 ! 21900 !	20	img/kg		15-AUG-00	00
	Marganese (Vn)	980	10 20	imo/kg		115-AUG-00	00
	Molybder um (Mrs)	2	1	img/kg jimg/kg		15-AGG-00	0.0
	Sudium (Ka)	200	100	lwayka 'maysa	:	15-AUG-00	j 60
	Nickel (Ni)	76	2	lmg/kg	i	15-AUG-00 15-AUG-00	00
	Phospharus (P)	280	10	rng/kg		16-AUG-00 16-AUG-00	- co - ∞
	Lead (Pb)	12	5	mg/kg		15-AUG-00	$\frac{\infty}{2}$
	fin (Sn)	<5	5	mg/kg		15-AUG-00	8
	Strontium (Sa)	30	1	mg/kg		115-AUG-00	. 60
	Titanjum (T.)	8070	5	:mg/kg		: ::5-AUG-00	00
	Thalliom (TI)	<*	ī	mg/kg	•	15-Au/0-co	. 60
	Vanadium (V)	151	1	mg/kg		15-AUG-00	cr
	Zitte (Zin)	55.3	0.5	iπg/kg :		15-AUG-00	C.
671-9 "	PSO-17-2200-07	<del></del> · ·		-!	<del>-</del>	<del> </del>	
ple Date	22-JUL-00	:					:
trix:	SOiL			!			
		:					

Ļac IQ	Sample ID	Test Description	Result	D.L.	Un ts	Extracted	Analyzed	Ву
L14671-9	PSC-17-2200-81				:	:		
Bample Dave				:				
Matrix:	SOIL		i			:		
			!			ĺ		-
	Antimony (So)		2.4	0.1	mg/kg	i	15-AUG-00	1 505
	Arsenio (Ag)		1500	0.1	i			1 003
	Marcury (Hg)		0.27		mg/kg		15-AUG-88	003
	Oil-Gravimetric					:	15-AUG-00	005
	•		3700	- 00	mg/kg	04-AUG-20	09-AUG-00	∠W
	pH		8.0	0.	pΗ		66-5UA-89	77
	Metals (Strong Anid Re Silver (Ag)	3C.)	i		1		į	İ
	Aluminum (Al)		<1   0000	:	m <b>g</b> /kg		15-AUG-00	005
	Barlum (Ba)		6520	10	morkg		15-AUG-CG	CCS
	Baryllium (Be)		: 183 ' <1	0.5	ту/хр	i	15-AUG-00	QC5
	Calcium (Ca)		32100	; 1 : 100	mg/kg		: 15-AUG-08	008
	Cadmium (Cd)		<0.5	0.5	ong/kg	i	15-AUG-00	005
	Consti (Co)		8	. 1	<sup>k</sup> ng/kg ang/kg	į.	15-AUG 00	1 GC5
	Chrombon (Cr)		109	0.5	jug/kg	ļ	15-AUG-00 [15-AUG-00	CCS
	Copper (Cu)		: 40	٠.٠	isig/kg		15-AUG-00	. CC5
	Iron (f*e)		14460	100	arg/kg	i	5-AUG-00	000
	Potessium (K)		2520	20	по/ко		15-ALIG-00	CCS
	Vagnesium (Mg)		8950	. 10	mg/kg		:15-AUG-00	cos
	Vanganese (Mn)		.! 170	20	ling/kg	:	15-AUG-00	CCS
	Volybdenum (Mp)		s	. 1	mg/kg		15-AUG-00	COS
	Sedium (Ng)		500	100	mg/kg		15-AUG-00	005
	Nicke' (Ni)		, 67	, 2	img/kg	Į.	15-AUG-00	! ccs
	Fhosphorus (P)		630	10	mg/kg	!	15-ALG-30	CC5
	Geod (Pb)		' 77	. 5	įm <u>o</u> /kg		15-AUG-00	005
	Th (Sa)		<5	5	/⊐g/kg	:	15-AUG-00	. 006
	Stronflutt: (Sr) Transum (ff)		73	. 1	Leyka	!	15-AUG-00	005
	Thaisum (Ti)		304	5	lmg/kg	İ	15-AUG-00	COS
	Vanadium (V)		<1	; 1	mg/kg	ļ	15-AUG-00	೦೦೨
	Zine (Zn)		3	!	mg/kg	:	15-AUG-00	j ccs
5678940 TT	780-18-2200-C2	····-	<u>;</u> 82.0	0.5	!mg/kg =	<u>:</u>	15-AUG-00	, 028
mple Date 2				!		Ī		
	SO/L		!	i	!		I.	
19 VA.	SOIL		:		İ	:	İ	:
				:	ļ	•		
	Астторія-М		<1	•	mg/kg		09-AUG-00	İΞK
	Antimoay (Sb)		1,7	C.1	_±ag/kg		ne-AuG-oc	MD
	Arsenic (As)		1320	G.1	mg/kg		05-VAG-00	MO
	Mercury (Fig.)		0.12	0.01	mg/kg	İ		•
	Oti-Gray metric		12500	:			69-AUG-00	MO
	Suipseté (SO4)		:	100	æg/kg	E4-AUG-00	08-AUG-00	ZW
			312	. 2.5	mg/kg	:	23-AUG-00	12
	pH;		6.0	D.1	ρН		08-AUG-00	RT
	Metais (Strong Acid Rei)	:.1	1					
	Silver (Ag)		ব	:	mg/kg	i	00-AUC-00	MO
	Aluminum (Al) Bodym (Pa)		29400	16	lmg/kg	:	00-704-36 <sup>1</sup>	ME
	Bedem (Ba) Béryllum (8e)		46.8	0.5	Fig/kg		09-AUG-00	MD
	Galdym (Ca)		, <1		mg/kg		09 AUC-00	, MD
	Cadmium (Cd)		37400	100	ung/kg .		09-AUC-00	MO
	Contribution (Cd)		; <0.5	. 05	រាហ្/ko	'	1a9-AUG ((0	ME

Lab (D		es: Description (	Hosult	D.E.	عاءرنا :	Extracted	Abalyzed	- <u>F 8</u>
.14671-10	PSO-46-2200-02							
	\$ 22×7U4×00				:		:	İ
vietrix:	SOIL				!	:	į	
				:		i		!
	Metals (Strong Acid Rec.)						i	!
	Cohait (Co)	:	46	' 1	img/kg		09-AUG-00	MI
	Chrosniam (Cr)		186	0.5	ma/kg		09-AUG-00	, Mi
	Copper (Cir.)		96	<	mg/ky		09-AUG-00	i M
	Iran (Fe)		60309	. 100	ang/kg		09-AUG-00	Į Mi
	Potassium (K)	i	940	: 20	mg/kg	1	09-AUG-00	T Mi
	Magnesi⊊m (Mg)	:	25/00	13	.mg/kg		: 09-AUG-00	M
	Manganese (Mn)		1035	23	mg/kg		09-AUG-00	MI
	Molybdenum (Mai		5	, 1	mg/kg		08-AUG-00	M
	Socium (Na)	i	200	100	ng/kg		09-AUG-00	: 1/1
	Nickel (N1)	!	132	2	mgrkg	:	09-AUG-00	i w
	Phosphorus (P)	!	380	1 50	ing/kg		09-AUG-00	λ/4
	Lead [Pb]	i	63	5	mg/kg	i	09-AUG-00	; M
	Tir (Sr.)		<£.	<u> </u>	mg/kg	!	09-AUG-00	į įvi
	Shortum (Sr)	:	34	1	mg/kg	i	09 AGC-00	M
	Titanium (Ti)		1550	5	mg/kg	i	30-21JA-00 j	IMS
	?ha'l.em (Ti)	·	<1	. 1	ਜ਼ਾg/kg		09-AUG-00	! Mi
	Vanedium (v)		137	; 1	пу∧д	!	08-AUG 00	M
	Zinc (Zn)	;	142	0.5	in:g/kg	1	109-AUG-20	7.6
£371-71	P\$0.18-2200-03		·		·· <del>†</del>	:		<del>-</del>
mple Jare	22-3UC-00	·			i			ĺ
atrix;	SOIL	i			i		1	!
				•	:			
	Ammonia-N		2	1	som tke-		İ	
	Antimony (Sb)				m <b>g</b> /kg		09-AUG-05	EK
		i	0.9	0.1	mg/kg	!	09-AUG-03	MS
	Arsenic (As)		910	0.5	mg/kg	i	09-AUG-00	M
	Mercury (Hg)	·	0.10	2.01	mg/kg		C9-AUG-00	MS
	C4-Gravemetric		4300	100	i mg/kg	04-AUG-00	08-AUG-00	ΖW
	Sulphate (SC4)	:	124	2.5	тдікд		1	1
	n∺	:	7.3			:	23-AUG-00	Į JZ
	Metals (Strong Acid Rec.)	i	7.0	0.1	;:ιH	I	;08-AOG-00	RT
	Silver (Ag)	i	<٠		LACE OF	:		:
	Aluminum (Ai)		26700	1 1	ing/kg		09-AUG-00	, W.
	Zarium (Ba)		80,9	10	img/kg	!	CH-AUG-00	MO
	Bary lium (Se)		60.2 <1	0.5 1	lmg/kg imaka	:	: 79-AUG-00	M.
	Caldium (Ca)	i	36879	100	mg/kg Img/kg		76-AUG-00	440
	Cadmium (Cd)	·	<0.5	. 0.5			05-AUS-00	660
	Cobalt (Co)		34	. 0.5	mg/kç		09-AUG-00	MD
	Chromium (Cr)	i	-75	0.5	mg/kg		09-AUG-00	MO
	Capper (Cu)	:	70		mg/kg	 :	09-AUG-00	MO
	Iron (Fc)		48500	1 100	mg/kg modes		99-A137-00	MD
	Potassium (IC)		1210	20	mg/kg mg/kg	į	09-45/6-00	i MD
	Magnesium (Mg)		19200	. 70	mg/kg		09-AUG-00	MD
	Manganese (Mn)		890	. 20	ing/kg		09-AUC-00	M5
	Malybassum (Ma)	i	0.50 2		ing/kg		09-AUG-00	MF
	Sad um (Na)		390	. (	mg/kg		09-AUG-50	- Mill
	Nickel (Ni)	:	119	100	mg/kg i		08-AUG-55	: ME
	Phasaber⊴s (P)		350	2	,mg/kg imalko		09-AttiG-00	MD
	Lead (Pt/)		37	10 5	mg/kg mg/kg		109 AUG-00   09 AUG-00	CM
			.31	• •	CALLED VIEW		LCOX ELLAS AND	≒М⊋

_ab !C	Sample ID	Test Description	<b>-</b>	Regult	<u></u>	D.L.	Unite	Extracted	Analyzou	В
14675-11 F	80-18-2200-03						:		i	
ample Date 122-Ji	JL-00							į	ļ	
latox: SOIL			:		:		:	İ	! .	
			1				!	'	1	ļ
	Metals (Strong Aci	d Rech								
	Tin (Sa)	o 11002)		<\$		ā	mg/kg	:	00 415 65	
	Strontions (Sr)			60		•	mg/kg	:	09-AUG-00 09-AUG-00	M
	Planium (T.)		:	860		5	mg/kg	i	09-AUG-00	. M
	însijum (T))		1	<1		1	mg/kg		09-AUG-00	; M
	Venadium (v)		!	104		1	mo/kg		09-AUG-00	. M i wa
	Zinc (Zn)		•	146	:	C.5	.mg/kg		; 08-A\$1G-00	i M M
4671-12 E	SO-19-2200-01				·			Ļ <u>.</u>	108-600-60	ļ "
mple Date (22-3),							į	İ	i	
atrix: SOIL			İ				!	!	!	:
			•						!	
	Ammonia-N				į		i	İ		:
				51	į	1	ang/kg	į	08-AU <b>G</b> -00	ΕI
	Antimony (Sb)		;	9.0	:	0.1	mg/kg	İ	09-ALG-00	, M
	Araenic (As)		•	1726		0.1	/mg/kg	i	09-AUG-00	. м
	Mercury (Hg)		į	3,08		0.01	my/kg	!	09-AUG-00	М
	Oil-Oravimetric			500		100	mg/kg	04-AUG-00	1	:
	Sulphate (SQ4)		:	1620	;			04540G-00	08-ALG-00	; Z\
	pH			-		2.5	നg/kg		23-AUG-00	J2
	•		1	7.7	!	9,7	iaΗ		08-Au/G-00	ļ Rī
	Metals (Strong Acid Silver (Ag)	Rec.)		,				!		:
	Aluminum (Al)		i i	<1 0.800	:		mg/kg		0\$-AUG-00	M
	Banum (Ba)		_	95300	:	.0	mg/kg		69-AUG-66	M
	Boryalum (Be)		İ	31.4 4*		0.5	'mg/kg	İ	09-AU <b>G</b> -00	M
	Calcium (Ca)					1	របស់ស្រី		C9-AUG-00	M.
	Cadmium (Cg)		,	36400	:	100	mg/kg		C9-AUG-00	M:
	Cobalt (Co)			<0.5 45		0.8	jmg/kg		C9 AUG-00	M
	Chromium (Cr)					1	img/k <u>e</u>		00-0UA-90	M
	Copper (Cu)			163 82		0.5	mg/kg		09-AUC-00	; MI
	lion (Fe)					1	тд/кд		os-vne-co	į MI
	Potasstam (X)			90200 4600		100	<sub>i</sub> mg/kg	: I	109-AUG-60	! Ma
	Magnesium (Mg)			1160 80490	i	20	mg/kg	:	89-AUG-50	: VI
	Wanganese (Mn)			1020 1020	:	10 20	img/kg maiks		00-200A-90	WI.
	Malyhdenam (Mo)			8620 6	:	20	;mg/kg ima/ku		09-AUG-00	]W :
	Scolum (Na)			300		1 100 h	mg/kg		09-AUG-00	ML
	Nickel (Nž)			13:		2			105-AUG-06	i Ma
	Phospharus (P)			400		10	img/kg		09-AUG-00	Ma
	Leac (ab)		i	17		5	rog/kg lma/ka		09-AUG-00	MS
	Tn (Sn)		!	45		5	mg/kg mg/kg		03-AUG-50	M0
	Stronflum (Sr)			31		1	lmg/kg lmg/kg		99-AUG-20	: ME
	Titanrum (Ti)			823	:	5	mg/kg mg/kg		99-AUG-00	WD WD
	Thelium (71)		;	<i< td=""><td></td><td>1</td><td>ing/kg :</td><td></td><td>09-AUG-00</td><td>WE We</td></i<>		1	ing/kg :		09-AUG-00	WE We
	Vanedium (V)		:	190		4	make -	:	09-AUG-00	. WE
	Zrng (Zn)			116		0.÷	ingikg :	İ	09-ALIG-00 00-ALIG-00	N.
87:143 <sup></sup> 143	O-26-226000 · · · · · · · · · ·	· · <del></del>			·- <b>:</b>	-	s/kg	<u></u>	09-AUG-00	145  -
µleΩate 22√JUL			:		:					
na: SCI			:		-		;			!
-			:					:		i i
	Ammonie-N		•				! ;			
	4.1500008-7			۲,		1	mg/kg :	:	09-AUG-00	E-<

ي. D. وي	Sample ID	Test Description	Rosuk		.L. Unit	s Extracted	Aralyzed	ĽУ
14671-18	PSO-20-2200-01					3. <u></u>		
Sample Date			:			1		
Matrix:	SOL					!		
with it.	00.2		:	·				
	Annone (Ch)		,	: .	. i	1		1
	Antimony (Sb)		0.2	C			99-AUG-60	MD
	Araenio (As)		- 99	C	.1  m⊊/kg	i	39-AUG-03	MS
	Mercury (Hg)		£.11	· 0,	01 jmg/kg	!	39-AUC-03	M3
	O'l-Grav.metric		; <b>2</b> 00	10	XX    mg/kg	04-AUG-00	08-AUG-08	ZW
	Sulphate (SQ4)		3/8	2	.5 mg/kg	İ	23-AUG-00	JZ
	Нq		1 7.4		!	İ	08-AUG-00	श
	Metals (Strong Acid	f Rec.)				-		'
	Silver (Ap)		<:	· .	mg/kg	!	00-8UA-20	1.1D
	Alum num (Al)		26100	: ,	0 mg/kg		09-AUG-00	MD
	Sarium (Ba)		227		.ā mp/kg		DS-AUG-00	MĐ
	Beryllium (Be)		<1		l mg/kg	ļ	09-AUG-00	MD
	Calcium (Ca)		9900	10	XC img/kg	İ	00-AUQ-00	MD
	Cadmium (Cd)		<0.5	C	.ā mg/kg		09-AUG-00	MD
	Gobalt (Co)		1.5		l mg/kg	!	09-AUG 60	MD
	Chramlum (Cr)		70.6		.d  mg/kg		00-AUG-00	, MD
	Copper (Cu)		36		i img/kg		09-AUG-05	· MD
	Iron (Fe)		31900		JÚ mg/kg		09-AUG-00	: WD
	Potession (K)		6100		0 mg/kg	i	29-AUG-00	1 15
	Magnesfurii (Mg). Magnesaya (Mat		11600		0 ing/kg	İ	09-AU3-00	. MD
	Manganesa (Mn) Malyadenum (Ma		470 51		0 ing/kg ! mo/ka	i	09-AUG-00	: MD
	Sodium (Na)	,	. 600		! mg/kg 10 mg/kg	!	09-AUG-00 09-AUG-00	GM: :
	Nicka: (Ni)		. 600		o mg/kg 2 mg/kg		09-AUG-00	, mo
	Phosphorus (P)		480		. — луку 9 :/пg/kg	i	:09-AUG-00	: MD
	Lead (Pb)		: 20		o merka i merka		D5-AUG-00	MD
	Tin (Sn)		<5	. !		ļ	05-AUG-00	MD
	Strontrum (Sr)		53		mg/kg	İ	D9-AUC-90	j MD
	litantum (Ti)		642		i mg/kg	İ	08-AUG-00	MD
	Thaÿium (ft)		· <1				09-AUG-00	MD
	Vanadjum (V)		58		mg/kg	į	09 AUG-00	MD
	Zino (2n)		76.3	0.	5 mg/kg	ļ	09-AUG-00	MD
14671-15	₽8O-13-2500-01A							
iample Date	22-JUL-00					i		
/аліх:	50·L					İ		
						į		
	Antmonia-N		<1	1	mg/kg		09 AUG 00	ΞK
						:		
	Aritmany (Sb)		1G.5	D.		:	09-AUG-00	MD.
	Arsenia (As)		2370	Ο.	22 - 11	i	09-AUG-00	MD
	Werdury (Hg)		0.40	0.3	C1 mg/kg		09-AUG <b>-</b> 00	MO
	OGray/metric		1100	10	iD mg/itg	04-ALG-00	08-AUG-00	ZW
	Sulphate (SO4)		1110	2.	5 mg/sg	į	23-AU3-00	12
	эн		7.6	5.		i	08 AUG-00	RT
	Metais (Strong Acid	Rec.I	• • •	_	Ь,,	ļ	201.00-00	'''
	Sliver (Ag)	- · 14	<1	1	mg/kg	:	58-AUG-36	l ri
	Aluminum (Al)		27700		0 <b>m</b> g/kg 0	:	09-AUG-00	IM:
	Sarium (Ra)		43.6	2.		:	09-AUG-00	ME
								ML
	Seryllärm (Se)		<1	1	-mg/kg		09-AUG-05	1972

Lab IID	Samolo D	Test Description	Result	D.L.	Units	Extracted	Analyzed	By
14671-15	PSC 13 2500 01A						1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	ī
	22-JUL-00							•
: א זיג	SON							!
					÷		į.	
	Metals (Strong Acid Red		i			:		İ
	Cádmium (Cá)	2.}	. 0.8	0.5	mg/kg		. 09-AUG-00	Ma
	Capalt (Ca)		40	. 1	mg/kg		39-AUG-00	: MD
	Caramium (Cr)		88.2	0.5	mg/kg		39-AUG-00	ME
	Copper (Cu)		137	0.0	mg/kg		C9-AUG-00	ME
	Iron (Fe)		55000	100	ng/kg	i	C9-AUG-00	ME
	Potassium (K)		1600	23	mg/kg		E9-AUG-06	MD
	Magneslum (Mg)		23900	10	mg/kg		09 AUG-00	ME
	Manganese (Mn)		350	20	mg/kg	:	09-AUG-00	ME
	Molybaenum (Ma)		1	1	mg/kg	!	109-AUG-00	MU
	Sodium (Na)		200	100	ng/kg		: 29-AUG-00	ME
	Nickel (NI)		. 82	2	mg/kg	i	09-AUG-00	ME
	Phosphorus (P)		400	10	mg/kg		09-AUG-00	ME
	Lead (Pb)		148		mg/kg		ca-AUG-do	MD
	7a (Sa)		55	5	Img/kg	!	.09-AUG-00	MIT
	Strondium (Sr)		29	•	mg/kg		09-AUG-00	945
	"itanium (Ti)		. 458	5	jingilkg jingilkg		09-AUG-00	MO
	Thellium (T)		; -30	•	mg/kg		09-AUG-00	MO
	Vanadium (V)		105		mg/kg		(9-AUG-00	MO
:	Zine (Zn)		175	0.8	mg/kg		69-AUG-00	ME
14371-16	PSO-23-2500-01		:		-	<del>:</del>		
	22-JUL-00		•					
Aotrix:	SCIL		:		1			
ימימוניי			!		!		i	
	Water-Scluble Arsenic Spe	scles			:		:	
	Arsonic (P£)		31,5	0.4	mg/L		22-8EP-00	ند :
			į .					
	Ammona-N		· ·	1	mg/kg		09-AUG-80	EK
	Anti-nerry (Se)		2.3	0.1	mg/kg		09-AUG-00	.¦ M⊃
	Arsonic (As) 3+		765	0.1	mg/kg		22-SEP-00	: JJ
	Arsenic (As) 5±		i 1830	0.1	img/kg	I	22-SEP-00	į jų
	Mercury (Hg)		0.36	5.01	тд/ка		09-AUG-00	ME
	G I-Gravimento					1		
			: <sup>200</sup>	100	mg/kg	04-AUG-00	[08-AUG-00	ZΥ
	Sulphase (SO4)		. 303	2,5	mg/kg		23-AUG-00	; JZ
	o∺i		7. <u>c</u> .	0.1	joΗ	:	68-AUG 30	RT
	Motals (Strong Acid Rec	)					ļ	
	Sliver (Ag)		2	1	mg/kg		09 AUG 00	MD
	Alamleem (Al)		32200	IJ	mg/kg		109-AUG-00	ML
	8ಕಗಟಗ (Ba)		32.2	0.5	mg/kg		;09-AUG-00	1/40
	Beryllium (Be)		. <1	1	mg/kg		69-VNG-60	ME
	Calcium (Ca)		43500	100	, төйкө		C9-At:G-00	ME
	Cadeviim (Cd)		3.8	G.\$	тідікд	:	09-AUG-00	e/aE
	Cobell (Co)		71	1	πg/kg		09-AUG-00	ME
	Ohromium (Or)		92.4	0.5	:mg/kg		09-AUG-00	ME
	Capper (Cu)		181	1	្នាម្ន/kg	İ	09-A1/G-00	ļ Mī
:	Yor. (Fe)		79400	100	mg/kg		1094AUG400	. Mi
	Polassium (K)		950	20	mg/kg		09-AUG-00	M*
	Magnesium (Mg)		25600	10	ng/kg		09-AUG-00	. 160
					•		09-AUG-60	i Mi
	Manganess (Mn) Motybdenu≪ (Mo)		1130	20	្តកាន្ទរីkg		THE STATE OF THE STATE OF	; P.

Lab ID	Sample ID	Test Description	Result	O.L.	. Units	Extracted	Analyzed	: Ву
L14671-16	PSO-21-2500-01				:	:		
Sample Date :	22-JUL-00				i	i		
Лаtrix.	SOIL					İ		
						į	•	
	Metais (Strong Ack	f Rec.)			i	İ		
	Bodium (N≘)		200 :	130	mę/kg	ļ	09-AUG-00	i Mo
	Nickel (Nt)		116 .	2	mg/kg	;	09-AUG-00	. MB
	Phospharus (P)		. 260	50	mg/kg	ļ	99-AUG-00	ME
	Lead (Pb)		475	5	mg/kg		99-AUG-03	i Ma
	Tin (Sn)		. 45 -	5	aig/kg		, 99-AUG-03	i <sub>MD</sub>
	Strentium (Sr)		45	\$	ring/kg		09-AUG-00	MD
	Titantim (Ti)		1320	5	mg/kg		09-AUG-00	ML
	Thaithen (TI)		<1		mg/kg		09-AUG-00	ME
	Vanadium (V)		154		mg/kg		.09-AUG-00	ME
	Zlab (Za)		515	0.5	mg/kg		09-AUG-00	MD
	Arsento (As)		1	0.0	1:181.73	i	D5-N3G-03	
	Arsento (As) Arsento (As)		2620	0.1	mg/kg	!	22-859-00	l of
	Arsenio (As)		4200	0.1			22-80-FRIO 09-AUG-03	Mo
44654.75					mg/kg	.l <u></u>	08-MC13-03	1
.14671-17	980-21-2500-82							
Sample Date			! .			i		ļ
vietrix:	SOL							:
	Water-Soluble Azseni:	c Species						
	Arbenio (As)		73.9	0.1	mq/_	:	22-SEP-00	
						•		
	Ammonia-N		. <1	1	mg/kg		09-AUG-00	, EK
	Artiropay (Sb)		3.9	0.1	mg/kg		189-AUG-00	Me
	Araenio (As) 3=		2250	0.1	mg/kg		22-SEP-00	ا ا.نا
	Atsenio (As) 5±		274 274	0.1	mg/kg		22-SEP-00	25
	Vierbury (∺g)		0.10	0.01	mg/kg		[59-AUG-65	MS
	Oil-Gravimatric		800	100	ing/kg	1 04-AUG-00	08-AUG-00	ZW
						:		1
	Sulphate (SO4)		235	2.5	ma/kg	İ	23-AUG-03	-2
	р∺		7.2	2.1	pit	İ	08-AUG-00	RT
	Metals (Strong Acid	Rec.			i.	i		İ
	Silver (Ag)		· <1	1	mg/kg	İ	09-AUG-00	∦ MO
	Alemenium (Ar)		:5560	10	mg/kg	i	99-A:LG-00	ME
	Barium (Ba)		91.8	3.5	mg/kg		109-AUG-00	ME
	Berylöum (Se)		<1	1	<sub>,</sub> mg/kg		09-AUG-00	Mü
	Caldum (Ca)		11100	100	mg/kg	:	09-ALG-03	j ME
	Cadmism (Cd)			0.5	ing/kg	:	09-AU.G-03	M.S
	Cebalt (Co)		j 16 j	\$	nig/kg	1	09-AUG-00	MO
	Chromiom (Or)		59.5 i	0.5	ing/kg		[09-AHG-01	ME
	Соррет (Си)		; 38 :	1	rng/kg	į	05-AUG-00	MO
	lzco (F⊋)		; 23400 ·	100	img/kg		09-AUG- <b>0</b> 0	MO
	Potospium (K)		2320	26	mg/kg		09-AUG-00	ME
	Magnesium (Mg)		9 <b>4</b> 60	10	jang/kg	i	09-AUG-03	ME
	Manganese (Min)		380	20	mg/kg		09-AUG-00	į MD
	Molybdenurti (Mo)	)	1 1 .	•	mg/kg		99-ALG-00	! MD
	Sodium (Na)		200	100	mg/kg	i	09-A_G-00	87
	Nickel (Nii		. 39	2	mg/kg	!	09-AUG-00	1.
	Priosphorus (H)		320	10	mg/kg	!	-09-AUG-00	ME
	cead (Pb)		33	5	imā/kū	:	09-AUG-00	: ME
	Tin (Sc.)		<5	5	ing/kg	:	09-AUG-00	ME
	Strontium (Sr)		3/	1	mg/kg	:	100-ALK-00	ML
			_		L iStrict		22 1120-30	

Lab (D	Sample ID	Test Description	Rusult	DL.	Lighs	Extracted:	Anaiyz≘d	Бу
L14671-17	PSO-21-2500-02	V11741						<del></del> -
Sample Date			:					ļ
Matrix:	SOIL		!			!	į	:
Mall X.	30-6		!		į	!	İ	
	Metals (Strong Acid Ro	ec.)				!	<u> </u>	
	7kanium († )	,	693	٤	mg/kg	;	09-AUG-05	. WD
	Tha flom (Ti)		<:	1	.mg/kg		89-AUG-00	MD
	Vanadium (V)		49	1	mg/kg	i	09-AUG-00	MD
	Ziac (Zn)		· 78.6	0.5	mg/kg	i	39-AUG-00	MD
	Arsenia (As)		2016		i		100 NAD-50	,,,
	Arsenio (As)		2910 3140	0.1	mg/kg		09-AUG-00   de Pou on	¦ וּוּ
rana-sai i	Arsenic (As)			0.1	່ນເລີ່ງເຕັ	ļ	22-SBP-00	1
L34871 18	P\$0-2174500 01A 117 117 1		:			İ		:
Sample Date						:		
Matrix:	80/1		:		;	į		
	Ammonta-N		<1	1	l merker		: - CS-41/G-DO	5K
					ing/kg	1		
	Andmony (Sb)		0.7	0.1	mg/kg		15-AU(5-60	CCS
	Arsenio (As)		: 3650 !	0.1	ing/kg		15-AUG-00	005
	Mercury (Hg)		0.29	0.01	mg/kg		15 AUG- <b>0</b> 0	205
	O#-Gravimesto		2.00	100	jmg/k <u>a</u>	+ 04-AU (9-00	08-AUG-00	ZW
	Sulphate (SO4)		433	2.5	:mg/kg	i	23-AUG-00	JZ
	pН		78	G.1	įμ <del>.</del> "	i	08-AUG-00	ব্য
	Metals (Strong Acid R	ec.)						
	Şi ver (Ag)	•	1	1	mg/kg		15-AUG-00	202
	Alumicum (Al)		<b>136</b> 00	10	mg/kg		16-AUG-00	, cc2
	Eşriyov (Ba)		21.0	0.5	mo/kg	:	15-AUG-00	005
	Bery≒ium (Be)		; <1	7	mg/kc		15-AUG-00	005
	Carcium (Ca)		44200	100	mg/kg	į	15-AUG-00	005
	Cadmyom (Cd)		4.0	6.5	m <b>g</b> /kg	'	15-AUG-00	005
	Copalit (Cp) Onremium (Cr)		€3.4	1 0.5	mg/kg malks		15-AGG-00 15 AUG-00	005
	Copper (C.)		. 191	· 1	mg/kg -mg/kg		15-AUG 00	005
	Potassium (K)		750	26	mg/kg		15-AUG-00	CCo
	Magnesium (Mg)		22003	10	'wō/kō		15-AUG-00	005
	Manganese (Mn)		940	20	mg/kg		(15-AUG-09	QC5
	Morykdenum (Mo)		3	: 1	mg/kg		15-AUG-00	CCS
	Socium (Na)		300	100	mg/kg		15-AUG-00	005
	Nickel (Ni)		117	2	mg/kg		15-AUG-00	CC5
	Finosoheres (P)		230	10	mg/kg		15-AUG-00	005
	Leac (Pb)		427	5	mg/kg		15-AUG-00	005
	Tin (Sh)		< <u>E</u>	5	m <u>č</u> /kg		15-AUG-00	005
	Stronform (Sr)		32	1	mg/kg		15-AUG-00	CCE
	Titanium (T1)		1530	. 5	mg/kg		15-AUG-00	con
	$T! = [0, 0] \times (T!)$		<1	í	mg/kg		:5-AUG-00	0.05
	Vanadium (V)		- 138	1	mg/kg		15-AUG-00	CC5
	Zing (Zn)		535	0,5	inig/kg		15-AUG-00	ccs
14371719 T	HSD-13F2600-02		!				:	
uinola Date			:					
Matrix:	SOII		:					
	Water-Soluble Assenio S	pecies	:					
				0.1	;mg/L		22-8EP-00	

Lab D	Sample (C	Test Description	Result	D.L.	Linits	Extracted	Anatyzed	Ву
L14671-19	PSO 13 3500 02		<b></b>		:			!
Sample Date	22-JUL-00	•	:		i			
Mattixt	SOL		i					
			i		:		•	
:	Ammonia-N		! c1	1	mg/kg	I	108-AUG-03	EK
	Antimony (Sb)		G.8	0.1	mg/kg		: 16-AUG 00	CCE
	Arsenic (As) 3±		58.1	6.1	mg/kg		22-S5P-90	JJ
•	Argenic (As) 5+		30C	0.1	m <u>e</u> /kg		! .22-\$EP-00	į Jų
	Mercury (Hg)		0.11	0.9.	mg/kg	:	15-AUG-03	. CC5
	Oll-GrayImotrio		500	109	mg/kģ	: C4-AUG-00	: :03-8UA-80	ZW
	Surghate (SO4)		199	2.5	mg/kg		23-AUG-00	: i JZ
	р∺		8.1	0.1	ib[]		G3-AUG-00	: º^ . RT
	Metals (Strong Acid )	Pac \		0.1	pr.		: ""	. :(1
	Silver (Ag)	Nec.,	e1	1	img/kg		15-AUG-30	CC5
	Aluminam (Ai)		8300	10	mg/kg		15-AUG-00	CC5
	Barlum (Sa)		17.ä	0.5	mg/kg		15-AUG-30	CC5
	Beryi lum (Bs)		<1	1	lmg/kģ		15-AUG-30	CC5
	Calcium (Ca)		42203	100	img/kg	İ	15-AUG-20	CC5
	Cadm)um (Cd) Cobalt (Co)		<0.5 59	0.5 1	img/kg ang/kg	'	15-AUG-90 -15-AUG-90	DO5   DO5
	Chrombiae (Cr)		165	0.5	mg/kg		:15-AUG-30	000
	Copper (Ca)		97	1	mg/kg		15-AUG-30	ΙŽ
	hon (Fe)		E0400	100	тід/ку		15-AUG-30	005
	Falessium (K)		870	20	aig/kg	i	15-AUG-20	GČ5
	Magnesium (Mg)		29-00	10	img/kg	!	15-AL/G-30	COS
	Manganese (Mn)		950	20	.mg/kg		15-AUG-00	COS
	Maiyadanum (Ma) Sadiam (Na)		<1 100	100	,mg/kg lma/kg	1	15-AUG-00 : 15-AUG-00	C05
	Nicke: (Ni)		152	. 2	mg/kg mg/kg		15-AUG 00	COS
	Finaspharus (P)		260	. 10	mg/kg		15-AUG-00	CDS
	Lea <b>d</b> (P⊃)		22	5	,mg/kg	İ	15-AUG-00	006
	iln (Se)		≤ō	5	mg/kg	-	15-AUG-00	005
	Strondum (Sr)		! 26	; 1	mg/kg	İ	15-AUG-00	CC6
	Titaniem (Ti)		171	; 5	mg/kg		15-AUG-00	ಧವಿಕ
	Thailium (TI)		. (1	1	l/mg/kg	1	. 15-ADG-00	. 005 . 005
	venadlum (V) Zino (Zn)		170 9€.1	C.5	mg/kg mb/kg		15-AUG-00 15-AUG-00	005 005
	Arsenic (As)		ec.1	C.3	mg/kg		113-400-02	. 000
	Arsenio (As) Arsenio (As)		358	0.1	mg/kg	İ	22-S전P-00	J.J
	Acsesia (As)		652	0.1	mg/kg	i	15-AUG-00	COS
£14671-2011	TPSO/3572800-017					<del> </del>	<del>:</del>	
Sample Date						!		
Watrix:	SOL				i	I :		1
				:	i			i
	4/minonie-N		<b>\$1</b>	1	mg/kg	:	ов-АНЗ-ОО	Eκ
	Antimony (Sb)		0.1	0.1	mg/kg		15-AUG-00	GCS
	Assenio (As)		113	0.1	mg/kg		15-AUG-00	00%
	Vicroury (Hg)		0.04	0.01	ime/kg		15-AUG-30	ļ (
	09-Gravimetric		100	100	img/kg	04-AL/G-30	08-AUG-00	Z)(/
	Sulphate (SQ4)		37	2.5	•	;	23-AU3-00	j iZ
	olf.		۶۱ ۱۵		mę/kg pH	!		P."
		·	rı	0.1	ол	:	08-AUG-00	! "
	Metals (Strong Acid )	<b></b>			:	:		<u> </u>

LapiD Table Table	Sample D	Test Description	Result	0.1.	Units	Extracted	: Analyzed	: By
:4671:20	PSO-35-2300-01							
ample Date	22-305-30		:			:		
atrix:	SGI:		i	:			!	;
			i		:		!	
	Metals (Strong Anto	Per 1		:	i		İ	
	Silver (Agi	NAL.,	ः न्त	1	: :mg/kg		15-AUG-00	co
	Aluminum (Al)		7276	10	lma/kg		15-AUG-09	00
	Barium (Ba)		239	0.5	mg/kg		15-AUG-00	CC
	Bery form (Ba)		<1	1	mg/kg		15-AUG-00	. 00
	Celsium (Ça)		8600	100	mg/kg		15-AUG-00	: cc
	Caemium (Cd)		. <0.5	0.5	mg/kg		15-AU3-90	100
	Cobalt (Co)		75	1	mg/kg	i	15-AUC-00	100
	Coromium (Cr)		88 \$	0.5	rh:g/kg	İ	15-AUG-00	00
	Copper (Cv)		37	1	mg/kg	;	15-AUG-00	j o
	Iron (Fe)		29400	100	mg/kg		15-AUG-00	00
	Magnesium (Mg)		1:500	100	img/kg		15-AUG-00	1 00
	Mariganese (Mn)		430	20	mg/kg		15-AUG-00	0
	Molyodenurs (Mo)		2		mg/kg	:	15-AUG-00	10
	Sortiom (Na)		1 700	100	img/kg	i	: 15-AUG-00	i o
	Nickel (N.)		. 57	2	nigvkg		16-AUG-00	İο
	Phosphoras (P)		440	1 C	mg/kg		15-AUG-00	0
	Lead (Pb)		14	E	mg/kg		15-AUG-00	0
	Tir (Sn)		<5	E	mg/kg		15-AUG-00	0
	Strantium (8r)		55	1	mg/kg		. 15-AUG-00	0
	Titonium (17)		771	<u>'</u>	m¢/kç		15-AUG-00	0
	i haliiwih (11)		<'	, 1	m¢/kg		10-AU3-00	0
	Van≜dium (V)		44	' <u> </u>	morks		<sup>(</sup> 15-AUG-00	‡ ♀
	Zina (Zn)		86.8	. 0.5	mg/kg		15-AUC-00	; C
4671-21	NAME AND ADDRESS OF THE PARTY O							
	PSÖ-35-2300-01				<del>                                     </del>		· · · · · · · · · · · · · · · · · · ·	
emple Date	PSO-36-2306-01 - 22-3UE-60				<u> </u>			
emple Date letrja;								
	2253UE-00							·
	2253UE-00		<	! <b>1</b>	nig/ke			
	72-305-60 SOIL Aramonia-N		i		ing/kg		C9-AUG-00	
	7253UE-60 SOIL AramoniakN Antimony (So)		1 2.3	0:	mg/kg		1 <sub>75-AUG-00</sub>	<u>;</u> c
	7253UE-60 SOIL Aremonia-N Antiniony (Sp) Arsenic (As)		2.3 313	0.1	mg/kg mg/kg		15 AUG-00	; o
•	2253UE-60 SOIL Aremonia-N Antiniony (Sp) Arsenic (As) Marcury (Fig)		0.3 313 3.08	0.1 0.1 0.01	mg/kg mg/kg mg/kg		15-AUG-00 15-AUG-00 15-AUG-00	; 0 ; 0
•	7253UE-60 SOIL AramoniakN Antimony (Sp) Arsenic (As) Marqury (Fig) Oil-Gravimetric		0.3 313 3.08 500	0.1 0.1 0.01 100	mg/kg mg/kg	04-AUG-C0	15-AUG-00 15-AUG-00 15-AUG-00 08-AUG-00	: 0 : 0 : 0
	72-303-60 SOIL Aramonia-N Antimony (Sp) Arsenic (As) Marcury (Fig) Oil-Gravimetric Sulphate (SO4)		0.3 313 3.08	0.1 0.1 0.01	mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00	: 0 : 0 : 0
•	7253UE-60 SOIL AramoniakN Antimony (Sp) Arsenic (As) Marqury (Fig) Oil-Gravimetric		0.3 313 3.08 500	0.1 0.1 0.01 100	mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 08-AUG-00	: 04 : 04 : 04 : 20 : 12
•	72-303-60 SOIL Aramonia-N Antimony (Sp) Arsenic (As) Marcury (Fig) Oil-Gravimetric Sulphate (SO4)	<b>R</b> ec.i	2.3 ; 313 3.08 500 ; 287	0.1 0.1 0.01 100 2.5	mg/kg mg/kg mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 08-AUG-00 25-AUG-00	: 04 : 04 : 04 : 20 : 12
•	7253UE-00 SOIL Aramonia4N Antiniony (So) Arsenic (As) Marqury (Fig) Oil-Gravimetric Sulphate (SO4) gH	Rec.i	2.3 ; 313 3.08 500 ; 287	0.1 0.1 0.01 100 2.5	mg/kg mg/kg mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 08-AUG-00 25-AUG-00	: 0 : 0 : 0 : 0 : 0 : 0 : 0 : 0 : 0 : 0
	7253UE-00 SOIL  Aramonia4N Antimony (Sp) Arsenic (As) Mercury (Fig) Oil-Gravimetric Sulphate (SO4) gH Metals (Strong Acid	<b>R</b> ec.i	0.3 313 0.08 500 287 7.0	0 : 0.1 0.01 100 2.5 0.1	mg/kg mg/kg mg/kg mg/kg mg/kg pH	04-AUG-C0	15-AUG-00 15-AUG-00 15-AUG-00 08-AUG-00 23-AUG-00 08-AUG-00	: OF CA 20 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
•	7253UE-00 SOIL  Aramonia AN Antiniony (Sp) Arsenie (As) Mercury (Fig) Oil-Gravimetric Sulphate (S04) gH Metals (Strong Acid Silver (Ag)	Rec.i	2.3 313 3.05 500 297 7.0	0 : 0.1 0.0 100 2.5 0.1	mg/kg mg/kg mg/kg mg/kg mg/kg pH	04-AUG-G0	15-AUG-00 15-AUG-00 15-AUG-00 08-AUG-00 23-AUG-00 08-AUG-00	# 00 # 00 # 20 # 37 # 00 # 00
	7253UE-00 SOIL  Aramonia AN Antiniony (Sp) Arsenic (As) Mercury (Fig) Oil-Gravimetric Sulphate (SO4) gH Metals (Strong Acid Silver (Ag) Alumnum (Ali	Rec.i	2.3 313 3.08 500 297 7.0 41 6560	0: 0.1 0.01 100 2.5 0.1	mg/kg mg/kg mg/kg mg/kg mg/kg pH .mg/kg img/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 23-AUG-00 23-AUG-00 15-AUG-00 15-AUG-00	# 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	72-303-60 SOIL  Aramonia-N Antiniony (So) Arsenic (As) Mercury (Fig) Oil-Gravimetric Sulphate (SO4) gh Metals (Strong Acid Silver (Ag) Alumnum (Al) Barlum (Ba)	Rec.i	2.3 313 3.05 500 287 7.0 41 6860 202 41	0: 0.1 100 2.5 0.1 1 10 0.5 1	mg/kg mg/kg mg/kg mg/kg pH mg/kg img/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 23-AUG-00 28-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00	: C C Z Z X で O C C C C C C C C C C C C C C C C C C
	7253UE-00 SOIL  Aramonia-N Antiniony (Sp) Arsenic (As) Marqury (Fig) Oil-Gravimetric Sulphate (SO4) ph Metals (Strong Acid Silver (Ag) Alumnum (Al) Berlum (Ba) Berytiom (Be)	Rec.i	2.3 313 3.05 500 287 7.0 41 6860 202 41	0: 0.1 0:01 100 2.5 0.1 1 10 0.5	mg/kg mg/kg mg/kg mg/kg pH mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 23-AUG-00 23-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
•	7253UE-00 SOIL  Aramonia-N Antiniony (Sp) Arsenic (As) Marqury (Fig) Oil-Gravimetric Sulphate (SO4) ph Metals (Strong Acid Silver (Ag) Alumnum (Al) Berlum (Be) Geloum (Ce)	Rec.i	2.3 313 3.05 500 297 7.0 41 6550 202 41 8600	0: 0.1 0:01 100 2.5 0.1 1 10 0.5 1	mg/kg mg/kg mg/kg mg/kg pH mg/kg mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 23-AUG-00 23-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00	- COCCADE 0000000
•	7253UE-00 SOIL  Aramonia-N Antiniony (Sp) Arsenic (As) Marqury (Fig) Oil-Gravimetric Sulphate (S04) ph Metals (Strong Acid Silver (Ac) Alumnum (Af) Barlum (Ba) Barytium (Ba) Calcium (Ca) Casmium (Cd)	Rec.i	2.3 313 3.05 500 267 7.0 41 6560 202 41 8800 <0.5	0.1 0.1 100 2.5 0.1 10 0.5 1 100 0.8	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 23-AUG-00 23-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00	# 000000000000000000000000000000000000
•	7253UE-00 SOIL  Aramonia-N Antiniony (Sp) Arsenic (As) Marqury (Fig) Oil-Gravimetric Sulphate (SO4) ph Metals (Strong Acid Silver (Ag) Alumnum (Af) Barlum (Ba) Barlytiom (Ba) Calorum (Ca) Capmium (Cd) Cobart (Co)	Rec.i	2.3 313 3.05 500 267 7.0 41 6560 202 41 8600 <0.5	0.1 0.1 100 2.5 0.1 10 0.5 1 100 0.8	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 25-AUG-00 25-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00	20 00 00 00 00 00 00 00 00 00 00 00 00 0
•	7253UE-00 SOIL  Aramonia-N Antiniony (Sp) Arsenic (As) Marqury (Fig) Oil-Gravimetric Sulphare (SO4) gh Metals (Strong Acid Silver (Ag) Aluminum (Af) Barlum (Ba) Barlytigm (Ba) Calcium (Ca) Cacmium (Cd) Cobait (Co) Chromium (Cr)	Rec.i	2.3 313 3.05 500 267 7.0 41 6560 202 41 8800 <0.5 12	0.1 0.1 100 2.5 0.1 10 0.5 1 100 0.8 1 0.5	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 25-AUG-00 25-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00	- O O O O O O O O O O O O O O O O O O O
•	7253UE-00 SOIL  Aramonia-N Antiniony (Sp) Arsenic (As) Marcury (Fig) Oil-Gravimetric Sulphate (SO4) gh Metals (Strong Acid Silver (Ag) Alumnum (Af) Barlum (Ba) Barlytiom (Ba) Calorum (Ca) Caomium (Cd) Cobart (Co) Chromium (Ct) Cooper (Cu) Stron (Fe) Potassium (K)	Ren.i	2.3 313 3.05 500 267 7.0 41 6860 202 41 8800 <0.5 12 57.1 36	0.1 0.1 100 2.5 0.1 10 0.5 1 100 0.8 1 0.5	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	04-AUG-C0	15-AUG-00 15-AUG-00 15-AUG-00 25-AUG-00 25-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00	0 0 0 0 1 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	72-303-60 SOIL  Aramonia-N Antiniony (Sp) Arsenic (As) Marcury (Fig) Oil-Gravimetric Sulphate (SO4) gh Metals (Strong Acid Silver (Ag) Alumnum (Af) Barlum (Ba) Barlytiom (Ba) Calorum (Ca) Caomium (Cd) Cobart (Co) Chromium (Cr) Cooper (Cu) Silun (Fe)	Ren.i	2.3 313 3.05 500 287 7.0 41 6860 202 41 8800 <0.5 12 57.1 36 24100	0.1 0.1 100 2.5 0.1 10 0.5 1 100 0.8 1 0.5 1	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	04-AUG-00	15-AUG-00 15-AUG-00 15-AUG-00 25-AUG-00 25-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00 15-AUG-00	# 00 00 00 00 00 00 00 00 00 00 00 00 00

المعاد ا	Sатрю (D	Test Description	Result	QLL.	Units	Extracted	Analyzed	Ву
514671-21	FSO-36-2300-01							
Şample Date	22-JUL-00		i					
Marris:	SOR		!			:		
						:	•	
	Metals (Strong Acid	d Rec.)				•		i
:	Molyadenum (Ma	i)	<1	1	mg/kg		15-AUG-00	¢05
:	Socium (Na)		630	100	mg/kg		18-AUG-00	CC5
	Nicke (N)		. 38	2	mg/kg		15-AUG-00	CCS
:	Phosphorus (P)		420	. 10	mg/kg	:	15-AUG-00	CC5
;	109 <b>d</b> (P5)		13	. 5	mg/kg	i	15-AU3-00	CC5
	Tin (Sn.) Straetium (Sr.)		<5 E/	: 5	mg/kg		15-AUG-00	CCS
	Sitedium (Ti)		54 662	1 5	¦mg/kg ma∂ka	i	15-AUG-00	CCS
į	Thallium (TI)		51	. 1	mg/kg .mg/kg		15-AUG-00 15-AUG-00	008   005
	Vanadium (V)		44	. 1	img/kg		15-AUG-00	005
	Zinc (Zr)		59.6	a.5	mg/kg	i	15-AUG-90	006
: L148/1-22	PSO-37-2300-01			ļ		<u>—</u>	<del></del>	
Sample Date			ļ	i	!			:
: Matrx:	\$GIL			:		:		
141011.2.			İ			:	İ	
	Water-Scrubte Arsenh	c Species		!	İ.,	!	!	
	Afsenic (As)		7.3	. 0.1	lmg/l.	İ	122-SEP-00	JJ
	Atemorus-N		K:	: 1	mg/kg		09-AUG-00	EK.
	Antimony (\$b)		0.5	9.1	img/kp		15 AUG-00	CCS
	Arsenic (As)		307	0.1	mykę	-	65-AUG-00	GC5
	Marcury (Hg)		0.00	0.01		!	15-AUG-00	CC5
	OR-Gravimetric		!		mg/kg	i	•	:
			400	100	ጠወቸው	94-AUG-00	00-20A-90	ZW
	Sulphate (SO4)		: 435 '	2.5	mg/kg	!	22-AUG-00	JZ
	βH		j <sup>7.3</sup>	0.1	(p) <del>-1</del>	į	08-AUG-00	R7
	Metals (Strong Acid	1 Rec.)		_		•		:
	Silver (Ag) Aleminum (Al)		. <1 6080	, 1 : 10	ang/kg mantan		15-AUG-00	005
	Bendra (Sa)		100	. 0.5	mg/kg ma&a	:	15-AUG-00 155-AUG-00	005
	Baryijum (Ba)		; 139 ≺1	1	mg/kg mg/kg	i	(15-AU3-00 (15-AU3-00	005
	Calcium (Ça)		· S500	100	mg/kg many		15-AUG-00	1 005
	Capmium (Cd)		<0.5	C.5	mg/kg		15-AUG-00	GGS
	Cobalt (Co)		11		mg/kg		15-AUG-00	CCS
	Chromi⊆m (Cr)		53.3	C.5	,mg/kg		15-AUG-00	CCS
	Copper (Cu)		35	. 1	mç/kg		15 AUG 00	CCS
	1/on (Fe)		22900	. 50	mg/kg		15-A90-00	CC5
	Potasstam (K)		3560	29	ing/kg		15-AUG-00	005
	Magnesium (Mg)		8360	10	ļmg/kg		15-AUG 00	CC5
	Wanganese (Mr)		280	20	,mg/kg		15-AUG-00	600
	Moiyadesem (Mo)	)	! 1	1	та/ка		15-AUG-00	005
	Socium (Na).		500	, 500	mg/kg		15-AUG-00	CC6
	Nickel (Ni)		: 42	2	mg/kg		-15-AUG-00	005
· !	Phospharus (P)		420	10	mg/kg		15-AUG-00	QC5
	Lead (₽b) Tio (₽a)		17	. 5	nig/kg		15-AUG-00	on.
	Tin (Sn)		. 45	5	mg/kg		(15-AUG-00	G
:	Strentium (St)		55	1	img/kg i/		15-AUG-00	206 Lega
	Titanium (Ti) Thallium (Ti)		. 027	5	mg/kg		15-AUG-00	008
	vaneoium (v)		: <1 : 57	7 4	jaig/kg Imakai		15-AGG-00 15-AGG-00	COS
	YG:IDDIOIII (Y)		ان	,	(mg/kg		15-AUG-00	CC5

Lac C	Sampid ID - Fost Geschiption		Result		В.Ц.	Units	Extracted	Analyzod	Вγ
₹14671-22	PSO-37-2300-01	:				<u> </u>			<u> </u>
Sample Date	22-JUL-00	:				į			ļ
Matrix:	\$0%_					j .			
						•		;	:
	Meta:s (Strong Acid Rec.)						I		į
	Zinc (Zn)		61.7		0.5	jrtg/kg	:	15-AUG-00	CCS
U14671-23	PSG-03-2200-01								$\vdash$
Sample Date	22-JU <sub>4</sub> -00					ļ			1
Matrix:	SOL					!	:		i
	Water-Soluble Arsenic Species	:					!		l
	Arsenic (As)		5.0		0.1	mg/L	!	22-SEP-00	ļ jį
	• •					:	:	12 32. 30	
	Ammonia-N		বর্ণ		1	mg/kg		09-AUG-00	: EK
	Antimony (Sb)		14.7		0.3	mg/kg		15-AUG-08	ССБ
	Araenio (As) 3÷	į	1200		0.1	arg/kg	1	122-SEP-00	: 44
	Azsenic (As) 5+	İ	9/8				İ		
					0.1	mg/kg	ļ	22-8EP-00	1 30
	Mercury (Hg)	!	0.13		0.01	mg/kg		15-AUG-00	0.005
	Cil-Gravimetrio	į	<100		190	mg/kg	04 AUG-00	08-AUG 00	ZW
	Sulphare (SO4)	-	854		2.5	πg/kg	į	2%,AUG-00	JZ
··.	зH	ļ	7.8		0.1	ρH	i	;08-AUG-00	: 37
	Metals (Strong Acid Rec.)						İ	:	:
	Silver (Ag)		<1		1	mg/kg	i	15 AUG RU	CC5
	Alacsinani (Al)	:	65 <u>9</u> 0		.0	m¢/kg	!	15-AUG-00	1 CC5
	Вайшт (Ва) Beryllium (Ве)	:	7.9		Ç,5	rrg/kg	İ	-15-AUG-00	! 003
	Cafgura (Ca)	!	<1 44380		1	mg/kg	İ	15-AUG-00	1.008
	Cadmiam (Cd)		1.3		100 8.5	mg/kg iπg/kg	İ	15-AUG-00 15-AUG-00	1 005
	Cobait (Co)		37		1	mg/kg		15-AUG-00	005
	Chromiam (Cr)		50.9		0.5	mg/kg		15-AUG-00	CCS
	Саррэг (Са)		33		3	ır⊊/kg	ļ	15-AUG-00	CCS
	rán (Pa)		50000		100	mg/kg	i	15-AU3-00	005
	<sup>co</sup> ctassium (K)		\$70		20	nrg/kg		15-AUG-00	005
	Magnosium (Mg)		17200		10	·mp/kg	!	15-AUG-00	005
	Manganese (Mn)		840		20	mg/kg	i	15-AUG-00	008
	Molypgenum (Mb)		<1		1	mg/kg		15-AUG-00	005
	Sodium (Na)		<100		100	ung/kg	:	15-AUG-00	205
	Nickał (Ni)		75		2	mg/kg	•	15-AUG-00	CC5
	Priosphorus (P)		210		10	mg/kg	į	15-AUG-00	005
	Lead (Pb)		190		5	mg/kg	-	75-AUG-00	203
	Tan (Sn)	i	<5	:	5	mg/kg	:	15-AUG-00	002
	Strentium (Sr) Titäsium (Ti)	!	30 137	:	1	img/kg		15-AUG-00	005
	Tital iem (TI)		137 <1		5 1	;mg/kg :mg/ko	:	15-AUG-00 15-AUG-00	1 005 - 005
	Vanadium (V)		55		1	:mg/kg :mg/kg	i	15 AUG-00	CCS
	2'mc (Zh)	:	213		2.5	me/ka	-	15 AUG 90	OÇ5
	Arsonic (Ae)	:					:	1.0.004	:
	Arsenic (4s)	:	2550		0.1	mg/kg		22/867-00	32
	Assanic (As)	1	2850		3.1	mg/kg		15-AUG-00	003
±≥4671.24	P\$0-05-2200-01	:					÷		
Sample Date		:					:		
Matrix:	80.					:	!	: 	
						!			
						!		i	
				. :		. !		<u> </u>	

£sb iD	8ampe (C	Test Description	: Result	5,L	anits	. Extracted	Analyzog	: Ву
L44671-24	PSC-05-2200-01				:		: :	
Sample Date 128	-JUK-00							i
Matrix: SC	Dil.				İ			
							ļ	
	Ammonis•N			1	mg/kg		   09-AUG-00	EK
	Antimony (Sb)		0.1	0.1	ma/kg		15-AUC-00	ÇCS
	Arsenic (As)		; B1.6	D. :	mg/kg	!	15-AUC-99	CG5
			•		i * -			
	Mercury (Hg)		90.0	0.01	mg/kg !	İ	15-AUG-00	GC5
	Oll-Gravittetac		300	100	mg/kg	j 04-AUG-00	108-AUG-00	207
	Sulphato (SC4)		203	2.5	rna/kg		25-AUC-00	JŽ
	р⊣		δ.1	0.1	p∺	:	[08-AUG-00]	£_
	Metals (Strong Acid Rec.	)			-	:	:	
	Silver (Ag)		<1	1	mg/kg		: 15-AUG-00	COS
	Akuminem (A!) Rose so (Bo)		1500 276	; 10 : 35	rng/kg	!	115-AU/5-00	005
	Bacum (Ba) Baculana (Ba)		: 276 1	, 4.5	eng/kg		15-AUG-00	CC5
	Baryllium (Be) Celdium (Ge)		1 7400	i 1	įmg/kg mg/kg		15-AUG-00 15-AUG-00	. CC5
	Cadmium (Cd)		7 <b>4</b> 30 ≺3.5	3.5	mg/kg ;mg/kg	i	15-AUG-00	CCS
	Cobalt (Co)		10	: 1	jmg/kg	-	15-AUG-00	000
	Chromium (Cr)		80.6	. 0,5	ma/kg	İ	- 15-AUG-00	005
	Copper (Cg)		. 44	1	mg/kg		15-AUG-00	CC#
	lton (Fe)		! 32000	100	mg/kg	i	- 15-AUG-00	c'
	Magnesium (Vg)		: 12800	10	mg/kg		15-AUG-00	CC5
	Manganese (Mn)		500	. 20	mg/kg		15-AUG-00	005
	Molybdenum (Mo)		4	: 1	mg/kg	!	15 AUG 90	CCS
	Sodium (Na)		500	100	mg/kg		18 AUG 90	CC5
	Niákel (Ni)		53	2	mg/kg	!	15-AUG-00	005
	Prosphores (P)		450	10	jmg/kg	:	: 15-AUG-00	CCS
	Lead (Pb) Fin (Su)		(3)	5 5	്ന്വഗ്ദ്യ ബ്രൂഷ്ഗ്ര	į	15-AUG-00 15-AUG-00	005   005
	Strontium (Sr)		47	,	mg/kg	İ	15-AUG-00	CGS
	Titanium (Ti)		968	9	markg	[	15-AUG-00	CCS
	Thallium (TI)		<1	1	my/kg	ļ	15-AUG-00	000
	Vanadium (V)		50	1	mg/kg	1	15-AUG-00	CCS
	Zinc (Zn)		70.7	2.5	mg/kg	!	15-AUG-00	CC5
\$14671- <b>2</b> 5	PSO-05-2205-01		<del></del>	· ··:- · · - · · - · · ·			· ·- ·	
Sample Date 122	-JUL-00		:		İ			
Матіх; 30	DL .			:	!			
	Water-Soluble Atsenic Spe	cias	į	!				
	Araenic (As)	0.63	<0.5	9.1	mg/L		,22-SEP-09	نال :
	- marketing Array		1		j3		,	24
	Ammonis-N		<1	1	m⊋/kg		99-AUG-90	ΞK
	Antimony (Sp)		C.7	0.1	i = 0  mg/kg		15-AUG-90	CCE
	Arser/c (As) 3+		25.5	3.1	mg/kg		22-SEP-00	1 3.
	Arsenic (As) 5-		42.0	3.1	iwāvkā ir naukā		[22-SEP-00	
			, 0.01		:	!	1	i
	Mercury (Hg)		:	9.61	ng/kg		15-AUG-00	005
	Oi -Gravimatric		200	100	:mg/kg	04-AUC-80	08-AUC-00	Z)
	Surphate (304)		. 90	. 2.5	mg/kg		23-AUG-05	32.
	¢⊢		7.7	3.5	ЬЧ	:	00-AUC-00	! RT
	Metals (Strong Acid Rec.	)			į			
	Silver (Ag)		<1 	1	m3/kg		15 AUG 00	CCS
	Aluminam (Al)		8020	10	mawa		15 AUG-00	025

Lab ID	Sample ID Test Description	: Kasut	DÆ.	Units	' Extracled	Anaiyzod	ү Ву
L14671-25	PSO-03-2200-01		. —	: :		1: %11:C397:.	
Sample Date		•					
Matrix	801			İ	i		
		ļ		İ	!		!
	Metals (Strong Acid Rec.)				i		
	Barium (Ba)	73.1	C.5	img/kg		15-AUC-03	COS
	seryllium (Be)	<1	•	mg/kg		15-AUG-00	005
	Calcium (Ca)	4200	100	mg/kg		15-AUG-00	CC5
	Sapri ym (Cd)	<0.5	ς.5	mg/kg	:	15-AUG- <b>0</b> 5	005
	Cobart (Co)	: 14	1	mg/kg	:	15 AUG 00	, ÇÇ5 '
:	Chromism (Cr)	81.8	5.5	'mg/kg	1	15-AUG-00	C05
	Copper (Cu)	. 46	1	rng/kg		15-AUG-00	COS
	-ron (Fe)	20900	100	mg/kg	•	15-AUG-00	: CC5 :
	Potessium (Kil	1830 . <b>77</b> 90	20	mg/kg	:	15 AUG-00	CC5 .
	Magnesiam (Mg) Manganesa (Ma)	. 240	1₽ 20	:mg/kg	İ	:154AUG-00	005 005
	Molybdenum (Ma)	į ( <del>4</del> 1)	20 1	raig/kg raig/kg		15-4UG-00 15-4UG-00	CCS
	Sadium (Na)	I - 200	100	rng/kg rng/kg		15-40G-00	006
	Nickel (N-)	45	2	img/kg		115-AUG-00	1 CC5 ·
i	Phosphorus (P)	320	10	mg/kg		15-AUG-00	005
•	Lead (P5)	, 1ā	5	mg/kg	:	15-40/3-00	005
	Tio (Sp)	. <€	5	mg/kg		15-AUG-00	CC5
	Stromium (Sr)	37 1	1	nig/kg	!	:15-AUG-00	CC5 .
	Tilan um (1.)	532	5	mg/kg		19-AttG-00	ccs   1
	Thellium (TI)	<1	1	mg/kg	j	15-AUG-00	CC5 ,
: !	Vanadium (V)	32	1	mg/kg	:	[15-49/3-00]	CC5
-	Zino (Zn)	, 43.2	0.5	mg/kg in	!	115-AUG-60	CC5
i	Arsenic (As)	/				l	:
	Arsenic (Aş)	67.5	Q. 1	mg/kg		14-007-00	ا الله
 	Arsenic (As)	365	0.1	mg/kg		:15-AUQ-00	CCS
L125719281   1	下唇(5-06-2200-01	i				i	
Sample Date							! :
. Matrx: I	SOL						
i	Water-Soluble Arsenic Species	i .				1	
	Arsenic (As)	0.5	0.1	mg/L	l	,22-SEP-00	JJ :
		: :			:	İ	
	Ammonia-N	£1 .	1	mg/kg		05-AUG-00	EK :
	Antimony (Sb)	2.2	0.1	mg/kg		15-403-00	0.05
	Arsenic (As)	1060	0.1	mg/kg		15-AUG-00	. CQ5
	Mercury (Hg)	0.08	0.01	mg/sg		15-40109-00	C05
	Oil-Gravimetric	800	103	mg/kg	04-A.JG-00	00-AUG-00	ż//
	Sulphate (SO4)	1300	2.5	mg/kg		-23-AUG-00	JZ .
:	р <b>н</b>			1	İ		
	•	7.7	3.1	įρH		.08-AUG-00	ं ता ∶
	Metals (Strong Acid Rec.) Sever (Ag)	<4	1	mg/kg	!	118-4,03-00	1 005
	Alumeum (Al)	3240	1 (0	рлаука (та/қа		15-AUG-00	BG5
	Sarium (Sa)	84.3	3.5	mg/kg		15-AUG-00	೦೦ಕ ೦೦ಕ
	Beryilam (Be)	<1	1	lmg/kg		155-AUG-00	GC8
	Carcium (Ca)	34500	100	j⊓g/kg	i	15-4/J/G-00	aas .
:	Cadmism (Cd)	<0.5	2.5	mg/kg	:	15-403-00	205
	Cobalt (Cb)	37	4	mg/kg	:	15-4UG-06	CC5
-	Chromium (Cr)	101	0.5	mg/kg	i	15-400-00	CCS
	Copper (Cu)	57	1	,πg/kg	!	16 AUG 05	LOGS.
				<u>i</u> _		i 	<u> </u> :
						- · · · · · · · · · · · · · · · · · · ·	

Lab ID	Sample ID	Fast Description	Result	D.L.	Units	Extracted	Analyzed	j_∄y_
14671-26	P\$Q-08-Z200-01						Ţ	
ampa Date 22-	-3001-00						•	:
atr.y: SC	OLT.		:			İ	! .	1
			i			!	!	İ
	Metals (Strong Acid I	Rec.)	:				!	i
	iron (Fe)		50200	100	img/kg		15-AUG-00	CC5
	Polassium (K)		1870	20	mg/kg		45-AUG-00	cos
	Magnesium (Mg)		21500	10	-mg/kg		15-AUG-00	000
	Manganese (Mn)		. 820	20	នាĝ/kg	:	15-AUG-00	CC5
	Molybdenum (We)		! 2	. 1	mg/kg	i	15-AuG-00	Loca
	Sodium (Na)		300	300	मश्र%व	!	15-AUG-00	000
	Nickel (N1)		j <b>5</b> 6	: ?	mg/kg		15-AUG-30	CQS
	Phosphotas (P)		420	10	mg/kg		15-AUG-30	CCS
	Lead (Pb)		46	5	mg/kg	İ	15-AUG-00	COS
	Tin (Sn)		. <5	5	mg/kg		15-AUG-00	COS
	Stromfulm (Sr)		45	1	mg/kg	!	75-AUG-00	006
	Risan um (Ri)		965	5	mg/kg	!	15-A0G-00	CCS
	Thalillum (Ti)		<1	. 1	mg/kg		15-AUG-00	CC6
	Venadium (V)		114	1	mg/kg	!	15-AGG-20	003
	Zina (Zn)		106	0.5	mg/kg	!	15-AUG-30	cas
4671-27	PSO-09-2200-21	···· - · <del>-</del> · · <del>- · · - · · · · · · · · · · · · · </del>	<del></del>			. }	!	'
ample Date   22-	JUE-60		į		1	1	!	
latfix: SQ	) L		į					
			i		į			
	Ammonia-N		<1	1	ms/kg		.09-AUG-00	EK
	Antimony (Str)		2	0.1	mg/kg	!	:   15-AUG-00	CCS
	Arsenio (As)		824	Ċ.1	i .	:		
	·	•			mg/kg		15-AUG-00	CCS
	Mercury (Hg)		0.07	6.01	lmg/kg	İ	15 AUG-00	CCS
	Dil-Gravimetric		.00	CO?	mg/kg	04-A(J3-60	03-4016-00	] 7W
	Sulphate (SO4)		879	2.5	mg/kg	i	23-ADQ-00	JZ
	pΗ		7.0	0.1	ŗН	!	188-AUG-63	RT
	Merais (Strong Acid F	Rec.)				1		
	Silver (Ag)		รา	•	mg/kg		15/AUG-00	. cc:
	Aluminu $\pi_i(A)$		6430	10	img/kg	!	15-AUG-00	, CCS
	Barium (Sa)		415	0.5	img/kg		(15-AUG-00)	: ccs
	Beryllium (Be)		<1	1	:mg/kg		13-AUG-00	: ac:
	Calcium (Ca.)		44703	100	mg/kg		15-AUG-00	008
	Cadmium (Cd)		0.8	0.5	mg/kg		13-AUC-00	003
	Cobalt (Co)		22	• •	mg/kg		13-AUG-00	ÇC!
	Chromium (Cr)		95.7	0.5	<sub>i</sub> mg/kg		/15 AUG-00	, CC:
	Солры (Си)		55	1	mg/kg	i	15-AUG-00	1 009
	trum (Fe)		30200	^80	mg/kg	į	15-AUG 00	i coa
	Potessium (K)		2150	20	mgrkg	!	15-AUG-00	008
	Magnesium (Mg)		11300	12	mg/kg		16-ALG-00	¢¢:
	(Manganese (Mh)		430	20	ing/kg		15 AUG-00	cc
	Molybdenum (Mb)		3	1	mg/kg	İ	15-AUG-00	_ cc:
	Godium (Na)		490	100	mg/kg	!	15-AUG-90	000
	Nickel (Ni)	•	; 71	2	mg/kg	!	15-AUG-90	. 60
	Phosphorus (P)		440	10	mg/kg	:	16-AUG-00	. €
	‰ead (Pb)		. 88	5	ក្រព្ធ៩ព្	:	115-ALIG-G0	; 00
				_	as arbas	-	116 4 0 00	002
	Tin (Sn)		· <3	, 5	mg/kg		j 15-A.:G-00	
	Tio (Sp) Strontium (Sa) Titanium (Ti)		<3 . 24 . 843	! b	mg/kg mg/kg		15-A.:35-00 15-A.:3-00	003

Lab ID	Sample O Test Descri	ptton Result :	Ð.L.	į Untis	Éxtracted	- Analyzed	By
L14871-27	FSC-09-2200-01						<u>-</u>
Sample Date				!			
•		•					
Matrix	SOIL	:					:
	Metals (Strong Acid Rec.)	: <1	1	mg/kg	:	15-AUG-00	006
	Thalliuth (21) Vacadium (V)	42	1	jmg/kg jmg/kg	:	, 15-AUG-00	CC5
	Zinc (Zri)	135	C.5	lmg/kg	:	16-AUG-00	003
1 4 4 C T 4 C C	PSC-10-2209-01		0.5	111184.48			1200
L14071-28				:		i	
Sample Date		•				!	
Matrix	SCIL	:		!		İ	
				į			
	Am non a-N	<1	1	រាម្រ/ិស្វ		99-AUG-00	FK
	Antmony (Sb)	, G.1	0.1	ling/kg	i	15-AUG-00	; QCE
	Arsenio (As)	5).5	0.1	mg/kg	İ	16-AUG-00	003
	Mercury (Hg)	0.05	0.01	mg/kg		15-AUG-00	ÇC
	OL-Gravmetric	<100	-00	mg/kg	04-AUG-66	08-AUG-00	ZW
					04MCG-00		1
	Sulpinate (\$O4)	62	2.5	mg/kg		23-AUG-00	JZ
	₽⊢	6.8 :	0.4	ļ¢Η		08-AUG-00	RT
	Metais (Strong Acid Rec.)			1		4 - 41.00 60	
	Silver (Ag)	<1	1	:mg/kg	ļ	15-AUG-00	1 003
	Alemisen: (Al)	! 7270 !	10	nig/kg	:	15-AUG-03	00:
	Bertum (Ba) Beryläum (Be)	247	0.5 1	mg/kg	i	15-AUG-00 15-AUG-00	od:
	Calouri (Ca)	5300	100	mg/kg mg/kg		15-AUG-00	ÇQ
	Gadmlum (Cd)	40.5	0.5	ing/kg		15-AUG-00	: CC:
	Cebalt (Co)	12	1	mg/kg		15-AUG-00	; <b>C</b> C!
	Chromitim (Cr)	52.4	0.5	img/kg		10-AUG-03	000
	Copper (Cu)	30 :	1	mg/kg		18-AUG-00	COL
	iran (Fe)	27200	100	mg/kg	!	15-AUC-00	CO
	Potassium (K)	3640	20	mg/kg		15 AUG-00	CO
	Magnesium (Mg)	9380	10	.mg/kg		15 AUG-00	CC
	Manganese (Min)	390	20	mg/kg		15 AUG-90	CO
	Molyogenum (Mo)	<1	1	mg/kg		15-AUG-00	CÇ:
	Sodum (Na)	780	100	mg/kg	:	15-AUG-00	COS
	Nickel (Nº)	37 '	2	mg/kg		55-ALG-00	j co.
	Phosphorus (P)	. 430 :	10	mg/kg		15-AUG-00	1 00
	Lead (Pb)	15	5	mg/kg	:	15-AUG-30	CC
	Tip (Se)	<5	5	img/kģ	1	15-AUG-30	CC
	Strontum (Sr)	73	1	mg/kg	į	15-AUG-00	; cc
	Titanlum (71)	: 538	5	lmg/xg	:	(15-AUG-00	1.00
	Thellium (TI)	. <1	•	img/kg		j15-AUG-30	CC
	Variadium (V)	45		mg/kg		16-AU6-06	- 60
	Zinc (Zn)	60.5	0.5	լmg/k <b>g</b>		15-AUG-00	CC
_14671 <b>-29</b>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	i		- <del></del>		· · · · · ·	ï
staC eloma2	22-JUL-00					:	:
Matrix:	SOIL			İ	İ	!	:
	Amora a M		4	l Dake		i i ne atto ee	=>
	Accept a-N	£1	· .	img/kg		[09-A0]G-00	₽X
	Antmony (Sb)	§ 5.4	0.1	ma/ka	:	15-AUG-00	: CC
				·		1	
	Arsenic (As)	: 146	0.1	-::g/ <b>\</b> Ω	i	15-AUG-00	1 00

Cap (D	Semple ID	Teal Description	Result	D.L.	Un te	Extaced	Analyzéd	Ву
14671-49	FISO-30-2300-01							:
emple Date	22-JUL-00					:		
atrix:	80%		i	:	İ		:	1
	1.44.0		i				;	
	O / Consissation		105	425	i,			i
	O /- Gravimetrio	•	100	100	rng/kg	04-AUG-00	08-AUG-00	: ZW
	Sulphata (SO4)		235	2.5	mg/kg		23-AUG-00	. JZ
	pl I		7.6	0.1	PΜς	i	98-AUG-00	RT
	Matais (Strong Acid	Rec.)				i	:	İ
	Silver (Ag)		<1	1	mg/kg	İ	: 15-AUG-00	00
	Aluminum (Al)		694C	10	mg/kg	-	15-AUG-00	00
	Serium (Se)		204	0.5	mg/kg ·	ļ	15-AUG-00	C
	Berylltum (Be) Calcium (Ca)		<1 7700	420	.mg/kg	1	15-AUG-00	1 00
	Cachium (Cd)		: 1760 ≪0.5	100 0.5	mg/kg		115-AUG-00	00
	Cobalt (Co)		15	0.5	rang/kg rang/kg	!	15-AUG-00 15-AUG-00	000
	Chromium (Cn)		78.3	0.5	mg/kg mg/kg	į	15-AUG-00	100
	Cosper (Cu)		74.3 27	ت, ب ا	mg/kg	i	. 15-AUG-00	100
	tron (FE)		27800	100	mg/kg	!	15-AUG-99	10
	Polassium (K)		351C	. 20	rng/kg		15-AUG-00	C
	Magnesium (Mg)		10400	10	mg/kg	:	15-AU@-00	1 0
	Manganese (Mn)		450	20	mg/kg		15-AUG-00	l c
	Molybdanami (Mc)		2	1	mg/kg		15-AUG-00	c/
	Sodium (Na)		600	100	mg/kg		15-AUG-00	0
	Nictal (Ni)		53	2	rig/kg	İ	15-AHG-00	00
	Phosphorus (P)		400	: 10	mg/kg	1	15-AUG-00	0
	uead (₽b)		23	; 5	-mg/kg	ļ	: 15-AUG-00	0
	Tin (Sn)		<5	5	mg/kg	į	15-AUG-00	C0
	Strontium (Sr)		52	! 1	mg/kg	i	<sub>!</sub> 16-AUG-00	. C
	Titanium (Ti)		E40	: 5	mg/kg		15-AUG-80	, C
	Thallium (Ti)		<1	1	m <b>g</b> /kg		16-AUG-85	C(
	Vanadium (V)		41	1	mg/kg		15-AUG-00	· C
	Zina (Zn)		38.5	j 3.5	mg/kg	! 	15-AUG-00	C:
4871430	F1810-1311-2300-61					:		
mpte Cate	22-JUU-00		:	:		i	!	
arix:	so:L		:			İ		!
	Water-Soluble Arsenic	Species	:	:	:			•
	Arserec (As)		: 1.8	Q. 1	.mg/L		22 SEP-00	Ċ
			:					
	Ammonia-N		<1	1	mg/kg		00-QUA-30	Εŀ
	Antimosy (Sb)		. 12	0.1	mg/kg	i	5-AUG-00	0
	Arsedic (As)		516	0.1	mg/kg	!	18-AUG-00	0
	Mercury (H₂)		0.08	0.01		:	i	
					mg/kg		15-AUG-00	00
	Oil-Gravimetrio		400	100	mg/kg	04-AUG-00	00-9LA-80 <sub>†</sub>	Z١
	Surphata (804)		419	2.5	mg/kg	İ	23-AUG-00	
	ρn		7.5	<sup>1</sup> 0.1	įg4	i	00-DUA-80	R
	Metais (Strong Acid	Rec.)		į.	į	i	!	
	Silver (Ag)		<1	1	im <b>g</b> /kg		18-ALC-05	į c
	Attiminum (AI)		6640	10	mg/kg	:	15-AUG-00	ļ¢
	Bertuct (Ba)		154	0.8	mg/kg		16-AUG-00	0
	Beryllium (Be)		61	1	/mg/kg		18-AUG-00	C
					i		1	1 0
	Cateum (Ca) Cadotlum (Cd)		1970) 49.5	100 0.5	img/kg  നട്ട/kg		15-AUG-00 15-AUG-00	C:

13		Torr Constation	<u></u>	 D.L.		Following		· · · · · · · · ·	-
E85 [D]	Sample ID ∵	Test Description	Result	Lilijai. Jerografija kantantan	ižets	: Extracted	Analyzed	Еу	
L14670+33	PSQ-31+230Q-01		:				:		
i Sample Dote	22 000 00		:			1	:		
Matrix:	3011			•		1	:		
				1					•
	Motals (Strong a	Acid Rec.)							
	Coast (Co)		15	. 1	mg/kg		15-A_G-00	CCE	i
	Chromium (C.	F)	72.2	0.5	mg/kg		15-ALG-00	CÓE	
:	Copper (Gu)		43	· 1	rng/kg		[5-AG-00]	i CCE	
į	иса (Fe) Po <b>tas</b> sium (X		23600 3020	130 20	mg/kg	:	15-AUG-00	005 005	
!	rozasium (A Magnesium (A		9280	10	mg/kg mg/kg	į	15-AUG-00 15-AUG-00	005 005	
:	Mangarese (		9230 480	. 20	mg/kg	!	15-AUG-00	CC5	
	Molybdenum		1 2	. 1	Mč\KJ převá		15-AUG-00	CC5	
	Godium (Na)	(1-4)	500	; 130	mgasg		[5-AUG-00	CCS	
	Nickal (Ni)		. 49	2	mg/kg		15-AUG-00	j CC5	•
	Phaspharus (	P)	430	i 10	mg/kg		16-AUG-00	005	
	Lead (Pb)	,	35	5	mg/kg	i	\$5-AUG-00	005	i
	₹n (Sn)		<5	5	mg/kg		15-AUG-00	005	!
	Strontium (Sr	)	44	: 1	mg/kg		15-AUG-00	CCS	:
!	(itamum (iti)		645	5	eng/kg		15 AUG 00	COS	
	That lum (Ti)		! ব	1	ធាច្ច/ស្ង	İ	15-AUG 00	CCS	•
i	Vanadum (V)	<del>)</del>	3 €	1	mg/kg	:	115-AUG-00	CCS	
·.	Zine (Zn)		/4.5	0.5	rng/kg	•	15-AU G-00	೮೮ಕ	
°,⊹⊴14671-31	750-32 <b>-23</b> 00- <b>0</b> 1		;			<del></del>		<del></del>	
Sample Date	22-JUL-00		;				:		i
Matrix:	SOF		:			ļ	:	!	
•				:		!	:	!	
	Am manis-N		<1	1	mg/kg	i	09-AUG-00	5.K	
1	Antimony (Sb	a .	2.0	0.1	mg/kg		(15-AUG-00	COS	
	Arsenic (As)	1					1		į
!			437	0.1	mg/kg		15-AUG-00	G05	:
İ	Microury (Hg)		9.08	0.01	mg/kg	İ	15-AUG-00	CG5	,
	OI -Gravimetr		<100	120	നട്ട/ഭൂ	04AUG-00	08-ACG-00	: ZW	
	Sulpitate (SO	4)	488	2.5	mg/kg	1	[23-AUG-00	JZ	:
•	pH		7.8	0.1	рH		08-AUG-00	RT	
	Metals (Strong a	Acid Rec.)					:		
•	Silver (Ag)		<1	1	mg/kg		15-AUG-00	CC5	:
	Aluminum (A	)	9180	10	mg/kg	:	;15-AUG-90	. CC5	i
	297:um (8e)		27.2	0.5	mg/kg		15-AUG-05	005	:
	Betyllium (Be		<1	1	mg/kg	:	15-AU/3-00	CCa	
	Caldium (Ca) Cadmium (Co		. Z5900	130	rng/kg	•	10-AUG-00	CCS	
;		i)	<0.5	0.5	mg/kg		15-AUG-00	300	
•	Cobalt (Ge) Chromium (Ci	_	i 51 149	1 0.5	mg/kg mg/kg		15-AUG-00	CC5	
	Соррег (Са)	'!	137	1	mg/kg	:	15-AUG-00 115-AUG-00	CCS	
	сорраг (са. сол (Fe)		. 107 20900	100	пулку тулку	!	15-AUG-00	CCS	
	Potassium (K	١	12:0	20	mg/kg	į	15-AUG-00	005	
	(Magnosium (		34800	10	urðiya Lingiya	:	[15-AUG-00	003	
	Manganese (I		1250	20	mg/kg	!	15-AUS-00	003	
	Molyadenum		4	î	mg/kg	1	15-AUG-00	005	
	Sádium (Na)		100	130	mg/kg		50-AU3-00	i ocs	:
•	Nickel (Ni)		119	7	mg/kg		15-AUG-00	005	
	Phosphorus (	P)	290	10	mg/kg		15-AUG-00	. 006	
:	∍eac (Pb)		14	5	mg/kg		15-AUS-56	COS	
								'	-

Leb ID	Sample ID	Test Description		Reşult		O.L.	มาแร	Extracted	Analyzed	3
.14675(31	P\$O-32-2300-01							:		!
ample Date	22 VUL 60							;		i
akiz:	SOIL									
<b></b>	33.2							:		!
	Metals (Strong Acid Re									ļ
	Tin (Sn)	(6.)	:	<b>&lt;</b> 5		5	mg/kg	1	15-AUG-00	: : c
	Sloodlum (Sr)			19	i	5	img/kg		15-AUG-00	. 0
	Titan um (T.)			199	į	5	mg/kg		15-AUG-00	Ö
	Thattlem (TI)		:	5)		7.	mg/kg	i	15-AUG-00	: 0
	Variadiam (V)		i	190		•	mg/kg	!	15-AUG-35	Ċ
	Zino (Zn)		!	102	•	0.5	mg/kg		15-AUG-00	Ö
14871-32	1980-35-2500-01 Till Till		- ∔		· <u>'</u>			·	10-M30-30	
	22-JUL-00		i				1	:	1	i
•								i		ĺ
Natrix:	SOL		!				į			
			i	_						
	Ammonia-N			<1		1	mg/kg	ļ	09-AUG-30	Ē
	Antimony (Sb)		ļ	<0.1	:	0.1	mg/kg		15-AUG-00	0
	Arsenio (As)		į	41.7		0.1	mg/kg		15-AUG-00	c
	Mercury (Hg)		İ	0.08		0.01	mg/kg	!	15-AJG 00	0
	Ol-Gravimetric		:	1750				1 44 4110 00	108-AUG-00	i
			:		:	100	mg/kg	04-AUG-00	:	¦ Z
	Sulphats (SO4)			386	•	2.5	mg/kg		23-AUG-00	į -:
	pl !			8.6		C.1	한번	İ	กล-AUG-วด	ļ R
	Metals (Strong Acid Re	c.)								
	Silver (Ag)			<1		1	<sub>,</sub> mg/kg	į	15-AUG-30	0
	Alum num (Al)			7480		-0	mg/kg	!	15-AUG-20	0
	Barium (Ba)	:		251		0.5	lmg/kg		15-AUG-30	ļo
	Beryšium (8e)			1	:	1	ime/kg	ĺ	į 15-AUG-D0	
	Calcium (Ca)			17000	:	100	mg/kg		15-AUG-00	C
	Gadmium (Cd)		:	<0.6		C.5	img/kg	!	115-AUG-00	, C
	Cobalt (Co)		!	10		1 .	m8/k3	i	15 AUG-00	Ç
	Chromium (Cr)		ı	49.6		2.3	lmg/kg		15-AUG-00	; c
	Copper (Cu)			30		1	-mg/kg	-	15-AUG-00	. C
	Iron (Fe)			22790		100	mg/kg		i15 AUG-60	: 0
	Fotessium (K)		i	3850		29	iguð/kģ	İ	15/AUG 90	, C
	Magnesium (Mg)			10500		10	img/kg		15-AUG-00	i c
	Manganese (Mn)			340		20	mg/kg	į	15-AUG-00	0
	Molybdenum (Mo)			ধা		1	iuālķū	:	15-AUG-00	į c
	Sodjum (Na)			500		100	mg/kg		15-AUG-70	9
	Nickel (Ni)			32		2	mg/kg		[5-AU&-30	Ċ
	Prosphorus (₽)			420		10	ng/kg		85-AUG-00	c
	usac (⊃b)			9		5	mg/kg	:	16-AUG-00	C
	Tan (Sn)			<5		ű,	mg/kg		15-AUG-20	c
	Sirontium (Sr)		:	73		1	mg/kg	!	15-AUG-00	: 0
	Titansum (Ti)			508		5	mg/kg	:	15 AUG-00	С
	Thellium (TI)		•	<1		1	mg/kg		15-AUG-00	C
	Vanadium (V)			47		1	mg/kg	i	15-AUG-00	C
	Zina (Zn)			47.3		0.5	mg/kg		15-AUG-00	Ç
14571-23	PSO-49-2500-01							1		
arable Date	22-JUH-00							•		i
/at/xx	\$01.							i	•	:
	Water-Solub e Arsento Sp	là coàs								
	Arsenic (As)	00.00		0.1		0.1	m <u>p</u> /L		: : 00.250.40	J
	mound in the			0.1		V. 1	m <del>a</del> re		22-SEP-00	J

Lab ID	Sample ID	Test Description	. ∃e3ult	D.L	Units	Extracted	Aneiyzed	By
U14671-33	PSO-40-2500-01	<b></b>					,	
Sample Date	22-JUL-00		:					
Matth:	SOIL				į			-
			i		!		;	:
	Assmon a-N		< .		mg/kg		09-AUG-00	, ĒK
	Antimony (Sb)		. <0.1	0.1	mg/kg		15-AUG-00	005
	Arsenic (As) 3+		. 4.5	0:	lmg/kg		22-SEP-G0	T]
	Arabnic (As) 5+		19.0	0.1	i			1
			1	:	ma/kg		: 22-SE≏-CO	JJ
	Mercury (Hg)		0.04	. 3.01	mg/kg		15-AUG-00	GC5
	Oil-Gravimetric		<100	100	mg/kg	104-ABG-00	06-AUG-60	ZW
	Sulphate (SO4)		-2	2.5	mg/kg		23-AUG-00	JZ
	þ⊢		7.5	C.1	рН	:	08-AUG-00	B_
	Metata (Strong Acid	Rec.)				i		!
	Silver (Ag)		<: c==a	i de	mg/kg		15-AUG-00	CC5
	Asuminum (Al)		653C	15	mg/kg		15-AUG-00	005
	Barium (Ba) Beryil um (Be)		111	C.5 -	mg/kg		15-AUC-00	CC5
	Celcium (Ge)		<1 : 3300	1 100	mg/kg Ima/ka	ı	115-AUG-00	005
	Cadmium (Gg)		; 3303 <9.5	0.5 0.5	mg/kg mg/kg		15-AUG-00	CC6
	Conalt (Co)		13	1	ing/kg		15-AUG-00	CC5
	Caromium (Cr)		77.0	0.5	ngikg		15-AUG-00	005
	Содові (Сц)		35	: 1	jing/kg	:	15-AUG-00	CCS
	Iron (Fe)		28000	190	mg/kg		15-AUG-00	ÇCS
	Potassium (K)		3430	. 23	mg/kg	i	15-AUG-00	೧೧೨
	Magnesium (Wg)		10500	13	mg/kg		15-AUG-00	೧೦ಕ
	Manganese (Mn)		220	20	mg/kg		! 15-AUG-00	CC5
	Molybdenum (Mo)		<1	1	ាស្វាំស្វេ	İ	15-AUG-00	CCS
	Şodium (Na)		300	100	mg/kg	i	15-AUG-00	CCS
	Nickel (Ni)		4ĉ	2	កាច្ចកិច្ច		; 15-AUG-00	CC5
	Phosphorus (P)		430 :	10	img/kg	į	_15-AUG-00	000
	Lead (Pb)		7 :	5	mg/kg		15-AUG-00	CCS
	Tan (8n)		<5 '	5	irag/kg		15-AUG-00	QC5
	Stronburn (Sr)		17		ing/kg	!	15-AUC-00	ÇCS
	Titardum (Ti) Theilium (Ti)		722	5	img/kg		15-AUG-00	005
	Vanadrum (V)		. 45	1	mg/kg mg/kg		15-AUG-00 15-AUG-00	CC5
	Zine (2n)		56.4	0.5	ing/kg img/kg		15-AUG-00	COS
	Arsenic (As)			0.0	:11481548	:	:	i 000
	Arsenic (As)		23.5	G.1	mg/kg	•	14-00T-00	JJ
	Arsenic (As)		35.9	Q.1	mg/kg		16-AUG-88	. CCo
L14671-34	hSO-41-2500-01					·		<del></del>
Sample Date								
Matix:	SOL		:		1	:		
William.	00.2						:	
	America-N			4	! :malk=	!	00 /20 00	. ===
			· •1	1	mg/kg		.09.AUG 00	EK.
	Andmony (Sb)		j.2	0.5	mg/kg		115-AUG-00	005
	A(sen 6 (A3)		71.7	0.1	mg/kg		15 AUG 88	CC5
	Mercury (Rg)		: 0.03	D.C.1	mg/kg	İ	15-AFRS-00	GG5
	OG-Gravimetric		299	100	mg/kg	94 AUG 00	108 AUG 00	ZW
	Sulphate (SO4)		47 :	2.5	rog/kg	· ·	234AUG-08	.17
	¢Η		7.5	C.1	ρH	!	98•AUG-88	87
	F: ·	Rec.				;	24-1700-40	1 11

cabiD Sample:	Test Description	Result :	<u></u>	Ųn.ta	Extracted	Analyzed	<u>  By</u>
.14871-34 PSO-41-250	0-01	:				!	
Sample Cate   22-JUL-00						!	ļ
#atric 801.		:		i		i	İ
		;		į		i	
Metals (5	trong Acid Rec.)				i		!
Stver	•	51	1	rtig/kg	:	15-AUG-00	√ ccs
4:gmir	um (A!)	6970	10	.mg/kg		15-AUG-00	CC5
∃ar.un	n (±a)	123	0.5	mg/kg	İ	15-AU©-00	CCS
Serylli	um (Be)	<b>&lt;</b> 1 ,	1	mg/kg	İ	15-AUG-00	COS
Calciu	m (Ca)	9800	100	·mg/kg		15-AUG-00	cca
⊆ad:ni	ian (Cil)	<0.5	8.5	mg/kg	ļ	115-AUG-00	Cos
Cobah	(Ca)	21	1	mg/kg	i	1-5-AUG-90	CCS
Chrom	fum (Or)	93.2	0.5	mg/kg	i	15-AUG-00	CCS
Сорпе	r (Cu)	72	1	ing/kg	-	55-AUG-00	COS
Iron (F	e)	30100	100	ing/kg		48-AUG-00	GCS
Falsa	ium (K)	1860	20	mg/kg	i	1:5-AUG-00	cos
	sium (Mg)	10950	10	.mg/kg		15-AUG-00	COS
• • • • • • • • • • • • • • • • • • • •	inose (Mn)	350	20	mgreg	!	15-AUG-00	COS
-	torsum (Ma)	<1	1	magrag	İ	15-AUG-00	COS
Sodiur		400	100	mg/kg		15-AUG-00	CC
∖ickel		: 58 :	2	mg/kg	!	15-AUG-00	009
	логив (P)	350	10	mg/kg		-5-AUG-00	CC
L≣ac (	•	13	5	mg/kg	İ	15-AUG-00	C
Tin (Si	-	<5	5	mg/kg		C0 QUA-61	Cu.
•	am: (Sr)	15		:mg/kg	:	15-AUG-00	CC
Titapli		1CBG	5	mg/kg	• .	15-AUG-00	CO
∏re#iu		s		mg/kg	:	15-AUG-00	CC
	πτ· (V)	67		mg/kg		15-AUG-00	co
Zina (2		50.2	0.5	img/kg	i	18-AUG-03	CO
14871-35 PSO-33-250	·					-	
ample Date   22-Juli-00				:	:	:	
Aardix: SOIL		į				i	
naux acr.							
Апутю	nia-N	st.		mg/kg		; :09-AUG-00	#X
Antimo	ony (Sb)	. 60,1	0.1	m <u>ē</u> /kg		15-AUG-03	COS
Arsen:		90.9	0.1	្រាម្នាស់ ព្រះប្រវស្សិ	:	16-AUG-80	· 60
				!	1	1	!
Mercui		0.03	0.01	mg/kg		15-AUG-00	: ca
Cir-Ga	v:metric	300	100	്നൃഷ്യ	04-AUG-00	06-AUG-00	ZW
Sulata	ta (SC4)	. 121	2.8	mg/kg		23-AUG-00	: JZ
pri		5.8	0.1	5:-		08-AUG-00	: RT
	trong Acid Rec.)			1	i		: '''
Silver			1	img/kg		15-AUG-00	Con
	ucm (Al)	5710	13	mg/kg		15-AUG-00	50
Bariu#		80.3	0.5	កាជូរិស្វេ	1	16-AUG-00	00
	um (Be)	₹ <b>1</b> :	1	ing/kg		15-AUG-00	. 00
Calcius		2500	100	mg/kg	İ	15-AUG-00	CC
	um (Cd)	<0.5	0.5	lmg/kg		18-AUG-00	: 60
Cebalt	-	. ?	1	mg/kg	!	15-AUG-00	: 00
	ium (Cr)	. 38.4	0.5	ma/kg	!	I	. 5
Сорра	•	აი.⊬ ′მ			l	16-AUG-00	
			1 100	mg/kg	:	15-AUG-00	00
ican (-)	>/	, 14100	100	тейка	!	15-AUG-00	CC
TOR (r)	··· (27)	. 400cc					
Potass	ium (K) sjum (Mg)	1900 5219	20 10	mg/kg mg/kg		115-AUG-00 115-AUG-00	00.

авы ID	Sample ID	Test Description	Result	J.L.	Units	Extracted	Anelyzed	<u>: Ey</u>
L14671-35	HSO-23-2500-01							
Sampià Céte :	22-JUL-00							!
Watrix.	SO:L				i	į	:	i
			į	·	!		;	İ
	Metals (Strong Ank	I Rec.\				į	İ	
	Manganese (Mn)		140	20	jmg/kg	:	15-AUG-00	cc
	Molyacenum (Mp	)	<1	. 1	mg/kg	:	15-AUG-00	co
	Socium (Na)		300	100	.mg/kg		15-AUG-00	GC.
	Nickel (Ni)		22	2	ļmg/kg		15-AUG-65	ca
	Priosphaeta (P)		340	10	mg/kg		15-AUC-00	i ca
	Fead (Pb)		7	: 5	mg/kg		15-AUG-00	00
	Thr (Sh)		. ≤5	. Б	mg/kg		15-AUG-00	00
	Sportium (Sr)		23	. 2	mg/kg	:	15-AUG-00	ႈင္ေ
	Titanium (Ti)		593	5	mg/kg	İ	15-AUG-90	00
	Thallum (Ti)		: <1	1	mg/kg	1	15-ADG-90	cc
	Vanadium (V)		30	1	lmg/kg		15 AUG 80	00
	Zinc (Zn)		32.2	0.5	/ttg/kg		15-AUG 00	cc
14677-36	PS(0-34-X500-01				<del>-</del>	<del>                                     </del>	:	ļ-···-
emple Date 2	22:QL-00		:	:	1	i		!
letrix: {	3O!L				:			
			•					
	Ammonia-N		<1	1	.mg/kg	!	09-AUG-00	EX
	Antimony (\$5)		0.2	0.1	mg/kg	:	15-AUC-00	Co
	Arsanio (As)		71.â	0.1	img/kg		15-AUG-00	cc
	Mercury (Hg)		0.05	0,01	: :mg/kg		16-AUG-00	į ga
	Oil-Gravimetric		400	100	mg/kg	04-ALG-00	08-AUG-00	ZW
	Տախիեւթ (304)		239	2.5	mg/kg	211100 00	23-AUG-00	JZ
	pHi		. 6.2					1
	Wetals (Strong Acid	D== 1	0.2	; 0.1	¦p⊢		06-97YY-86	' RT
	Silver (Ag)	Rec.)	83	1	mg/kg		: i 15-48/2-00	CO
	Alaminum (Al)		<b>6</b> 578	13	mg/kg		15-AUG-00	. 60
	Barium (Ba)		124	0.5	mg/kg		15-AUG-00	; G0
	Scrylliam (Sc)		≤1	. 1	img/kg		15-AUG-00	, or
	Cálsium (Ca)		4100	100	mg/kg		; 15-AUG-00	Co
	Caemjum (Cg)		; <0.5	5.5	mg/kg	:	15-AUG-60	C
	Cobalt (Co)		9	4	mg/kg	I	15-AUG-00	0.0
	Chromium (Cr)		48.4	C.3	rng/kg	:	15-AUG-00	00
	Copper (Ce)		. 24	1	mg/kg		15-AUG-00	00
	Iron (Fe)		20100	100	ima/kg		15-AUG-00	C
	Potassium (K)		2940	: 20	:mg/kg		15-AUG-03	co
	Magnesium (Mg)		9870		mg/kg		15-AUG-00	c
	Manganese (Mp)		270	. 20	ma/kg		15-AUG-60	00
	Molybdenum (Mg)		্ল	1	mg/kg		15-AUG-00	į çc
	Sodium (Na)		400	100	mg/kg	I	15-AUG-00	1 00
	Nickel (Ni)		3:	2	img/kg	!	15-AUG-00	: 60
	Phosphorus (P)		470	10	mg/kg	!	15-AUG-00	00
	Lead (Pb)		12	. 5	,mg/kg		15-AUG-00	00
	Tin (5n)		<5	; 5	img/kg	•	15-AUG-00	ļ ço
	Strontlam (Sr)		33	1	'arg/kg	ı	15-AUG-00	G
	Titasium (Ti)		673	5	mg/kg	!	15-AUG-00	C
	Thalium (71)		<1	1	mg/kg	i	15-AUG-05	CO
	Vanedium (V)		34	. 1	mg/kg		15-AUG-00	l of
	Zino ( <b>Z</b> n)		90.4	. 0.5	lmg/kg		15-44904-00	CC

Lab ID	Sample ID	Test Description	. Hosulf	D.	L. Units	Extractes	: Analyzed	j Ey
L14671-37	PSC-38-2590-01		= 4.7.1. M.C. D.P		······································	. /	······ <del>'-</del> ···	-† <u>-</u> -
Sampie Data	22 JUL 00							
Matrix:	SOIL		:		i			
	Water-Sclichle Arsen	lu Sancine	!	:		i	:	
	Arsen c (As)	K. Glacies	<0.1	. 0.1		į		·
	1 1001.0 (10)		: 45.	. 8.	.mg/L		22-SEP-00	! JJ
	Am-ronla-N		<1	1	mg/kg		09-AUG-DC	EK
	Antimony (\$5)		0.2	0.1	1 '		i	
	Acsenio (As) 3=		26.7	G.1	. • •	!	10-AUG-50	CD
	Arsenic (As) 5+		72.7	:	11	!	122-3EP-00	1 30
	Margary (Hg)			0.1	7 *		22-8EP-00	
			0.08	0.0	~	!	15-AuG-00	00
	Oll Graymstria		1100	100	:	U4-AUG-00	08-AUG-00	ZW
	8u/µhate (\$04)		403	2.5	mg/kg		23-AG-30	2
	ŧΗ		6.9	0.1	jp∺	:	_U8-AUG-30	RT
	Metals (Strong Act	d Rec.)	!				i	
	Silver (Ag)		<1	*	lmg/kg		15-AUG-00	00
	Alumnum (A); Sadum (Ba)		9640				15-Au/G-00	cc
	Berylium (De)		953 ⊲1	0.5		i	15-AG-00	00
	Calcium (Ca)		6100	1 100	rng/kg	į	15-A: (G-00)	1.00
	Cadmium (Cd)		€3.5	100 0.5		i	(15-AUG-03	co
	Cabalt (Co)		11	1			15-AUG-60	, 00
	Shromium (Ca)		53,6	9.5	mg/kg .mg/kg		; 15-AUG-00	Ca
	Copper (Cu)		28	1 3	ingikg  mg/kg	!	115-AUG-00	1 00
	ron (Fe)		: 2140C	190	!		15-AUG-00 115-AUG-00	00
	Potassium (K)		3400	20	mg/kg		15-AUG-00	100
	Magnostum (Mg)		8040	10	mg/kg	ļ	15 AUG-00	; cc
	Mangenese (Min)		; 300	20	mg/kg		15-AUG-00	00
	Molybäezum (Mo	)	<1	į 1	ing/kg		16 AGG-00	00
	Sodlam (Na)		430	100	ing/kg	!	15-AUG-00	d co
	Alicke! (Nr)		: 38	2	mg/kg	i	15-AUG-00	CC
	Phospharus (P)		430	10	'mg/kg		; 15-AUG-00	ÇÇ
	Lead (Pb)		i 14	. 5	raig/kg		15-AUG-00	CC
	Tri(Sr)		· <6	5	mg/kg		15-AUG-00	CC
	Streetium (Sr)		35		ានាជ្ញាក់ស្ព		15-AUG-89	CC
	Titanium (††) Eagilless (†)		639	G	maykg		15-AUG-99	CC
	Taat!um (⊞) Var scium (V)		ল ল	. 1	mg/kg		15-AUG-00	GÇ
	Ziru (Zn)		42	. 1	mg/kg		15-A00-00	CC.
			51.1	0.5	mg/kg	:	15-AUG-00	CC
	Araenic (As) Araenic (As)		99.4	<b>C.</b> ?	!	i		
	Arsen o (As)		189	G.1	ma/kg ma/kg	;	14-0 <b>6</b> 7-00	3.0
4671.38	PSC-34-2500 65A ****						15-AUG-00	00:
-ronista imple Date 2					:			İ
	30!L				;	i	i	i
rana i	434				:	:	1	
	6 ar maranta d		1			:		
	Art.monia-N		. Si	•	puB/k3	i .	09-AUG-00	1K
	Antimony (Sb)		<0.1	0.5	ļog/kg	:	15-AUG-00	1.0
	Arsenic (As)		35.4	0.7	lmg/kg	-	15-AUC-00	00
	Mercury (Hg)		3.06	0.01	ˈmg/kg	i	!   15-AUG (())	i co
	Oii-Oray metric		: 500	193	mg/kg	04-AUG-00	00-AUG-CC	ZW
	Sulphase (SO4)				1		. Dar vitte (d=t.t)	2.74

Lab IÖ	Sample D Test Description	Result		: Units	Extracted	Апаўуход	Бу
L14571-38	PSG-34-2500-01 A						
Sampi€ Date 22-	JU1-0()	:		i	:		
Matrix: SO	nL			i		1	
		:					:
	eli	6.2	0.1	ρН		G3 AUG 00	RT.
	Metals (Strong Acid Rec.)						
	Silver (Ag)	<:	4	mg/kg		13-AUG-00	CCS
	Aluminatri (Al)	6390	- C	;mg/kg	!	115-AUG-00	G05
	Barium (Ea)	331	0.5	mg/kg	İ	115-AUG-00	cas
	Berylaum (Bo)	<1	1	aig/kg		15-ALIG-00	car
	Calcium (Ca)	3700	520	mg/kg	!	!15-AUG-20	GE:
	Cadmium (Cd)	<0.5	63	mg/kg	i	115-AUG-00	ca:
	Cobalt (Cq)	; <b>e</b>	1	mg/kg	1	115-AUG-30	COS
	Chromium (Cr)	47.3	3.5	mg/kg		15-ALKG-50	CCS
	Capper (Cu)	28	1	img/ka	!	15-AUG-00	Cons
	fon (Fe)	16500	190	-mg/kg		15-AUG-00	00:
	Potassium (K)	3140	50	mg/kg		15-ALG-00	003
	Magnestum (Mg)	8540	10	· ;mg/kg		15-AUG-05	000
	Macganesa (Mn)	240 (	29	mg/kg	I	15-AuG-03	' GC:
	Wolypdenum (Mn)	. <1 .	1	j⊞g/kg		15-AUG-00	CC:
	Sedium (Na)	400	.00	mg/kg		15-AUG-00	CC:
	Nickel (Ni)	26	2	mg/kg		15-AJG-03	. 003
	Phosphorus (P)	۷40	10	mg/kg	I	15-AUG-00	COS
	Lead (Pb)	່	5	mg/kg		15-AUG-00	02
	Th (Sn)	: 55 :	5	/mg/kg		115-AUG-00	CC
	Strontium (Gr)	34 ;	1	mg/kg		15-AUG-00	CO
	Titasium (Ti)	674	5	mg/kg		[15-AUG-00	000
	Th≜llium (TI)	s1 ;	I	mg/kg		15-AUG-00	00:
	Vanadium (V)	40	1	กเต/kg		15-AUG-00	ji das
	Zine (Zn)	42.1	0.5	ing/kg		:15-AUG-00	005
	OP-A1-3E-2700			"	T		•
Sampie Date   22 Matrix:     SEE	RUIDO DIMENT			:			
Mail.X. O'SL	MMERT				į	i	
	Ammonic N	<1	1	mg/kg	!	C9-AUG-00	ek.
	Antersony (Sb)	<j.1< td=""><td>0.1</td><td>i</td><td>:</td><td>1</td><td>1</td></j.1<>	0.1	i	:	1	1
	• • •	1		mg/kg		15-AUG-00	CC
	Argenic (As)	101	0.1	mg/kg	İ	15-AUG/00	cc:
	Mercusy (Hg)	0.05	0.01	mg/kg	İ	15-AUG-00	CQS
	Q : Gravimotrio	200	500	gs/gm <sub>:</sub>	04-AUG-00	:08-AUG-00	ZW
	Sklubate (SO4)	258	2.5	mg/kg	!	23-AUG-00	j7 <u>.</u>
	pН	7.1	5.1	ph	!		RT
	Metais (Strong Acid Rec.)		0.1	:pn		00-AUG-00	j ".'
	Silver (//g)	<1	1	ingrkg	:	15-AUG-00	ccs
	Aluminum (At)	2074	7.C	irig/kg		15-AUG-00	CC
	Barum (Sz)	228	0.5	mg/kg		15-AUG-00	CC
	Bery-lium (Be)	£1	1	ing/kg		15-AUG-00	ace
	Calcium (Co)	5990	130	eng/kg	:	15-AUG-00	acs
	Czemium (Ca)	<0.5	C.5	mg/kg	!	15-AUG-00	000
			1	ing/kg	:	15-AUG-89	0.00
	Cobait (Co)	13		11 20111/2		p = 1000 (170 9°51 (1	1 500
		13 : 56.7		rca/ke	:	19,613C-00	1.00
	Cobait (Co)	56.7	0.5	mg/kg mg/kc	1	154AUG-80 154AUG-80	•
	Cobait (Co) Chromium (Cr) Cooper (Co)	56.7 31	0.5 :	mg/kg	•	15-AUG-60	000
	Cabait (Co) Chromium (Cr)	56.7	0.5			i	•

,ab !D	Sample ID	Test Description	Result	0. <u>1.</u>	Units	extracted	: Analyzce	Ву
L14671-29	OP-A1-SE-2100					,		T
Samola Date	22-JUL-00					į		
Matrx:	SEDIMENT		:	:	į	İ		
					į			
	Metels (Strong Ack	(Rec.)	1		į	i		-
	Magnesium (Mg)		10100	10	img/kg		15-A50-00	1 aas
	Manganese (Mai		330	23	mg/kg		15-AUG-00	cos
	Motybdenum (Mo	)	; <;	1	п⊊≀ка		15-AUG-00	003
	Sedium (Na)	•	700	100	mg/k <b>g</b>	į	15-AUG-90	cc:
	Nickel (Ni)		j 3€	2	img/kg	!	<sub>1</sub> 15 AUG-00	i cos
	Phosphorus (P)		443	10	តាម៉ូរ៉េខ្មែ		15-AUG-00	j ce:
	Lead (Pd)		´2	5	mg/kg		15-AUG-00	CCS
	Tin (Sr.)		<u>  &lt;5</u>	5	mgikç		15-AUG-00	CC:
	Stronilura (Sr)		: 4 .	1	w8y0		16-AUG-00	00/
	Titarium (Ti) Thelline (Ti)		715	5	rosg/kg		115-AU5-00	COS
	Theillam (TI) Vanadium (VI		্ ব	1	π <i>α/</i> κα		15-AUG-00	CC
	Zinc (Zn)		50 63.2	1 0.5	ന്വട്ട/kg		15-AUG-90	CC
34671-46 <sup>11.11</sup>	102-83-8≝-37-2250			··	mg/kg		15-AUG-00	CC:
34571-40 Sampa Date							:	
•			:		i	1	1	
Matrix:	SED MENT						İ	
			:		İ			.
	Ammonia-N		ج- ح-	•	mg/kg	İ	Q9-AUG-06	. Er.
	Antimony (Sb)		2.4	0.1	mg/kg		15-AUG-00	i oc
	Arsenic (As)		1200	0.1	i img/kg	ļ	15-AUG-00	i ec
	Mercury (Hg)		0.05	0.01	mg/kg		15-AUG-00	CC
:	OII-Grav/metric		139	100	mg/kg	: 04-AUC-00	i	ZW
	Suiphate (804)		239	2.5	1	D-A00-00		ı
	рН				mg/kg		23-AUG-06	LZ.
			7.5	D. ?	p-	ļ	08-AUG-00	LLU
	Metals (Strong Acid Silver (Ag)	l Rec.}	<1	4		!	i ME AUD CD	1
	Aluminum (Al)		5230	1 10	mg/kg		15-AUG-00 15 AUG-00	CC:
	Barium (Ba)		22.5	0.5	mg/kg mg/kg		15-AUG 00	00
	Beryllium (Be)		. 42.6	1	mg/kg	i	15-AUG-08	CC
	Саісьти (Св)		33830	100	.a/6\kd #w.8	!	15-AUG-00	1 00
	Caumium, (Cd)		<0.5	0.5	mg/kg	!	15-AU3-00	CC
	Coba(t (Co)		9	1	mg/kg	İ	15-AUG-00	CC
	Chromium (Cr)		33.C	6.5	mg/kg		15-AUG-00	CC
	Copper (Ca)		. 28	1	та/кр		15-AUG-60	cc
	lron (Fe)		25800 .	100	πε∕жε	ļ	15-AUG-60	l cc
	Potessium (K)		900	20	mg/kg		15-AUG-00	. cc
	Magnesium (Mg)		16700	- a	mg/kg		15-AUG-00	: 00
	Menganese (Ma)		800	20	mg/kg		15-AUG-00	i cc
	Malybdenum (Mo)	}	<1 ·	1	mg/kg		15-ADG-00	Co
	Spdium (Na)		250	100	ang/kg		15-AGG-00	100
	Nickaš (Ni)		27	2	mg/kg	:	15-AUG-00	cc
	Phosphorus (P)		. 280	10	mg/kg		15-AUG-00	cc
	Lead (Pb)		50	5	mg/kg		15-AUG-00	j og
	un (Sa)		<-5	5	;mg/kg		15-AUG-00	C.
	Strontium (Sr)		26	1	img/kg		15-AUG-00	00
	Titanium (Ti)		. 123	5	jm <u>e</u> /kg		115-AUG-00	ļ <b>c</b> c
	The fam (Tr)		<1	1	mg/kg		15-ADG-00	00
	Vanscum (V)		32	7	mg/kg		18-AJ/G-00	j cc

fap iD	Sample ID	Test Description	Result		Units	: Extracted	Analyzed	Бу
.14671-40	OP 81-SE 01 2200		···································			·		T
ampre Date	22-JJL-00				i	i	1	ļ
Zatrik:	SECIMENT					:		İ
			:			i		:
	Untale (Stroop Aeld Do		:		!	:		
	Metałs (Strong Acid Re Zinc (Zn)	·C.,	6.08	0.5	mg/kg	!	15-AUG-00	COS
.4871-41	55-0P82-0T-2360					· —	10-00-00	
ample Date			1		:			:
ia.npie bale. Notriki	SEDMENT		!	:	İ	!	:	İ
ROVIK.	200: VE A		:	;	-	i	1	
						!		
	Атторіја-М		i <1	1	mg/kg	i	09-AUG-00	EK
	Antimony (Sb)		11.2	0.5	jmg/kg		15-AUG-00	Cos
	Arsenro (As)		2070	0.1	mg/kg		15-AUG-00	CCS
	Mercury (Hg)		. 0 C5	0.01	mg/kg		15-AUG-00	ccs
	Oi:-Gravimetrip		<100	100	mg/kg	09-AUG-00	D9-AUG-00	2W
	Sulphate (SC4)		1900	2.5	mg/kg		23-A0G-00	JŽ
	pH		7.7		1 '			1
		- >	1 4.1	. 0.1	(p) (		08-AUG-00	RT
	Metals (Strong Acid Re Silver (Ag)	ū.)	e†	i 1	mg/ko	1	15-AUG-00	CCS
	Aluminum (Al)		: 4990	10	mg/kg	!	15-AUC-00	603
	Berierr (Ba)		16.5	0.5	mg/kg		15-AUG-00	COS
	Beryllium (Be)		<1	1	mg/kg	:	15-AUG-00	CGS
	Celouti (Ca)		40860	100	mg/kg	:	. 26-AUG-80	CCS
	Cadmium (Cd)		1.9	0.5	mg/kg	•	15 AUG-00	j oda
	Coban (Co)		24	; 1	mg/kg		15-AUG-90	cc:
	Ciatorii sich (Cr)		393	0.5	mg/kg		:15-AUG-00	CCS
	Copper (Cu)		85	. 1	mg/xg ·	!	15-AUG-00	; ೦೦:
	Iron (Fe)		35300	100	നട്ടവു		15-AUG-00	ုံ ငင္း
	Potassium (K)		1510	80	mg/kg		15-AUG-07	CCS
	Magnesium (Mg)		17500	10	្រាជិស្ស		15-AUG-00	CC
	Manganese (Vn)		: 793	50	ოცრე		[15-AUG-00	CCS
	Molyboenum (Mo)		· <1	. 1	നൂഷ്യ		15-AUG-00	CO
	Socium (Na)		200	100	http/kg	i	! #5-AUG-00	್ಷರದ
	Nickel (Ni)		. 58	. 2	img/kg		15-AUG-00	, ca
	Pinosphorus (P)		. 240	10	mg/kg		.15-AUG-00	CC!
	Lea¢ (Po)		240	: 5	mg/kg	ļ	115-AUG-00	003
	1ថា (Sn) Strontium (Sr)		<5 00	5	mg/kg	İ	15-AUG-00	000
	Stronount (Sr) Etlanium (Ti)		23	; î	mg/kg ma/kg	:	15-AUG-90	003
	Thailium (II)		125	5	maks	:	15-AUG-00	. 003
	Vanadom (V)		43	! !	irag/kg	:	15-AUG-00	003
	Zinc (Zn)		337	; 7 95	mg/kg mg/kg		15-AUG-00 15-AUG-00	
4671-44	P-SIO-13-2550-37		_ ;	;		·	15-AUG-63	; CCs
:esz iv <del>e4</del> ambie Batel			!	:		:	!	
					i	!		
latηx;	SEDIMENT					:		
	Water-Soluble Arsenic Sp	ecias			Í	:		
	Arsenic (As)		5.6	C.1	mç/L	!	22-\$ <del>27</del> -60	úo
	Ammonia-N		<.		l ,mg/kg	!	ios-AUG-00	ĖEK
	Antimony (Sp)		13.0	0.1		i		1
					mg/kg	:	184AUG-00	
	Arsenio (As) 3*		233	0.1	mç/kg	:	22-SEP-00	
	Arsenic (As) 5+		\$70	0.1	mg/kg		125-SEF-00	1

Lab 🗇 📜	Sample (D	1cst Description	Result	<u> 0</u>	Units	, Extracted	Analyzed	ļ ģy
: _14 <del>6</del> 71-44	P-SQ-13-2500-01				1			,
Sample Date	22-JUL-00				!		:	
Matrix	SEDIMENT				1	ļ	!	
			:		İ		!	
	Mercury (Hg)		0.18	0.01	img/kg	i	15-AUG-00	CC5
	Oil-Gravimetric		920		:			i
				100	រារាជ្ជាវិស្ស	04-A1-G30	98-AUG-00	ZW
!	Sulphate (SO4)		358	2.5	mg/kg	I :	23-AUG-00	JZ
	ph1		7.8	0.1	įρΗ		98-AUG-00	RT
	Metals (Strong Acid H	oc.)			İ.	I	i	ļ
	Silver (Ag)		; <br	1 1	;mg/kg		15-AUG-00	: 005
	Alumjaym (Af) Barism (Ba)		6920	10	ing/kg		15-AUG-00	COS
	Baryllium (Be)		. 49,3 at	0.5	mg/kg		15-AUG-00	CCS
	Caldium (Ca)		28900	1 190	mg/kg		15-AUG-00	C05
	Cathlett (Ca)		20200	95	;mg/kg mo/kg		15-AUG-00 15-AUG-00	CO5
	Cobal: (Co)		. 42	. 1	moʻkg moʻkg		15-AUG-00	CCS
	Chromium (Cr)		: 72.0	0.6	:mg/kg		15-AUG-00	005
	Cooper (Cu)		115	. 5.5	mg/kg		15-AUG-20	; CCS
	Iron (Fe)		44600	100	:mg/kg		15-AUG-09	CCS
	Potassium (K)		1560	20	mg/kg		15-AUG-00	CCs
	Magnesium (Mg)		9100	10	mg/kg		15-AUG-00	005
	Manganese (Mn)		710	20	mg/kg		15-AUG-00	C'
	Marybdenom (Mo)		2	1 1	тд/кд		15-AUG-00	O.
	Sodium (Ne.)		30C	105	mg/kg	i	15-AUG-00	, CC5
	Nickel (Ni)		72	2	<sub>i</sub> mg/kg	1	15-AUG-00	. ೧೦೪
	Phosphorus (P)		360	1 10	pag/kg		15-AUG-00	CCS
	Lead (Pb)		110	5	esyg/kg		15-AUG-00	005
	Tin (Sn)		<b>≺</b> 5	5	ring/kg		15-AUG-00	CC5
	Stronfium (Sr)		24	. 1	∞ig/k <u>c</u>		15-AUG-00	605
	Tit≥n um (T) Thallium (Tl)		457		mg/kg	i	15-AUG-00	. OC3
			: <1	1	mg/kg	İ	:15-AUG-00	005
	Vanacium (∨) Zino (Zo)		80	1 05	тужу		15-AU6-00	CC5
	·		155	Q.5 :	mg/kg	į	15-AUC-00	CCS
	Arsenic (As) Arsenic (As)		603	0.1	100000	:	22-SEP-03	JJ
	Arsenic (As)		1970	0.1	jmg∧sg ¦mg∧sg		15-AUC-CQ	. 33 ` 00a
L1467*14\$	HWD-01-2507		·	<u>.:</u>	-		15-400-40	
Şambie Date					İ			
					!			
Afatrix;	SEDIMENT					İ		
				:	i	:		
	Matais (Strong Acid Re	ec.}	_			1	! =	
	Silver (Ag)		2	1	mg/kg	i	09-AUG-60	NO.
	Attretrum (AI)		12400	10	mg/kg	İ	09-AH3-00	MO
	Barum (∃a) Beryilium (Ba)		13.4 1	0.5	mø/kg 	į	09-AUG-00	MO
	Saidium (Sa)		84900	1 100	mę/kg mo/m	1	09-AUG-00	(MO
	Cadmium (Cd)		\$.°	0.5	mg/kg mg/kg		109-AMG-00 109-AMG-00	. ND - ND
	Dehait (Co)		9.: 139	1	толка толка	:	09-AUC-00	- VO
	Chromium (Sr)		54.4	0.5	mg/kg	i	99-AUC-00	N N
	Cooper (Co)		367	1	mg/kg mg/kg	i	90-AUG-00	N ML
	lico (Fe)		53400	100	.mg/kg	:	00-AUC-00	, MD
	Potassum (K)		1950	20	img/kg		109-AUG-00	. W⊅
	Visgnesium (Mg)		, 19209	10	img/kg		09-A0G-00	NO.
	Vanganese (Mn)		1183	20	m <u>e</u> /kg		00 AUG 00	75
	· ·		1	20	<u>-</u>	i	100.400.00	7-1

Lab ID	Sample ID	Test Description	Result	D.i.,	Unite	Extracted	Analyzed	i ∃y
L14671-46	HW0-01-2507							
Sample Date	22-300-00					!		
⊬ಕ್ಸ:	SECHMENT						<u>:</u>	; :
	Metais (Strong A Molybdenum ()		. 4 .	1	тд/кд	!	1 109-AUG-00	Ĺмо
	Sodium (Na)	•	3300	100	rg/kg	!	09-AUG-00	GM
	Nickel (N/)		252 .	2	ma/kg	:	80-AUG-00	MD
	Phosphorus (F	")	35	10	mg/kg	!	09-AUG-00	GM
	Lead (25)	•	1050	5	mg/kg	į	(09-AUG-00	ME
	Tin (Sn)		₹5	5	.mg/kg		09 AUG 00	MD
	Strontium (Sr)		! 134	4	mg/kg		09-AUG-00	MD
	Tlantom (T.)		12	ä	mg/kg		.09-AUG-00	MO
	Thailium (TI)		<1 :	1	mg/kg		09-AUG-00	27.0
	Vanadiem (V)		28	1	mg/kg	į	109-AUG-02	MD
	2lac (2n)		1240	0.5	mg/kg	:	09-AUG-00	MD
	Bulk Asbestos C	Content				į		167
	Chrysolile	-med lanker ()	, !	1	. 4%	İ	!  08-AUG-00	ALK.
	Amostla			1	.%		05-AUG-00	. A_K
	Trambilia			·	%		00-817A-60	A_K
	Crocisciite				%	ļ	08-AUG-00	; A.K
	Anthophyllite		; '	1	%	1	08-AUG-00	ALK
	Actinolite	•	: .	1	%		05-AL/G-00	ALK
,	N.D.		<1@\#MVF,	1	%		105-AL/G-00	ALK
			CRG		.,		103112000	112.
174871-47	HWD4024250Y		<del></del>			<del> </del> -	<del> </del>	<del>-</del>
Şample Date	22-33(L-00				•	1	!	!
Matrix:	SEDIMENT		:				i	!
11121113-1			. :			!	:	i
	Mahala (Osuana A	- i d Para I	. :			į		
	Metals ( <b>Strong A</b> Silvet (Ag)	icia Reel)	: <1	:	ing/kg	İ	:09-AUG-00	- MO
	Aluminum (Al)		: 890	, c	.ng/kg		09-AUG-00	MD
	Barium (Ba)		60.1	2.5	;mg/kg	:	109-AUG-00	MD
	Deryilium (De)		907.1		. – –	İ	: 03-AUG-60	MD
	Calcium (Ca)		407000	100	mg/kg		09-AUG-00	: MD
	Saidus (Cd)		407C00 :	2.5	aig/kg		09-AUG-00	
	Cobart (Co)				mg/kg	:		GMi I
	Chromium (Cr)		3	1	me/kg	i	09-AUG-00	į MD
	Copper (Cu)	•	6.9 63	2.5	ing/kg	:	09-AUG-05	MD
				1	ļπ¢/kg 	:	09-AUG-00	MD
	ran (Fe) Deteccion (K)		1000	100	ಸಾ⊈/⊀⊋		10-AUG-00	MD
	Patassium (K) Magnesium (M		550 4050	20	lmg/kg		03-AUG-00	MD
			4970	10	mg/kg		09-AUG-00	MD
	Manganese (M		40	20	img/kg		09-AUG-00	MD
	Malybdenum (f	MG)	<1	1	mg/kg		09-AUG-00	ND ND
	Nickel (NI)		12	2	:mp/kg		09-AUG-00	, MD
	Phosphorus (P	1	90	10	mg/kg		00-AUG-00	ΝÞ
	Lead (≌t) Eis ∢De (		<5 	5	iu2\ra		03-AUG-CC	, MD
	₹in (Sa)		< <u>5</u>	5	mg/kg		30-EUA-60	WD
	Strongum (Sr)		98	1	mrg/kg		09-ALIG-00	' MD
2	Titanium (Ti)		36	5	mg/kg		03-VDG-00	W.D.
	Thaiffurb (Ti)		<i>ح</i> 1	1	mg/kg		09-AUG-86	VО
	Vanadium (V)		4	1	mg/kg		08 AUG 00	WO
	Zina (Zn)		34.8	3.5	mg/kg		02-AUG-00	, MO
					·i	:		i
					!	i		İ

Lab (D	Sample 1D	Test Description	Result	D.L.	. Units	i Extracted	Maiyzed	By
1148/146	HVVD-03-2507					122 W		<u> </u>
Sample Date	22 JUC-00					!	!	1
Matrix:	SED MENT		:		ļ	i		
	Arsenic (As)		; 1733	0.1	ning/kg		  as-AUG-co	MD
	Metals (Strong Ad Silver (Ag)	citi Rec.)	1 :					
	Aiuminum (A!)		<1	1	mg/kg		09-AUG-30	MD
		•	110	10	mg/kg		09-4039-00	MD
	Barium (Ba) Beryšjum (Be)		1.8	0.5	mg/kg		09-AUG-00	MD
	Calcium (Ca)		!	1	mg/kg		108-AUG-00	MD
	Cadmium (Cc)		230 ; <0.5	100	mg/kg		19-AUG-90	MD
	Cabal: (Co)		20.5	9.5 1	mg/kg		105-AUG-00	MD
	Caremium (Cr)		1.2	0.5	mg/kg		09-AUG-00	[ MD
	Capper (Ca)		487		mg/kg		05-AUG-CO	QM 445
	iron (Fe)		5190	1 100	img/kg		05-AUG-00	GM.
	Potassium (K)		430	20	mg/kg		jos-AUG-co Jos Aug co	CM
	Magnesium (M)	4.	; 430 <u> </u>   370		mg/kg		09 AUG-00	MO
	Manganese (Mi		30	10 20	mg/kg		09-AUG 00	UMD.
	Molybdeniim (N	•	1		mg/kg		09-AUG-00	CM
	Sedlum (Na)	ncii	382000	1	img/kg		08-AUG-00	CM
	Nickel (N.)		-	100	mg/kg ·		194AQG-00   1990   1990   1990	MD
	Phospharus (P)		4	2	រពន្ធក៏ខ្មែ 		09-4UG-00	ME
	Lead (9b)	,	. 40	10 -	rng/kg 		05-43:5-00	l le
	Tin (Sn)		6 !=	ត	,mg/kg 5		109-ANG-00	Mo
	nn (an) Strandum (Sr)		<u> </u> <5	5	mgÆg ·····• šer		105-AUG-00	; MD
	Titan um (Ti)		2 .	1	emg/kg Less has		05-AUG-00	MO
	Theilium (T.)		: 18 	5	mg/xg		05-AUG-00	i MD
	Vanadium (V)		<্	1	mg/kg		. 05-AUG-00	MO
	Zinč (Zn)		3 · 	1 0.5	img/kg mg/kg		GS-AUG-CO GC-AUG-CO	₩D WD
.14679-49	PS022-02				r:-gmg			
Gamble Date	22-101-00						ļ	
Matrix:	SEDIMENT		į .		İ		İ	
			i		:		-	
	Antimony (8b)		9.2	Ú.1	mg/kg		17-\$E9-30	005
	Sulphate (SO4)		; 58 ;	3	mg/kg	•	\8-SSP-00	į "z
	Sulphine		40	20	nrg/kg		22-\$52-00	! 13L
	p∺		5.6	3.1	pВ		16-857-00	. हो
	Metals (Strong Ad	aid Rec.)	:		'			
	Silver (Ap)		. 51 :	1	erg/kg		≉ <b>7-</b> 8≣⊇-00	COS
	Alum num (Al)		24200	10	mg/kg	:	17-SEP-00	: GGS
	Bazium (Ba)		194	0.5	mg/kg		; 17-8 <u>5</u> 7-00	CCS
	Berylliom (Be)		<1	1	jeng/kg	ı	17-88P-03	' CG!
	Calcium (Ca)		5900	130	img/kg		17-SEP-00	CCS
	Cadmium (Cd)		` <b>≺</b> 0.5	0.5	¹mg/kg		17-SEP-00	CCS
	Cobalt (Co)		10	1	mg/kg		17-809-00	COS
	Chromium (Cr)		49.€	0.3	;mg/kg		17-859-00	, cos
	Copper (Cu)		27	1	mg/kg		17-SEP-30	G09
	Iron (Fe)		25200	130	!mg/kg		17 <b>-</b> SEP-00	6
	Folassium (K)		5250	20	mg/kg		17-SEP-00	CO
	Magnesium (Mg	<u>a</u> )	B32C	10	mg/kg		17-8 <b>E</b> 2-30	000
	Wanganese (Mr	1)	25C	20	mg/kg		17-SEP 00	Louis
	V.oʻyodanimi (M		<-	•	mg/kg	:	17-SEP-30	500
	Sortium (Na)		400	100	mg/kg		17-SEP-20	ccc

Lab iD Sample ID Test Description	Result	D.L.	Units Ex	tracted . Analyzed	Ву
14671-49 PSC22-02					
ample Date (AZ-JU)C-00	1			;	!
datrix: SEDIMENT	:		,		!
	:				
Metels (Strong Acid Rec.) Nickel (Ni)			ļ 	49.00.11.00	***
Phasacons (P)	23	2	mg/kg	17-S≦P-00	CC.
•	350	10	mg/kg	17-S≅P-00	CC
Lead (Pb)	13	5	lmg/kg	17-SEP-00	CC.
Tin (Sn)	<b>45</b>	5	mg/kg	17-SEP-00	, 60
Strendum (Sr)	54	,	mg/kg	174\$EP-00	; çc
Titanium (Ti)	749	5	mg/kg	57-SEP-00	: cc
Thatium (Th	51	1	ļ∷ng/kg	17-SEP-00	1 00
Vanadium (V)	<b>5</b> 3	*	mg/kg	17-SEP-00	00
Zinc (2n)	<b>4</b> 3.1	0.5	;mg/ <b>x</b> g	17-SEP-00	i co
Arsenic (As) Arsenic (As)	110	0.1	ierg/ <b>x</b> g	: - 17 <b>-</b> 85P-00	CO
1467(-56) TS223-01					1
emple Date   22-JUL-60					
etńx: SEDXMEN <sup>*</sup>			:	:	
Antimosy (Sb)	<0.1	0.1	mg/kg	17-SEP-00	00
Sulphare (SC4)	31	3	mg/kg	18-SEP-00	<u>i</u> 27
Sulphide	30	20	mg/kg	22-SEP-C0	. TE
pΗ	8.3	0.1	Ę∺	18-SEP-00	[ R3
Motals (Strong Acid Rec.)					
Siiver (Ag)	<1	I	mg/kg	I	, C0
Alumipum (Al)	28600	70	mp/kg	17-SEP-00	ĊC
Ballum (Ba)	258	0.5	mg/kg :	17-SER-90	CO
Beryllium (Be)	et :	1	mg/kg	17-8EP-00	C
Caldium (Ca)	8800	100	mg/kg	17-\$EP-00	0.00
Cadmium (Cd)	<0.5 '	9.5	mg/kg	17-SEP-00	00
Cobait (Co)	<b>94</b>	1	mg/kg i	,17-SEP-G0	00
Chromium (Cr.)	! 30 C	0.5	mg/kg	17-8EF-00	000
Gopper (Ca)	38	-	mg/kg	17-SE2-00	, C
Iron (Fe)	30400 ;	100	mg/kg	17-SCP480	( C
Potassium (K)	9110	20	mg/kg i	17-SEP-00	C0
Magnesium (Vg)	12500 :	10	mg/kg	47-8E₽-00	C
Manganese (Mn)	440 '	20	mg/kg	47-SET-00	C
Molybdenum (Mo)	<:	-	mg/kg	17-SEP-05	. c
Sópium (Na)	800	100	ng/ag	47-SEP-00	Ċ
$\lambda$ ckel $(\lambda)$	37	2	mg/kg	57-8⊡P-00	Ç(
Pacephorus (P)	460	70	тажа	57-8≜P-00	0
Lead (Pb)	10	5	mg/kg	17-5 <u>≓</u> F-05	00
Tin (Sn)	: <\$	5	mg/kg	17-SEP-90	. 00
Strentlam (Sr)	46	1	mg/kg	17-S≛ <b>P</b> -00	00
Tilanium (Ti)	7G3	ė.	mg/kg	17-SEP-90	50
Toalitem (TI)	<1	•	mg/kg	17-SEP-00	00
Vanedčim (V)	59	1	mg/Kg	17 SEP 00	00
Zine (Zn)	· 570	; 9.5	img/kg ·	% 65P 00 17-S⊻∺400	00
Arsenic (As)	:			:	
Arsenic (As)	36.1	0.1	mgikg	17-SEP-00	0.
	<del></del>		.		1
			: 1		
			: :	:	1

Lab ID ॄ	Sample ID	Test Description	Result	D.:	Unds	Extracted	Analyzed	јВу
L14671-51	PS024-01				i		!	:
Sample Date (2	(2-JUH-00				!		:	:
Matrix: S	BEDMENT				i			:
	Water-Soluble Assenio	Species			!			
	Arserso (Ag)	The state	: 0.7	0.1	: m:g/L	:	30-OCT-00	; JJ
					:		30 001 44	•••
	Antimony (Sb)		i 1.5	0.1	mg/kg		17-SEP-00	CCS
	Sulphate (\$O4)		! <del>5</del> 33	. 3	mg/kg		16-SEP-00	٦Z
	Sulphide		<20	: 23	mg/kg		22-SEF-30	TB!.
	gh		8.1					
	•	(F)	e-1	0.ª	ρ <del>t</del> n		19-SEP-00	RТ
	Metals (Strong Acid Silver (Ag)	. Rec.;	:   <1	! 1	i malks		17-SEP-00	003
	A'uninem (Al)		35700	10	ing/kg		17-SER-00	CC5
	Barium (Ba)		23 8	0.5	mg/kg		17-SEF-00	CC5
	Baryilium (B⊋)		<1 <1	1	mg/kg		17-SEF-00	CC5
	Calcium (Ca)		63200	100	ng/kg		17-SEF-00	CC5
	Cadmium (Cd)		1.5	a.a	mgikg		17-SEP-00	CCA
	Cobalt (Co)		. 56	: 1	mg/kg		17-86P-00	CC5
	Obsomlure (Os)		76.1	0.0	nig/kg		17-SEP-00	CC5
	Copper (Cu)		; g <sub>2</sub>	; 1	nig/kg		17-SEP-00	. 005
	4ren (Fe)		74200	100	നമ്യ%ള		17-2 <b>6</b> P-00	005
	Potassium (K)		900	30	ากฎ/≷ฎ		17-SEP-00	CC
	Magnes um (Mg)		25100	10	imgukg		17-SEP-50	Ce
	Manganese (Vn)		13°D	. 20	∙mg/kg		17-SEP-00	CC5
	Molya <b>as</b> num (Ma)		e:	٢	ന്യു/ഭൃ		17-8ÉÉ-00	CC5
	Sodiom (Na)		903	100	ានទីប្រជា		17-SEF-30	CC5
	Nickel (Ni)		52	2	mg/kg		17-SEP-00	CC5
	Phospharus (P)		332	10	mg/kg		17-SEF-00	CCS
	Leau (Pb) Tin (Sn)		138 <8	5	mg/kg		17-SEF-00	CC5
	Streatium (Sr)		48	<b>5</b> 1	img/kg mg/kg		17-SEF-00 17-SEF-00	005
	Titar±um (Ti)		: 101		mg/kg		17-SEF-00 17-SEF-00	CC5
	Thailium (71)		31	*	ากมหมู		17-SEF-00	CC5
	Vanedium (V)		107	1	:pg/kg		17-SEF-08	CG5
	Zine (Zn)		200	0.5	mg/kg		17-SEF-00	CCS
	Arsenic (As)			i	1			
	Arsonic (As)		3200	. 0.3	mg/kg	•	17-SEP-00	CCS
L14671-52	<sup></sup> 25025-01		<del></del>			<del>:</del>		<del></del> -
Sample Date   2	Z-JUL-03			:	į			
•	EDIMENT			1	i			:
•				:				
	Autimon 449b)						4- 0-5	
	Antimony (Sb)		\$7.7	0.1	mg/kg	!	17-SEP-00	CC5
	Su phate (SO4)		. 1520	· 3	mg/kg	!	18-86F-00	04
	Surphide		40	20	mg/kg		22-8E9-00	181
	μH		7.5	0.1	ļp−		16 SEF 00	77
	Metals (Strong Acid	Rec.	:					İ
	Silver (Ag)		: <*	់	mg/kç	i	17-SER-00	CCs
	Aluminum (Al)		, 24760	10	mg/kg	:	17-SER-00	i aç
	Darium (Ga)		3.35	. 0.5	mg/kg	:	17+SEF-03	r ci
	Baryllium (Be)		57	1	mg/kg	:	17-8E9-00	Q03
	Cabium (Ca)		. 36830	100	mg/kg		17-SEP-30	CCS
	Cadmium (Cd)		: 1.2	0.5	mg/kg	į .	17-SEF-90	CCS
	Cobail (Co)		, <u>4</u> 9	4 .	asg/kg	!	1743EP-00	000

Lab ID	Sample ID	Test Description	Sesuit	<u>5,</u> L	Units	Extracted	- Analyzed	Ву
1 14671-52	PS025-01				į		:	į
Sample Date,	22-104-00				i		-	!
Marrix:	SED MENT				!			i
	Metals (Strong Ac	id Rec.!			ļ	:	:	
	Circinium (Cr)	<b>,</b>	58.7	0.5	img/kg		17-SEP-30	j cos
	Copper (Cu)		98		mg/kg		j 17-SEP-36	i co:
	Iron (F∉)		. 81400 .	100	lπg/kg		17-85P-00	j oda
	Potassium (K)		1450	20	тржа		17-85P-00	်ဝေ
	Magnes um (Mg	}	19100	10	mg/kg		17-SEP-DC	003
	Manganese (.Vn		800	20	mg/kg		17-SEP-00	COS
	Malybaisถนะก (M	a)	1 1	•	тg/kg		17-SEP-00	CC
	"Sodium (Na)		200	100	rag/kg		17-SEP-00	CO
	Nicket (N-)		77	2	img/kg	:	17-SEP-00	, cc:
	Phosph <b>or</b> us (P)		350	10	mg/kg		17-SEP-00	cos
	Load (P5)		i 174 :	3	mg/kg		17-SEP-00	CC!
	Tin (Sh)		. <5	5	mg/kg	1	17-SEP-00	! cc:
	Տեռույար (ֆլ)		: 34	•	mg/kg	1	17-SEP-00	i co:
	Tranium (fi)		; 2 <del>3</del> 8 .	5	, ng/kg		17-8@P-00	i co
	thallum (11)		· · · · ·		idigikg		17-5€6-00	00
	Vanacium (V)		90	•	rag/kg		17-SEF-DC	00
	žine (Zn)		227	0.5	-mg/kg		17-89F-00	, cc
	Arsenic (As)				:		ļ	
	Arsenio (As)		3700	0.1	-mg/kg		17-\$69-00	. cc
C1467 (153 T T	P\$026-01			· · · · ·	+	<del>:                                    </del>	÷	:
Samble Sate	22NUL-00				i	I		:
Matrix:	SEDMENT		•					
			! .		1	İ		
	Astimony (Sp)		3.7	0.1	i mg/kg	!	17-SEP-00	. co
	Sulphate (SO4)		. 6. :			:		1
				3	mg/kg	:	; 18-8∄9-00	jΖ
	Sulphide		50	\$0	mg/kg		, 22-\$EF-00	TBI
	ьH		7.5	0.1	p-	:	1848¶F-00	RT
	Metals (Strong Ac	ić Rec.)	:					l
	Silver (Ag)		41 -1	1	imB/ <b>y</b> g	İ	17-88 <b>f</b> -96	; cc
	Aluminum (Al)		10730	10	mg/kg		17 SEF-00	. 500
	Barium (Ba)		: 123	5.5	mg/kg		17-85P-00	100
	BerySlum (Be)		: 51	1	mg/kg		17-8EF-00	00
	Calcium (Ca)		35630	190	mg/kg		17 SEP 00	Ç0:
	Cadmium (Cd)		<0.5	0.9	mg/kg	:	17 SEP-00	00
	Cohatt (Co)		14 ;	1	mg/kg	:	17-89F-00	CC:
	Chromium (Cr)		32.6	D.6	mg/kg		17- <b>\$</b> \$9-00	CC:
	Copper (Cu)		41	1	img/ <b>«</b> g	İ	17-SE9-00	೦೦
	læn (Fe)		i 18230	100	img/kg		17-SEF-00	00
	Polessium (K)		1460	20	mg/kg	1	17-SEF-00	į ce
	Magnesium (Mg)		7370	10	zig/kg		17-SEP-00	00:
	Mangabese (Mr.		340	20	img/kg	1	17-86P-00	j po
	Moiybdenum (Mo	ο;	· 2 .	1	mg/kg	İ	17-8FF-90	50
	Sodi∟m (Na)		. 500 :	100	mg/kg	!	17-SEF-00	) od:
	Nicket (Ni)		30	2	:बाg/kg	i	17-SER-00	j sa
-	'Ehosphorus (P)		713	10	img/kg		17-S <b>Z</b> F-00	1.50
	Lead (Pb)		30	5	o gAg	:	\$7-SEF-06	: 00
						I		
	fin (Sn)		<5	5	n.g/kg	İ	17-8FP-00	1000
			<5 <del>6</del> 9	5 1	in.y/kg img/kg		: 17-8==-00 : (7-8==-00	003 003

Lab IIb	Sample ID Test Description	Hosu!:	D.L.	Units Extracted	Analyzed	B
14671 53	PS026 01			· · · · · · · · · · · · · · · · · · ·		Ţ
amo e Date	22-JUL-00					:
'atrx:	SECIMENT				İ	:
	Metals (Strong Acid Rec.)	:			İ	
	Thalliam (T4)	<1 .	1	mg/k¢	17-SEP-00	100
	Venadium (V)	. 29	1	пф/кр	17-SEP-00	00
	Zing (Zn)	€2.7	0.5	mg/kg	17-SEP-00	00
	Arşenic (Aşı Arşenic (As)	573	0.1	: img/kg	 	100
4671-54	P8027-0			-		
etaC eigm	22-JUL-00					
amx:	SEDIVEN"	i				
	Water-So:uble Arsento Specios	:				
	Arsenin (As)	45	0.1	mg/L	30-QCT-90	1 20
	Antmony (Sb)	25.3	0.1	mg/kg	17-SEP 00	0
	Sulphate (SQ4)	103	3	ng/kg	18-SEP-00	.52
	Suichide	30	30	mg/kg	22-8EP-00	1 7
	p-!	3,1	0.1	· pH	18-SEP-00	' 2
	Metals (Strong Acid Rec.)					
	Silver (/kg)	শ	1	mg/kg	17-SEP-00	C
	Aluminum (Ai)	29500	10	mg/kg	: 17 <b>-</b> SEP-00	C
	Berium (Be)	11.4	0.5	ang/kg	17-SEP-00	C
	Eleryllium (Ba) Calcium (Ca)	=1 48700	1	img/kg	17-SEP-00	! 0
	Cadmium (Cd)	45703 1.8	100 8.5	nng/kg i	17-829-00 17-829-00	10
	Cobalt (Co)	32	1	auðlyð auðlyð	17-SEP 50	0
	Ohscenium (Or)	78.4	2.5	mg/kg ;	17-SEP-00	10
	Capper (Cu)	115	1	rrg/kg	17-8≝00	10
	Iron (Fe)	79400	100	mg/kg	:7-\$≣P•00	Ġ
	Potassium (K)	450	20	mg/kg	-17-SEP-00	C
	Magnesium (Mg)	j 24100	10	mg/kg	17-SEP-00	С
	Manganese (Mn)	1030	20	nig/kg :	17-8FF-00	G
	Molyodenum (Mb)	1 1	1	mg/kg	: +.S=P.00	, G
	Sedium (Na)	280 -	100	mg/kg	:17-S≅≌•00	0
	Nickei (Ni)	101	2	m <b>o</b> rko	17-SEP-00	i c
	Phasphorus (P)	250	10 =	mg/kg	17-859-00	်င
	Lead (Pb)	241	_	mg/kg	[17.8E9.00	0
	La (Se) Stronfiom (Sr)	40	5	mg/kg	117-SEP-00	; ¢
	Firentum (Ti)	144		ma/kg ; ins/kg ;	17-SEP-00 17-SEP-00	C
	Theirum (II)	4' ;	1	mg/kg .	17-SEP-00	G
	Vanadium (V)	120	1	กล/หน	17-8EF-00	c
	Zihc (Zrı)	368	C.5	ma/kg	17-SSP-00	¢
	Arsenic (As)				•	1
<u></u>	Arsenic (As)	8380 .	C.1	;mg/kg	1748IP400	: 0
				! !	:	
		:		į !	:	
		i		;		
		! .		i i	İ	

L1487: CONTD.... PAGE 40 of 40

### Methodology Reference

.

ETL Test Code	Test Description	Methodology Reference (Based On)
AS-AS3-ED	Arşenio (As) 3+	APHA 3114 C-AAS - hydride
AS ASSISCLIED	Water-Scrubic Arsen c(III)	Birkholz et al. + APHA 3114 C-(HCAAS)
AS-ASS-ED	Arsenio (As) 5*	APHA 3114 C-AAS - Hydride
AS-ASS-SOU-ED	Waler-Sciuble Arsenic(V)	Birkholz at at ← APHA 3114 C-(HGAA\$)
AS-HYD/ED	Arsenia (As)	APHA 3114 C-AAS - Hydride
AS-SOL-ED	Total Water-Soluble Arsenic	Birkholz et al. 4 APMA 3114 C-(EGAAS)
ASBESTOS-ED	Bulk Asbestos Content	NICSH 9002-Polarized Migroscopy
HC-HYD-ED	Mercury (Hg)	APHA 3112 B-AAS Cold Vapor
METAL-EXG-ED	Metals (Strong Acht Rec.)	SW 846 - 3051/6010-ICP-OES
NH4-ED	Ammonia-N	APRIA 4500 NH3F-Colonmetry
093/50	Offland Grease-Gravimetric	AP: IA 5520 D-Soxbiet Extr. Gravmetri
₽H-1:1-6∂	p∺i	C. CSSS 36.3-Electrode on 1:1 extr.
SB-PIYO-ED	Antimony (Sb)	APHA 3114 C-AAS-Hydriae
SO4-ED	Sulfate (SC4)	APHA 4110 B-Jan Chromatography
SPECIAL REQUINIED	Special Request inorganics EDM	<del></del>
SCLPH DE-AP	Sulph de	Ab. Env.
SULPH DE-TB	Sulph de	EPA \$03DB

### ENVIRO-TEST QC REPORT Page 1 of 18

Workproef L14671

QC Type: BLANK						
Lab QC Number;		Result	Qualifier	Units	Llmit	Analyzed
WG16136-1						
METAL-EXD-ED	Süver (Ag)	<1		mg/kg	5	15-AUG-00
	Aluminum (At)	20		тід/кд	50	16-AUG-00
	Barium (Ba)	<0.5		mg/kg	2.5	15-AUG-00
	Beryllium (Be)	< 1		mg/kg	5	15-AUG-00
	Çalçiya (Ca)	<:00		mg/kg	500	15-AUG-00
!	Cadmium (Cd)	<0.5		піо∕ка	2.5	15-AUG-00
•	Cobalt (Co)	<1		mg/kg	5	15-AUG-00
	Chromium (Cr)	<0.5		m <b>g</b> /kg	2.5	15-AUG-00
•	Copper (Cu)	3		mg/kg	5	15-AUG-00
	Iron (Fe)	<100		mg/kg	500	15-AUG-00
	Potassium (K)	<20		mg/kg	100	15-AUG-06
	Magnesium (Mg)	<13		mg/kg	50	15-AUG-00
	Magnesium (Mg)	<13		mg/kg	50	15-AUG-00
	Manganese (Mn)	<20		mg/kg	100	15-AUG-00
	Molybdenum (Mo)	<1		mg/kg	5	15-AUG-00
	Sodium (Na)	<100		mg/kg	500	15-AUG 00
	Nicket (NI)	<2		mg/kg	10	15-AUG-00
	Phosphorus (P)	20		mg/kg	50	15-AUG-00
	Lead (Pb)	<5		mg/kg	25	15-AUG-00
	Tin (Sa)	· <5		mg/kg	25	15-AUG-00
	Strontium (Sr)	<u>-</u>		mg/kg	5	15-AUG-00
	Titanium (Ti)	< <u>5</u>		mg/kg	25	16-AUG-00
	Thallium (TI)	<1		mg/kg	5	15-AUG-00
	Vanadium (V)	<1		mg/kg	5	15-AUG-00
	Zinc (Zn)	4.3	٨	mg/kg	2.5	15-AUG-00
WG16154-1					2.0	
METAL-EXD-ED	Silver (Ag)	<1			_	00 4110 00
N.M. I. S. PR. M. S. P. C. C. C. C.				mg/kg	5	09-AUG-00
	Atuminum (Al)	50		mg/kg	50	09-AUG-00
	Barlum (Ba)	<0,5		mg/kg	2.5	09-AJG-00
	Beryllium (Be)	<1		mg/kg	5	09-AUG-00
	Calcium (Ca)	<100		mg/kg	500	09-AJ/G-00
	Cadmium (Cd)	<0.5		mg/kg	2.5	09-AUG-00
	Cobalt (Co)	<1		mg/kg	5	09-AUG <b>-</b> 00
	Chroatium (Cr)	<b>c0.</b> 5		mg/kg	2.5	09-AJG-00
	Copper (Cu)	3		mg/kg	5	09-ABG-00
	lron (Fe)	<100		ពាg/kg	500	09-AUG-00
	Potassium (K)	<20		mg/kg	100	D6-Y∩@ <sub>7</sub> 00
	Magnesium (Mg)	<10		mg/kg	5C	Ģ9-AUĞ-00
	Manganese (Vin)	<20		πg/kg	100	09-AUG-00
	Molybdenum (Mp)	ব		mg/kg	ā	09-AUG-00
	Sodium (Na)	<10€		mg/kg	500	00-DUA-60
	Nickei (Ni)	<2		mg/kg	1C	09 <b>-</b> AUG-66
	Phosphores (P)	<10		mg/kg	5C	09-AUG <b>-</b> 00
	Lead (≅b)	<b>&lt;</b> 5		mg/kg	2ξ	00-DUA-90
	Tir. (Sn)	<5		mg/kg	25	90-DUA-90
	Strontium (Sr)	<1		mg/kg	5	09-AUG-00
	Täarium (Ti)	<=		ពល្វ/ខ្មែ	25	09-AUG-00
	Thallium (71)	c:l		mg/kg	5	09-AUG-00
	Váradium (V)	<b>&lt;</b> 1		mg/kg	5	09-AUG-50

### ENVIRO-TEST QC REPORT Page 2 of 18

Workorder L14671

	<del></del>					
	Žino ( <b>Zn</b> )	5.8	А	mg/kg	2.5	09-AUG-00
WG16161-1	<u> </u>					
METAL-EXC-ED	Silver (Ag)	<1		mg/kg	5	15-AUG-00
	A'umintan (Al)	30		mg/kg	50	15-AUG-00
	Barium (Ba)	0.5		mg/kg	2.5	:5-AUG-00
	Beryllium (Be)	<1		mg/kg	5	C0-DUA-61
'	Caldiem (Ca)	<100		mg/kg	500	15-AUG-00
•	Cadmium (Cd)	< 0.5		mg/kg	2.5	15-AUG-00
	Cobalt (Co)	<1		mg/kg	5	15-AUG-65
	Chromlem (Cr)	<0.5		mg/kg	2.5	15-AUG-00
	Copper (Cu)	3		mg/kg	5	18-AUG-00
	Iron (Fe)	<100		mg/kg	500	15-AUG-00
	Potassium (K)	20		mg/kg	100	15-AUG-00
	Magnesium (Mg)	<1C		mg/kg	50	15-AUG 00
	Manganese (Mb)	<20		mg/kg	100	16-AUG-00
	Molybdenum (Mo)	<1		mg/kg	ò	15-AUG-00
	Sodium (Ne.)	<100		mg/kg	500	18-AUG-00
	Nickel (NI)	<2		mg/kg	10	15-AUG-00
	Phosphorus (P)	<10		mg/kg	50	15-AUG- <b>0</b> 0
	Lead (Pb)	<b>≺</b> 5		mg/kg	25	15-AUG-00
	Tin (Sn)	<5		mg/kg	25	15-AUG-00
	Strontium (Sr)	<1		mg/kg	5	15-AUG-00
	Tranium (Ti)	<5		mg/kg	25	15-AUG-00
	Thalilum (Ti)	<1		mg/kg	ō	15-AUG-00
	Vanadium (V)	<1		mg/kg	ō	15-AUG-00
	Zinc (2n)	2.6	Α	mg/kg	2.5	15-AUG-00
WG16170-1						•
METAL-EXC-ED	Silver (Ag)	<1		mg/kg	5	15-AUG-00
	Aluminum (Al)	30		mg/kg	50	15-AUG-00
	Barium (Sa)	<0.5		mg/kg	2.5	15-AUG-00
	Berylitum (Be)	< 1		mg/kg	5	15-AUG-00
	Caicium (Ca)	< 100		mg/kg	500	15-AUG-00
	Cadmium (Cd)	<0.5		mg/kg	2.5	15-AUG-00
	Cobalt (Co)	<1		mg/kg	5	15-AUG-00
	Chromium (Cr)	<0.5		mg/kg	2.5	15-AUG-00
	Copper (Cu)	3		mg/kg	5	15-AUG-00
	Iron (Fo)	<100		mg/kg	500	15-AUG-00
	Potassium (K)	<20		rrg/kg	100	15-AUG-00
	Magnesium (Mg)	<10		mg/kg	50	15-AUG-90
	Manganese (Mn)	<20		mgikg	100	15-AUG-00
	Molyodenum (Mo)	< {		tng/kg	5	55-AUG-00
	Socium (Na)	<100		rrg/kg	500	15-AUG-00
	Nickel (Ni)	<2		mg/kg	10	16-AUG-00
	Phosphorus (F)	<10		ունդեն	50	15-AUG-90
	Lead (Pb)	<5		mg/kg	25	15-AUG-06
	Tin (Sn)	<5		mg/kg	25	15-AUG 00
	Stronflum (Sr)	<1		mg/kg	5	15-AUG/20
	(stansum (fii)	<5		mg/kg	25	18-48 <b>5</b> -06

Werkorder L14671

	Thallion (11)	<1	mg/kg	5	15-AUG-00
	Vanadium (V)	<1 ·	mg/kg	5	15-AUG-00
	Zinc (Zr.)	1.3	mg/kg	2,5	15-AUG-00
VG/8179-1			•	•	
METAL-EXO-ED	Silver (Ag)	<1	m <b>g</b> /kg	5	15-AUG-00
1	Aluminum (Al)	10	mg/kg	<b>5</b> 0	15-AUG-00
Ţ	Barium (Ba)	<0.5	те/ка	2,5	15-AUG-00
	Berykkum (Be)	<1	mg/kg	5	15-AUG-00
	Calcium (Ca)	<100	.mg/kg	500	15-AUG-00
	Cadmium (Cd)	<0.5	mg/kg	2.5	15-AUG-00
	Cobalt (Co)	<1	πg/kg	5	15-AUG-00
	Chromium (Cr)	<0.5	mg/kg	2.5	15-AUG-00
	Copper (Cu)	2	mg/kg	5	15-AUG-00
	Iron (Fe)	<100	mg/kg	500	15-AUG-00
	Potassium (K)	<20	mg/kg	100	15-AUG-00
	Magnesium (Mg)	<10	mg/kg	50	15-AUG-00
	Manganese (Mn)	<20	mg/kg	100	15-AUG-00
	Molybdenum (Mo)	<1	mg/kg	5	15-AUG-00
	Sodium (Na)	<1C0	mg/kg	500	15-AUG-00
	Nickel (Ni)	<2	rag/kg	10	15-AUG-00
	Phosphorus (P)	<1C	rag/kg	60	15-AUG-00
	Lead (Pb)	<b>≺</b> 5	mg/kg	25	15-AUG-08
	Tin (Sn)	<5	mg/kg	25	15-AUG-00
	Strontium (Sr)	<1	mg/kg	5	15-AUG-00
	Titanium (Ti)	<5	mg/kg	25	15-AUG-00
	Thallium (TI)	<1	mg/kg	5	15-AUG-00
	Vanadium (V)	<1	mg/kg	5	15-AUG-00
	Zine (Zn)	< 0.5	rng/kg	2.5	15-AUG-00
/G16275-1					· · · · · · · · · · · · · · · · · · ·
METAL-EXD-ED	Silver (Ag)	<1	mg/kg	5	09-AUG-00
	Aiuminum (Al)	40	mg/kg	5G	09-AUG-00
	Barium (Ba)	<0.5	mg/kg	2.5	C9-AUG-00
	Beryllium (Be)	<1	mg/kg	5	C9-AUG-09
	Calcium (Ca)	<100	mg/kg	500	09-AUG-00
	Cadmium (Cd)	<0.6	mg/kg	2.5	09-AUG-00
	Cobalt (Co)	<1	mg/kg	5	C9-AUG-00
	Chromium (Cr)	<0.5	sng/kg	2.5	C9-AUG-00
	Соррег (Си)	3	តាទូរkg	5	C9-AUG-00
	Iron (Fe)	<100	mg/kg	500	09-AUG-00
	Potassium (K)	<20	mg/kg	100	09-AUG-00
	Magnesium (Mg)	<10	mg/kg	50	C9-ALIG-08
	Manganese (Mr.)	<20	mg/kg	100	09-AUG-00
	Molybdenum (Mo)	<1	រាព្យ/kg	5	09-AUG-00
	Sodium (Na)	<100	mg/kg	500	G9-AUG-00
	Nickel (Ni)	<2	mg/kg	10	09-AUG-00
	Phosphorus (P)	<10	mg/kg	50	00-DUA-90
	Lead (Pb)	<5	mg/kg	25	09-AUG-00
	Tin (5n)	<5	mg/kg	25	09-AUG-00

Workorder

<b>_</b> .						<u></u>
	<b>6.</b> B. 10.1					
	Strontium (Sr)	<1		me/k <b>g</b>	5	09-AUG-60
	Titanium (7i)	<5		mg/kg	26	09-AUG-00
	Thaillum (Ti)	<1		mg/kg	5	09-AUG-00
	Van <b>ediu</b> m (V)	<1		mg/kg	5	09-AUG-60
· · · · · · · · · · · · · · · · · · ·	Zino (Zn)	11.4	A	mg/kg	2.5	09-AUG-00
WG16298-1						
OGG-ED	Oil-Gravimetris	<100		mp ·	100	08-AUG-00
WG16323-1						
OGG-ED	Oll-Gravkmetric	<100		mg	100	68-AUG-00
WG15395-1						
NH4-EO	Amajonia-N	<9.05		mg/L	0.05	09-AUG-00
NH4-ED	Ammonia-N	`<1		m¢/kġ	1	09-AUG-00
WG13425-1		· · · · · · · · · · · · · · · · · · ·				
0GG-9D	Oil-Gravimetric	<100		mg	100	09-AUG-00
WG:7418-1		******		a		
SO4-ED	Sulphate (SO4)	<3		mg/kg	2.5	23-AUG-00
'G18873-1	Saikuma (a.a.i)					
METAL-EXD-ED	Sliver (Ag)	<1		mg/kg	5	17-SEP-00
M2712 210 20	Aluminum (Al)	10		mg/kg	50	17-SEP-00
	Barium (Ba)	<0.5			25	17-SEP-00
	Beryklum (Be)	<0.5 <1		mg/kg mg/kg	5	17-SEP-00
	Çaldırın (Ca)	<100			500	17-SEP-00
	Cadmium (Cd)	<0.5		mg/kg	2.5	17-SEP-00
	· -	<0.5 <1		mg/kg mg/kg	5	17-865-00
	Cobalt (Co)	5.5	۸	mç/kg	2. <b>5</b>	17-SEP-00
	Chromium (Cr)	5.5 <1	Α	mç/kg	2.5 5	17-SEP-00
	Copper (Cu)	. <100		mg/kg mg/kg		17-86 <b>-</b> 00
	Iron (Fe)			mg/kg	500	17-SEP-00
	Potessium (K)	<20		mg/kg	100	,
	Magnesium (Mg)	<10		æg/kg	50 400	17-SER-00
	Manganese (Mn)	<20		mg/kg	100	17-SEP-00
	Molybdenum (Mo)	<1		mg/kg	5	17-SEP-00
	Sociem (Na)	<100 		ng/kg	500	17-SEP-00
	Nickel (Ni)	3		mg/kg	10 >	17-SEP-00
	Phosphorus (P)	<10		mg/kg	50	17-SEP-00
	Lead (Pt)	<5		mg/kg	25	17-SEP-00
	Tin (Sn)	<5		mg/kg	25	17-8EP-00
	Strontium (Sr)	<1 -5		ang/kg	5	17-885-00
	Fitanium (TI)	<:5		mg/kg	25	17-SEP-00
	Thellium (Tf) Vanadium (V)	<1 <1		mg/kg mg/kg	5 5	17-SEP-00 17-SEP-00
043578.4	was sections ( w)	~ t		riigikų		Traction
- 318576-1	PT-10 \$ A 1	-4		a		(구 모르는 Ac.
METAL-EXD-SD	Silver (Ag)	s1		mg/kg	5	(7-55P-00
	Aluminum (AI)	20		mg/kg	50	(7-SEP-00-
	Barium (Ba)	<0.5		រកផ្លូវ៤ថ្ង	25	17-SEP-00
	Beryllium (Be)	<*  400		mg/kg	5	17-SEP-00
	Caidium (Ca)	<100		តាពូ/kព្	600	17-959 00

Workorder

L14671

	Result	Qualifier	Units	Limit	Analyzed
· · · <u>- · · - · · · · · · · · · · · · ·</u>				•	
Sulphide	<20		mg/kg	20	25-SEP-00
Aisenic (As) 5+	<01		±g/kg	0.5	22-SEP-00
					22-SEP-00
4					4 4.4
	Result	Qualifier	Units	Limit	Analyzed
Ziric (Zn)	10.7	Α	mg/kg	2.5	17-SEP-00
	</td <td></td> <td>mg/kg</td> <td>5</td> <td>17-SE<b>P-</b>00</td>		mg/kg	5	17-SE <b>P-</b> 00
	<1		നg/kg	5	17-SEP-00
Titanium (TT)			mg/kg	25	17-S£P-00
	<1		mg/kg	5	17-SEP-00
Tin (Sa)	<5		mg/kg	25	17-SEP-00
Lead (Pb)	<5		mg/kg	25	17-SEP-00
Phosphorus (P)	<10		mg/kg	50	17-SSP-00
Nickel (NI)	<2		mg/kg	10	17-SEP-00
Socium (Na)	<100		mg/kg	500	17-SEP <b>-</b> 00
Molybdenum (Mo)	<1		m⊋/kg	£	17-SEP-00
Manganese (Mn)	<20		mg/kg	100	17-SEP-00
Magnesium (Mg)	<10		mg/kg	50	17-SEP-00
Potassium (K)	<29		mg/kg	100	17-SEP-00
Iron (Fe)	<100		mg/kg	500	17-SEH-00
Copper (Cu)	<b>?</b>		mg/kg	5	17-\$52-90
Chromium (Cr)	<0.5		mg/kg	2.5	17-SEP-00
Cobalt (Co)	<1		mg/kg	5	17-\$EP-00
Cadmium (Cd)	<0.5		mg/kg	2.5	17-SEP-00
	Cobalt (Co) Chromium (Cr) Coppar (Cu) Iron (Fe) Potassium (K) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Socfum (Na) Nickel (Nl) Phosphorus (P) Lead (Pb) Tin (Sa) Strontium (Sr) Titanium (Ti) Thallium (Ti) Vanadium (V) Zinc (Zn)  Arsenic (As) 5+	Cobalt (Co)       <1	Cobatt (Co)       <1	Cobalt (Co)         <1	Cobait (Co)

Lab QC Number:		Result	Qualifier	Units	Limit	Analyzed
WG16600-1						
AS-HYD-ED	Arsenic (As)	<0.1		mg/kg	0.1	15-AUG-00
WG20885-1		•				
AS-AS3-ED	Arsenic (As) 3+	<0.1		л•g/kg	0.1	14-00T-00
WG20924-1			· · · · · · · · · · · · · · · · · · ·			
AS-HYD-ED	Arsenic (As)	<0.1		mg/kg	0.6	22-SEP-00

		·	~		
Lab QC Number:		RPD	Qualifier	Limit %	Analyzod
WG16136-3					
METAL-EXD-ED	Silver (Ag)	N/A	RPD-NA	20	15-AUG-00
	Aluminum (AI)	1.0		20	15-AU@-00
	Barium (Sa)	0.50		20	15-AUG-60
	Seryllum (Be)	N/A	RPD-NA	20	45/AUG-00

QC Type: DUP

Workorder L14671

	Caldium (Ca)	88.0		20	15-AUG-00
	Cadmium (Cd)	N/A	RPD-NA	20	15-AUG-00
	Cobalt (Co)	1. <b></b>		20	15-AUG-00
	Chromium (Cr)	0.52		20	15-AUG-00
	Copper (Cu)	0.47		20	15-AUG-00
:	Iron (Fe)	1.8		20	15-AUG-00
:	Polassium (K)	1,⊆		20	15-AUG-00
	Magnesium (Mg)	0.56		20	15-AUC-00
	Mangenoso (Mn)	1.8		20	15-AUG-00
	Molybdanum (Mo)	N/A	RPD-NA	20	15-AUG-00
	Sodium (Na)	1,6		20	15-AUG-00
	Nickel (Ni)	3.2		20	15-AUG-00
	Phosphorus (P)	8.2		20	15-AUG-00
	Lead (Pb)	16		20	15-AUG-00
	Tin (Sn)	N/A	RPD-NA	20	15 <b>-AUG</b> -00
	Strontium (Sr)	2.5		20	15-AUG-00
	Titsnkim (Ti)	0.14		20	15-AUG-60
	Thallium (Ti)	N/A	RPD-NA	20	15-AUG-00
	Vanadium (V)	0.67		20	15-AUG-00
	Zinc (Zn)	12		20	15-AUG-00
16154-3					
METAL-EXD-ED	Silver (Ag)	N/A	RPD-NA	20	09-AUG-00
	Aluminum (Al)	13		29	09-AUG-00
	Barlum (8a)	:4		20	69-AUG-00
	Beryllium (Be)	N/A	RPD-NA	20	09-AUG-00
	Calcium (Ca)	8.5		20	05-AUO-00
	Cadmium (Cd)	N/A	RPD-NA	20	09-AUG-00
	Cobalt (Co)	8.0		20	09-AUG-00
	Chromium (Cr)	1.7		20	09-AUG-00
	Copper (Cu)	3.7		20	09-AUG-00
	læn (Fe)	7.9		20	09-AUG-00
	Potassłum (K)	23		20	09-AUG-00
	Magnesium (Mg)	6.3		20	09-AUG-00
	Manganese (Mn)	7.3		20	09-AUG-00
	Molybdenum (Mo)	21		20	09-AUG-00
	Sodium (Na)	44		20	09-AUG-00
	Nickel (Ni)	13		20	09-A.UG-00
	Phosphorus (P)	8.9		20	09-AUG-00
	Lead (Pb)	3.4		20	09-AUG-00
	Tin (Sn)	N/A	RPO-NA .	20	₫9- <b>AUG-</b> 90
	Strontlam (Sr)	16		20	09-AUG-00
	Titanium (Ti)	19		<b>2</b> D	¢9-AUG∙€≎
	Thallium (TI)	N/A	RPD-NA	20	69-AUG-C0
	Vanadium (V)	13		20	05-AUG-00
	Zinc (Zn)	3.5		20	09-AUG-00
316161-3					· · ·

Workorder

<u> </u>					
	Silver (Ag)	NΑ	RPD-NA	20	:5-AUG-00
		1.1	NEO-NA	20	16-AUG-00
	Aluminum (Al)	1.6		20	:5-AUG-60
	Barium (Ba)	N/A	RPD-NA	20	15-AUG-00
	Berylikum (Be)	1.4	MEDENIA	20	15-AUG-00
	Caldum (Ca)		DED MA		15-AUG-00
	Cadmium (Cd)	N/A	RPD-NA	20 20	15-AUG-00
·	Cobalt (Co)	0.88		20	15-AUG-00
	Chremium (Cr)	2.3		20	15-AUG-00
	Copper (Cu)	0.34			
	fron (Fe)	0,12		20	15-AUG-00
	Potassium (K)	2.4		20	15-AUG-00
	Megnosium (Mg)	0.069		20	15-AUG-00
	Manganese (Mn)	1.5		20	15-AUG-03
	Molybdenum (IV.o)	7.2		20	15-AUG-00
	Sodure (Na)	2.0		20	15-AUG-00
	Nickel (Ni)	1.1		<b>2</b> 0	18-AUG-00
	Phosphorus (P)	2.1		20	15-AUG-00
	Lead (Pb)	0.26		20	15-ABG-03
	Tin (Sn)	A/K	RPD-NA	20	15-AUG-00
	Stronthum (Sr)	2.5		20	15-AUG-00
	Tisagium (Ti)	1.8		20	15-AUG-00
	Thalkum (Ti)	N/A	RPC-NA	20	15-AUG-60
	Vanadium (V)	0.46		20	15 AÜG-00
	Zinc (Zn)	2.3		26	15-AUG-00
NG16170-3					
METAL-EXD-EO	Silver (Ag)	N/A	RPO-NA	20	15-AUG-00
	Aluminum (Al)	1.7		23	15-AUG-00
	Garium (Ba)	5.1		20	15-AUG-00
	Beryllium (Be)	N/A	RPC-NA	20	15-AUG-00
	Calcium (Ca)	1,4		20	15-AUG-00
	Cadmium (Cd)	N/A	RPC-NA	20	15-AUG-00
	Cobalt (Co)	0.1€		20	15-AUG-00
	Chromium (Cr)	2.2		20	f5-AUG-00
	Copper (Cu)	1.5		20	15-AUG-00
	Ison (Fe)	0.65		20	15-AUG-00
	Potassium (K)	5.5		20	15-AUG-00
	Magnesium (Mg)	0.73	·	20	15-AUG-00
	Manganese (Mn)	2.5		20	15-AUG-00
	Molybdanum (Mo)	N/A	RPD-NA	20	15-AUG-00
	Sodium (Na)	3.2	10 2 1471	20	15-AUG-00
	Nicket (Ni)	3.1		20	15-AUG-00
	Phosphorus (P)	1.0		2C	15-AUG-00
		C.86		2C	15-AUG-00
	Lead (Pb)	N/A	RPD-NA	2C 2C	15-AUG-00
	Tin (Sn)		REDARK	2C 2C	15-AUG-00
	Stroatium (Sr)	6.1			15-AUG-00 15-AUG-00
	Titanium (Ti)	3.7 N/A	BBB NA	2Ç	
	Thairem (fi)	N/A	RPD-NA	2C	(5-AUG-00

### ENVIRO-TEST QC REPORT Page 8 of 18

Workorder

	Vanadium (V)	2.8		20	15-AUG-00
	Zinc (Zn)	2.0		20	15-AUG-00
NG16179-3	,	•	<del> </del>		
METAL-EXD-ED	Silver (Ag)	N/A	RPD-NA	25	16-AUG-00
WEIVE END ED	Aluminum (Al)	0.91	111 20 1111	20	15-AUG-00
	Barium (Ba)	3.2		20	15-AUG-00
· .	Beryllium (Be)	N/A	RPD-NA	20	15-AUG-00
•	Calcium (Ca)	1.4		20	15-AUG-00
	Cadmlum (Cd)	22		20	15-AUG-90
	Cobalt (Co)	1.6		20	15-AUG-00
	Chromium (Cr)	1.3		20	15-AUG-00
	Copper (Cu)	6.5		20	15-AUG-00
	iron (Fe)	1.8		20	15-AUG-00
	Potassium (K)	9.7		20	15-AUG-00
	Magnesium (Mg)	C.65		20	15-AUG-00
	Manganese (Mr.)	2.1		20	45-AUG-00
	Malybdenum (Ma)	22		20	15-AUG-00
	Sediom (Na)	6.6		20	15-AUG-00
	Nickel (Ni)	2.4		20	15-AUG-00
	Poosphorus (P)	3.0		20	15-AUG-00
	Load (Pb)	14		20	15-AUG-00
	Tin (So)	N/A	RPD-NA	<b>2</b> D	15-AUG-00
	Strontium (Sr)	2.1		20	15-AUG-00
	Titenium (Ti)	0.62		20	15-AUG-00
	Thalism (TI)	N/A	RPD-NA	20	15-AUG-00
	Vanadium (V)	1.5		20	15-AUG-00
	Zinc (Zn)	12		20	15-AUG-00
WG16298-3					
OGG-ED	Oil-Gravimetric	10		11.6	08-AUG-00
WG16299-2					
PH-1:4-ED	рН	C.38		1.1	08-AUG-00
WG16299-3			· · · · · · · · · · · · · · · · · · ·		
PH-1:1-ED	p]·l	C.26		1.1	08-AUG-00
WG 16323-3					
OGG-ED	Oil-Gravimetric	6.39		11.6	08-AUG-00
WG16399-3	··-				
N94/ED	Ammonia-N	4.6		4.33	09-AUG-00
WG16399-4					
N94-ED	Ammonia-N	2.7		4.33	08-477-6-56
£16425-3					
OGG-ED	Oil-Grav metrlo	N/A	RPD-NA	11.6	09-AUG-00
WG17418-3					
S04-ED	Suiphate (SO4)	2.5		20	23 <b>-4.0G-</b> 05

Workorder

WG17418-5	•				
SO4-ED	Sulphate (SO4)	1.5		20	23-AUG-00
WG18873-3		•			
METAL-EXD-ED	Säver (Ag)	N/A	RPD-NA	20	17-SEP-00
	Barium (Ba)	6.3		20	17-SEP-00
	Beryllium (Be)	N/A	RPD-NA	20	17-SEP-00
	Calcium (Ca)	1.4		2C	17-SEP-00
1	Cadmium (Cd)	1.6		20	17-SEP-00
	Cobalt (Co)	3.1		2C	17-SSP-00
	Chromium (Cr)	0.30		20	17-\$EP-00
	Copper (Cu)	B.2		<b>?</b> C	17-SEP-00
	Potassium (K)	2.1		20	17-SEP-00
	Magnesium (Mg)	1.9		20	17-SEP-00
	Manganese (Mn)	2.0		20	17-SE#-00
	Molybdanum (Mo)	2.9		20	17-SEE-G0
	Sodium (Na)	1.2		20	17-SER-G0
	Nickel (NI)	2.3		20	17-SEP-00
	Phosphorus (P)	2.1		20	17-SEP- <b>C</b> 0
	Lead (Pb)	1.2		20	17-SEP-00
	Tm (Sn)	N/A	RPD-NA	20	17-SE <b>≎-</b> CC
	Strensium (Sr)	2.3		20	17-SEF- <b>C</b> 0
	Titanium (TI)	0.20		20	17-SEP-00
	Taailium (Ti)	N/A	RPD-NA	20	17-\$EF-CD
	Vanadium (V)	1.2		26	17-SEP-00
	Zinc (Zn)	2.4		20	17-SEP-00
WG18960-2					
PH-1:1-ED	pH	0.12		1.1	t3-SEP-00
WG20905-2					
AS-AS3-SOL-€D	Arsenic (As) 3+	N/A	RPD-NA	12.5	22-5EP-00
AS-AS5-SOL-ED	Arsenic (As) 5÷	N/A	RPD-NA	12.5	22-\$EP-00
WG20905-3		E.L.C. 400-141.4			
AS-AS3-SOL-ED	, Arsenic (As) 8+	13	Н	12.5	22-SEP-00
AS-AS5-SOL-ED	Arsenic (As) 5+	2.1		12.5	22-SEF-00
WG20924-2					
AS-HYO/ED	Arsenic (As)	A/A	RPD-NA	20	14-SEP-00

QC	Type:	LCS

Lab QC Number:		% Recovery Qualifie	r Limit %	Analyzed
WG16298-2				
OGG-ED	Ql-Gravimetric	104	93-107.5	08-AUG-00
WG16299-4				
PH-1:1-ED	pН	101	98.7-134	66-AUG-00
WG16299-5				
PH-1:1-ED	pН	101	98.7-104	08-AUG-00

Workorder L14671

WG16299-6				
₽H-1:1-ED	pH	101	98.7-104	08-AUG-00
WG16323-2				
OGG-ED	Oil-Grav-metric	104	93-107.5	08-AUG-00
WG16399-2				
NH4-ED :	Ammonia-N	150	93,5-108.6	09-AUG-00
NH4-ED !	Ammonia-N	100	90-110	09-AUG-00
WG15425-2			······································	
OGG-ED	Olf-Gravimetric	96	93-107.5	09-AUG-00
WG18960-3				
PH-1:1-ED	Hq	100	98.7-104	18-SEF-C0
WG18960-4				
PH-1:1-ED	₽Ħ	10-	98.7-104	18-SEF-00
WG18960-5				"
PH-1:1-ED	Hq	1G6	98.7-104	18/SEP-00

QC Type: MS

Lab QC Number:		% Recovery	Qualifier	Limit %	Analyzed
NG16136-4					
METAL-EXD-ED	Silver (Ag)	43	F	75-125	15-AUG-00
	Aluminum (Al)	57	Ē	75-125	15-AUG-00
	Berium (Ba)	97		75-125	15-AUG-00
	Seryillum (Se)	104		75-125	15-AUG-00
	Caldium (Ca)	104		75-125	15-AUG-00
	Cadmium (Cd)	108		75-125	15-AUG-00
	Cebait (Ce)	99		75-125	15-AUG-00
	Chromium (Cr)	301		75-125	15-AUG-00
	Capper (Cu)	97		75-125	15-AUG 00
	Iron (Fe)	108		75-125	15-AUG-00
	Potassium (K)	B3		75-125	15-AUG-00
	Magnesium (Mg)	92		75-125	15-AUG-09
	Manganeso (Mn)	99		75-125	15-AUG-00
	Molybdenum (Mo)	108		75-125	15-AUG-00
	Sodium (Na)	102		75-125	15 AUG 05
	Nickel (NI)	88		75-125	15-AUG-60
	Phosphorus (P)	91		75-125	15-AUG 00
	Lead (Pb)	101		75-125	15-AUG-00
	Tin (Sn)	111		75-125	15-AUG-09
	Strontium (Sr)	105		75-125	15-AUG-00
	Titanium (Ti)	124		75-125	15-AUG-00
•	Thatium (TI)	102		75-125	45-AU 3-00
	Vaлadium (V)	122		75-125	15-AUG-00
	Zinc (Žis)	110		75-125	15-AUG-00
VG16154-4					
METAL\EXID-PD	Silver (Ag)	49	Ė	75-125	09-ALC2-00

Workarder

	Barium (Ba)	118		75-125	09-AUG-00
	Beryllium (Be)	113		75-125	09-AUG-00
	Calcium (Ca)	126		75-125	09-AUC-00
	Cadmium (Gd)	110		75-125	09-AUG-00
	Cobalt (Co)	109		75-125	09-AUG-00
1	Chromium (Cr)	118		75-125	09-AUG-00
\	Copper (Cu)	107		75-125	09-AUG-00
'	fron (Fe)	<b>1</b> 51	G	75-1 <b>2</b> 5	09-At. <b>G-</b> 00
	Potassium (K)	114		75-125	00-AUG-00
	Magnesium (Mg)	120		75-125	09-AUG-00
	Manganese (Mr.)	150	E	75-125	09-AUG-00
	Molybdenum (Mo)	108		75-125	09-AUG-00
	Sodium (Na)	104		75-12 <b>5</b>	09-AUG-00
	Nickel (Ni)	109		75-125	09-ALiG-00
	Phospharus (P)	11-		75-125	09-AUG-00
	Lesd (Pb)	118		75-125	09-AUG-00
	Tin (Sa)	116		75-125	09-AUG-00
	Strontlum (Sr)	118		75-125	09-AUG-00
	Thallium (T)	118		75-125	09-AUG-00
	Vanadium (V)	117		7 <del>5-</del> 125	09-AUG-00
	Zinc ( <b>Z</b> n)	121		75-125	09-AUG-00
WG16161-4		······································	····		
METAL-EXD-ED	Aluminum (Al)	53	G	76-126	15-AUG-00
	Barium (Ba)	<b>98</b>		75-125	15-AUG-00
	Bery∰uot (Be)	114		75-125	15-AUG-00
	Calcium (Ca)	102		75-125	15-AUG-00
	Cadmium (Cd)	137		75-125	15-AUG-00
	Cobalt (Co)	102		75-125	15-AUG-00
	Chromium (Cr)	95		75-125	15-AUG-00
	Copper (Cu)	99		75-125	15-AUG-00
	Iron (Fe)	83		75-125	15-AUG-00
	Magnesium (Mg)	87		75-125 75-125	15-AUC-00
	Manganesa (Mn)	91		75-125	15-AUG-00
	Molybdenum (Mo)	198		75-125	15-AUG 00
	Sodium (Na)	98		75-125	15-AUG-00
	Nickei (Ni)	100		75-125	15-AUG-00
	Phosphorus (P)	92		75-125	15-AUG-00
	Lead (Pb)	95		75-125 76-125	15-AUG-00
	Tin (Sn)	110		75-125 75-125	15-AUG-00
	Skoatjan (Sr)	104			15-AUG-00
	ाक्षणसम्बद्धाः ( <b>१</b> ३)	102		75-125 75 - 25	
	Thallium (Ti)	102 97		75-125 75-436	15-AUG-00
	• •			75-125 75-125	15-AUG-00
	Vanedium (V) Zing (Za)	103 107		75-125 75-1 <b>2</b> 5	15-AUG-00 15-AUG-00
MG16170-4	. ms/p 11/			797.20	12-20-00
METAL-EXD-ED	Barium (Ba)	106		75 405	46 AUG 90
44514C-480-60		120		75-125 75-425	15 AUG 90
	Berylium (Be)	120		76-125	15-AUG-00

### ENVIRO-TEST QC REPORT Page 12 of 18

Workerder L14671

	Calcium (Ca)	107		75 495	46 ALIO 00
				75-125	15-AUG-00
	Cadmium (Cd)	105		75-125	15-AUG-00
	Cobalt (Co)	102		75-125	15-AUG-00
	Chromium (Cr)	103		75-125	\$5-AUG-00
	Copper (Cu)	101		75-125	15-AUG-00
	Iron (Fe)	91		75-125	16-AUG-00
	Potessium (K)	70		75-125	15-AUG-08
	Magnesium (Mg)	99		75-125	15-AUG-00
	Manganese (Mn)	104		75-125	15-AUG-00
	Molybdenum (Mo)	107		75-125	15-AUG-00
	Sodium (Na)	108		75-125	15-AUG-00
	Nickel (Ni)	104		75-125	15-AUG-00
	Phosphorus (i*)	€6		75-125	15-AUG-00
	Lead (Pb)	<del>9</del> 5		75-125	15-AUG-00
	Tin (Sn)	107		75-125	15-AUG-00
	Swontium (Sr)	103		75-125	15-AUG-00
	Titan <del>i</del> um (11)	100		75-125	15-AUG-00
	Thallium (TI)	96		75-125	15-AUG-00
	Vanadium (V)	101		75-125	15-AUG-00
	Zinc (Zn)	1:1		75-125	15-AUG-00
NG16179-4					
METAL-EXD-EO	Silver (Ag)	41	F	75-125	15-AUG-00
	Aluminum (Al)	86	·	75-t25	15-AUG-00
	Barium (3a)	105		75-125	15-AUG-90
	Beryllium (Be)	102		75-125	15-AUG-00
	Calcium (Ca)	59		75-125	15-AUG-00
	Cadmium (Cd)	100		75-125	15-AUG-00
	Cobalt (Co)	94		75-125	15-AUG-00
	Chromium (Cr)	89		75-125	15-AUG-00
	Copper (Cu)	94			
		80 80		75-125	15-AUG-00
	Iron (Fe)		_	76-125	15-AUG-00
	Potassium (K)	64	. Е	75-125	15-AUG-00
	Magnesium (Mg)	68		75-125	\$5-AUG-06
	Manganese (Mn)	93		76-125	15-AUG-60
	Мојусселиті (Мо)	107		75-125	15-AUG-00
	Sodium (Na)	93		75-125	15-AUG-00
	Nickel (Ni)	04		75-125	15-AUG-00
	Phosphorus (2)	87		75-125	15-AUG-00
	Lead (Pb)	85		75-125	15 AUG-00
	Tin (Sn)	102		75-125	16-AUG-00
	Stroctium (Sr)	93		75-125	16-AUG-00
	Titanium (Ti)	94		75-125	15-AUG-00
	Thailium (TI)	8/		75-125	15-AUG-00
	Vanadiun: (V)	89		75-125	15-AU0-00
	Zinc (Zn)	94		75-125	15-AUG-00
NG16399-5	· · · · ·		TTA PA		<u> </u>
NH4 ED	Animonia-N	100		81,9-130,2	00-DUA-20

Workerder

L14671

WG16399-8	·				
NH4-ED	Ammonia-N	103		81.3-130.2	09-AUG-00
VVG16500-4	<u> </u>			· · · · · · · · · · · · · · · · · · ·	<del></del>
AS-HYD-ED	Arsenic (As)	107	н	87.3-106	15-AUG-30
WG17418-4					
\$04 <b>-</b> ED :	Sulphate (SO4)	97		75-125	23-AUG-00
WG17418-8		<u> </u>	•		
S04-SD	Sulphate (SO4)	105		75-125	23-AUG-00
WG18873-4					
METAL-EXD-ED	Silver (Ag)	23	F	75-125	17-SFP-00
	Barium (8a)	93		75-125	17-SEP-00
	Berylijum (Be)	92		75-125	17-SEP-00
	Calcium (Ca)	97		75-125	17-SEP-00
	Cadmium (Cd)	97		75-125	17-SEP-00
	Cobalt (Co)	91		75-125	17-SEP-00
	Chromium (Cr)	93		75-125	17-SEP-00
	Copper (Cu)	85		75-125	17-SEP-00
	Potassium (K)	79		75-125	17-SEP-00
	Magnesium (Mg)	79		75-125	17-SEP-00
	Menganese (Mn)	87		75-125	17-SEP-00
	Motybdenum (Mo)	102		75-125	17-SEP-00
	Sodium (Ne)	93		75-125	17-SEP-00
	Nicket (Ni)	92		75-125	17-SEP-00
	Prespherus (P)	86		75-125	17-SEP-00
	Lead (Pb)	84		75-125	17-SSP-00
	Tin (Sn)	98		75-125	17-SEP-00
	Strentium (Sr)	101		75-125	17-SEP-00
	Titanium (Ti)	96		76-125	17-\$EP-00
	Thalium (Ti)	95		75-125	17-SEP-00
	Vanadium (V)	92		75-125	17-SEP-00
	Zinc (Zn)	85		75-125	17-SEP-00

QC Type: MSD

Lab QC Number:		RPD	Qualifier	Linzit %	Analyzed
WG17418-8					
SO4-ED	Sulphate (SC4)	NVA		2Ċ	23-AUC-00

### ENVIRO-TEST OC REPORT Page 14 of 18

Workorder L14671

Type: SRM					·
Lab QC Number:		% Recovery	Qualifier	Limit %	Analyzed
WG16136-2				•	
METAL-EXD-ED	Silver (Aç)	73		-	15-AUG-00
	Aluminum (Al)	29	G	56.2-144	15-AUG-00
	Barium (8a)	88		86.7-113	15-AUG-00
	Berylfium (Be)	91		•	16-AUG-00
	Caldum (Ca)	95		85-115	15-AJG-00
•	Cadmium (Cd)	98		67.8-112	15-AUG-00
•	Cobalt (Co)	95		85.4-115	15-AUG-00
•	Chromfurn (Cr)	82		73.9-126	15-AUG-00
	Copper (Cu)	104		87-113	15-AUG-00
	tron (Fe)	89		80.6/119	15-AUG-00
	Potassium (K)	74		69-131	15-AUG-00
	Magnesium (Mg)	91		79.4-121	15-AUG-00
	Manganese (Mn)	95		82 4-118	15-AUG-00
	Molyt-denum (Mo)	104		_	35-ALG-00
	Sodium (Na)	95		62.2-123	15-AUG-00
	Nickel (NI)	91		85.6-114	15-AUG-00
	Phosphorus (P)	90		84.7-115	15-AUG-00
	Lead (Pb)	86	G	81.5-118	15-AUG-00
	Tin (Sn)	99		•	15-AUG-00
	Strontium (Sr)	อ้1	G	87.7-112	15-AJG <b>-</b> 00
	Titanium (FI)	82		-	15-AUG-00
	Thallium (Ti)	98		-	15-AUG-00
	Vanadium (V)	179	G	64.2-136	15-AUG-00
	Zinc (Zn)	77		84.5-115	15-AUG-00
Comments: Analy	rtes listed without acceptance limit	s have concentrations appr	osching detectio	on listāt.	
WG16154-2	·				
METAL-EXO-ED	Sitver (Ag)	71			09-AUG-00
	Aluminem (Al)	76		45-165	09-AUG-00
	Barlum (Ba)	82		78.7-121	\$9-AUG-60
	Beryllium (Be)	101		71.8-128	69-AUG-00
	Calclum (Ca)	93		85,6-114	09-AUG-00
	Cadmium (Cd)	88		B5.1-115	09-ALG-00
•	Cobalt (Co)	95		87.5-113	09-AUG-00
	Chromium (Cr)	91		63.9-136	09-AUG-00
	Copper (Cu)	99		85,2-115	CS-AUG-CO
	iron (Fe)	92		59.9-130	C9-AUG-C0
	Potassium (K)	90		71-129	09-AUG-00
	Magnesium (Mg)	96		79.2-121	09-AUG-00
	Marganese (Mrt)	100		76.3-124	69-AUG-60
	Malybdanum (Ma)	87		75.1-125	09-AUG-00
	Sodium (Na)	97		78.6-121	09-AUG-00
	Nickel (NI)	98		80-120	09-ALC-00
	Phosphorus (P)	100		79.6-120	09-A., G-00
	Lead (Po)	89		79-121	00-EMA-90
	Tin (Sn)	95		-	59-AUG-00
	Strontium (Sr)	101		85.3-115	E9-A485-00

Workarder E14671

	Titanium (Ti)	77			09-AUG-00
	Thallium (TI)	86		75-125	09-AUG-00
	Vanadium (V)	77		41.4-159	09-AUG-00
	Zinc (Zr.)	<del>36</del>		79.9-126	09-AUG-00
Commenter Anal	ytos listed without acceptance limi	ts have concentrations	approaching se	tection ilmit.	
VG18170-2					
METAL-EXD-ED	Sitver (Ag)	84		-	15-AUG-00
	Aluminum (Al)	29	Ħ	45-155	15-AUG-00
	Barlum (Ba)	94		78.7-121	15-AUG-00
	Beryllium (Be)	98		71.8-120	15-AUG-00
	Calcium (Ca)	97		65.6–114	15-AUG-00
	Cadmlum (Cd)	75	G	85.1-115	15-AUG-00
	Cobalt (Co)	99		87.5-113	15-AUG-00
	Chromium (Cr)	81		63.9-136	15-AUS-00
	Copper (Cu)	100		85.2-115	15-AUG-00
	Iron (Fe)	89		59.9-130	15-AU3-00
	Potassium (K)	58	H	71.1-129	15-AUG-00
	Magnesium (Mg)	90		79.2-121	15-AUG-00
	MangaAése (Mn)	92		76.3-124	15-AUG-00
	Molybdenum (Mo)	97		75.1-125	15-AUG-00
	Sodium (Na)	97		78.6-123	15-AUG-00
	Nickel (Ni)	96		80-120	15-AUG-00
	Phosphorus (P)	93		79.6-120	15-AUG-00
	Lead (Pb)	ละ		79-121	15-AUG-00
	Strontium (Sr)	94		85.3-115	15-AUG-00
	Titanium (TI)	90		•	15-AUG-00
	Thalium (T!)	84		75-125	15-AUC-00
	Vanadium (V)	72		41.4-159	15-AUG-00
	Zinc (Zn)	60		79.5-120	15-AUG-00
Comments: Analy	rtes listed without acceptance :imit	s have concentrations	approaching det		
/G16179-2		- 17. 61.			
METAL-EXD-EQ	Silver (Ag)	123		-	15-AUG-00
	Aluminum (Al)	39		45-155	15-AUG-00
	Валит (Ва)	107		78.7-121	15 <b>-</b> A1:G-00
	Berydfum (Be)	122		78-128	15-AUG-00
	Calcium (Ca)	94		85.6-114	15-AUG-00
	Cadmium (Cd)	ea		85,1-115	15-AUG-00
	Cobak (Co)	97		87.5-113	<b>∜5-AUG-</b> €€
	Chromium (Cr)	110		63.9-136	15-AUG-00
	Copper (Cu)	96		85.2-115	45-AUG-00
	tran (Fe)	100		69.9-130	15-AUG-00
	Magnesium (Mg)	95		79.2-121	15-AUG-00
	Manganese (Mn)	90		76.3-124	15-AUG-00
	Moiyb <del>de</del> num (Ma)	116		75.1-125	15 AUG 00
	Sodium (Na)	100		78.6-12	15-AUG-00
	Nickef (NI)	99		80-120	15-8,03-00

### ENVIRO-TEST OC REPORT Page 16 of 18

Workorder

			<del></del>		
	Prosphorus (P)	89		79.6-120	15-AUG-00
	Lead (Pb)	81		79-121	15-∆UG-00
	Strontium (Sr)	100		85.3-115	15-AUG-00
	Thatkum (TI)	89		75-125	15-AUG-00
	Venadlum (V)	135		41.4-159	15-AUG-00
	Zinc (Zn)	79	я	79.9-120	15-AUG-00
,,	ytes listed without acceptance limit	s have concentrations	approaching dei	test on limit.	
NG16275-2					
METAL-EXD-ED	Silver (Ag)	92		-	09-AUG-00
•	Aluminum (Al)	102		56.2-144	09-AUG-00
	Badum (8a)	96		86.7-113	09-AUG-00
	Beryllium (Be)	110			09-AUG-00
	Calcium (Ca)	96		85-115	09-Aပြီ-00
	Cadmium (Cd)	97		£7.8-112	09-ĄŲ̇̃Ģ-00
	Cobalt (Co)	701		€5.4-115	09-AÜĞ-00
	Chromium (Cr)	105		73.9-126	DS-AÚG-60
	Copper (Cu)	104		87-113	09-AUG-00
	Iros (Fe)	103		80.6-119	09-AUG-00
	Potassium (K)	103		69-131	09-ADG-00
	Magnesium (Mg)	102		79.4-121	09-AUG-00
	Manganese (Mn)	102		82.4-118	09-AUG-60
	Molybdenum (Ma)	104		-	00-DUA-90
	Sodium (Na)	100		52.6-123	09-AUG 00
	Nickel (NI)	100		85.6-114	09-AUG-00
	Phospharus (P)	102		84.7-115	QB-AUG-60
	Load (Pb)	94		81.5-118	09-AUG-90
	Tin (Sn)	75		-	09-AUG-00
·	Stronfium (Sr)	107		87.7-112	09-AUG-00
	Titanium (Ti)	1:9		-	09-AUG-00
	Toallium (°f4)	103			09-AUG-00
	Vanadium (V)	107		64.2-136	09-AUG-08
	Zinc (Zn)	Ç7		84.5-115	09-AUG-00
•••	rtes listed without acceptance limit	s have concentrations	approaching det	edion Bmk.	
VG162 <del>9</del> 9-1					
문H-1:1-ED	pH:	100		98.7-101	08-AUG-00
VG46600-2					
AS-HYD-ED	Arsenic (As)	93		88.5-112	15-AUG-00
VG18873-2					
METAL-EXO-SD	S.Iver (Ag)	110		-	(74 <b>S</b> E9400
	Barium (Ba)	93		78,7-121	77-SEP-00
	Beryllium (Be)	94		71.6-125	17 <del>-</del> \$\frac{1}{2}-00
	Calidum (Ca)	101		85.6-114	17-\$EP-00
	Cadmium (Cd)	∌4		85.1-115	17-SEP-00
	Cebalf (Co)	102		87.5-113	17 <b>-</b> 5E8-00
	Coromium (Cr)	98		63,5-130	\$7-\$EP 00

Workorder

1,14671

	Copper (Cu)	96	85.2-115	17-SEP-00
	Iron (Fe)	100	69.9-130	17-SEP-00
	Magnesium (Mg)	97	79.2-121	17-SEP-00
	Marganese (Mn)	103	76.3-124	17-SEP-00
	Molybdenum (Mo)	98	75.1-125	17-SEP-00
-	Sodium (Na)	98	79.6-121	17-SEP-00
	Nickel (Ni)	<b>1</b> 06	80-120	17-SEP-00
•	Phosphorus (F)	102	79.6-120	17-SSP-00
	Lead (Pb)	88	79-121	17-SEP-00
	Strontum (Sr)	104	85.3-1 <b>1</b> 5	17-SEP-00
	!itan:um (∏)	62	-	17-SEP-00
	Teallium (TI)	93	75-125	17-SEP-00
	(V) muiberreV	93	41.4-159	17-SEP-00
	Zinc (Zn)	114	79.9-120	17-SEP-00
Comments: A	slytes listed without acceptance limits	s have concontrations approach	ring detection limit.	
VG 18960-1				
PH-1:1-ED	pН	100	98.7-101	18-SEF-00

Workerder £14671

### Legand:

Limit	95% Confidence Inferval (Laboratory Warning Limits)
DUP	Duplicate
RPD	Relative Percent Difference ((higher result-lower result)/Average, expressed as %)
N/A	Not Available
LÇS	Laporatory Control Sample
SRM	Standard Heference Materials
WS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Description Efficiency
MB	Method Blank
1RM	Internal Reference Material
CRM	Certified Reference Material

### Qualifier

RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
A	Method blank exceeds dotection limit. Blank correction applied, where appropriate,
В	Method black result exceeds detection limit, however, it is less than 5% of sample concentration. Slack correction not applied.
¢	Method blank result exceeds detection limit, however, it is less than 5% of the regulatory limit for the analyte of interest. Slank correction not applied.
D	Duplicate result exceeds limit due to increased variability for low level samples,
E	Matrix spike limit exceeded due to high sample background.
F	Silver recovery low, likely due to elevated charide levels in sample.
G	Outlier - No assignable cause for nonconformity has been determined.
Н	Result fall within the 99% Confidence Interval (Laboratory Control Limits)



### Analytical and Consulting Services

1**7**225 - 109 Avenue

Edmonton, Alberta T5S 1H7

Phone: (780) 489-9100 Fax: (780) 489-9700

### **TECHNICAL REPORT**

To:

Enviro-Test/Eco Lahoratories

9936 67 Avenue

Edmonton AB T6E 0P5

File:

15798

Пате:

August 21, 2000

Citent PO:

BPO9509

Attention:

Rny Jones

Parameter	Sample ID: Deta Samolod: Unit	L14671-1 198139 PSO-01-2209-01 Not Supplied	1.14671-2 198141 PSO-02-2200-01 Not Supplied	Date Analyzed	Analyst initials
Sulphide	hā,8	0.54	<0.10	Aug. 11/00	G.M.

Parametei	Sample (D) Date Sampled. Unit	1,14671-3 198143 PSO-1]-2200-01 Not Supplied	L.14671-4 198145 PSO-12-2200-01 Not Supplied	Date Apa:yzed	Analyst Initials
Sulphide	μ <u>3</u> /g	6.20	<0.10	Aug. 11/00	G.M.

:	Sampte ID: Date Sammed:	L14671-5 198147 PSO-14-2200-01 Not Supplied	L14671-6 198149 PSG-14-2260-02 Not Supplied	<del></del>	
Parameter	Unit			Date Analyzed	Analyst   Initials
Sutplaide	π <b>6</b> /8	5,8	0.95	Aug. 11/00	G.M.

	Sample (O; Date Sampled:	L) 4671-7 198151 PSO-15-2260-01 Not Sepplied	L14671-8 198153 PSO-16-2260-01 Not Supplied		
Parameter	Unit			Date Analyzed	Analyst Initials
Sulphide	μg/g	4.6	0.26	Ang. 11/00	G M



### ALPHA LABORATORY SERVICES LTD. Analytical and Consulting Services

17225 - 109 Avenue Edmonton, Alberta T5S 1H7 Phone (780) 489-9100 Fax: (780) 489-9700

### **TECHNICAL REPORT**

To Enviro-Test/Eco Laboratories

File:

15798

	Sample ID: Date Sampled:	L14671-9 198155 PSO-17-2290-01 Not Supplied	1.14671-10 198157 PSO-18-2200-02 Not Supplied	Date	Analyst
Parameter	Unit			Analyzed	initiais
Sulphide	<b>4/8</b> 4	2.2	<€C.10	Aug. 11/00	G.M.

	Sample 10: Date Sample4:	L14671-11 198159 PSG-18-2200-03 Not Supplied	L14671-12 198161 PSO-19-2200-61 Not Supplied	Date	Analyst
Parameter	Uni;			Analyzod	init <b>ia</b> ly
Sulphide	<b>π</b> 8/8	9.39	0.32	Aug. 11/00	G.M.

	Sample ED:  Date Sempled:	I.14671-13 198163 PSO-26-2200-01 Not Supplied	1.14671-15 198167 PSO-13-2500-01A Not Supplied		·
Parameter	Unit			Date Analyzed	Analyst initiais
Sulphide	ពេទ្ធ/ដ	0.24	0.22	Aug. 11/00	G.M.

Parsmeter	S≵mple (D: Date Sampled: Unit	L14671-16 198169 PSO-21-2509-01 Not Supplied	1.14671-17 198171 PSO-21-2500-02 Not Supplied	Date Analyzed	Anaiysi Initialo
Sulphide	μ <u>g/g</u>	0.63	<0.10	Aug. 11/Ω:	Ç. M.,



### **Analytical and Consulting Services**

17225 - 109 Avenue

Edmonton, Alberta, T5S 1H7

Phone: (780) 489-9100 Fax: (780) 489-9700

### **TECHNICAL REPORT**

To: Enviro-Test/Eco Laboratories

File:

15798

	Sample ID:  Date Sampled:	L14671-18 198173 PSO-21-2500-01A Not Supplied	C14673-19 198175 PSO-13-2500-02 Not Supplied	Date	Anaiyst
Paramoter	Unit			Analyzed	Initials
Sulphide	F8/8	<0.10	<0.10	Aug. 11/09	$G\mathcal{M}$

Parameter	Sample ID:  Date Sampled:  Unit	L14671-20 198177 PSO-35-2300-01 Not Supplied	1.14671-21 198179 PSO-36-2300-01 Not Supplied	Date Analyzec	Aaalyst Ynitigis
Sulphide	FB'8	<0.10	0.30	Aug. 11/00	GM.

	Sample (D: Date Samples):	L14671-22 198181 PSO-37-2300-01 Not Supplied	L14671-23 198183 PSO-03-2206-01 Not Supplied		
Parameter	Unit	net Supplied	.voc auppned	Date Analyzed	Analyst Initials
Salphide	⊬g/g	0.55	<0.19	Aug. 18/00	GM.

		Date Analyzed	Analyst Initials
0.14		~ <del></del>	G.M.
	0.14	0.14 <0.19	0.14 <0.10 Aug. 18/30



### **Analytical and Consulting Services**

17225 - 109 Avenue

Edmonton, Alberta T5S 1H7

Phone: (780) 489-9100 Fax: (780) 489-9700

### **TECHNICAL REPORT**

To: Enviro-Test/Eco Laboratories

File:

15798

	Sample ID <sup>.</sup>	L(4671-26 198189 PSO-08-2200-01	£.14671-27 198191 PSO-09-2200-01		
	Date Sampler;	Not Supplied	Not Supplied		
				Date	Analyst
Parametes	Unit			Analyzed	Initial:
Sulphido	#3/g	0.29	0.16	Aug. 18/00	G.M.

	Sample (D) Date Sampled:	1.14671-28 198193 PSO-10-2200-01 Net Supplied	L14671-29 198195 PSO-30-2300-01 Not Supplied		
Parameter	Unit			Date Analyzod	Astalyst Initials
Sulpidae	hā/ā	<0.10	< 0.10	Aug. 18/00	G.M.

Parameter	Sample 19: Date Swinpled Unit	L14671-30 198197 PSO-31-2300-01 Not Supplied	L14671-31 198199 PSO-32-2300-01 Not Supplied	Date Analyzed	Aaa:yst Initials
Sulphiác	⊬g/g	0.44	<0.60	Ang 18/00	G.M.

Paresireter	Sancte ID.  Date Sampled.  Unit	1.14671-32 198201 PSO-39-2500-01 Not Supplied	L14671-33 198203 PSO-40-2500-01 Not Supplied	Date Analyzed	Analys: Initials
Sulphide	пъ/в	0.63	<0.10	Aug 18/00	GM.



### Analytical and Consulting Services

17225 - 109 Avenue

Edmonton, Alberta TSS 1H7

Phone: (780) 489-9100 Fax: (780) 489-9700

### **TECHNICAL REPORT**

To: Enviro-Test/Eco Laboratories

File:

15798

	Sample ID:  Date Sampled:	1.1467(-34 193205 PSO-41-2500-01 Not Supplied	£14671-35 198207 PSO-33-2500-01 Not Supplied		
Parsmeier	(init		••	Date Analyzed	Anglyst Iniliais
Sulphide	μg/g	0.19	0.14	Aug. 18/00	G.M.

	Santple ID:	L,14671-36 198 <b>209</b> PSO-34-2500-91	L14671-37 198129 PSO-36-2500-01		
	Date Sampleu:	Not Supplied	Not Supplied		
				Date	Anaiyat
Parameter	Ur <u>i</u> t			Analyzad	initials.
Sulphide	# <b>g/</b> g	0.18	0.15	Aug. 18/00	G.M.

	Samgie IC: Data Sampled:	L14671-38 198131 PSO-34-2500-01 a Not Supplied	L14671-39 198133 OP-A1-SF-2100 Not Supplied		
Parameter_	Unit			Date Analyzza	Azialys! Instiais
Sulphide	μ <u>σ</u> /g	<0.10	0.15	Aug. 18/00	GM

	Sample 1D: Pair Samoley	L1467)-40 198135 OP-BI-5E-01-2109 Not Supplied	L14671-41 198137 SE-OPB2-01-2300 Not Supplied	E)ato	Analyst
Parameter	Unit			Analyzed	Infriais
Sulphide	h8,8	<0.19	0.11	Aug. 18/00	G.M.



### Analytical and Consulting Services

17225 - 109 Avenue

Edmonton, Alberta, T5S 1-17

Phone: (780) 489-9100 Fax: (780) 489-9700

### TECHNICAL REPORT

To: Enviro-Test/Eco Laboratories

Fite:

15798

Project: L14671

	Sample 1D:	L14671-44		
	Date Sampled:	Not Supplied		i
	-		Date	Analyst
Parameter	Unit		Analyzed	faitials :
Sulphide	₽8/g	¢.15	Aug. 18/00	G.M.

Analysis Verified by:

Lisa Reinbolt Supervisor

Report Authorized by:

Boo Lickacz, B Sc., P.Biol

Presidem

Note: All samples will be disposed of 30 days after analysis. Please advise the laboratory if you require additional sample storage time.

CLIENT: ETUES

ATVENTION: Rey Jones

PROJECT: L14671

DATE: 8/21/00

FILE NUMBER: 15793

QUALITY ASSURANCE REPORT

VERIFIED BY: X

incompany of the control of the cont	SPIKED SAMPLE	2	106 92 100 34 B2.84 119 12	102.76 100.83 62.03 116.04
		W. RECOV	200	102
	PPLE	Diff 95% C.L.	(01)	10.0
	ICA'FE SAN	Ŧ.	200	0.03
	DUPLICATE SAMPLE	Ą	620	6.03
	CONTROL STANDARD	MEAN 95% CONFIDENCE LIMITS	QC Check New Association	QC Check Not Applicable
		SED RESULT	8	ş
	TACL 1	ANALYZED	8/11/02	8/18/00
		PARAMETER - METHOD	Su(a) ide Spor	Sulphida - Spec.

No. 4861 page [ of ]

# CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

Assessors Associations Rernadas Line EMONTON, ATTA Ambses Reguled 42.12 45,54 12 To 15 To Charles Note: CO-16ST Χ Tolejshopselfat. Address: Show Grant/As R Plan/ yellondante plane Bertrand Related SCN (nwi) Syde Cyde (ower) Project Mynthes: 24-18-4500 Sample Type (wer) (FITE MM) Satuples (D/M/Y) 25/07 Sampled Chisk 25/07 122 X221 Colder Connect 1884 1884 Manha (eve) Sample Sample Depth (m) 1 Telephone (804) 298-8623 Fax (804) 298-5233 58.4 Sumaby, British Columbia, Canada VSC 506 Haz Ward G Golder Associates ~ Sample Location 500 - 4250 SPII Creek Drive 2007年 2007 \$ 8 ÷ - 07 - 08 <del>-</del> 80 Skraple Control Number (SCN)

<del></del>		1 [:					
			Company	Сепраку	- <u>-</u>	Tince	
	 			នីព្រះអាលក	Pink	Date	
			Received by: Signatore	Received by: Signature		without Sign	pod
	-		Gind	Jens I	Received for Lab by:	Temp (**C) Couter epoint is g	PINK: Lob Relains with Final Report
					Rec	Temp ('C')	MAK: Lob Reb
			pany Date	Company Date	Wesphill Rot.	Shirping Condition: Next Intest	ib Copy
			Company	Chir	Way.	ii	6
			by: Signalure	Reimpushed by: Signature	Method of Shipmand	Shipped by	idet Copy
			Redequar	Reinquist	Method of	(, political)	White Cylder Copy
			Jarre Jarre				
. 14			<u> </u>	Spenyle Stylenge (C)	Chaugads:	-	-
•	k pi:	9 6	<del>х</del> Эте:		nae	<del>. ლა</del>	98.80 1988

- 12 . 33

, .

Date

Temp (\*\*C) Cooler spensi by:

Received for Lab by.

Waybil No.

Method of Shipmene

and anolysis

Capt som ple ost

No3885

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

SWV1RDTEST	9936-67 ave, Eduriondon	130-1313-5280 Oxf. C. F.	Control of the Contro	X X		X X Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	(Soilsamp)	X X	; 	γ 5 ×>			X	[z]- X X	1 1 X X		Tiline Reactived by: Nigrature Company	Tine Received by: Signature Company
THI KAWAK/AGRAM / Yellowshiften ENVIROTES	2418-4500 Mag	Derrand	Sample QAQC Retacut Type Core 3CN (ever) (ever)														Company Date	Company Date
182	2002 - 24 I	<del></del> 7.	Sample Sample Date Time Depth Mithix Sampled Sampled (m) (comp) (137 Mithi) (FFLMM)	351 22/04	~ :	105	Soil	.58	Sol	, (S.	<b>S</b> 2	ias	5	S	501 25/07	Soi 125/07	Relinquished by: Signature	Relunguisheil by - Signatum
Golder Associates	500 - 4280 Shill Creix Brive Bumahu, British Columbia, Canada VSC 606	Telephone (604) 238-8023 Fax (604) 298-5253	Sample Camed Sample St.# Printer (SCN) Exemina	PSD-0  -	20 - 00 TO S. J.	175-12 - 175-17 175-12 - 175-17 175-12 - 175-17	2202-01 <b>8</b>	# 120 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10-10-10-10-10-10-10-10-10-10-10-10-10-1	2202-14-69	150-07 <b>29</b>	250 18 250 - 63 - 8	200-01	0,		1	, Panauj	

VELOW: 1gb Co

WHIE Golder Copy

Shipment Condition: Sad Inter:

PMR: Lob Refurns with Fixal Report

No. 3886 ARE Zel 3

# CHAIN OF CUSTODY RECL., D/ANALYSIS REQUEST

er ates
Golde

A esociates	der ciates			Project Number	<b>.</b> {	2418	4500	00		Table of the last	ENVIRO TES	VTEST		4779	-
500 - 4209 Still Cleek Dave	Odve			Short Title:		Ar R. Barn			0	Modera 936	l	-67avr	SUT.	Edmont	7 Por 0:
Burnaty, Brisch Columbia, Caneda VSC 608 Teksploure (KD4) 298-6673 Fax (KD4) 298-5	nha, Caneda Vi 1823 - Fax (404	Janeda VSC 606 Fax (A04) 298-5253		Golder Conder		11/2	17	0	/	Tolenhone 7	708-70 13 52-20	280	0 	"ck 2.	
				}							00.	Aud)	A Required,		The Contraction of the Contracti
Sangale Coulous Namber (SCN)	Sample	¥°CS	Sample Depth	Sample Matrix	Date Sampled	Trans Sampled	Sough	QAQC Cade	Refamil SCN	10 Jigall				No.	1900
i				(Care)	in a local district.	(MINCHINE)	icver!	(10)(0)	(ניאט)	1000	V.	Y X	12 to		(car)
0.000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	•			? !	t0/52					×	7	×		-3	
120-12				Ř	52/cz	:	:	<del>,, ,</del>			>	X		<del>1</del> <del>1</del>	Buck
\$20-21- <b>69</b>				ļø\$	12/97						Á	X	79		#
2530-50- 84					15/63					×	^		13		Q5463
<b>经验</b>										; ]   ; ]   ; ;	<u>ر</u>				
(SO-3-5-			• • • •	Ę,	10/67					<del>-</del> -	×	X	1 12	(ئ	
10-00-27				Ŗ	22/27						$\triangle$	Х	7.		
150-37- <b>6</b>				- 1	t0/22					- 1	_	X	1,1	-54	
(%) Co.		Ñ	1922						×	<i>&gt;</i> :	.7				
120.002 W			. 4	- [S	70/2			!			$\stackrel{\sim}{-}$	<u>بحر</u>	H	<b>—</b>	
200-05 200-05				্ষ্ট	toh		<del>-</del>	. <u> </u>		 	X	$\times$	, ~		
250-08-1			<del></del> i	Ţ,	79/2		<del> </del>				$\wedge$	Х	1 24	~3	
(80-04).				Ţ,	2407							X	13.4	-	
22.02-07			·····	জ	50/2						$\times$	$\times$	377		
- 15	_	_	_			••									

WHITE Colder Copy

ver own tobidopy

Shipment Condition: Scal francia

Wayblete

PINK; Lab Returns with final Report

Company

Ruce voil by: Signature

Link

Company

Received by: Signature

Ţij¢

Campany Company

Relimposited by: Sagnature

Relimpished by: Signature

Oppylate Rigarian (America)

Method of Shipnerse

Stifty by:

Coep personano sono por supple fin they and asko

ografia dist

Min'r

Date.

Received for Lab by

Diane

Dyr

Temp (\*C) Coole: epened by:

# CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 062 108030613

67am -abomest Name: ENV Actor 9936. Project Windows 201-2418-4500 Burnaby, British Colombia, Canada VSC 808 500 - 4930 SMI Creek Drive

Control   Cont				Remarks		يو.		Ş							•			<u> </u>					· · · · ·
	77)		1/2	12 5 12 5		9	, ,		) ;							. –				Company	Dompmay	Tithe	Tiere
	CL	Seri	95 95			30	- ~ ·	32	-34	17.	1 %	3,75	- - - - - - -	\$ °		13-	7		-	eyo.	akin .		
Control   Cont		Wars Regi			\ \_ \_	   x	_	_		~					V					by: Signat	by: Signat	(Tale	2 Cale
Chemistry   Chem	528	Y VIII	3		ŀ															Received	Received		- A
Control   Stranger		*					$\sim$	<b>∠</b>	1	×	V)		y	×			IJ					h by:	orodo Jajou
	Solious Sa		-10.4 -10.4							_				_				-			Time	elvay for?	
14 (1979) 20-6622 For (1974) 20-5553  10 (1974) 20-6622 For (1974) 20-5553  10 (1974) 20-6622 For (1974) 20-5553  10 (1974) 20-6622 For (1974) 20-5553  10 (1974) 20-6622 For (1974) 20-5553  20 (1974) 20-6622 For (1974) 20-5553  20 (1974) 20-672 For (1974) 20-5553  20 (1974) 20-752					_	- <b>-</b> ·.	va-ma		<b></b>			_		<u> </u>								Cay.	<u> </u>
	0		School SCN	(cwee)						:				   		 				وا	,	:	[
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	77		2.40 2.40 3.40 3.40 3.40 3.40 3.40 3.40 3.40 3	(gveg) X	<b></b>								<b></b>	 							5	 	/Keiner
1. Hollen Calmura Ves. B.1.8  1. Hollen Calmura Ves. B.1.8  1. Location Surrele St.4 Sample Sample Date Time  1. Location Joseph St. 1  1. Location Very Sample Sample Sample Sample Sample  1. Location Very Sample Sample Sample Sample  1. Location Very Sample Sample Sample Sample  1. Location Very Sample Sample Sample Sample  1. Location Very Sample Sample Sample Sample  1. Location Very Sample Sample Sample Sample  1. Location Very Sample Sample Sample Sample  1. Location Very Sample Sample Sample Sample  1. Location Very Sample Sample Sample Very Samp	ie tr											! !	<u> </u>   		· •• ••					<b>Autorial</b>	оверячу	rybili No	lighted by Con- rel Barbet.
10 (Contact) 11 (Contact) 11 (C		ļ	Sampled	III:MM) K'		<b>-</b>														<u></u>	<u>                                    </u>	<u> </u>	<u> </u>
10 (EM) 230-8622 Fax (504) 238-5553  10 (EM) 230-8622 Fax (504) 238-5553  11 (EM) 230-8622 Fax (504) 238-5553  12 (EM) 10 (EM)	Lan		ш.					167 167	40%	$\sim$	63	10.7×	67.	√6. <del>3</del>	4	-£16	40				! <u>!</u> ;		
10 (CM) 290-8623 Fax (604) 298-5553  10 (CM) 290-8623 Fax (604) 298-5553  11 CM CM M M M M M M M M M M M M M M M M	CONTROL				[25]						-	/	/			,	·_ ·	- 		Signalare	Signature.	i.	
Thirty Columbia, Canada Ved Rich and (COM) 230-662 Fax (COM) 230-6				···· <u>-</u>	A	√२	ঞ	R	B	Ŕ	æ	Ŕ	50,	ঞ্জী	Se	X.	Ŕ			ed by:	getsned by:	and all Stepha	လူမှား
no (ecot) 230-9622 Fex (904) 230 (ecot) 230-9622 Fex (904) 230 (ecot) 250-9622 Fex (904) 230 (ecot) 250-9622 Fex (904) 230 (ecot) 250-9622 Fex (904) 230 (ecot) 250-9622 Fex (904) 230 (ecot) 250-9622 Fex (904) 250-9622 Fex	1-5253				:															-	REGINAL TO THE PARTY OF THE PAR	that the	Shipped
an (ECM CA) CON CAN CAN CAN CAN CAN CAN CAN CAN CAN CA	(GD4) 298	_			•														!	}		Karry	Sterly
Sample Control Sample	BESS For	P. C. Carlo	Location	*																Moy		aech.	anal
The state of the s	(env) 290-	Post Road	(SCN)		**	- 1	!	١٠.	• [	*			8		\ \$\frac{1}{2}	<b>3</b>	See	- 14		SUL	(g)	3 3 3	then.
ng ニー g こうしょ はしょ あかい たいかい ました リスピン はいかい はんしゅう はんしょう はんしょう はっぱん はっぱん はっぱん はっぱん はっぱん はっぱん はっぱん はっぱん	letephona	Catalyla F	Manaber		32. 20. 20. 20.	~ 65 6 6 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	76-08- 108-	185 185 187 187 187 187 187 187 187 187 187 187	90 90	7.05.4 200.4	250-33	\$5 \$5 \$5	\$18 \$18 \$18	が なな なな	٣,}	2-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7	\$\$5 175 170 170			Ticological Control	iniorS acijui	Constitution of the second	J. 100

WHITE CAMPA COLM

YELLOW: Linb Copin

Pitan I do Petuns with Brot Report

dmonton (Wain)

336 - 57 **4**36476 Briggrafi **38** 35 08 9

Trone: (720) 413-0227 na (750: 437-0314

Simprims (Devinted ); idasirial Hygiene gurit, 10158 - 103 Street

timentos (AS) 5. 106 5. 106 5. 106 (752) 413-5965 5.0 (762) 424-9668

rasgary

ay 3, 1213 - 44th Ave INJ. Mar N. AB 35 8L5 Mager (403) 291-9697 451 (103) 291-0298

igande Prairie

606 11 Street conce Prairis AB 15V 6VV 1996 (780; 539-5196 ax (780; 513-0191

Reskainen

(14 Valendary Read (88 KB) 201, Dá (88 KB) 201, Dá (88 B) 201, Dá

Penned (396) 66648363 Part (396) 66648363 Participants

Матред

745 Legar Avanir Amoripee, MB 635 SUS Foore: 1204) 545-8705 Foor 1204) 645-0763

Thusne: 6av

1081 Barton Streat Taunger Bay CN PAR 5903

Phone: (807) 823-8438 Fex (807) 823-7638

Ottaws

Force Laborator as Inc. (718-5) Laborat Biyushinin Ida (200-200) Control, QC (210-418) Phosps (2013) 721-(1002 Rec. (2013) 736-(1077

Чустіла

© West Arct Street Sysper, Wyomeng, 82601 Phone (307) 226 5741 7.50 (307) 200-1675 1-800-1686-1906

Canada Wate Phone:

56-5878

Weslern Capada Fast 1-800-286-7019

peyrer receivatest.com

### ETL Enviro-Test

A DAMENT DE FIL CHENTES DE L'HAVENCAL LA BILLE

### CHEMICAL ANALYSIS REPORT

GOLDER ASSOCIATES LTD.

ATTN: VALERIE DURTRAND 500 4250 STEL CREEK DRIVE BURNABY BC V5C 6C6 DATE: November 30, 2000

Lab Work Ordor #:

1,17438, 85VISF0 Soci S

Project P.D. 4:

\*\*\*

Project Reference:

002-2418

Sampled By: DP

Date Received: 09/15/00

Comments:

ADDITIONAL 39-DOT-00 14:53

APPROVED BY:

Projest-Magager

ONES

7BIS REPORT SHALL NOT FE REPOLICIOSO EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY. ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS, PLEASE CONTACT THE LAB IF YOU RECURSE ROOF RONAL SAMPLE STORAGE TIME.

ACCREDITATIONS: STANDARDS COUNCIL OF CANADA (SCC), IN COCREDITATION WITH THE CANADAM ASSOCIATION FOR ENVIRONMENTAL ANALYTICAL LABORATORIES (CASAL), FOR SPECIF OF TESTS AS RECISTERED BY THE COUNCIL (SOMONTON, CALSARY, SASKATION, WINGHER, THE BAY, AMERICAN INDICESTRAL HYGISHE ASSOCIATION (MHA) FOR INDUSTRIAL HYGISHE ANALYSIS (SOMONTON, MI STANDARDS (COUNCIL OF CANADA IN COOPERATION WITH THE CANADAM FOCO INSPECTION AGENCY ACPUATORS, FOR ERPTAUTER AND FEED TASTIND (SASAN MORE).

Leo ID	Sample ID Test Description	Result	5.L.	Units	Extracted	i Analyzed	Ву
1174 <b>3</b> 8-1 Y9	ELEOWKNIFE+PS0-12-2200-02					i	:
Sample Date					:	İ	;
Matrix: SOIL							
			•	ļ	i	1	¦
	Arsenic (As)	0286	0.1	mg/kg		27-SEP-00	m
	Sulphate (SO4)	210	10	mg/kg	!	20-SEP-00	JΖ
	Acid Volatile Sulphides	40	10	mg/kg	20-8EP-00	22-\$ <u>EP-00</u>	BA
	pH	7.5	0.1	pΗ		20-SEP-00	RT
	ELLÓWKN:F5~950-12-2200-03	<del></del>					Ϊ.
Sample Dato							
Matrix: SORL		:		:		i	!
	Normalia (Aus	1			:	· !	
	Arsenio (As)	. 1120	0.1	mg/kg		27-SEP-00	J.I
	Sulphate (SO4)	270	10	mg/kg		20-SEP-00	JZ
	Acid Votatile Sutphiciss	50	10	mg/kg	20-SEP-00	22-SEP-00	. В.
49388 A	pH	8.0	0.5	рН	<u>:</u>	20-SEP-00	P.T
	ELOWKN:FE-P\$0-28-2300-01						
Sample Date Matrix: \$OIL							
Metrix. SUIL				:	:		i
	Arsenio (As)	8€1	0.1	; ;	i	27-SEP-00	į . JJ
	Sulphate (SO4)	350	10.1	mg/kg	ļ		
	4cid Volatie Sulphides	350 20	1C 1C	mg/kg	05 355 30	20-SEP-00	: JZ
	ald	· 77	0.1	mg/k <b>g</b> =14	25-SEP-30	27-SEP-00	. 9A
⊑17438-5 YD	::LLOWKNIm1+Psc-54-2200-03	<del></del>	v.	H :	<u>.</u>	20-SEP-00	ות !
Sample Date	.EEOWINI 1 1 30 74 2200-63						
Matrix: SOIL		:		i	İ	!	:
		i		!		:	
	Arsenic (As)	2240	0.1	img/kg		27-SEP-00	JJ
	Sulphate (SO4)	310	10	mg/kg		20-SEP-00	z
	Acid Votatile Sulphides	20	10	img/kg	25-ŞEP-00	;27-\$EP-00	: BA
	pH;	E.2	21	j'''a'''a ioH		20-SÉP-CD	: চা হো
1943646 ***** <b>Y</b> S	LLOWKN FE-PS0-17-2200-02		·	· -			
Sample Date				:			
Metrix: 30 L		į					
	•	! !				:	
	Arsenio (As)	195	0.1	rag/kg	!	: 27-SEP-00	.1.1
	Sulphate (SC4)	50	10	img/kg	!	20 SEP-00	JZ
	Acid Volatile Sulphides	30 !	10	ing/kg	25-SEP-00	27-SEP-00	BA
	p <b>⊢</b> .	7.5	0.1	pH:		29-SEP-00	li ź
L17439-7 *** YE	ULGWKN FE- PS0-07-2200-01						+ -
Sample Date		: !					!
Matdyr SOIL		:					!
				!			'
	Arsenic (As)	2920	0.1	img/kg		27-SEP 00	
	Sulphate (SC4)	5910	10	mg/kg		20-SEP-00	. 12
	Acid Volatile Sulpoides	30	10	:mg/kg	25-SEP-00	27-SEF-00	64
	<b>ɔ</b> ∺	7.0	0.1	ρH		70-SEP-06	57

Lao ID	Sample (U	1es: Déscription	Resuit	D.L.	Units	Extracted	Analyzed	Şy
<u>417438-8</u>	YELLOWKNIFE-750-04-2	2200-04					:	
Sample Date							!	
,λέρξήκ:	SOIL		:		:	:	•	:
	Arsenic (As)		873	0.1	,mg/kg		27 SEP-00	i dd
	Sulphate (SO4)		130	10	mg/kg		20-85P-00	JZ
	Add Votatile Suiphid	les	20	10	nig/kg	25 SEP 00	27 SEP-00	BA
	pl :		6.9	0.1	işsét		20-SEP-00	RT
L17438-9	YELLOWKNIPSAPS0-06-2	2200-02	· · · · · · · · · · · · · · · · · · ·		- <del></del>	·: - ·		
Sample Date			· ' :			'		
Matrix:	SOIL						i	:
					İ		i	İ
	Amento (As)		50.2	0.1	mg/kg		27-SEP-00	33
	Sulphate (SO4)		130	10	mg/kg		20-SEP-00	يتر إ
	Add Voratile Sulphid	les	20 .	10	ing/kg	25-SEP-80	27-SEP-00	BA
	p⊢		8.1	0.3	рH		20 SEP-00	हर
.47438-10	YOLLOWKNIEG #8866*-2	2200-02	<del></del>		··	<del> </del>		ī
Sample Date								
Matrix	SO!L		1					i
			İ					
	Arsenic (As)		130	0.1	mg/kg		27-SEP-00	IJ
	Sulphate (\$O4)		270	10	:mg/kg	İ	[20-8EP-66	JŽ
	Add Volatile Sulphid	tes	20	10	mg/kg	25-SEP-00	27-SEP-00	: AB
	o~		7.2	0.1	FI4	i	20-8EP-00	RT
117438-11	YELLOWKNIFE-PS0-15-2	260-02				† ····-	- <del> </del> ··· -·· \	7
Sample Date							!	
Matex	SOIL						1	İ
					!	: I	İ	:
	Arsenic (Ası		802	Ċ.1	mg/kg	ļ	27-SEP-00	J.;
	Sulphate (SO4)		300	10	nig/kg	!	20/SEP-00	3Z
	Adid Volatile Surphid	les	30	10	lmg/kg	28-557-00	27-SEP-00	8.4
	pH		B.3 ·	0.1	j¬Н	1	20-8E5-90	: RT
17438-12	YELLOWKN FE-PS0-15-2	200:03 ····	<u> </u>		·		·	:
Sampie Date			!				1	
Matrix.	SOIL							
			•				:	
	Arsenia (As)		2280 .	0.1	,mg/kg		[27-SEP-00]	37
	Sufphate (\$04)		500	10	ભા <b>ત</b> ાલું		20-85P-00	32
	Acid Volatre Sulphit	les	19	10	img/kg	25-SEP-00	27-8EP-00	BA
	ρΗ		7.9	0.1	ol (		25-8EP-03	RT
<b>.174</b> 38-13	YELLÖWKNIEE-PROZIZ	₹605-63	<del></del>			·	+	<del> </del>
Sample Фате							1	
Matrix;	SOIL							
							!	1
	Arsenic (As)		į 247	0.1	mg/kg	:	; [27-857-00]	زن
	Subhate (804)		120 .	10	mg/kg	[	  2048#7460	JZ.
	Acid Volatiic Suighid	20	30	10	ಚಿಕ್ಕಾ/ಕರ	25-3EP-00	27-8EP-00	54

Lab ID Sample ID	Test Description	Result	D. <u>ii.</u>	ηits	Extracted	Analyzed	3)
17433-14 YELLÇAVKN: FE~P	SU 38-2500 02				:		ļ
ample Date							:
Aastix, SO:L		:					
		and the second second		i	ı		Ι.
Arsenio (As)		14.4	0.1	mg/kg		27-SEP-CO	11
Sulphate (SC		280	10	mg/kg		20/SEP-00	¦ JZ
Add Volatile	Surphides	50	10	mg/kg	25-S&P-00	27-SEP-00	34
oH		6.3	0.1 	_6¥1 —4. • • • • • • • • • • • • • • • • • • •	<u> </u>	20-SEP-00	į Rī
47438-15 YECCÓWKNIFS-P jample Date	50-21-2500-04						
Matrix: ŞÇIL					į	!	ļ
		:		'			!
Water-So/uble An Argenio (As)		0.4					
Argenis (As)		0.1	0.1	mg/L	İ	30-007-00	jj
Arsenic (As)		1≥3	0.1	mg/kg		1 27-SEP-00	. ))
Sulphate (SC		130	10	mg/kg		20-SEP-00	 JZ
sittalet Apid Volatile		43	^C	jmg/kg	!   25-SEP-00	27-8CP-00	D/
pH:		7.5	G.1	bH Lucza	**************************************	120-SEP-00	: R1
47438-161 TOTT YELLOWKN FEFF	S0-35-2300-02			_!	. <u> </u> -	120-521-700	<u></u>
iample Sate	<b></b>	;		!	:	1	!
Mairix. SOIL		i			:		i .
Arsonie (As)		22.4	0.1	mg/kg		27-8EP-00	ن ا
Sulphate (SC	04)	110	10	mg/kg		20-SEP-00	JZ
Acid Volatie		40	10	i <sub>mg/kg</sub>	23-8 <b>EP-</b> 30	65-0CT-00	B/
г⊣	, .	8.0	0.1	pH		20-SEP-00	F.1
1743657 TOTAL YELLOWKN FERR	50-57-2300-02					120 00. 00	
iampie Opte							
Matrix: SOIL							
Water-3olub₃e Ars	senic Species						
Arsenio (As)	•	6.8	0.1	img/L		30-00T/00	JJ
				1	i	1	
Arsenic (As)		2930	0.1	тд/хд	!	27-SEP-C0	. 33
Sulphate (SC	94)	400	13	ាធ/កំពុ		20-\$65-00	37
Acid Veratile	Sulphides	20 !	10	mg/kg	29-SEP-00	Q5-OCT-Q0	34
p⊢		7.7	0.1	Hc		20-SEP-05	Rī
17438-Y8 YELLOWKNIFEFF	SC-31-2200-02			· ;	<del> </del>	†	<del></del> -
ample Date		:		:			
Matrix SOF				1	:	İ	
		:					
Arsenic (As)		221	0.1	mg/kg		27-SEP-00	JJ
Sulphate (SQ	•	200 :	10	mg/kg		20-SEP-00	<i>:</i> 7
Apid Volatile	Sulphidas	30	10	mg/kg	29-SEP-00	Q5-CC\$7-00	₽4
ρĦ		· E.D	0.1	ş⊢	!	20/SEP-00	R:
1743 <b>6</b> -19 YELIOWKNŒE-₽	SO-32-2300 02			:	İ	<u> </u>	
ample Date		į		i	:	!	i
fairin SOIL		:		!			-
		i		!			

Lan .D		lest Description	Resulf	υ <u>.</u>	Units	Extracted	· Analyzed	. By
L17435-15	YELLOWKNITE-PS0-	32-2300-02				<del> </del>		Ī
Sample Date			!					
Watrix.	SOIL		·			i	ı	ļ
			· .					:
	Arssnip (As)	•	. 50.3	2.1	mo/kg	İ	27-SEP-00	نډ
	Sulphace (SO4)		250	10	mg/kg		20-SEP-00	JŹ
	Abid Votalke Saly	ph-des	25	-0	mg/kg	: 29-SEH-00	05-00:200	BA
	Pc		5.1	3.1	рH	į	, 20-S∄P-00	23
L17436- <b>2</b> 0	YELLOWKN/##-P\$G	17-2200-03				: :	†	<del></del>
Sample Date			:				:	!
Matrix.	SOIL		į			: :		:
						!		
	Arsonic (As)		110	0.1	mg/kg		27-SEP-00	77
	Sulpriate (\$04)		90	-U	mg/kg		20-SEP-00	JΖ
	Acid Volati e Sul	phidas	20	10	Ing/kg	28-SEP-00	C0-TCO-80	: BA
	nH 		. 7. <del>5</del>	2.1	рН		20-SEP-00	; B1
.1743B-21	YEULOWKN FE- PS6-	15-2200-04			· · · · · · · · · · · · · · · · · · ·	Ì		
Sample Dete						İ		
Matrix:	SOIL				:	 		
	A		acie			:		
	Atsenio (As)		2540	0.1	mg/kg		27-599-00	3J
	Sulphate (SC4)	-11	250	10	mg/kg		20-SEP-00	jΖ
	Acid Volatile Salt	004088	< 10	10	mg/kg	10-00 i-00	16-007-00	B4 !
	pH		۵.1 . 	0.1	DH 	<u>.                                    </u>	2048EP-00	RT_
L17438-22 <sup>11</sup> Sample Date	YELLOWKNIFF-PSO:	38-2200-02	•					
sa ripe bale Matrix:	SOL					  -	İ	
MEGIA.	Water-Soluble Arseni	:- P-4-i44						ļ
	Arganic (Ag)	IC 5 DECREE	; 0,1	0.1	mg/L		30-OCT-00	ال
	(0/110-1-2)			Vil	1	į	i	
	Arsanic (As)		1270	1.0.1	mg/kg	•	27-852-00	LL
	Sulphate (SO4)		210	10	; ,mg/kg		20-SEP-00	JZ
	Add Velatia Sul;	chides	<10	10	img/kg	10-00T-00	18-00T-00	BA
	рĦ		8.3	0.5	μH		20-SEP-00	RT
.17438 23 11	YELLOWKN FE-PSD-	11-2200-02	<del>-</del>				· ·	
Sample Date	1							į .
Мыйік:	SOIL		: 1					
					:	!	1	
	Arsenic (As)		2520	0.4	mg/kg		27-SEP-00	13
	Surphate (SO4)		1790	<b>0</b> 0	img/kg		28-SEF-90	jΣ
	Acid Volstle Seq	oldes	20	12	mg/kg	10-00%-00	18-OC3-00	8.4
	pН		7.5	0.4	pΗ		2D-SEF-80	Ľ.~
.17438-24	TTYFLOWK%F6~PS5√	94.8700-02	<u> </u>		···		1	<del>:</del> -
mple Date						I	İ	:
Matrix:	SO:L		:					
	Avenued - J.No.		7.80	5.4		  -  -		
	Arasnic (As)		249	0.1	mg/kg	:	27-85P-00	1.'
	Suippate (SO4)		1240	10	mg/kg	i	20-SEA-00	34

Lab /D	Samble ID	Test Cescnotion	Result	,	L. Enfts	Extraced	1 Analyzed	Ву
L17433-24 Sample Date	YELLOWKNIFE-PSo-	-09-2200-02						
	ЭIL				:			!
			. :				:	!
	Acltr Volatr'e Su. pH	estind!	20 7.7 .	10 0.1		10-007-00	18-00T-00 120-8FP-00	BA RT
						<u>:</u>	1200011110	IXI
:			į			İ	; ;	
						:		:
:			·  			;		
 	•		·			!		!
			İ	i		İ	:	:
			i					
				:	· ·		i	
			!			!	!	
:			i		:			:
								:
					i			į
				:		:		
			.					
			·	į.		!	:	
				!		İ	:	
					ļ		:	
:			!		i	!		
•				•	İ	!		
İ			i	i	j			
i !				ļ	}	i		
•			:	i		į	i	
						!		
:				:	i	İ	•	
				:				
						!		: -
			!		i i		i	
			į			•	į	
			!		1			

# Methodology Reference

ETĻ Ţest Ço <u>de</u>	Test Description	Methodology Reference (Based On)
AS/4Y0-ED	Arsenic (As)	APHA 3114 C-AAS - Hydride
AS-SOL-ED	Total Water-Solub a Argenio	Birkholz et al + APHA 3114 C-(HGAAS)
PH-1.1-ED	p. <del>+</del>	C. CSSS 16.3 Electrace on 1/2 ext/:
SO4-E0	Suitate (SO4)	APHA 7110 B-lot Chromatography
SULPHIDE-ACCIVICE-18	Surphide	EPA goads

Workorder

L17438

QC Type: BLANK					
Lab QC Number:		Result C	ualifier Uni	is Limit	Ana/yzed
WG19202-1					
S04-E0 <u>-</u>	Sulphate (SO4)	<10	rng/k	kg 10	20-SEP-0C
QC Type: MBLK					
Lab QC Number:		Result C	ualifier Uni	ts Llmit	Analyzed
WG19627-1					
CB-CYH-SA	Arsenic (As)	04	mg/k	og 0.5	27-SEP-30
QC Type: DUP					
Lab QC Number:		RPD	Qualifier	Limit %	Analyzed
WG19168-2					
PH-1 1-ED	рŀ	Ç.14		1.1	20 SEP 00
WG19158-3					
PR-1:11-ED	pH	C.41		1.1	20-SEP-00
WG19202-5					
\$04-50	Sulphate (SO4)	9.5		20	20-\$EP-00
WG19202-9					
SO4-ED	Sulphate (SO4)	5.0		20	20-SEP-00
WG19627-5					
AS-HYD-ED	Arsenic (As)	2.5	···· · · · · · · · · · · · · · · · · ·	12.5	27-SEP-00
WG19627-7					
AS-HYD-ED	Arsenic (As)	5.5		12.5	27-SEP-00
QC Type: LCS					
Lab QC Number:		% Recovery	Qualifier	Limit %	Analyzed
WG19158-4					
PS-1:1-ED	ρH	100		98,8-103	20-SEP-00
WG19168-5					
PH-1:14ED	pΗ	101		98.7-102	20+SEP-00
WG19158-6					•
PH 1:1 ED	Hc	1C0		100-104	28-8#F-81
WG19627-2					
AS-HYO-ED	Arsenic (As)	102		85.5-114	27+857+00
W@19627-3	<del></del>				
AS-HYO-FD	Arsenic (As)	95		85.5-114	27-SEP-00
QC Type: MS					
Lab QC Number;		% Recovery	Qualifier	Limit %	Anatyzed

Workorder LN7438

SC4-ED	Sulphate (SO4)	98	76-126	20-SEP 00
NG:9627-4			<u> </u>	
AS-HYD-ED	Аквной: (As)	102	79.6-120	27-3EP-00
VG19627-6		····		
AS-HYD-ED	Arsenic (As)	<b>9</b> 8	79.6-120	27-SEP-00

QC Type: SRM

Lab QC Number:		% Recovery	Qualifier	Limit %	Analyzed	
W@!9158-1	•			<del>.</del>		
PERMISED	р∹	101		98.7-101	20-SEP-00	

Workproen L17438

#### Legand

906	Cuplicate
מיזה	Relative Percent Oifference ((higher result-lower result)/Average, expressed as %)
N/A	Not Available
LOS	Laboratory Control Sample
SRM	Standard Reterence Materials
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADÉ	Average Description Efficiency

#### Quarifier

_	5 11141	
	RPD-MA	Relative Percent Ofference Not Avaliable due to result(s) being less than detection limit.
	A	Melinal bank exceeds detection limit. Blank correction applied, where appropriate.
	B	Method blank result exceeds detection (imit, however, it is less that 5% of sample concentration.
		Øenk correction not applied.
	С	Mothod blank result exceeds detection limit, however it is less than 5% of the regulatory limit for the
		analyte of interest. Black correction not spolled.
	D	Duplicate result exceeds artific due to increased variability for low lovel samples.
	E	Matrix soike limit exceeded due to high sample background.
	F	Silver recovery low, likely due to blevated charide lovels in sample.
	G	Outlier - No assignable cause for nonconformity has been determined.

#### MAITE - Pegologia RINIC Fledou WELLOW C., Nove Cop. X5>+t/\_ NOTE: Failure to properly complete all-perform of this form may down (unalysis LAB SAMPLE NO. . <u>G</u> <u></u> DATE Ť ì All hazardrus semples automitted notes by house to comply with MY IMMS regulations. This most include the nature of the hazard, as well us a conference of sehono number that this fair can contact for further informalien. 经企业资金 RECEIVED BY ANALYSIS REOUESTED: THIAR CAMPINE 30 for SAMPLE COMO POR DPONTECLIPA. COLUMN PROPERTY AND A CONTRACT MANDE 1080 Gargar Paris HELIMOTOPSHI LEBY: THE INC. SCHEDING ž ٦ Ņ Ü Ž 9 FOOTEN ١ Ž ٩ SAMPLE FILTFIFF CHAIN OF CUSTODY LANALYTICAL REQUEST FO SPECIAL REQUIREMENTS / REQS . (786, 457-23.1) - 1 (86-23)-70 (9 - (466, 271-02)9 - (784, 545-219) 1335 648-8-34 1204 345-4043 1007, 329-7534 2. Turnarecong tones, will very dependant on complexity of acceptable & Lab workload estimated softwaresive. Please contact the Lab to nonferra. SAMILLING METHOD FARCIE DNF) NO MOTTO TO SURROTTED 175 AB MUST LOCA SWOP SAMPLING 光學大學 "Replace, (PRO) 413-5227 "Vis Prove, 1400, 695-2079 "Vol. 1400, 695-3079 althouse, (200) 509, 695-43 "Anny 1909, 1400, 1 8103-600 448A 30 MELT OTHER · 0H 年 0.76 SAMPLED BY / DAME / TIME (2 0 4 22100 2010 Period Project ML, 124 Arbinary Pand, Sheadoor, Shearbcheard (276), (3 75) Light Cast Williams Michael, Handalan (2023). 100: Briton Sheat, Mander Bey, Juginso 1978 59:3 ROOK SURCHARGE: NOTE: Shaded areas NUST be completed in full by ADDE offers for sample propessing to occur. C SEMINER TROOPS turnium funct 606 por $\langle \angle | \underline{S} \rangle \langle \angle | O \rangle$ pote Regulate. 150-19-120-074-13 ID Parish 2 Be 165 00 C. S., Physicae CE , Calgary, Aport, 124 616. 8095 - C. Chang, Grave Stein, Abada, 189, 990. CHEN BENCHAS on set Well Delined En Env Test ADTES & CONDITIONS 1. Quete number mest be provided to excite proper middle This was well amongo, Alles G. 16E 0PC CHIS, SUPER INPARE) TO SECTION OF THE SEC kilaranna Uleanna P. 20-17-1200\_02. 25 72 - 2522 CA Por 17 2000 10-1002-10-52 m 20-05-220-03 15 1888 VI 12.05-200-02 Po-07-220-01 SAMPLE D SERVICE REGUESTED:

#### WHITE - Report Cage A00 to black of 0 pg Page 20f3 Politice to properly homelete all portions of the form rely delay analysis. LAB SAMPLE NO 9 Sele 184 2 3 off hazarrigue samples subtritues must be labeled to comply with WHMS rap covers This must include the nature of the labeled life and as a confact hame & phone requiring that the bab contact for further infermation. ANALYSIS REQUESTED: FT. LAE: .... ANSTRUT THE BOARD TOTAL SECTION PANET POUNDITIONS FOR APOUR A3 O'III SINONATOR 教育の自 7 Ş Δ 7 FINANCE TYPE H.IEBED CHAIN OF CUSTODY / ANALYTICAL REQUEST FORM SPECIAL PEQUIAMIENTS / REGS (CROSE (NR) COME Fig. (781) 477-731 (2011) 477-731 (2 Pump, word times will vaily departable on emergelights apayate & Lab workload at time of submes on Physics cotto. The Lab to confirm SAMPLING VERYOR FRESTPACE PHODE. (CA) 125 ... 66.25. .. On ALMAN SHI WAY BY (104) 298-5253 AB MHST LOCATIVINOR SAMPING Calegorome (1940) All Adadigo Construcio (1940) All 1989 Personal (1940) All 1999 Personal (1940) All 1999 Calegorome (1940) All 1999 Calegorome (1940) All 1999 Calegorome (1940) All 1999 .... NO NOT LES SORMITTEUS. WSA BC MELP OTHER N.C. GCG ..... DIGIETRO SAMPLED BY / DATE / TIME 12/00.... 27.10 9206 - Children Betraman, otterin TAE UP), Nat. Child B. Takatani. 1234 - 44° charter Man, Johany Almin PC 103 1234 - 41° charter Man, Johany Almin PC 103 1235 - 11° Short Galack Herri, Albeita TW SM. 1250-21° Schulb, Shings Herri Herri Hand, Erstaland, Erstaldskeyner DPN SF1 241° Galer Schulb, Shingskey Hamilke 124° Sta. 15th 23,00 200 22/00 2110 23/6 2027G: Shaded ereas (NUS) to congolists in full by clear for somple processing to occur. furnaround limits con Gold Wastell SOLO par Hequired: corner Willer Bulkered 8 ₹. |} 9 1 €/ Outrois surplice must be provided to ename proper pilotog. (APPLISHMENCE) Et EnviroTest 1 1/2 W. T PRICHTY J. 1950 ris - 2200 -02 175-11-150-03 1750 11-1380-62... 10 10 10 100 00 40-00-2-200-04 50-087-73-03 Jan 31- 2200 02 152-52-580 02 130-35-330-02 158 17- 3210 -03 12 18 202-00 1 place 20 POLES & CONDITIONS SERVICE REQUESSION SAMPLE ID 31 TECANOMER akhosac 🌃

#### Villet - Capaci Sag YELLOW - CLAROPECHIC Page 30F3 NOTE: Falling to properly compact cell protects, or this homeney distay LAB SAMPLE NO. 11/211 9185 1980 [≥ :± analysis. Turnerown times will vary douglant on company of analysis & Lab...? All capacitous serious a submitted must be takened to comply with WHSMS regal done in working a minimum of the fuzzarulas well as a confact hairs. A phone number measure in the fuzzarulas well as a confact hairs. The manner of the fuzzarulas well as a confact hairs in provide the fuzzarulas well as a confact hairs. CPL LVS: PECFVED 3% PECHAPED SY ANALYSIS REQUESTED: ET LAS .... AMPIITEMS .... 13 595/ 00 TINE: ныврянкоми монкакоэтымых : 11/02/13/08/09 15/09/01 12/09/05 12/09/05 翼 100 6.88 . Comment Harring PRINCIPLE HED BY Ì FROZEN: ١ Landard Branch SPMPLE TYPE SPECIAL REQUIREMENTS / REGS FILE RIVE TEST CHAMOF CUSTODY/ANALYTICAL REQUESTE 888 Fac. (7.0) 137-22 to Fac. 1300-280-73 To Fac. (780) 241-0280 Fac. (780) 148-020 Fac. (270) 145-070 Fac. (270) 145-070 Fac. (270) 145-070 Fac. (270) 145-070 PHESTRUCY SWMPLING METHOD - Primer (ADV) APS - (APS) 134 1 WORDS & STAN OF M. OF W. WAY (604) 295 5253 COMPARION AB JEBST LOCATION OF SAMPLING Vella Into Territorio, (1921-113-1920) Helphone, 1900-668-878 Helphone (1903) 291-889 Helphone (1903) 291-889 Helphone (1904) 252-909 Telphone, (1904) 252-908 医有限 不明 BC WELP OTHER DARMERON ..... ASSA SAMPLED BY (DATE / TIME .... FOLVE: 450 - 67° Avolvo, 15' neutro, Abrain 188,015 Eventier TA Kive Live Valle, C.C. Period Agents, Wherth 15+ 6. 8 Valle, C.C. Brain, Brains, Abade, TAV 589 September 1990, 124' White Interfer September 570, 585 45' Logue Assume, Almo Sep, New Holle, 175, 75 (45' Logue Assume, Almo Sep, New Holle, 175, 75) (46' Logue Assume, Almo Sep, New Holle, 175, 75) C) TIME KODNOY TRAIN SURFORMED 11 / 22,000 20078' Bhaded areas MUSE to completed in full by office officers and proceeding to accur. more Welster. Enthered an en Establet. Assectables.... Sold Over APQUIRED. Berthun 194 V. W. 666. on on western Bucksell Antes & Conomous Correct table most be provided to groups proved pricing. (SPA SURENHAM) 12-01-280-02 Carona Danour SENSON CELEBOOKEEUED: SAMFLE 10 ST 188

Workorder

L17438

QC Type: BLANK						
Lab QC Number:		Result	Qualifier	Units	Limit	Analyzed
WG20965-1 SULPHIDE-ACIDVOL-T	Acic Volatile Sulphides	<1€		m <b>ģ</b> /kg	10	27-SEP-00
QC Type: MB				·		
Lab QC Number:		Result	Qualifier	Units	Limit	Analyzed
WG20965-3 SULPHIDE-ACIDVOL-T	Acid Volatile Sutphides	<16		mg/kg	10	05-OCT-00
QC Type: MBLK						
Lab QC Number:		Result	Qualifier	Units	Limit	Analyzed
WG19827-1						
AS-HYD-ED	Arsonic (As)	0.4		mg/kg	0.5	27-SEP-00
QC Type: DUP		· · · · · · · · · · · · · · · · · · ·				<del></del>
Lab QC Number:		RPD	Qualifi	BT	Limit %	Analyzed
WG19158-2						···
PH-1:1-ED	рН	0.14			1.1	20-SEP-00
WG19158-3						
PH-1:1-ED	рН	0.41	<del></del> .			20-869-00
WG19627-5 AS-HYD-ED	Arsenic (As)	2.5			12.5	27-35P-00
WG19627-7 AS-HYD-ED	Arsento (As)	6.5	<u> </u>		12.5	27-\$EP-00
WG20985-2	VIBELIE (VB)	0.0			12.5	274327400
SULPHIDE-ACEDYOL-1	Acid Volatile Sulphides	<b>1.</b> 8			23	22-52P-00
WG20965-4	· · · · · · · · · · · · · · · · · · ·					<u> </u>
SUI PHIDE-ACIDVOL-T	Acid Volatile Sulphides	C.48			20	05-00T-00
QC Type: LCS						•
Lab QC Number:		% Recovery	Qualifi	er	Limit %	Analyzed
WG19158-4						
PH-1:1-ED	pΗ	100	·		98.8 <b>-1</b> 03	20-3EP-00
WG19158-\$ PH-1:1-ED	pH	101			98.7-102	20-5EP-00
WG19158-6	· · · · · · · · · · · · · · · · · · ·					
PH-1:1-ED	эН	190			100-104	20-8EP-00
WG19827-2						

Workorder L17438

				<del></del>	
AS-HYD-ED	Arsenio (As)	102		85.5-114	27-SEP-00
WG19627-3 AS-HYD-ED	Arsenio (As)	<b>9</b> 5		85.5-114	27-SEP-00
QC Type: MS					
Lab QC Number:		% Recovery	Qualifier	Limit %	Analyzed
WG19627-4 AS-HYD-ED	Arsenic (As)	192		79.6-120	27-SEP-00
WG 19627-6 AS-HYG-ED	Arsenic (As)	96		79.8-120	27-SEP-00
QC Type: SRM					
Lab QC Number:		% Recovery	Qualifier	Limit %	Analyzed
WG19158-1 PH-1:1-ED	рН	101		98.7-101	20-SEP-00

Workorder L17438

#### Legend:

Limit	95% Confidence Interval (Laboratory Warning Limits)
DUP	Duplicate  District Difference (/bishes south business and by/Average, everaged on \$4.)
RPC	Relative Percent Difference ((higher result-lower result)/Average, expressed as %)
N/A	Not Available
LCS	Laboratory Contro: Sample
SRM	Standard Reference Materials
₩S	Matrix Spike
MSD	Matrix Spike Dup icete
ADE	Average Description Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Metoria:

#### Qualifier:

RPO-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
A	Method blenk exceeds detection limit. Blank correction applied, where appropriate.
Ð	Method blank result exceeds detection limit, however, it is less than 5% of sample concentration.  Blank correction not applied.
C	Method blank result exceeds detection limit, however, it is less than 5% of the regulatory limit for the analyte of interest. Blank correction not applied.
Ð	Duplicate result exceeds limit due to increased variability for low level samples.
Ĕ	Matrix spike limit exceeded due to high eample background.
F'	Silver recovery low, likely due to elevated choride levels in sample.
G	Outlier - No assignable cause for nonconformity has been determined.
H	Result fail within the 99% Confidence Interval (Laboratory Control Limits)

dmortan (Main). 930 + 37 A Miller carbinate, 68 6E 2 %

fbond = (780) \$13-\080 (700) 40/-2911

Αποπτος (Σεννεςεινες) odustrial Hygiade nd Fig. 10159 - 100 Galest ritanios Ab 1., 278

Fiche (780) 453-6265 /760; 424-4562 2.3

(algary lay 1, 1553 + 94th /wn % 5 Caldally, AR

TECLS North (403) 781-9887. 7400) 080-0098

hands Prairte

906 101 Street France Protine, AD 789 500 mone: (789) 339-6196 (780) 513-2191

iaskatoon

24 Valishnary Road iaskateari SK 77X 5E3 thanet (1908) 668-8579. (302) 665-8383 840 300 067 7845

Jagranik.

143 Logan Avenue Vissiges, MB 65F 3 / 5 Phone: (204) 948-3785 (204) 045 0783 esc.

fhunder Bay 08: Barton Street Trance, Say, Oil. 今9.5周3.

frons: (807) 603-6460. (807) 620-7598 ěe:

marra

Anna Laboratorias (n.c.) ud 15 St. Laurent Blyn. 6.430% PERSONAL TO 6 nii 448 homa: (943) (31-1005) (618) 736-1107 3,0

**Myarsing** and West First Street Loose: Wyaming 82881 Trunc: (307; 605-6741 46: /307; 886-1876 (-8.85-869-03)(

Sanada Wide Phone: .45 ( 19/2378)

Western Canaga Fax (-500-236-7019)

work. Ethylogae st. com

# Etl Enviro-Test

a rayuda a caka a na waligizini wake gota na kalendar

RECEIVED WY 77 200

#### CHEMICAL ANALYSIS REPORT

GOLDER ASSOCIATES LTD.

ATTN: VALER E SERTRAND 500 4260 STILL CREEK DRIVE

BURNABY BC V60 606

DATE: November 16, 2000

عاضح

Lab Work Order #: 1,20173

Sampled By:

Date Received: 10/24/00

Froject P.O. 带 6132/6133

Froject Reference: 002-2419-4500

APPROVED BY

Comments:

ADDIT:ONAL 31-00T-00 16:24

X Manager

THIS REPORT HARD INFOLENCE REPRODUCED EXCEPT IN PULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATIONS ALL SAMPLES WELL BE DISPOSED OF AFTER 2D DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IT YOU SEQUITE ADDITIONAL SAMPLE STORAGE TOME

ACCREDITATIONS: STANDARDS COUNCIL OF CANADA (SCC) (NICCORERATION WICH THE CANADAM ASSOCIATION FOR SYMBONICE TAL ANALYTICAL LABORATORES (CARAL): FOR SEPCIFIC TESTS AS REGISTERED BY THE COUNCIL (CDMONTON, CALGARY, SASKATOUN, WINNIFED THUNDER BAY)

AMERICAN MOUSTRIAL HYSIGNS ASSOCIATION (AIRA) FOR INDUSTRIAL PYGIGNS ADMINISTRIAL HYSIGNS ASSOCIATION (AIRA) FOR INDUSTRIAL PYGIGNS ANALYSIS (EDRACH, AIRA)
WISTANDARDS COUNCIL OF CAMADA IN COOFERATION WITH THE CANADIAN FOCO INSERCTION AMERICA (CÉIA) FOR FERTILIZER AND FRED TESTING (SACRITOCH)

Leo ID	Cample (D	Test Description	Danie le				Anal	
	Sample (D	: ### D### \$4000	Result	D.L.	Units	Extracted	Analyzed	By
20173-1 ample Date	P-SO-04 2200-02		:			:		
(atrix)	SOIL							:
					İ	:		
	Arsenic (As)		562	0.5	ะกอ/kg	25-00T-00	26-00T-00	: ၂၂
20173-3	P-SO-11 2200-03					·		;
ample Date								i
latrix:	SOIL				:			
	Arsento (As)		5.2	G.4	ung/kg	25-OCT-80	26-QCT-00	1!
20173-4	P-SD-27 2300-03							
Sample Date			i :		1			:
/atrix:	SOL							i
						:		
onano et com	Arsenic (As)		16600	0.1	mg/ке	:	27-007-00	11
20173- <b>5</b> 11111 ampio Date	TP-80-37/2300-53		!					'
	180h	•				İ		-
			i		l	I		1
	Arsenic (As)		22 <b>7</b>	C.1	mg/kg	25-007-99	26-OCT-00	33
20173-3	P-\$0-24 2300-02		·-:			<del>·</del>		
omple Date								
Matrix:	SOIL		:			:		
	Arsenio (As)		i 1700	0.4		: 05 <b>0</b> 5 7 00	78 SAT 70	
Z0173-7	P-SO-C7 2200-02			0.1	mg/kg	25-00T-00	26-00T-30 	JJ
ampia Date			:			:		
žatrix:	SOL							
			٠.					
	Arsonic (As)		1980	C.1	wc/kt	25-OCT-00	23-00 <b>7-00</b>	11
20173-9	P-50-19 2200-02							 i
ampie Date Actik:	SOIL		i					1
mot M.	JOIL							;
	Arsenic (As)		3640	0.1	mg/kg	26-007-00	26-001-00	ຸ່ມ
20173-9	P-80-08 2200-03		<del> </del>			·		
ample Date								
Matrix:	SOIL		i					i
	·							:
99175 Hổ <sup>(1)</sup>	Arsesic (As) TP-8/0-87/2300-04		1860 	0.1	mg/kg	25-OCT-03	126-0 <b>0</b> T-00	
aonina-no amplo Date								
fetrix:	SOIL		! :					
			j					ļ.
	Arsenic (As)		48C	0.1	mg/kg	25-QC7-00	26-DCT-20	į "··
	P-3O-07 2200-03		—				···- —-·	·
amble Date			!			1		:
ástox:	SOIL		į					!
						•		

Тай Д	Sample ID	Test Description	Result	<u>D</u> .L.	i Unita	Extracted	Analyżed	Dy
201/3 <b>-1</b> 3 Sample Date	PASC-07 2200-03				:	!	:	
Æ40×G	BOIL						i	:
	Arsenic (As)	·	2130	0.1	: Img/kg	: , 28 <b>-00</b> т-00	26-OCT-00	J.J
aus73-12 Sample Date	" F-SÖ-29°2300-02		<del></del>		<del> </del>	-	:	
daavx.	SOIL		. !		!			l
	Atsenio (As)		7120	0.1	rag/kg	25-OCT-00	26 OCT-00	77
20173-13 Sample Dete	11 1P-80-27[2360-64]						:	
Vancist	SOIL						:	:
	Arsenio (As)		77.8	2.1	mg/kg	<u> </u>	27-003-00	زر أ 
20173-14 <sup>***</sup> Samo s D <b>a</b> te	P-80-27 2300-02		:					:
Vatrix:	SOIL		·			l		:
E \u	Arsenio (As)		. 6330 ;	5.1	st g/kg	i	27-00T-68	, JJ
.0173-15 செரம்ச செர்க			!			)	:	ļ
Vatrix:	SOIL					•		
an. zn 3d	Arsenic (Asi P-5-0-10 2500-04		804	0.1	img/kg	: 	27400T-00  -	JJ
Sample Dale			:			! .		
Matrix:	SOIL						!	
.20473-201	Arsonic (As)		625	0.1	mg/kg	<u> </u>	27-DGT-90	. <u></u>
Samble Dale			:		;	 		:
Matrix:	SOIL		!		: 	į		
Allanen Ela T. II	Arsenio (As)		588 ·	0.3	mp/kg	:	27-001-00	ال . ـ
.20172-21 Sample Date Matrix:	SO(1							
	Arsenio (As)		4958	0.1	ing/kg·	:	27-007-00	<u> </u>
.20?73-22 ≧ampie Date	11 P-85-27230003 50P	FICALE	+3.00		1119018	<del>.</del>		! <u></u>
мачі»:	SOC				!			:
	Arşenin (As)		15800 .	0.1	mg/kg		1094NC/V400	
					İ		· · · · · · · · · · · · · · · · · · ·	· · — :
			•		:		!	
			. !				!	i Stevř 1

Lap įD	Sample fD	Test Description	Resut		Units Extracted	) Analyzed	Ву
			:				
			!			:	
			· · · · · · · · · · · · · · · · · · ·			 	1
						:	
			,				: 
					i	:	
					:		
					į.	į	
					!		
					ļ		;
					i		
			: 			i	
				:			
			i				:
				;		İ	
			•				-
						!	
		·		!	!		į.
					·		:
	•			İ	:	i	
			1	!		·	
			:			;	
			: .	:	!	:	ļ
			:	!	:	: !	İ
			: :	:			
			· · ·	İ			
			:	!	:		
							İ

CO2-2416-4600 L2C173 CONTD....
PAGE 5 of 5

# Methodology Reference

ETI. Test Code Test Description Methodology Reference (Based On)

ASHYD-EU Arbonic (As) APHA 3114 CIAAS Hyonde

# CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

Golder Associates

i seminara de la companya de la comp	Jakonatory Name:	
7.62 3.76 3.76	re: 16	
My and Fast - July Seil San Dillo	VOLICE 67+1 HIR EN	Calast
· i .	Carlo Service Control	Solve 1 11/2

Soury.	Server) Remarks	-1	787	<del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del> - <del>-</del>	35	100	T- 35-	-84 -B	p- 025-	1) - AZZ	1-14-14-1	一名代	17	- CAST	1000年
Colors	Manager Reputred	* \(\frac{1}{2}\)	20/	)											
Telegronal Fox: 677 His	P. S. Barrello	2 2	. \	7	7	7	1 1	7	-	7	\ <u>\</u>	7	2	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7
Tand Soil Sangling															
Challes Consert Left Cons	Sumple Date Matrix Sumpled (over) (D / M/Y)	Si./ 1.14.00						2		:				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	× ×
500 - 4250 SBI Creek Drive Burrahy, British Columbia, Caranta VSC 8031 Telephone (604) 293-6323 Fax (604) 298-5253	Sample Control Nander (SCN)	222-04 01 222-02-01 850 88 - (12	25 57 - 03 25 50 - 03 - 03	250-52-04	250 - 24 - 05	28-38-06	1520 07 07	222-62=08		2	2500 6 - 11	21 - 25 - 12	3325.04 - 13	235 27 - 14 (	FE 15

Su mpler s Signatura	Relimpships Signature	Company 1/8 1 Me 25 (E) C()	ı'line	Regeived by: Signing.	Company -
Sough Stongs (°C)	Relainmehre by: Signature	Company [200]	5040	Sectived by: Signature	Company
Cantronis	Method of Shipment:		Received for Lah By:	Date	aujį.
(A) (A) (A) (A) (A) (A) (A) (A) (A) (A)	Shipped by:	Skipment Condition - Tomp (* Seal Intact:	Tamp (C) Cooler opened by:	by: Date	Tine

WHIIF: Goster Copy

YELLOW: Lob Cr.,

PANK: Lob Returns with Food Report

# 20172 Mills. 813 & page of 23 CHAIN OF CUSTODY RECURD/ANALYSIS REQUEST

G Golder Associates

Laboratory Name:

500 - 4260 Stift Creek Driver Burnetty, British Columbia, Canada VSC 608 Telephone (604) 299 6926 - Fox (604) 208 5253	Chien Sol Stor Chag	793.67 24 Telephone Fras 9878	" Killing tars	
Sample Cartrol Plumber (SCN)	Soundae Date Matrix Suruphed (D+M+Y)	100 mg 10	Anniyases & Software Anniyases & Software Management of the Control of the Contro	Remark (over)
2202 64 01 2203 64 01	Soil Suker			
220-27 - 62				<b>1</b>
- 04				; ; ;
. 05				
90 -				ĺ
80 -				
60 -				
. 10				
-11				
- 12				
. 13				
1 1				
Contact & September 1 198001	Refinefulted by: Signiture.	Duc 23 G / OO Time	Received by. Signature Company	

						ŀ	
		Company)	100	Time	Received by, Signature		Company
Sarpac Stonge (10)	ád học Signátune			]।ंगर	Received by: Signititie		Сотрыч
	Medical of Shipment	₩aybill No.:	KRUM	Received for Cab by:	Dale	<u> </u>	Tive
	8	Shipmant Condition: Seel Intact:	éco)	(C) dates	day: Dale	. II.	Time

WHITE Golder Copy

YELLOW: Lob Copy

PINIC Lab Returns with Final Report

Workorder

L20173

1 - 5 AC No 5				44 14 .	1.1	
Lab QC Number:		Result	Qualifier	Units	Limit	Analyzed
WG22388-1 AS-HYD-ED	A				D. L.	ara Masulan
ASTRIBLED	Arsenic (As)	6.1		mg/kg	0.5	09-NOV-00
QC Туре: MB					****	
Lab QC Number:	•	Result (	Qualifier	Units	Limit	Analyzed
WG21795-1 .		•				
AS-HYD-ED	Arsenic (As)	Q.4		mg/kg	0.5	27-DGT-00
QC Type: DUP						
Lab QC Number:		RPD	Qualifi	ər	Limit %	Analyzed
WG21795-6		11-11-11-11-11-11-11-11-11-11-11-11-11-				
AS-HYD-ED	Arsenic (As)	14	H.		12.5	27-OCT-00
WG21795-7						· # <del>-</del>
AS-HYD-ED	Arsenic (As)	4÷	G		12.5	27-QCT- <b>0</b> 0
WG22388-2						
AS-HYD-ED	Arsenic (As)	- 11			12.5	09-NOV-00
QC Type: MS						
Lab QC Number:		% Recovery	y Qualit	ier	Limit %	Analyzed
WG21795-4						
AS-HYD-ED	Arsenic (As)	94			79.6-120	27-QCT-00
WG21795-8						
AS-HYD-ED	Arsenic (As)	96			79.6-120	27-GCT-06
WG22388-3						
AS-HYD-ED	Arsenic (As)	84			79.6-120	09-MOV-00
QC Type: SRM		-				
Lab QC Number:		% Recovery	/ Qualit	iar	Limit %	Analyzed
WG21795-2						
AS-HYD-ED	Arşənic (Aş)	99			85.5-114	27-OCT-00
WG21785-3						<i>E</i> <b>v</b>
AS-HYD-ED	Arsenic (As)	82	Н		85.5-114	27-OCT-03

Workprder L20173

#### Legend:

Limit	95% Confidence Interval (Laboratory Warning Limits)
OUP	Duplinate
RPO	Relative Percant Difference ((higher result-lower result)/Average, expressed as %)
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Materials
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Description Efficiency
MB	Method Blank
IRM.	Internal Reference Material
CRM	Certified Reference Material

#### Qualifica

RPD-NA A	Relative Percent Difference Not Available due to result(s) being less than detection limit.  Method blank exceeds detection limit. Blank correction applied, where appropriate.
5	Method blank result exceeds detection limit, however, it is less than 5% of sample concentration.
	Blank correction not applied.
0	Method blank result exceeds detection limit, however, it is less than 5% of the regulatory limit for the
Ŭ	analyte of interest. Blank correction not applied.
D	Duplicate result exceeds limit due to increased variability for low level samples.
Ċ	Matrix spike limit exceeded due to high sample background.
Γ	Silver recovery low, likely due to elevated charide levels in sample.
Ģ	Outlier - No assignable cause for nonconformity has been determined.
H	Result fall within the 99% Confidence Interval (Laboratory Control Limits)

(n's(A) nothomb:

392G + 37 Av€ nce ոնուրման Հե

PF 1894

(729) 413-6227 Phaner (789) 407-2313

idenuation (Dewitteral) naustna, bygrena

ad Fig. 10150 - 103 Street rang ing 48

od toXIy

(780) 413-6265 Phone (700) 424-4002 ax:

Balgary

889 2, 1313 - 44th Avs. N.E Jelgany, AB 25 B15

Ptons (473) 291-9897 ·ax: (413) 261-0296

Transfe Practie

(abbrefit 17) Street urancie Prainci AS 69/6W1

facha (750) 539-5166 (782) 518-2191 =<u>+</u>x.

3astatoon

124 Veterinary Road 533480001 SK 374 863

Prione, (305) 368-8370 Rec. (300) 568-8383 -800-667-7648

Minntpeg.

745 Logao Averius Assised M6 R3E 315

Pages (204) 945-8706 (204) 94340763

Staunder Bay

108 Redon Swart Трипоет Вау, ОМ 278 EN7

inche: (867) 822-6463 (207) 830-7696

Mayria

Canda Liaber stories inc. 2219 St. Laurent 3 wj., Jii £ 100 Ma**o**a, SN 0.6448 Phane: (613) 751 1093

29X) (613) 705-1107

Myemlag 120 West 7 (3) Street Caspar, Wyytman<sub>a</sub>, 82601 Phoae (207 - 035-974) 88 (207) 936-1376 -830-688 UEG6

Canada Wide Prone:

1,800,668-0976

vicestern Capada Fext 1-800-286-73]9

www.en/inurect com

# ETL Enviro-Te

A DIVIDEN OF BY CHROSERD ANY ENGLARIOR DAILY #10

#### CHEMICAL ANALYSIS REPORT

GOLDER ASSOCIATES LTD

ATTN: VALERIE BERTRARD 500 4260 STILL CREEK OR VE - DURNABY BC V5C \$C8

DATE: November 24, 2000

Lab Work Order #.

L17890, REVISED BC 50d5 45015

Project P.D. #.

Project Reference: Sampled By: DP

Lista Received: 09/22/00

Comments:

APPROVED BY: ROY 35N

Project Manager

THIS REPORT SMALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WAITTEN ACTIONATY OF THE LABORATORY. ALL SAMPLES WILL BE DISPOSED OF AFTER 20 DAYS FOLLOWING ANALYSIS PURASS CONTROT THE LAB IF YOU REQUIRG ADDITIONAL SAMPLE STORAGETIME.

ACCREDITATIONS: STANDARDS COUNCIL OF CANADA (SCO). IN COMPENATION WITH THE CANADIAN ASSOCIATION FOR ENVIRONMENTAL ANALYTICAL CASC RATTOR REQUIRED (CASTA) FOR SPECIAL CAST RATTOR (CASTA) FOR SPECIAL CAST RATTOR (CASTA) FOR SPECIAL CAST RATTOR (CASTA) FOR SPECIAL CAST RATTOR (CASTA) FOR INDUSTRIAL PROJECT ANALYSIS (SOMEONTON), WHAT FOR INDUSTRIAL PROJECT ANALYSIS (SOMEONTON), WI STANDARDS COUNCIL OF CAMADA IN COOPERATION WITH THE CANADIAN FOOD INSPECTION AGENCY (CRIA) FOR FERTILIZER AND SEED (SATING (SAGISTOON))

Lab ID	Sample ID	Tasi Description	Result	D.E.	: Units	Extracted	Analyzed	· Ey
1.17595-1	P30-44-09/00-01							
Sample Date	21-SEP-00							:
Motrix:	SECIMENT		ļ					İ
								:
	Arsenic (As)		2590	0.1	mg/kg	1 .	18-007-00	YΖ
	Sulphate (SO4)		7860	10	'mg/kg		23-SEP-00	įJΖ
	Adio Vol <b>at</b> le Sulp	ohides	30	0	mg/kg		16-CC1-00	84
	þd		7.8	C.1	μH	İ	27-8 <b>2</b> P-00	R?
.17899-2	PSO-44-09/09-02		··			· · · · · · · · · · · · · · · · · · ·		<del></del>
Sample Date	21-\$EP-Q0		i			i		i
Methix:	SEDIMENT		· ·			!		
	Arsenic (As)		2620	C.1	mg/kg		16-007-00	YZ
	Surphate (SQ4)		3420	: -0	ing/kg	:	29-5 <b>B</b> F-00	J <u>Z</u>
	Acid Volatile Sul;	oh des	<10	10	mg/kg		16/OCT-00	BA
	cH	71. 200 F	7.8	. 10 i 0.1	oH makse		27-SEP-00	. K1
L17890-3	P80-44-09/00-03				·····			
Sample Date								
vemple Date Matrix	SECIMENT		į					
ritor on	454-111-111			: :				
	Afsenic (As)		2740	6.1	mg/kg		:8-0CT-00	j 72
	Sulphate (SO4)		: 1690	10	mp/kp	i	29-3 <u>11</u> P-56	یز
	Acid Volatile Sul;	on des	30	10	mg/kg		18-007-00	BA
	ρH		, 7.7	: : 0.1	рiп	i	27-357-00	स्र
L17890-4	~acc.43-09/00-01			· . <b></b>				
Sample Date			i			:		
Matrix:	SECIMENT		İ	ļ				!
	Arsenic (As)		1890	0.1	mg/kg		18-OCT 00	YZ
	Sulphare (SO4)		2420	10	តាចូ/kg	i	29/SEP-90	JZ
	Acid Volatile Sulp	hides	<10	10	mg/kg	l	16-00T- <b>0</b> 0	; 3A
	ρΗ		3.0	C.1	D <sup>j</sup> et		27-999-00	: र
2°7890-5°	780743-68/63-02		<del></del>	:				
Sample Date			i	:				•
Matrix	SEDIMENT				:	į		:
								:
	Arsenic (As)		2480	0.1	: :marka		18-007-08	YZ.
	Suiphate (SO4)		1 2050	10	weyke	1	20-SEP-00	JZ
	Adic Volatie Sulp	shides	16	10	-mg/kg	į į	16-001-00	3A
	pid		7.B	Ç.1	D	!	27-25F-00	87
L:7890-6	PSQ-43-09/03-03				<del></del>	<del> </del> · · · · ·		; ···
Sampre Date					İ	!		1
Ma <del>ar</del> ix:	SED.MENT				į			1
	Department of the state of the		. 2210	6.4	j	: :	47 007 00	005
	Arsonia (As)			0.1 46	'mg/kg		17-001-00 95-6-000	1 200
	Sulphate (SC4)		2690	10	រាជ្យ/kg	:	29-8±6-00 44-607-64	İ
	Asic Voletie Sulp	es aes	35	. 10	നജർ:മ 		16-00T-06	DA
	₽≓		7.6	. 0.1	p⊢		27-59-400	[ K.,

Lab IC	Sample ID Test Description		D.L.	Units	Extracted	i Analyzec	By
17890-7	5C/US-S0-09/06-01				,	1	· - · · · · · · · · · · · · · · · · · ·
Sample Date		1		1	į	!	
: Matrix.	SEDIMENT	į		:	:	İ	
:			:		!		
	Antinorea-N	ļ <sup>41</sup>	1	mg/kg		27-SEP-00	EK :
:	Arsenic (Ası 3+	85.1	C.1	mg/kg	İ	14-001-00	JJ
	Arsenio (As) 51	30.6	0.1	img/kg		14-0 <b>C</b> T-06	JJ ;
	l'otal Organic Carbon	i		!			
	Organic Carbon	1.80	. 0.01	:% :		28-SEF-00	SKL :
:	Total Cerbon	1.9C	0.01	<u> %</u>		26-SEP-50	SKL
	norganic Gárbón	C.08	. C.D.	%		28-SEP-00	SKL ;
:	Metals (Strong Acid Rec.)	<1		م المحال	ļ	26-SEP-00	CG5
i	Silver (Ag) Atumanom (Al)	6700	. 1 10	mg/kg mg/kg	i	: 26-SEP-00	CC5
į	Banum (9a)	1 77.6	. 0.5	mg/kg		. 26-SEF-00	ccs
	Beryllium (Be)	<1		img/kg	į	:25-8EP-00	CC5
	Calgism (Ca)	3400	100	mg/kg	-	26-865-00	000
	Gadmium (Cd)	<0.5	0.5	mg/kg		28-S#.P-00	CC5 ·
	Cobalt (Co)	6	1	mg/kg		25-SEP-00	205
	Chromium (Or)	29.9	0.5	mg/kģ	i	29-SEP-00	°CC5 .
	Copper (Cu)	20	1	mg/kg		26-SEP-00	005
	ron (Fe)	13600	109	mg/kg		26-SEF-00	cc-
	Potassium (59)	1160	20	mg/kg		26-SEP-00	Ξ
	Magnesium (Mg)	4930	10	mg/kg	i	-26-5EF-00	005
	Manganese (Mn)	840	20	mg/kç		26-555-00	; CC5
:	Molybdenum (Mo)	<1 000		mg/kg	:	25-SEP-00	005
I	Sedium (Na) Nickel (Ni)	200	100	mg/kg mg/kg	:	28-859-00 28-859-00	. CC5 ; CC5
:	Phosphones (P)	380	10	ma/kg	i	26-557-00	DC5
	_esd (2t)	303	5	marka marka		26-8EP-CC	005
i	Tin (Sn)	<6	5	mg/kg	i	26-SE⊇ 00	005
	Strontium (Sr)	15	1	mg/kg		28-882-00	QQ5
	Titanium (7i)	362	ā	mg/kg		28-SEP-00	CCS
	)ˈhatilup: (Ti)	. <1	1	mg/kg		25-Sē2-C0	CCB
	Vanadium (V)	32	1	,mg/kg		28-SEP-00	0.05
:	Zinc (Žiri)	53.2	0.5	mg/kg	:	28-59P-00	0.05
:	Arsenic (As)	!	İ				
:	Arsenic (As)	118	0.1	lušķā	İ	14-QCT-00	J.i.
1	Arsento (As)	171	0.1	lmg/kg		26-35P-00	005
L17890-8	BC-U\$ \$0/09/00-02	:		i		:	
Sample Date	21-SEP-00	1					;
Metrix:	SEDIMENT		:			i	į
							i
	Adminisia-N	<1		mg/kg		27-SEP-00	EΚ
	Arsenic (As) 3+	122	0.1	mg/kg		14-OCT-00	11
	Arsento (Asi 5+	. 40.4	0.1	img/kg	1	[14-007-07	ا ا
:	Total Organic Carbon		i	i			
	Organic Carbon	1.70	0.01	%	:	28-SEP-00	SK.
:	Total Carbon	1.80	0.01	%		28-8 <b>2</b> P-00	S
į	norganic Carbon	6.11	0.01	1% !		28-8FP-06	Sk_
	Metals (Strong Acid Rec.)	; a	:	t to a stir	İ		
	Silver (Ag)	<1 ×500	: :	jmg/kg :	İ	26-3 <b>5</b> P-05	· 065
:	Aluminum (A.)	6500	10	img/kg		26-SEP-00	G\$6
			:		· · <del></del>		
							Rev# 1.00

Lab !D	Sample ID	Test Description	Result	D.L.	Units	. Extracted	Analyzed	Вy
L17897-8	9C+S-SD-(:9/00-02				<del></del>		·	
Sample Date	21-SEP-30					i		
Matrax:	SEDIMENT						•	
Metras	D_D					İ	:	
	Metals (Strong Acid Ro	:c.\				:	!	ı
	Beilsm (Ba)		75.1	5.5	mg/kg	1	26-SEE-00	0.05
	Beryllium (Be)		<1	1	mg/kg	İ	126-SEP-00	0.05
	Calcum (Ca)		3400	100	mg/kg		26-SEP-00	GC5
	Cadmium (Cd)		<0.5	0.5	mg/kg	!	25-SEP-00	CC5
	Ćoba® (Ćo)		7		mg/kg	i	20-659-00	. CC5
	Chromium (Cr)		29.3	: Q.B	ma/kg	į	23-SÉP-00	COS
	Copper (Cu)		18	•	mg/kg	İ	28-\$57-00	006
	Pan (Fe)		12900	100	mg/kg		25-857-90	005
	Potassium (K)		570	20	mg/kg	i	(26-8 <i>⊞2-</i> 00	i coa
	Magnesium (Mg)		5010	10	mg/kg		26-85P-00	CC6
	Manganose (Mn)		920	20	m <u>ó</u> /kg		. 2 <del>3</del> -529-00	, 006
	Molyadenum (Mo)		<1	1	mg/kg	:	123-S€P-00	005
	Sodium (Ne)		100	300	mg/kg		.25-8EP-00	COS
	Nickel (Ni)		36	3	mg/kg		25-8∈2-00	CCS
	Phosphorus (P)		410	1 10	mg/kg	;	128-SEP-00	CUS
	Lead (Pb)		19	5	mg/kg		25-SEP-00	CC5
	Tan (Sh)		<5	5	mg/kg		· 25-SEP-00	CC5
	Spontium (Sr)		14	] [	mg/kg		129-SEP-00	CC5
	ভিচ্চিত্তালয় (fi)		325	5	пд/кд		25-SEP-00	005
	TheSitust (TI)		<*	1	mg/kg	İ	25-SEP-00	005
	Vanadym (V)		24	. 1	ngvkg	İ	25-SEF-00	1 005
	Zino (Zn)		57.3	C.5	mg/kg	ļ	28-SEP-00	005
			i	:	m.gang	İ	3 1 13.5	
	Arsenic (As) Arsenic (As)		172	° C.1	mg/kg		[14-00T-00	į jj
	Arsenio (As)		205	. C.1	mg/kg	:	25-SEP-03	CCS
Ü!7820-9	1 BC-EFF-80/09/00/07		÷			<u>.</u>	1	<del>:</del>
	21-857-30							
Vatrix:	SEDIMENT			i		i		
Mann.	250 Michael			!				
	Antmonia-N		j 2	1	mg/kg	!	27-SEP-00	EK
	Arsenic (As) 3+			C.1	т9/kg	i	14-CCT-20	35
	•			į.		I		
	Argenie (As) 5÷		544	C.1	mg/kg	!	14-CCT-00	\$.7
	Total Organic Carbon		1				•	
							•	. 62
	Organic Careon		0.20	0.01	%	-	29-SEP-00	; sk-
	Total Carbon		2.10	0.01	%	!	28-SEP-00	SKU
			•		_	1	:	
	Total Carbon norgan o Carbon Metals (Strong Acid Re	rc.)	2.10	0.01	% %	1	28-3EP-00 28-3EF-00	SKL SKL
	Total Carbon norganic Carbon Metals (Strong Acid Re Sliver (Ag)	(c.)	2.10 1.83	0.01	% % ггдАкд	!	28-3EF-00 28-3EF-00 28-3EF-00	SKL SKL CC5
	Total Carbon norgan o Carbon Metals (Strong Acid Re	c.)	2.10 1.83 41 21200	0.01 0.01 1	% %	:	28-3EP-00 28-3EF-00 28-3EP-00 28-3EP-00	SKL SKL CC5 .CC5
	Total Carbon norgan e Carbon Metals (Strong Acid Re Sliver (Ag) Aluminum (Al) Basum (Ba)	rc.)	2.10 1.83	0.01 0.01	% % ггдАкд	:	28-3EF-00 28-3EF-00 28-3EF-00	SKL SKL CC5
	Total Carbon norgan e Carbon Metals (Strong Acid Re Sliver (Ag) Aluminum (Al) Batum (Ba) Beryllum (Be)	rc.)	2.10 1.83 41 21200 1 12.8	0.01 0.01 1	% % mg/kg mg/kg		28-3EP-00 28-3EP-00 28-3EP-00 28-3EP-00 23-3EF-00 25-3EP-00	SKL SKL OCS OCS COS
	Total Carbon norganic Carbon Metals (Strong Acid Re Sliver (Ag) Aluminum (Al) Battum (Ba) Beryllium (Be) Calcium (Ca)	rc.)	2.10 1.83 41 21200 12.8	0.01 0.01 1 10 0.5	% mg/kg mg/kg mg/kg		29-3EP-00 28-3EF-00 28-3EF-00 28-3EP-00 25-3EP-00	5KL 9KL QC5 CC5 CC5 CC5 CC5
	Total Carbon norgan e Carbon Metals (Strong Acid Re Sliver (Ag) Aluminum (Al) Batum (Ba) Beryllum (Be)	ec.)	2.10 1.83 41 21200 12.8 42200 4.2	0.01 0.01	% mg/kg mg/kg mg/kg mg/kg		28-3EP-00 28-3EP-00 28-3EP-00 28-3EP-00 23-3EF-00 25-3EP-00	SKL SKL OCS OCS COS
	Total Carbon norganic Carbon Metals (Strong Acid Rei Sliver (Ag) Aluminum (Al) Bassum (Ba) Beryllium (Be) Calcium (Ca) Cadmigm (Cd) Cober (Co)	ec.)	2.10 1.83 41 21200 12.8 42200	0.01 0.01 1 10 0.5	% mg/kg mg/kg mg/kg mg/kg mg/kg		28-3EP-00 28-3EF-00 28-3EP-00 28-3EP-00 28-3EF-00 28-3EP-00 28-3EP-00	5KL 9KL QC5 CC5 CC5 CC5 CC5
	Total Carbon norganic Carbon Metals (Strong Acid Re Sliver (Ag) Aluminum (Al) Basum (Ba) Beryllium (Be) Calcium (Ca) Cadmigm (Cd)	ec.)	2.10 1.83 41 21200 12.8 42200 4.2	0.01 0.01 1 10 0.5 100 0.5	% mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg		29-3EP-00 28-3EP-00 28-3EP-00 28-3EP-00 28-3EP-00 28-3EP-00 28-3EP-00 28-3EP-00	5KL 9KL 0C5 0C5 0C5 0C5 0C5
	Total Carbon norganic Carbon Metals (Strong Acid Rei Sliver (Ag) Aluminum (Al) Bassum (Ba) Beryllium (Be) Calcium (Ca) Cadmigm (Cd) Cober (Co)	ec.)	2.10 1.83 41 21200 12.8 41 42200 1.2 29	0.01 0.01 1 10 0.5 100 0.5	% mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg		29-3EP-00 28-3EF-00 28-3EF-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00	5KL 6KL 0C5 0C5 0C5 0C5 0C5 0C5
	Total Carbon norganic Carbon Metals (Strong Acid Rei Sliver (Ag) Aluminum (Al) Bassum (Ba) Beryllium (Be) Calcium (Ca) Cadmlum (Cd) Coban (Co) Chromium (Cr)	ec.)	2.10 1.83 41 21200 12.8 41 42200 1.2 29 59.8	0.01 0.01 1 10 0.5 100 0.5 100 0.5	% mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg		29-3EP-00 28-3EP-00 28-3EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-3EP-00 28-3EP-00 26-3EP-00	5KL 9KL 0C5 0C5 0C5 0C5 0C5 0C5 0C5 0C5
<b></b>	Total Carbon norganic Carbon Metals (Strong Acid Re Sliver (Ag) Aluminum (Al) Barum (Ba) Beryilium (Be) Calcium (Ca) Cadmlum (Cd) Coban (Co) Chromium (Cr) Copper (Cu)	ec.)	2.10 1.83 21200 1.2.8 4.1 4.22(0) 4.2 29 58.8 97	0.01 0.01 1 10 0.5 100 0.5 1 0.5	% mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg		28-3EP-00 28-3EP-00 28-3EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00	SKL SKL SKL OCS COS COS COS COS COS COS COS COS COS
	Total Carbon norganic Carbon Metals (Strong Acid Re Sliver (Ag) Aluminum (Al) Barum (Ba) Beryllium (Be) Calcium (Ca) Cadmlum (Cd) Coban (Co) Chromium (Cr) Copper (Cu) ron (Fe)	ec.)	2.10 1.83 21208 12.8 41 42200 1.2 29 59.8 97 64468	0.01 0.01 1 10 0.5 100 0.5 1 0.5 1	% mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg		28-3EP-00 28-3EP-00 28-3EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 28-8EP-00 26-3EP-00 26-3EP-00 26-3EP-00	SKL SKL SKL OCS COS COS COS COS COS COS COS COS COS

Lab ID Sample ID Test Description	Result :		Lnits	Extracted   Analyzed	By
:7890-9 BC-EFF-SD-09/05-01			!	1	
emple Date   21-SEP- <b>2</b> 0	:		i		
anx: SEDMENT			i	i ·	
				!	
Metals (Strong Acid Rec.)	!		i	i i	
Manganese (Mr.)	830	20	mg/kg	25-SEP-00	COS
Molybdenum (Mo)	. 1		img/kg	28-SEP-00	COS
Sodium (Ne)	200	100	:mg/kg	· 25-SEP-00	CCS
Nickel (Ni)	75	2	mg/kg	29-SEP-00	CC!
Phosphorus (P)	330	10	mg/kg	: 26-SEP-00	CC
Lead (Pb)	i 644	5	mg/xg	25-SEP-00	GC
Tin (5n)	<5.	5	mg/kg striging	25-SEP-00	CC
Strontium (Sr)	30			1	
		1	mg/kg	26-8EP-00	00
Tatanium (Ti)	52	. 6	ing/kp	26-SEP-00	CC
Thallium (TI)	<1	1	sag/kg	126-SEP-00	20
Variadium (V)	GG !	1	mg/kg	. 26-SEP-00	l co
Zino (Zn)	822	0.5	mg/kg	!   26-SEP-00	CC
Arsenic (As)		_		1	l
Arsonio (As)	1520	C.ª	mg/kg	14-OCT-00	JJ
Arsen:0 (As)	1940	0.6	;mg/kg	26-SZP-00	00
7696-10 8C-3FF-SD-69/00-02 Till	i			· · · · · · · · · · · · · · · · · · ·	<del></del> -
amble Date (21-SEB-00)	i i	1			
affix: SEDIMENT	!		!	:	:
			i	:	'
Ammania-N	. 4	1	mg/kg	27-SEP-00	l ek
Arsenio (As) 0÷	940	3:	img/kg	14-007-00	زرل
Arsenic (As) 5÷	1050	3,1	mg/kg	14/OC7-06	l Ji
Total Organic Carbon	1		1. 18.113	100	. •
Organic Carbon	i 0.10	0.01	<b>%</b>	28-S≙P-00	sk
Total Cerpon	1.90	V.C1	%	28-SEP-00	şk
Inorganic Carbon	: 1,77	: 0.C1	%	28-5₫P-00	SK
<del>-</del>		0.01	.0		! ***
Metals (Strong Acid Rec.) Silver (Ag)	. <1	. 1	mg/kg	28-SEP-00	co
. *.	23900	10		:	CC
Alarnir an: (A!)	•		rng/kg	26-SEP-00	
Barium (Ba)	₹5.0 1	0.6	mg/kg	26-SFP-00	60
Beryliium (Be)	S1	. 1	mg/kg	25-8EP-00	. cc
Calcium (Ca)	39700	100	n:g/kg	25-SEP-00	00
Cadmum (Cd)	j 4.3	0.5	mg/kg	25-SEP-00	ÇC
Cobait (Co)	29	. 1	mg/kg	: 26-SEP-00	CC
Chromium (Cr)	59.8	0.5	mg/kg	264SEP400	. 00
Copper (Cu)	j 70	1	m <b>g/</b> kg	29-809-00	CO
ron (~e)	52500	100	mg/kg	28-SEP-90	; 00
Potaserum (K)	1133	20	mg/kg	26-887-00	co
Magnesium (Mg)	19500	10	mg/kg	28-SEP-C0	00
Mangaciese (Mn)	. 780	20	mg/kg	26 SEP 00	CC
No ybdenum (Mo)	1	' เ	mg/kg	26-SEP CO	. 00
Sodium (Ne)	200	100		26-SEF-60	CO
Nickel (Ni)	96	. 130	mg/kg	: 1	
			mg/kg	26 SEP-CD	l co
Phosphorus (P)	310	10	mg/kg	126-SEP-00	10
Lead (Pb)	247	Đ	mg/kg	26-SEP-09	10
T∙n (Sn)	دی .	5	mg/kg	26 SEP-00	; 00
Stronäum (Sr)	28	,	mg/xg	26-S£P-00	00
Htabiem (羽)	49		mg/kg	28-SEF-00	! cc
Trallium (El)	<:		тд/кд	26-SEP-00	1 00
	:		- •		1

Lab 10 Sample ID Test Description	Result	<u> 0</u>	. Units	Extrastor	Andlyzed	Ву Ву
_17890-10 BC-8#F-SC-09/00-02			1		.	
Sample Date 21-SEP-00					'	
Mairix SEDIMENT			1			
iganix SEDIMEN:			į į		:	
Metals (Strong Ac.d Rec.)	İ				.	
Vanadrum (V)	57	1	:mg/kg		, 26-SEP-00	CCS (
Zinc (Zn)	826	0.5	Img/kg		[23/SEP-00]   i	ccs i
Arsenic (As)	1				;	
Arsenic (As)	1990 .	0.1	mg/kg - }		14-CCT-03	Č.
į Arsenic (Ası	2450	0.1	mg/kg [		28 SEP-00	CC5
L17896-11	<u> </u>		;		!	:
∮ Sample Dato   21-SEP 00			•		İ	
Matrix, SEDIMENT			. !			
	1 .					
Ammenia-N	! 3	ា	ļmg/kg j		27-SEP-00	EX
Arsenic (As) 3+	642	3.1	mg/kg		14-OCT-30	الل ا
Aragnic (As) 5+	421	5.1	mg/kg		14 OCT-90	JJ
Total Organic Carbon		2.,	3-191.19			
Organic Carbon	1.30	0,01	%		28-SEP-00	. SKL
Lotal Carbon	2.50	0,01	%		28-S&F+03	SKL
r.crganic Carbon	1.24	0.01	1%		28-SEP-00	sc .
Metals (Strong Acid Rec.)						:
. Silvet (Ag)	2 !	1	mg/kg		; 25-SEP-00	CC5 +
Augmentum: (Al)	X090C	10	mg/kg		28-SBP-30	GC5 1
Barrum (Es)	584	5.5	mg/kg		26-SEP-00	CC5
Beryloum (Be)	i «1 i	1	ოგ/ჩვ		26-SEP-30	CC6
Celdium (Ca)	28600	190	'mg/kg		26.8EP-00	GC5
; Sadmium (C1)	. 1.3	0.5	πg/kg		126-SEP-00	CCS
Cobalt (Co)	. 44	1	mg/kg		26-SEP-30	ane .
Olympianam (Or)	2.60	Ç,⊞	mg/kg		20-8EP-90	. 008
Copper (Cu)	323	1	mg/kg		26-SIF-00	CCS
lmn (Fe)	40800	100	നയ്ക്കു		26-8±7-00	CC5
Potassium (K)	\$500	20	mg/kg		26-5ZF-00	CC5 ;
Magrission (Mg)	20400	10	arg/kg .		:26-8⊆5- <b>0</b> 0	CC5 1
Manganese (Mr.)	820	20	mg/kg		26-SEP-00	005
Molybdenum (Mo)	1 .	1	mg/kg		26-8FF-00	CC5 '
Sodium: (Na)	300 405	100	mg/kg		-26-SEF 00	CC5 CC5 :
Nickel (Ni)	105	5	m⊈(kg		26-857-00  26-862-00	008
Phosphorus (P)	430	10	mg/kg mg/kg		26-86-400  26-86-400	008
Lead (Pb) Tin (Sa)	218 <5	5 F	mg/kg morke		126-SEP-00 126-SEP-00	005
Stronaum (Sr)	. 30	1	mg/kg mg/kg	:	[26-8EP-00	1 208 1
Tidanium (Ti)	476	5	mg/kg		26-SEP-60	203
Thallium (ii)	47	1	mg/kg		26-SEP-CC	- 005
Vanadium (V)	70	,	mg/kg		28-SEP-20	; ccs
Zina (Zn)	316	0.€	mg/kg		26-8159-56	205 .
Arsenio (As)		٠.٤				
Alsenic (As)	1050	C.1	ing/kg		:4-027-00	31
Arsenic (As):	3360	0.1	ing/kg		.25-8FP-00	005
1890-12 55-581-86-6906-62				:	•	
Sangiy Date: 21-859-00				l		
Matrix: SEDIMENI	.1			İ		ļ
West SED PERO	. :					
	1		:			
			_1		<u> </u>	

Lad D	Sample ID	Test Description		Result	D	.L. Ursts	Extracted	i Anatyzec	: By
L17890-12	BC-DS1-SD-09/00-02				LL r r r	and the second second			an an star
Sample Date							į.		
Matrix:	SEDIMENT ·						:		
Widney.	SEDIMENT								:
	Ammonia-N			5		mg/kg	i	!  27-SEP-00	: EK
	Arsenic (As) 3+			724	; <sub>D</sub>	-1		14-DCT-00	: I-IX
	·							i	
	Arsonic (As) 5+			94.1		i mg/kg		14-0CT-00	i 11 ,
	Total Organic Carbon Organic Carbon			1.70	O.	01 1%		28-SEP-00	SKL
	Total Carbon			3.10	ر. و		!	28-58F-30	SKL ;
	Inorganic Carbon		;	1.37	G.		:	28-SEP-00	SK"
	Metals (Strong Acid Re	ec.)				•		:	V
	Silver (Ag)	,		1		l mg/kg	•	.28-SEF-00	GC5
	Alaminam (A!)			24400	1		i	26-98P-00	ÇCS
	Bartum (Sa)		:	82.7	: 0	S trajka	:	26-8EP-00	T ccs
	Berysium (Be)			<1	;			26-SEP-00	CCS
	Caldom (Ca)		:	38200	10			26-SEP-00	0.05
	Caunton (Cd)			1.1	1	ან თებად		26-SEF-00	005
	Cobalt (Co)			33	_ [			26-SEF-00	CC5
	Chromiam (Cr)		:	73.2		ā snyAsg		28-SEP-00	CCS
	Copper (Ca) Iron (Fe)			211 41500				26-SEF-00	009
	ron (r.e.) Pożąskiem (K)			41500 2650	2			26-SEP-00 20-SEP-00	: 60°
	Magnesium (Mg)			29900	1			20-SEF-00	CCS
	Manganese (V/n)			650	2			26-SEF-03	005
	Mołybcenym (Mo)		:	1				26-SEP-00	CCS
	Sodium (Na)		!	300	10			26-\$57-00	CC5
	Nickel (Nr)			84	. ;	gng/kg		26-SEP-00	CC5
	Phosphorus (P)			¢10	1 :	C mg/kg		_26 SE⊇-00	ÇCŞ
	Lead (Pp)		'	177		<sub>։</sub> տգ/kç		26-8E9-00	CC5
	Tin (Sa)		:	<5				25-8EP-00	CC5
	Strentum (Sr)		i	37	i .			26-SEF-00	CC5
	Titanium (13)		:	530				26-SEF-00	CC5
	Thallium (71)			< ? 	,			26-SEP-00	CC5
	Vanadium (V)		:	80				26-SEP-00	CC5
	Zine (Zn)		:	231	0	.5 mg/kg		26-SEF-00	1 603
	Arsenic (As) Arsenic (As)			818	c	: .1 ្នកនូ/kg	i	14-OCT-08	32
	Arsenic (As)			2190		;	ļ	26-8E2-00	. CC5
1.77890-45	""Bc-bs2-\$p-bs/2000-"								
Sample Date						!			:
Malrix:	SED:MENT		!		i	•		1	į
110.1.2.	OLD.MILIT								
	Ammonia-N		:	ū		mg/kg		27-SEF-00	EK
	Arsento (As) 3+		:	1320	. 0			14-007-00	i
	Arsenic (As) 51		;					i	44
			:	350	C	.^ jmg√k⊊ :		14-007-00	· .J
	Total Organic Carbon Organic Carbon			0.80	0	01 %		28 <b>-</b> 8E°-00	зкі
	Total Carbon			1.50	Q.		i	26-857-00 26-857-00	8 .
	Inorganie Darten			0.68	0.			20-00-400 20-00-400	e . Ske
	Metals (Strong Acid Re	ec.)			. **	i"	i		24.42
	Saver (Agr	,		:		l mg/kg		126-865-00	i cas
	Aillminum (Ai)			19900	1			26-801-00	CGS
									Rev# (,06

i ab ID	Sample ID	Test Description	. Result	C.L.	Units	Extracted	Analyzes	Dγ
1817898-13	GC-057-SD-09/20-01				;			
Sample Date			:					
, Matrix:	TABMICE				1		:	
· Westa.	2224C14		. !		:	 		; .
	Metals (Strong Acid R	es.)			į	İ		
:	Barium (Ba)		63.5	0.5	mg/cg	i	26-\$5P-D0	. CC5
:	Beryllium (3e)		<1	1	mg/kg	!	26-SEP-00	COS
:	Caldiim (Ca)		18550	100	ത്മൂ/യ	ļ	28-SEP-00	000
	Cadmium (Cd)		3.1	1 0.5	mg/kg		26-SEP-00	005
:	Cobait (Co)		41	1	jing/kg	:	26-SEP-00	CC5
	Chramium (Cr)		32.2	0.5	mg/kg		26-SEP-00	005
	Copper (Cu)		298	1	mg/kg		26-SEP-00	CC5
	ron (Fe)		5070D	130	mg/kg		26-8EP-00	, CC2
	Potassium (K)		1030	20	·mg/kg	I	126-SEP-00	. 605 (
	Magnestum (Mg)		15490	10	;wE/kā	:	26-SEP 00	٠ .
	Wanganese (Min)		520	50	mg/kg		26-8EP 00	CQ5 ;
	Veryadenum (Mo)		1 .	1	mg/kg		26-82H-00	CC5
	Sedium (Na)		300	100	mg/kg	İ	26-\$EP-00	CU5
;	Nickel (Ni)		50	2	mg/kg	i	126.SEP-00	005 005
İ	Phosphorus (P)		430	10	mg/kg		25-S≧P-00	
:	Load (Pb)		463	5	erg/kg		26-S≦P-00	005
:	Tirs (Sm)		<b>&lt;</b> 5	5	mg/kg	ļ	26-SEP-00	005
	Strantium (Sr)	•	. 28	1 -	mg/kg		26-SEP-00	GC5
	Tisanium (TI)		305	5	eng/kg	i	26-SEP-00 26-SEP-00	CC5
	Thallium (⊡)		<1 .	1	mg/kg			
i	Vanadion: (V)		65	1	ი მტმ	!	26-SEP-00	GC5
İ	Zina (Za)		620	0.5	ន កូ/ស្ង		26-SEF-00	CCS
İ	Arsenic (As)				·•_	!	160- 60	:
i	Arsenio (As)		1670 ,	0.1	ma/kg	!	14-CCT-00	JJ OOG
	Arsenio (As)		5030	D.#	nig/kg		!25-SEP-00	
L17890 14	90-0 <b>5</b> 2-80-09/00-02				i		:	İ
¡ Samble Date	21-507-00		•					1
Matrix:	SECIMENT		:		İ			
			;			:		
	Ashteonia-N		ő	1	mg/kg		27-\$EP-00	[CK
:	Arsen;c (As) 3+		6.3	Q.5	mg/kg		114-001-00	13
	Arsenio (As) 5+		24.3	0.1	mg/kg	İ	14-00T-00	13
	Total Organic Carbon				İ.			
	Organic Serbon		. 0.60	9.01	ļ%	į	23-5≣P-OD	SVA
	Tosar Çarbon		1.10	0.01	%		129-8EP-00	SKL
	Inorganic Carbon		0.25	0.01	%		25-8EP-00	EKL
	Matais (Strong Acid R	Rec.)		•	:	:	:  2848⊞7400	ದಧಿಕ
	Silver (A⊈)		<1		mg/kg		25-8EP-00	, 003
	Alum nom (Al)		20500	10 2 =	¦ng/kg ⇔des		25-SEP-00	CO5
	Berrylliom (Be)		113	0.5 1	mg/kç marko	:	25-857-00 25-857-00	ರರ್ಷ ರರ್ಜ
			41 : 14400	1 100	.mg/ko ima/ko	!	26-8EP-00	005 005
	Galdum (Ga) Gadmitto (Gd)		:		്ന്വാർട്ട അർട		!	: ccs
			1.8	8.5 1	തള/kg അഭീര		25-8EP-00	103
	Cobalt (Co)		24 :		img/kg Imakia		25-3EP-00	
	Chromium (Cr)		55.8	0.5	mg/kg		126-55P-00	003
			223	1	lmg/kg		36-S#F-00	1 005
	Cooper (Cu)						1001 501 1 100	10.7.7
•	Iron (F4)		3/090	100	mo'kg		26-SEP-00	. 003 1 com
<u>:</u>					mg/kg Img/kg mg/kg		26-SEP-UL 26-SEP-CO 26-SEP-CO	. 003 1 005 605

 Lab 'Ö	Sample IC	Tee: Sescription	Result :	5.L.	Vinita	Extrapted	Analyzed	: ay
L17590-14	BC-DS2-SD-09/09-02		····:	- · <del></del>				1
Sample Date			i i					
Matrx:	SEDIMENT							
NIGH X.	SCOUNCIA:							
	Metals (Strong Acid )	Rec.)	İ			į.	ļ	1
	Marganese (Mn)	•	° 400	20	mg/kg		126-SEP-00	GCS
	Malyādenum (?Йы)		, বা	1	იცბე		26-SEP-00	CCS
	Sodiam (Na)		400	106	,កាច្ច/kg		28-SEP-00	CCS
	Nicket (Ni)		, 65	2	നട്ടർട്ട		25-SEP-00	CCS
	Phosphorus (P)		440	10	то/ка		128-SEP-00	CCS
	Le <b>a</b> d (한b)		222	5	mg/kg		29-SEP-00	CCS
	Th (Sn)		<5	5	,mg/kg		25-8EP-00	GC5
	Strontium (Sr)		39	1	mg/kg		26-SEP-00	C05
	Titan u/n (Ti)		49-6	5	img/kg	:	26-SEP-00	CDS
	Inalium (FI)		<1	1	mg/kg		26-SEP-00	C05
	Vanadium (∀)		. 61	1	mg/kg	ļ	26-SEP-00	CC5
	Zinc (Zn)		544	ปี.อี	mg/kg		26-SEP-00	CQ5
:	Arsenic (As)		1	I	;	1		
-	A/senic (As)		640	0.1	lmg/kg	İ	:14-QCT-00	33
	Arsonic (As)		2240	0.1	mg/kg	:	26-SEP-00	CC5
L17890-15	BC-DS3-SD-09/00-01		:		: -		····	<del>·</del>
Sample Date	21-SEP-00							
Matrix:	SED:MENT				:	•		. :
						:	ļ	j '
	Ammon€a-N		<1	1	тар/кр		.27-SEP-00	EK
:	Arsenic (As) 3∽		17.3	0.1	mg/kg		14-OCT-00	. 11
	Arsenic (As) 54		14.4	0.1	ing/kg		14-OCT-00	JJ
!	Total Organic Carbo	n						
i	Organic Carbon	•	0.40	0.01	%		29-SEP-00	SKu
	₹otal Carocit		0.50	: 0.01	95		29-SEP-00	SKL
•	nceraC sinagrani		0.09	0.01	}%		28-SEP-00	; SKL
	Metals (Strong Acid	Rec.)						
	Silver (Ag)		; ≮1	1	mg/kg		28 SEP 00	CCS
	Aluminum (Ali		17203	13	ՠգնեց		28-SEP 00	CC5
	Şarium (Ba)		133	0.5	mg/kg		i 25-86P-00	CCS
	Beryllium (Be)		j <1	i 1	mgikg	1	125-SEP-00	LCC5
	Calcium (Ca.)		3300	100	mg/kg		26-SEP-30	CC5
	Casmium (Cd)		<0.5	j 0.5	mg/kg	!	26-SEP-00	005
	Cabalt (Co)		į s	: :	mg/kg		2B-SE9-00	CCS
	Chromium (Cr)		415	0.5	സൂഷ്യ	!	26-357-00	CC5
	Соррел (Си)		28	: :	mg/kg	1	26-SEP-00	CC5
•	iron (Fa)		25800	: 100	mg/kg	:	26-SEP- <b>30</b>	CCS
	Potassium (K)		! 3:60	20	mg/kg		26-SEP-00	005
	Magnesium (Mg)		E790	70	mg/kg		26-SEP-30	CCS
	Малдалеве (Мл)		720	20	mg/kg		2648#P-00	CC5
	Molyadenum (Ma)		. <.	,	rag/kg	!	26-85P-00	G05
:	Sodium (Na)		300	100	mg/kg	•	26-SEF-00	003
	Nickel (Ni)		24	2	រាច្ចកំពុ		26-SEP-00	007
	Phasohorus (F)		460	10	ring/kg		28-SEF-90	i ans
	Leag (Pb)		: 10	. 5	mg/kg		29-3 <b>E</b> 5-00	5
	7in (Sn)		<5	5	mg/kg		26/SEF-00	_ C <b>C</b> S
					1		for one or	: DG5
	Strontium (Sri		36	: 1	mg/kg		28-SEP-00	
	Strentium (Szi Titanium (Ti)		554	. 5	mg/kg		29-8EF-00	1,005
:	Strontium (Sri							

lat ID	Sample ID	Test Ocsaription	Result	Đ	Units	Extracted .	, Ane yzod	By
L 17890-15	BC-D33-SD-09/00-01						!	
Sample Date			i					
Matex	SEDIMENT							
LASO TIX	O DENINCIAL		i		:	:		
					:	:	i	
	Metats (Strong Acid F Vanadium (V)	teal)	43				i <sub>26-SEP-00</sub>	CC5
				1	esg/kg		26-SEP-00	
	Zard (Žar)		33.2 :	0.5	mg/kg		20-359-00	. CC5
	Arsenic (As)		24.7	0.4	con lon		44 OCT 00	الل ا
•	Arsenic (As)		31.7 : 47.0 ;	0 1 0.4	img/kg imaka		14-OCT-00 28-SEP-00	CCS
	Arsenic (As)	. <b></b>	. <del> </del>		jma/ka	<u>.i_</u>	25*861*****	1 000
L17890-16	BC-D\$3\\$ p\q\9/0(  \					:		İ
Sample Date					I	I		
Matrix	SEDIMENT				i		:	! !
:			!					
i	Aramodia-N		' <1	1	mg/kg	•	27-SEP-00	. EK
:	Arsento (As) 3±		. 23 2	0.1	mg/kg		14-OCT-00	ļ.,, į
	Arsenic (As) 5+		13.5	0.1	img/*g		-14-00T-00	
			10.0	0. !	i iatsa	1	:	"
	Tótal Organic Carbon Organic Carbon		.es.o	0.01	φ <sub>j</sub>	i	23-8EP-00	. SKF :
	tota Carbon		0.80	0.01	, W	:	28 882 00	SKL
:	Porganic Carbon		0.03	C.C1	:%		28-889-00	; SKL
:	-	1	0.05	C. <b>G</b> 1	i"		!	***
	Metals (Strong Acid F Silver (Ag)	Rec.;	<1 ·	1	; ,mg/kg	i	29-SEP-00	005
1	Aluminum (A.)		17300	50	sng/kg		23-SEP-00	CC6
	Barum (កិត)		143	C.5	mg/kg	!	28-SEP-00	, CC5
:	Berysium (Be)		<:	1	mg/kg	i	25-SEP-00	CCS
•	Calcium (Ga)		3700	- 00	img/kg		25-8ÉP-00	GGS :
	Cadmium (Cd)		<0.5	0.5	mg/kg	:	20-85P-00	005
:	Cobalt (Co)		8	1	mg/kg		26-SEP-00	005
:	Chremlum (Cr)		42.1	0.5	ng/kg		26-8 <b>E</b> P-00	, ÇC5 (
1	Copper (Cu)		36	\$	n <b>g</b> /kg	!	26-SEP-00	005
	iron (Fa)		20500	100	mg/kg		26-51P-00	005
!	Potassium (K)		3190	20	;mg/kg		20-SEP-00	005
	Magnesium (Mg)		682C .	10	mg/kg	i	20-SEP-00	005
;	Manganese (Ma)		200	20	mg/kg	!	26-SEP-00	C25
į	Molybdenum (Mb)		<1	1	mg/kg		26-SEP-00	005
:	Sedium (Na)		300	100	mg/kg	į	26-8EP-00	006
	Nickel (Ni)		25	2	mg/kg	;	26-SEP-00	025
i	Phosphorus (P)		410	10	mg/itg	I	26-SEP-00	QC5
•	Lead (Pb)		14	5	mg/4g	İ	26-\$EF-00	0055
	Tn (\$n)		· <5	5	mg/kg	:	.26-5E7-00	CCS
	Strantium (Sr)		35	1	mg/kg	İ	26 SEF 00	GO5 ;
	Titacium (TI)		- 582	5	mg/kg		:26-859 00	ccs
:	Final sums (Ff)		: <1	1	sng/kg	!	j26-SEP-00	GQ5 -
	Venadium (V)		: 46	1	തള/kg	!	126-55P-00	COS
	Z 0¢ (Z∄)		62.1	ĴΞ	mg/kg	i	28-SEF-00	005
	Ar <del>s</del> enic (As)					İ		
	Arsenic (Ás)		36.3	3.1	lmg/kg	!	14-007-00	j.i
	Arsenic (As)		81.2	3.1	jm⊈/kg	:	,28-SEP-00	005
 . 895-17	30-884-89-69700-641 TT		:			·	<del></del>	-1- · · ·
Sample Cate	21-SEP-00					:		
Metax:	Sadiment		:				i	
	·					:	:	
						:	:	:
						:	١	·
								Rova 1.(k)

Lab ID	O! elongs	Test Description	. Rásul:	D.L.	Units Sktracted	: Analyzod	. Fiy
∟17850-17	BC-CS4-SD-08/00 01				:	!	1
Samtle Date   21	-552-00				i	:	
Mainx, Sa	(JIMEN)					i	
	Amagonta-N		3	1	nrg/kg	27-SEP-00	EK.
	Arsenic (As) 3÷		445	0.1	mg/kg	14-0:01-00	. JJ
	Arsenic (As) 5+		47.1	0.1	тужа тужа	: 14-QCT-00	زا. أ
		_		5.1	11 91×13	4-0/3/400	1 .17
	Total Organic Carbo Organic Carbos	7	2,30	- 0.01	%	: ! 28-SEF-00	SKL
	Yotal Carpon		2.80	0.01	%	28-SEP-00	SKE
	thorganic Carbos		0.35	0.01	%	26-SEP-00	SKt
	Metals (Strong Acid	Rec i		1	.,	100 100	
	Silve: (Ag)	Rech	<*	. 1	mg/kg ,	26-SEP-30	003
	Aleminare (Al)		19830	10	тд/кд	26-SEF-00	ನ೦೧
	Barium (Đá)		: 119	5.0	т9/кд	26-SEP-30	cos
	Beryllium (Be)		, <:	4	wg/kg	26-SEP-00	CCS
	Calcium (Ca)		£100	100	mg/kg	26-SEP-00	GC5
	Cadmium (Cc)		0.6	0.5	mg/kg	i 26-SEF-00	: CC5
	Cobalt (Co)		28	1	img/kg :	26 SEP-00	CCS
	Chromium (Cr)		53.0	0.5	πg/kg	26 SEP 00	CCS
	Copper (Cu)		264	1	mg/kg	26-SEP400	CC5
	iron (Fe)		28200	106	mg/kg	26-SEP-00	CC.
	Potassium (K)		3530	20	тд/ка	26-\$6F-00	0
	Magnestym (Mg)		10800	. 10	mg/kg	26-SEF-00	CC5
	Manganose (Mr.)		320	20	img/kg	28-SEP-00	CC5
	Molyaderium (Mat		! <1	1 1	mg/kg	· 26-SEP-00	CCS
	Sediem (Na)		530	100	mg/kg	26-85P-00	CC5
	Nicke( (N.) Phosphorus (원)		72 470	2 i 10	iaig/kg .	, 28-SEP-00 26-SEP-00	* 665 665
	Cead (Pb)		64	; i	ing/kg mg/kg	26-86F-00 26-86F-00	OG5
	Tin (Sn)		<5	Ε	ng/kg :ng/kg	26-857-00 126-857-00	CQ5
	Strestium (Sr)		39	,	(mg/kg	26-507-00	, 005
	Titenium (Ti)		683	8	Img/kg	26-SEP-00	005
	Thallium (TI)		! %1	4	Img/kg	:28-S≦>-00	005
	Variadium (V)		. 59	7	mg/kg	29 S <u>E</u> 9-03	CCS
	Zing (Zh)		i 195	: 0.5	nig/kg	128 SEP 00	CCS
	Arsenic (As)				:		
	Arsenic (As)		432	0.1	lmg/kg	14-OCT-05	: JJ
	Azsenio (As)		1110	G.1	;mg/kg		005
.17890-18 Tim	BC-034-80-69/00-62					<del></del>	ŕ
Sample Oate (2)							
	:DIMKNI				1	İ	
			:		:	į	
	Ammonia-N		2	1	mg/kg	  2748≧≃400	i EK
	Arsen o (As) 3+		377	0.1	img/kc	14-001-05	J.;
	•		1 -			1	
	Arsenio (As) 5+		! 145	0.1	mg/kg	14-00T-00	177
	Tota Organic Carbo	r.	D 46		i	50.555.55	
	Organic Carboo Total Carbon		0.40	0.01	19/2	28-SEP-00	EK.
			1.50	: 0.01	'% e/	28-857-00	[ S
	ілогданка Сагрол	<b>.</b>	1.09	8.01	-%	28-S#P-00	; Shi
	Metals (Strong Acid	Rec.)	<b>K1</b>		Irogulao	55,850,00	1
	Säver (Ag) Alumicum (Al)		21400	1 10	wôkô wûkê	26-8EP-00 26-8EP-00	005
	2014(9)(C)(C)(1 (2/2))		2.1500	EJ	HUDOKE.	(20-5-146)	1 1 1 1 1 1 1 1

Lap D	Samole ID	Test Description	· Result	D.L.	Units	Extracted	Analyzed	By
	:		··		<del> </del>	<u> </u>		<del></del>
L17850-18	BC40S44S0409/04-02				i	İ	ļ	
Sample Date					:	ļ		
Matrix:	SEDIMENT					i		i
: '					İ	ļ	i	
	Metals (Strong Acid Sco	<del>5.}</del>			1 .		jan a-n an	
	Barum (Ba)		97.5	Q.5	ima/kg		25-657-00	CC5 '
	Berylliur√(Be)		. <1	1	.mg/kg		23-SEP-00	CC5
	Cardium (Ca)		13900 :	100	mg/kg	i	23-85P-00	CC5
	Cadmium (Cc)		j 3.6	6.5	mg/kg		28-SEP-00	CC5
	Cobalt (Co)		, ep	ţ	mg/kg		28-SEP-30	CCS
	Chromium (Cr)		61.2	0.5	าดหล		25-\$EP-30	. CC8
	Copper (Cu)		263	1	mg/kġ		26 35.7.30	. 205
	iron (f.e.i		35300	100	mg/¥g		26-SEP 00	CC5 +
	Potassium (K)		3090	20	നള്ള		26-SEP-90	7 003 - 00
	Magnesium (Vg)		13100	10	Judiya		26-SEP-00	1 QD5
	Manganess (Mn)		485	20	mg/kg		26-999-00	CC8
	Molyodenum (Mo)		1 1	5	те/ка		26-5 <del>2</del> 7-00	005
	Spdium (Na)		500	100	mg/kg		26-SEP-00	1.005
i	Nicket (N )	•	; 90	2	mg/kg		26-SSP-00	005
ļ	Phosphorus (P)		. 453	. 13	mg/kg		26-SEF-00	CC5
:	160a (Po)		70	5	ing/kg	i	26-SFF-00	005
:	Tin (Sn)		s5 -	5	mg/kg	!	25-SEF-00	1 005
	Strontium (St)		37	1	mg/kg	İ	; 26-SEF-C0	. 005
	Titanlum (11)		624	5	-mg/kg		26-SEP-00	005
!	Theillum (TI)		<* ·	! 1	!mg/kg	İ	26-SEF-00	CC5
:	Venadion (V)		74	1	mg/kg	:	28-SEF-00	CC5
	Zine (Zn)		248	0.5	mg/kg	İ	25-SEP-00	CCS
:	Arsenic (As)		550	0.1		ļ	14-OCT-00	JJ
	Arsenia (As)		535 ; 1440	0.1	.mg/kg ima/kg	i	,26-SEP-00	, 006 .
	Arsenic (As)	. <u> </u>	i 1 <del>.4</del> 5		mg/kg .			
L17890-20	117890-9 SOLUBLE				1			: :
Sample Date			!		į		!	-
ј Машк	SEDIMENT				1		:	
!				:	!	•	ļ	
	Antimony (Sb)		19.1	0.1	mg/kg		10 NOV-00	CCE '
	Mercury (Hg)		<0.01	Q.O1	mg/kg		10-NOV-00	CC5 .
1	Ársenic (As)		3.45	0.002	mgike	i	10 NOV 00	COS
			: 6-16	:	!		1.011.01	
	Metals (Strong Acid Re Silver (Ag)	c. <sub>l</sub>	i <5.02	. 3.02	mg/kg		50 NOV-00	l cca
	Aluminum (Al)		· <0.2	0.2	mg/kg	ļ	10-NCV-00	CCS
	Batium (Ba)		0.0-	. 0.01	mg/kg		10 NOV-00	GOS ,
	Barylium (Ba)		<0.02	0.02	mg/kg		10-MCV-00	005
	Calcium (Ca)		222	. 2	;mg/kg		10 NOV-03	CCS
	Cadmium (Cd)		₹0.25	1 0.01	img/kg		10-NOV-62	COS
	Cobait (Co)		<0.02	0.02	,rag/kg ¦rag/kg		10-NOV-00	005 -
	Chromium (Gr)		<0.01	0.01	img/kg	:	10-NOV-00	: C.T.5
	Copper (Cir)		<0.02	0.32	:mg/kg	:	10-NOV-03	CCF
	iron (Ae)		<2	. 2	mg/kg		10-NOV-00	000
i	Polassium (K)		20.1	0,4	mg/kg	:	;10-NOV-00	cca
	Magnesium (Mg)		25.3	. 9.2	mang mang		110-ROV-00	008
	Manganese (Mn)		, 25.3	9.4	mg/kg	:	(+0-NQV-00	005
	Molybdenum (Mo)		0.06	; 0.03	uiā/kā hišakā	1	1.0-NOV-00	000
	Sodiem (Ra)		47	2	nig/kg nig/kg		. C-MO/V-00	200
	Nickel (NI)		<0.04	0.04	mg/kg mg/kg		10-MGM-30	. 005
	tanto a diant		-11 1/=	1111-4	9.10	:		1
								Row Has

(3b/D)	Sample ID Tes	a Description	Result	. D.L.	. units	i Sktracted Analyzeo	39
L17890-20	_17893-9 SOLUBLE		;			<del> </del>	
Sample Octs			•			i i	
Matrix	SEDIMENT		:	:			
MBCIE	OZDIME.1						
	Metais (Strong Acid Rec.)		!			!	
	Priosphores (P)		s0.2	0.2	mg/kg	. 1C-NOV-DO	; 005
	Lead (Pb)		501	0.0	.mg/kg	104NOV-00	CC3
	Tis (Sn)		<0.1	0.1	mg/kg	10-NOV-00	203
	Strentlen (Sr)		9.70	0.02	mg/kg	1C-NOV-00	· 005
	Tilantum (Ti)		401	. 0.	img/kg	1Ç-NOV-00	203
	Toal:um (TI)		<0.02	0.02	mg/kg	10-NOV-00	005
	Vanadium (V)		<0.02	3.02	rmg/kg	10-NOV-00	CC5
	Z:nc (2n)		0.52	0.01	സു/kg	10-NOV-00	005
L17890/21 <sup>7</sup>	U17893-953 <b>50038</b> 19				· · · · · · · · · · · · · · · · · · ·		
Şampia Date							
Matrix:	SEDIMENT		!	İ			
			:		i		
	Antimony (8b)		19.7	0.002	img/kg	10-NOV-00	CGS
	Mercury (rig)		<0.0002	0.0002	mg/kg	104NOV-00	ССБ
	Arseniç (As)		3.76	0.002	mg/kg	: 10-NOV-00	503
	Metals (Strong Acid Rec.)				. 55		000
	Silver (Ag)		: <0.02	0.02	mg/kg	10-NOV-00	Ç
	Numinum (At)		<0.2	D.2	mg/kg	10-NOV-90	Su.
	Barium (Ba)		0.51	3.01	mg/kg	10-NOV-00	CC5
	Beryliium (Be)		<0.02	0.02	;mg/kg	10-NOV-80	005
	Calcium (Ca)		162	2	img/kg	10-NOV-60	005
	Cadmiure (Cd)		<0.0%	0.01	mg/xg	110-NOV-00	005
	Cotall (Co)		<0.32	0.02	imawa	10-NOV-00	005
	Chacaigni (Cr)		<0.00	0,01	mg/kg	10-NCW-00	0.05
	Goope: (Cd)		<0.02	5.5Z	l⊏g/kg	10-NOV-00	0.05
	Iran (Fe)		<2	; 2	mg/kg	10-NOV-00	: 205
	Potassium (K)		21 -	6.4	.mg/kg	: 10-NOV-00	005
	Magnesium (Mg)		24.8	១១	mg/kg	10-NOV-60	005
	Manganese (Mn)		<9.4	0.4	nig/kg	· 15-NOV-00	1.005
	Możybcenum (Mp)		0.04	0.02	nig/kg	15-NOV-00	, CC5
	Sodiam (Na)		44	2	img/kg	:10-NOV-00	COF
	Nickel (Ni)		<0.34	0,04	:mg/kg	10-NOV-00	005
	Phosphorus (P)		<0.2	0.2	та/х <u>я</u>	10-NOV-00	005
	Lead (Pb)		<0.1	0.1	ļmg/kg	! #16-NOV-20	COS
	7.n (Sn)		<0.1	0.5	mig/kg	10-NOV-05	005
	Saronfrom (Sz)		0.42	; 5,02	img/kg	10-NOV-00	QC5
	I tarium (ii)		<0.1	0.1	mg/kg	10-NOV-00	COS
	Thaillem (Ti)		; <3.02	2.02	:mg/kg	1C-NÓV-Q0	005
	Vanadium (V)		<0.02	0.02	mg/kg	10-NOV-00	೧೦ಕ
	∠ no (∠n)		0.02	0,01	mg/kg	10 NOV-00	CCE
117890-22	117690-11 SOLUBIET 11 11 11 11 11 11 11 11 11 11 11 11 11		<u>:</u>	· · · · · · · · · · · · · · · · · · ·	÷		<del>-</del>
	21-SEP-00		:	:			:
Matrix	SEQIMENT		i	i			İ
			:	:	:		] .
	Antimony (Sa)		. 4.95	0.002	! :mg/kg	10 NOV 00	- pue
	Mercury (Hg)		<0.0002	0.0002	mg/kg	10-NOV-00	1 565
	Arsenic (As)		3.90	0.002		10-NOV-90	005
			3.50	0.002	my/kg	. 10-14(27/-00	1
	Metals (Strong Acic Rec.)		!			!	1

Lap D	Sample ID	Test Description	Result	D	i Units	Extracted	, And yzed	Ву
117890-22	L17890-11 SOLUBLE		:		1			! : ;
Sample Date								
Matrix:	SECIMENT				! .			i i
	,- <b>,-</b> ,-		1		İ		;	I
:	Metals (Strong Acid	(Rec.)					;	!
	Silver (Ag)	( Nec.)	<0.02	0.02	mg/kg		10-NOV-05	CC5
	Aiuminum (AI)		<0.2	Ç.Z	mg/kg		10-NOV-00	ÇC5
!	Darlum (Ba)		0.12	0.01	mg/kg		10-NOV-00	GC5 :
•	Baryllium (Se)		<0.01	0 01	mg/kg		10-NOV-30	CCE :
	Calcium (Ca)		177	2	(mg/kg		10-NOV 00	CC5
	Sadmlum (Cd)		. <0.01	. gan	mg/kg	ļ	13-NOV 90	, CC5
	Cobalt (Co)		6.02	0.02	тс/кд		13-NOV-00	GC5 :
	Chromium (Cr)		< 0.01	0.01	тс/к <b>д</b>	ļ	55-NOV-00	CC5 ;
	Copper (Cu)		<0.02	0.02	mg/kg	Ī	110-NOV-00	COS
	Iron (Fe)		<2	2	ಗಾತ್ರಿ/ಸ <b>ತ್ತ</b>	ļ	10-NOV-00	CC5
	Potassium (K)		20.8	0.4	mg/kg		10-NOV-00	CC5
	Magnesium (Mg)		26.4	0.2	mg/kg		30-NOV-00	GC5
	Manganose (Mn)		0.5	. 0.4	rrg/kg		10-NOV-00	005
	Molybdanum (Mo	;	0.13	0.02	rrg/kg		10-NOV-00	CC5
	Spd um (Na)		52	: 2	mg/kg		10-NOV-00	CC5
	, Nickel (M)		0.09	0.04	mg/kg		10-NOV-00	CCS
	Phosphoris (P)		J 0.2	n.2	mg/kg		15-NOV-00	CCS
	Lead (Pb)		· <0.1	: 0.1	mg/kg	:	10-NOV-00	CCS
	Tic (Sn)		<0.1	0.1	mg/kg	ļ	10-NOV-00	CCá
	Strentium (Sr)		0.91	0.02	pro/kg	i	10-NOV-00	CCS
	Titanium (T1)		<0.1	; C.1	ത്രൂഷ്യ	i	10-NOV-00	CC5
1	Thalform (**1)		<0.02	0.02	mg/kg	l	10-NOV-20	GG5
	Vanadium (V)		<0.02	0.02	mg/kg		30-NOV-08	CCS
1	Zibc (Zn)		0.02	G.C1	mg/kg	:	10 NOV-00	CCS
L17860-23	L17890-12 SOLUBLE			:			T	
Samete Care	21.SEP-20		l :		i		1	
Matrix:	SEDIMENT							:
i			!					
	Απέπουν (Sb)		3.49	0.002	mg/kg		10-NOV-60	cçs
!	Merbury (Hg)		<0.0002	0.0002	nig/kg		I <sub>10-NOV-00</sub>	CCS
:			5.8				10-NOV-00	905
1	Arsenic (As)		j.0	0.1	mg/kg		10.440,4-00	. 555
	Metals (Strong Acid Silver (Ag)	1 Rec.)	<3.02	0.02	mg/kg		: :10-NOV-00	CCS
:	Alaminum (Al)		1 3.4	: 0.02	m@/kg		104NOV-96	005
	Barium (Bal		0.17	0.01	mg/kg		10-NOV-00	; ccs
	Borylkum (Be)		<0.02	0.02	mg/kg		10-NOV-00	005
	Caldium (Ca)		188	. 2	ulayka marka		10-NOV-90	CC5
	Cadmum (Cd)		<0.01	3.01	Img/kg	į	104NDV-09	CCS
	Cobast (Co)		0.02	3.02	i uawa i uawa		10-MQV-00	005
:	Chromium (Cr)		; <0.01	3.01	mg/kg		10-NOV-00	505
	Copper (Cu)		40.02	0.02	jing/kg jing/kg		10-MOA-00	005
	ean (Fe)		<2	2	img/kg		13-NOV-06	005
!	Potasslym (K)		22.5	9.4	img/kg	!	10-NOV-00	005
:	Wagneslum (Mg)		27.8	0.2	mg/kg		- 10-NOV-00	005
	(nVi) seenaganes(,		! * " <0.4	96	ing/kg	i	16-NOV-00	505
:"	Malybdenua: (Mo		0 12	0.02	ingikg ingara		10-NOV-00	503
:	Sociam (Na)		42	2	mg/kg	:	10-NGV-00	005
				•				
	Nickel (Ni)		0.08	5 04	mg/ko	:	104NOY-00	. 003
	Nicket (Ni) Propertiones (P)		0.06 <0.2	5 04 0 2	ing/kg ing/kg	:	10-NOV-90 10-NOV-90	1 003 1 003

<b>Լ</b> ≢Ե (Ը	Sample D	Test Description	Regult	D.4.	Units Extracted	Applyzed	By
17890-23	L17890-12 SOLUBLE				· <del>!</del>	<del>- </del>	
Sample Date							!
Matrix:	SEDIMENT		;				
Maare.	3_B.II.LIVI						i
:	Metals (Strong Acid	Parl				i	
	Leac (Pb)	(Com)	<0.1	9.1	mg/kg	10-NOV-00	CC5
•	Tim (Sa)		<0.1	0:	m <b>o</b> /kg	16-NOV-00	CCS
	Stranburn (Sr)		0.80	0,02	mgikg	10-NOV-00	300
	Tiignium (Ti)		; <0.1	0.1	m <b>g</b> ikg	10-NOV-00	CC5
	Thaifium (Ti)		<0.02	0.02	mg/kg :	10-NGV-09	CCo
	Vanadium (V)		<0.52	0,02	mg/kg	10-NOV-00	CC5
	Zino (Zn)		0.02	C.01	img/kg ;	10-NOV-00	005
L17890-24	.17890-13 SOLUBUE				!		
Sample Date			;				
. Metrix:	SEDIMENT		i .		1	!	:
i							;
	Antimony (Sb)		11.2	0.002	mg/kg	10-NGV-00	ÇC5
	Mercary (Hg)		<0.3002	0.0002	malka .	10-NOV-00	002
!	Avsento (As)		9.39	0.002	mg/kg	101MOA103	CC5
:	Metals (Strong Acid	Rec.)			imamilian I	. n Mara en	CC5
;	Silver (Ag)		<0.02 <0.7	0.02 0.2	mg/kg	10-NOV-00	CC.
!	Aluminum (At) Berlum (Se)		1 009	0.01	img/kg  mg/kg	10-NOV-00	ο <sub>υ</sub> :
:	Berylliam (Be)		≪0.02	0.02	ing/kg	10-NOV-00	CC5
I	Caldum (Ca)		129	2	lmg/kg	10-NOV-00	000
	Cadmium (Cc)		<0.01	0.21	rag/kg	10-NOV-00	GC5
1	Cobalt (Co)		<0.02	0.02	mg/kg	10-NOV-00	CC5
	Chromium (Cr)		<0.01	0.01	mg/kg	10-NOV-00	COS
•	Copper (Gu)		<0.02	0.02	lmg/kg	10-NOV-00	CC5
	ron (Fe)		<2	. 2	img/kg ;	10-NOV-00	CCS
:	Potassium (K)		10.4	0.4	mg/kg	10 NOV 00	CC5 '
:	Magnesium (Mg) Manganese (Mn)		14.8 <0.4	0. <b>2</b> 0.4	mg/kg	10-NOV-00 10-NOV-00	005
	Moiybdanum (Mb)		0.04	0.02	mg/kg mg/kg	10-NOV-00	CCS
	Sodium (Na)		41	2	img/kg	10-NOV-00	CCS
	Nicker (Ni)		<0.04	9.04	·mg/kg	10-NOV-09	CC5
İ	Phasphorus (P)		<0.2	9.2	m <u>ā</u> /kģ	16-NOV-00	೧೮ಕ
	1960 (Pb)		90.1	5.1	тç/kg	104MOV-00	CCS
:	Tin (Sn)		<0.1	0.1	mg/kg	10-NOV-00	005
:	Strontum (Sr)		0.72	0,02,	mg/kg :	10-NOV-00	೧೦೮
	Thanlom (fl)		90.1	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	mg/kg	10-NOV-00	1,005
	Thallium (T!)		<0.02	0.02	[mg/kg	10-NOV-00 10-NOV-00	CC5
•	Vagad see (V) Zino (Zn)		<0.05	0.01	mg/kg mg/kg	10-NOV-00 10-NOV-00	9 005 005
: * T900 05 '	2003 (20) £17890 14780CUBLETT			. 0.01	a.r.n i	10-14/4/4615)	†
1. 17890 25 Sample Date			;	:	į		
т Маагх - Маагх	SEDMENT		•		:	•	i
	e sterostero						;
	Antimony (Sb)		8.07	0.002	i Jasovky	;10-NOV-00	f -!
	Mercury (Hg)		<0.0002	0.0302	ing/kg	19 NOV 00	cca
:	Arsenic (As)		2.86	0.002	mg/kg	10-NOV-00	GCE
	Meta's (Strong Acid	Rec.)					į
	Silve: (Ag)	,	<0.02	0.02	img/kg	10-NOV-00 :	OCE
					-J	!	! Pev#1.00

Lab (D		;	!			
200 110	Sample (D. Test Description	Result	DL.	Units	Extracted   Analyzed	θу
L17890-25	L17890/14 80/1/31 F			•		
_	21-SEP-00	:		:	•	
Matrix:	SEDIMENT			į	:	l
v.auix:	GEDINICN:	i			i i	I
		!		i	: '	
	Metals (Strong Acid Rec.)			ļ	40,000,00	one
	Arumman (Al)	. C.2	0.2	mg/kg	10-NOV-00	
	Barium (Sa)	0.17	0.01	!mg/kg	[10-NOV-00	CCS
	Beryllium (Be)	<0.62	0.02	rmg/kg	: 10-NOV 00	503
	Çalbium (Cž)	1 115	j 2	mg/kg	10-NOV 0B	CCS
	Cadmium (Cd)	<0.01	0.01	mg/kg	: 20-NOV-00	೧೦೯
	Cobalt (Co)	<0.02	0.02	inglig	10-NOV-00	006
	Chromium (Cr)	: ⊲0.01	0.01	mg/kg	, †10-NOV-00	CC5
	(Capper (Cu)	< 0.02	0.02	ولالقِريب	10-NOV-00	005
	Iron (Fe)	<2	j 2	ng/kg	10-NOV-00	CCS
	Potassium (K)	22.6	0.7	ng/kg	10-NOV-00	CC5
	Magnesium (Mg)	13.5	5.2	ng/kg	10-NCV-09	CC5
	Manganese (Mn)	. <34	0.4	ng/kg	1C-NOV-00	005
		0.00	. 0.02	ng/kg	10-NGV-00	005
	Molybdenum (Mo)	. 36		1	(10-NCV-00	005
	Sadium (Na)	:	. 2	lmg/kg	- i	
	Nickel (Ni)	<0.04	0.04	mg/kg	10-NOV-00	005
	Phospharus (P)	0.2	0.2	nvg/kg	19-NOV-90	005
	Lead (Pb)	<0.1	0.1	្រាញវ <b>ស់</b> ព	10-NOV-00	005
	Tin (Sa)	<0.1	ή.	<sub>:</sub> riig/kg	1B-NOV-00	CC2
	Stranium (Sr)	. 0.85	0.02	ing/kg	19-NOV-00	CC5
	Thanlum (Ti)	<0.1	0.1	ന്നൂൻമ	10-NOV-00	CCE
	Thallorn (제)	<0.02	0.32	ļmg/kģ	10-NOV-00	, cce
	Vanadiom (V)	<0.02	0.02	mg/kg	10-840V-00	; CCÉ
	Zinc (Zn)	0.02	0.01	rng/kg	[10/NOV-00	: CC5
L17890-26	_37890-17 SOLUBLE	<del></del>	, <del>.</del>	.	<del></del>	
		•		İ		
	a 31.₽Ε3_05					
	e 21-SEP-00		i	i	i	
Maior	e 21-SEP-00 SEDIMENT		•	İ	i	
						:
		2.95	· · c.002	im <b>g</b> /kg	 	CC5
	SEDIMENT Artimony (Sb)				1	1
	SEDIMENT  Artimony (Sb)  Mercury (Hg)	<0.0002	0.0062	ດາg/kg	16-МОУ-20	GC5
	SSDIMENT  Antimony (Sb)  Mercury (Hg)  Arasnic (As)				1	1
	SEDIMENT  Artimony (Sb)  Mercury (Hg)  Arasnic (Aa)  Metals (Strong Acid Rec.)	<0.0002 2.78	0,0002 0,003	იაჟ/kg mg/kg	00-VON-01	CC5
	SSDIMENT  Antimony (Sb)  Mercury (Hg)  Arasnic (Aa)  Metals (Strong Acid Rec.)  Silver (Ag)	<0.5002 2.78 <0.02	0.0002 0.002 0.002	nxg/kg  mg/kg  mg/kg	10-NOV-00 10-NOV-00	GC5 CC5
	SEDIMENT  Antimony (Sb)  Mercury (Hg)  Arasnic (As)  Metals (Strong Acid Rec.)  Silver (Ag)  Aluminum (At)	<0.0002 2.78 <0.02 : 0.2	0.0002 0.002 0.002 0.02 0.02	mg/kg  mg/kg  mg/kg  mg/kg	10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	005 005 005 005
	SSDIMENT  Antimony (Sb)  Mercury (Hg)  Arasnic (Aa)  Metals (Strong Acid Rec.)  Silver (Ag)	<0.5002 2.78 <0.02	0.0002 0.002 ( 0.02 ( 0.02 ( 0.2 ( 0.01	nxg/kg  mg/kg  mg/kg	10-NOV-20 13-NOV-00 18-NOV-20 10-NOV-00 10-NOV-00	005 005 005 005 005
	SEDIMENT  Antimony (Sb)  Mercury (Hg)  Arasnic (As)  Metals (Strong Acid Rec.)  Silver (Ag)  Aluminum (At)	<0.0002 2.78 <0.02 : 0.2	0.0002 0.002 0.002 0.02 0.02	mg/kg  mg/kg  mg/kg  mg/kg	10-NOV-20 13-NOV-20 18-NOV-20 10-NOV-20 10-NOV-20	005 005 005 005 005 005
	SEDIMENT  Artimony (Sb)  Mercury (Hg)  Arasnic (As)  Metals (Strong Acid Rec.)  Silver (Ag)  Aluminum (As)  Barium (Ba)	<0.0002 2.78 <0.02 0.2 0.23	0.0002 0.002 ( 0.02 ( 0.02 ( 0.2 ( 0.01	mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-20 13-NOV-00 18-NOV-20 10-NOV-00 10-NOV-00	005 005 005 005 005
	Antimony (Sb)  Mercury (Hg)  Arasonic (As)  Metals (Strong Acid Rec.)  Silver (Ag)  Aluminum (At)  Barium (Ba)  Beryl ium (Ba)  Calcium (Ca)	<0.0002 2.78 <0.02 0.2 0.23 <0.02	0.0002 0.002 0.002 0.02 0.02 0.01 0.02 2	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-20 13-NOV-20 18-NOV-20 10-NOV-20 10-NOV-20	005 005 005 005 005 005
	Antimony (Sb)  Mercury (Hg)  Arasnic (As)  Metals (Strong Acid Rec.) Silver (Ag)  Aluminum (At)  Barium (Ba)  Beryl ivm (Ba)	<0.0002 2.78 <0.00 0.2 0.23 <0.02 148	0.0002 0.002 0.002 0.02 0.01 0.02 2 0.01	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-20 10-NOV-00 18-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	005 005 005 005 005 005
	Antimony (Sb)  Mercury (Hg)  Araenic (As)  Metals (Strong Acid Rec.)  Silver (Ag)  Aluminum (At)  Barium (Ba)  Beryl ium (Ba)  Caldium (Ca)  Cadmium (Cd)  Cabal! (Co)	<0.0002 2.78 <0.02 0.2 0.23 <0.02 148 <0.01 <0.02	0.0062 0.002 0.002 0.02 0.01 0.02 2 0.01 0.02	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg img/kg img/kg	10-NOV-00 10-NOV-00 18-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	GC5   GC5   GC5   GC5   GC5   GC5   GC5   GC5
	Antimony (Sb)  Mercury (Hg)  Arasnic (As)  Metals (Strong Acid Rec.)  Silver (Ag)  Aluminum (At)  Barium (Ba)  Beryl ium (Be)  Caldium (Ca)  Cadmium (Cd)  Cabalt (Co)  Chramium (Cr)	<0.0002 2.78 <0.002 0.20 0.23 0.002 148 <0.01 <0.02	0.0062 0.002 0.02 0.02 0.01 0.02 2 0.01 0.02 0.01	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg img/kg img/kg	10-NOV-00 10-NOV-00 18-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	005 005 005 005 005 006 006
	Antimony (Sb) Mercury (Hg) Arasnic (As) Metats (Strong Acid Rec.) Silver (Ag) Aluminum (At) Barium (Ba) Beryl ivm (Be) Caldium (Ce) Cadmium (Cd) Cobalt (Co) Chramium (Cr) Copper (Cu)	<0.0002 2.78 <0.002 0.20 0.23 0.02 148 <0.01 <0.02 1 <0.01 <0.001	0.0062 0.002 0.002 0.02 0.01 0.02 2 0.01 0.02 0.01 0.02	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg img/kg img/kg img/kg	10-NOV-00 10-NOV-00 18-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	GC5   GC5   GC5   GC5   GC5   GC5   GC5   GC5
	Antimony (Sb) Mercury (Hg) Arasnic (As) Metals (Strong Acid Rec.) Silver (Ag) Aluminum (At) Barium (Ba) Beryl ivm (Be) Caldium (Ce) Cadmium (Cd) Cobalt (Co) Chramium (Cr) Copper (Cu) Iron (Fe)	<0.0002 2.78 <0.002 0.20 0.23 0.02 148 <0.01 <0.02 1 <0.01 <0.02 1 <0.01 <0.02	0.0062 0.002 0.002 0.02 0.01 0.02 2 0.01 0.02 0.01 0.02	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-00 10-NOV-00 18-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	005 005 005 005 005 005 005 005
	Antimony (Sb) Mercury (Hg) Arasnic (As) Metals (Strong Acid Red.) Silver (Ag) Aluminum (Al) Barium (Ba) Beryl ivm (Ba) Caldium (Ce) Cadmium (Cd) Cobalt (Co) Chramium (Cr) Copper (Cu) Iron (Se) Potassium (K)	<0.0002 2.78  <0.002 0.20 0.23 <0.02 148 <0.01 <0.02 1 <0.01 <0.02 1 <0.01 <0.02 25.7	0.0062 0.002 0.002 0.02 0.01 0.02 2 0.01 0.02 0.01 0.02 0.01	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-00 10-NOV-00 18-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	005 005 005 005 005 005 005 005 005
	Antimony (Sb) Mercury (Hg) Arasnic (As) Metals (Strong Acid Red.) Silver (Ag) Aluminum (Al) Barium (Ba) Beryl ivm (Be) Caldium (Ce) Cadmium (Cd) Cobalt (Co) Chramium (Cr) Copper (Cu) Iron (Se) Potassium (K) Magnesium (Mg)	<0.002 2.78  <0.02 0.2 0.23 0.23 0.02 148 <0.01 <0.02 1 <0.01 <0.02 1 <0.01 20.02 25.7 21.2	0.0002 0.002 ( 0.02 ( 0.2 ( 0.01 ( 0.02 ( 2 ( 0.01 ( 0.02 ( 0.01 ( 0.02 ( 2 ( 0.01 ( 0.02 ( 0.01 ( 0.02 ( 0.01 ( 0.02 ( 0	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-00 10-NOV-00 18-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	GC5 GC5 GC5 GC5 GC5 GC5 GC5 GC5 GC5 GC5
	Antimony (Sb) Mercury (Hg) Arasnic (As) Metals (Strong Acid Red.) Silver (Ag) Aluminum (Al) Barium (Ba) Beryl ivm (Be) Caldium (Ce) Cadmium (Cd) Cobalt (Co) Chramium (Cr) Copper (Cu) Iron (Se) Potassium (K) Magnesium (Mg) Manganese (Mn)	<0.0002 2.78  <0.02 0.2 0.23 <0.02 148 <0.01 <0.02 40.01 <0.02 <0.01 <0.02 25.7 21.2 0.5	0.0062 0.002 0.002 0.02 0.01 0.02 2 0.01 0.02 0.01 0.02 0.01 0.02 0.04	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-00 10-NOV-00 18-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	GC5 GC5 GC5 GC5 GC5 GC5 GC5 GC5 GC5 GC5
	Antimony (Sb) Mercury (Hg) Arasnic (As) Metals (Strong Acid Rec.) Silver (Ag) Aluminum (At) Barium (Ba) Beryl ium (Ba) Caldium (Cd) Cadmium (Cd) Cabalt (Co) Chramium (Cr) Copper (Cu) Iron (Fe) Potassium (K) Magnesium (Mg) Manganese (Mn) Molybdenum (Mc)	<0.0002 2.78  <0.02 0.2 0.23 0.02 148 <0.01 <0.02 1 <0.01 <0.02 1 <0.01 20.02 21 25.7 21.2 0.5 0.13	0.0062 0.002 0.002 0.02 0.01 0.02 2 0.01 0.02 0.01 0.02 2 0.04 0.02 0.4 0.02	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	GC5   GC5   GC5   GC5   GC5   GC5   GC5   GC7
	Antimony (Sb) Mercury (Hg) Arasnic (As) Metals (Strong Acid Rec.) Silver (Ag) Aluminum (At) Barium (Ba) Beryl ium (Ba) Caldium (Cd) Cadmium (Cd) Caball (Co) Chramium (Cr) Copper (Cu) Iron (Fe) Potassium (K) Magnesium (Mg) Manganese (Mn) Molybdenum (Mc) Seolum (Na)	<0.0002 2.78  <0.002 0.23 0.02 148 <0.001 <0.002 1 48 000 <0.001 <0.001 <0.001 <0.002 <0.001 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0	0.0002 0.002 0.002 0.02 0.03 0.02 2 0.01 0.02 0.01 0.02 2 0.4 0.2 0.4 0.02	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	GC5   GC5
	Antimony (Sb) Mercury (Hg) Arasnic (As) Metals (Strong Acid Rec.) Silver (Ag) Aluminum (At) Barium (Ba) Beryl ium (Ba) Caldium (Cd) Cadmium (Cd) Cabalt (Co) Chramium (Cr) Copper (Cu) Iron (Fe) Potassium (K) Magnesium (Mg) Manganese (Mn) Molybdenum (Mc)	<0.0002 2.78  <0.002 0.23 0.23 0.02 148 <0.01 <0.02 148 <0.01 <0.02 25.7 21.2 0.5 0.11 0.05	0.0062 0.002 0.002 0.02 0.01 0.02 2 0.01 0.02 0.01 0.02 2 0.4 0.02 0.4 0.02 0.4 0.02	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	GC5   GC5
	Antimony (Sb) Mercury (Hg) Arasnic (As) Metals (Strong Acid Rec.) Silver (Ag) Aluminum (At) Barium (Ba) Beryl ium (Ba) Caldium (Cd) Cadmium (Cd) Caball (Co) Chramium (Cr) Copper (Cu) Iron (Fe) Potassium (K) Magnesium (Mg) Manganese (Mn) Molybdenum (Mc) Seolum (Na)	<0.0002 2.78  <0.002 0.23 0.02 148 <0.001 <0.002 1 48 000 <0.001 <0.001 <0.001 <0.002 <0.001 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0000 <0.0	0.0002 0.002 0.002 0.02 0.03 0.02 2 0.01 0.02 0.01 0.02 2 0.4 0.2 0.4 0.02	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00 10-NOV-00	GC5   GC5   GC5   GC5   GC5   GC5   GC5   GC6

L17390-17 SOLUBLE H-SEP-DO SEDIMENT		:	D.L.	Units	; Extracted	Anelyzed	By
		!		:	<u> </u>	!	<del></del>
		!		!			
				1		i	İ
		:			İ	;	<u> </u>
Metals (Strong Acid R		:		ļ	į	į	İ
Tin (Sh)	sc.)	<0.1	0.1	mg/kg		10-NOV-00	CC5
Stronaum (\$r)		0.67	0.02	mç/kg		10-NOV-00	CC5
		i				:	CC5
. ,						1	CC5
		:			:	!	. 005
		1				10-NOV-00	005
				-	!		•
						1	
				: .			
EDHALSA I		i				İ	
4-2			0.000			10.0000.00	
						1	GD5
·			0.0002	mg/kģ	-		C05
Arsenic (As)		1.90	5.002	mg/kg		10-NOV-00	CCS
	ec.)						
Säver (Ag)		; <0.02	0.02	mg/kg			GCS
Aluminum (Ali				mg/kg			COS
•		:			i	:	C'
			0.02	mg/kg		:	CU.
		!	2	mg/kg			೧೮೩
			1		1		COS
•				•		1	CC5
						1	G05
				1		1	CC5
				i		1	CC5
						!	CC5
		237	1			I	CC5
-			i				CG5
-						_	CC5
-			'				ÇĆS
			-			I	CC5
			•			•	CC5
				:			006
							CC5
					1		005
					İ		. 005
						•	003
				1 -	:		CG6
Zino (Zh)		0.32	0.01	mg/kg		10-NOV-00	CC5
	Than om (Tr) Tha fight (Tr) Venadrom (V) Zinc (Zn)  L17396-18 SOLUBLE  1-SEF-C0 EDIMENT  Andmory (Sb) Mercury (Hg) Arsenic (As) Metals (Strong Acid Re	Than om (T) Tha sign: (T) Venadom (V) Zinc (Zn)  L17386-ts SOLUBLE  1-SEP-C0 EDIMENT  Anomory (Sb) Marcury (Fig) Arsenic (As) Matals (Strong Acid Rec.) Silver (Ag) Aluminum (Al) Barlum (Ba) Beryllium (Bo) Caldium (Ca) Cadmium (Cd) Cobort (Co) Conomium (Cr) Copper (Cu) Fron (Fe) Potassium (K) Magnesium (Mg) Manganese (Mn) Molybderum (Wo) Sodium (Na) Nfokel (Ni) Phosphorus (P) Lead (Pb) Tin (Sn) Strondum (T) Thallium (T) Thallium (T) Thallium (T) Varadium (V)	Than om (Tr)	Thanium (Tr)	This item (Tr)	Titen om (Tr) The illum (Tr) The illum (Tr) Vereadrum (V) Zinc (Zn) Quiz Quiz Zinc (Zn) Zinc (Zn) Zin	Than bm (T)

# Methodology Reference

ETL Test Code	Test Description	Methodology Reference (Based On)
AS-AS3-ED	Araenic (As) 3+	APHA 3414 C-AAS - Hydrid≘
AS-AS5-ED	Arsenic (As) 54	APHA 3114 C-AAS - Hydride
ASYD-ED	Arsenic (As)	APHA 3/14 C-AAS - Hydride
AS-SQL-EO	Tgtal Water-Soruble Arsenic	Birkholz et al. + APHA 3114 C-(RGAAS)
C-TOT-ORG-SK	Total Organis Carbon	OSSS 21.4-¥tigh Temp Instrumentet
на-нүр-ер	Mercory (Hg)	APEIA 0112 B-AAS Cold Vapor
METAL-EXD-ED	Metals (Strong Acid Res.)	SW 848 - 3051/6010-/CP-O18
M94-50	Arsmonia-N	APHIA 4500 N1:3P-Colorimetry
P=-1:1-ED	PH .	C. CSSS 16.3-Electrode on 1:4 extr.
\$3-HYD-ED	Antimony (Bb)	APHA 3114 C-AAS-Hydrida
S04-ED	Sulfate (SO4)	APHA 4510 B-lob Obromatography
SFECIAL RED-IN-ED	norganics Special Request	
SELPHIDE-ACIDVOL-TB	Sufprildo	EPA 9030B

Ert EnviroTest on	CHAIN OF CUSTOOY / ANALYTIC	OY / ANALYTICAL	AL REQUEST FORM	<u>ORM</u>	ANALYSIS R	AMALYSIS REQUESTED:		-{-
990Y ST Weave, Edmonton, Aberta, the Orbit Londrine (ellifore law). Londrine (ellifore law). Londrine (ellifore law). Londrine (ellifore law). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore). Londrine (ellifore).		Lilaphone (790) 4 8 520 belophone 1 200 4884 8672 Telephone (471) 581-585 Belophone (471) 581-585 Belophone (471) 581-585 Belophone (471) 867 3705 Belophone (471) 867 3705 Belophone (471) 867 3705	The (Vol) 40 (SST) The 4800 BBS 78 (SST) The 6400 BBS 78 (SST) For (SAD) 613-21 BB For (SAD) 613-21 BB For (SAD) 645-67 GB For (SAD) 645-67 GBS For (SAD) 645-78 BBS	Q SHIVES A				<u></u>
INTELÉGOLT ALLGAR PROLITED. SERVICE RÉQUESTED!	:	SPECIAL DECUREMENTS / REGS (COLCLAM)	REMENTS / REG					
DISCOULAB CP PROPITY (IN SECTION OF STANDARD)	GENEROBACY Companional	9.6	AB RUST				068117	
SAMPLE 10 SAMPLE	SAMPLED BY / DATE / TIME	ME LOCATION OF SAMPLING	SAMPI Pula MET (OD	SAMITLE STATES			LAB SAMPLE NO	
	DE 25-3400		<u> </u>	X /X X YOUR SE	Ž.			T
	\		.  -  -	<u> </u>	.	ന്ദ		
<u>                                      </u>	<u> </u>				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	8		;
15-40 agic-ci				× ×	×	1		
120 W.S.C. MOS.C. 120 120 120 120 120 120 120 120 120 120				X X		Ţ		i.—
Bo-11-46 03 1	<u>م</u> را مرا			XXX	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2		:
	.				 		! :	1
	·		     		:	-		<u> </u>
	·	:				: ! 		:
: 	.	-			`.·			·
{		<del>-</del> -	PRESERVED			<del></del>	 	
				1 / / // // (1.11)				— <u>;</u>
MOTES & CONDITIONS   Caute under unat be provided to 2, 12-4 and 16 access profile. Access   Motestand	Leng-cumbineer will very of worked on June of submiss Warehold Lines.	<ol> <li>Lendround inversivill vony dependant on complexity of analysis &amp; Lab workbook at linne of submission, Ploasa confact that Lab to confirm lumpround times.</li> </ol>	analyais & Lab. 3, to confirm		All hazardous samples submitted onest be inheard to romo y with WHMIS regulations. Feir most include the nature of the fishand has well as a conjuct rame A phone marker had the Lab can confact for further reformation.		MOTE: Faller's to properly complete all profests of the four may delay analysis.	= 20
MOTE: Chaded great [MAST be completed in full by others for sample processing to uncur.	ed in full by the treeur.			<u> ЖВ ОЕнвитампан</u>	DBY TO DAILS	Neceived BY		<u> </u>
MARK CORPORE NOTORIORS	. ,	CONTRACTOR STATES	- <del></del> 3	 		Fri LAS	:	Ţ-:-
Halo a Bont .	:		378-6413	KN DEHSINGMADA	EDN: DATE:	ВЕСЕМЕНИЙ		Ļ,
como estados <u>de comentos.</u> Actor da o	PHONE:		1 Sec. 1.		#61 - : : : : : : : : : : : : : : : : : :	E11.1AB		I
REPORT ALMORPOOLITICA (A. C.			79	AND SAMPLE CONI	SAMPLE CONDITION DROW RECEIPT			
THE IN WATER THE FREE FORCE, FOR MY HOW WILL	K.M. M. ktopre	MO.:	. [	NEZOda - 1 -	com	AV DICNT:		
en sac knones.	FO NO.:			COTTON PARTY	OTHER (Although GANAGE, ETC.)	:	Milet Read Opp Folio Pla Oppo	<b>新</b>

LITE LINVENTEEN CHAIN OF CUSTODY / ANALYTICAL REQUESTER	DY / ANALYTICA	r Begugstiff	A1	ANALYSIS REQUESTED:	
egga Straffs	Leightern 787.4 (1920) Beginner 2817.21 DSB 28178 Peginner 2817.21 DSB Peginner 285 66-620 Leightern 285 66-620 Ferginner 287 68-620	201 (201 (201 (201 (201 (201 (201 (201 (	100 F 100 F		
SERVICE RECOURSTED:  SERVICE RECOURSTED:  SACREDA	SPECIAL REQUI	OUMBEWENTS FRESS PROJECTORY THEN 1 CONE AR MUST			068t1
SAV	TMIS LOCATION OF SAMPLENG	SAMPLING SAMPLE			LAB SAMPLE NO
54.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					
			3 1 2	60	
7.500 S. 1.30 S			2	6	
2.47 c. 30 d Sho Ch.			7	<u>Q</u>	:
	ACT		7	1	
			7	ح_	
	-	<del>-</del>	) 3 4	¥	:
とうなる		. !	7	- <del> </del>	
10 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	.—		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
	:	:	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		;
		PRESERVED	-		
POTES & DONDITIONS I. Grade such at east 59 provided to 2. It resembn't frest call vacy dependent per cample enque such at a conference and such at a conference and such at a conference and such an end such and a conference and	Copported on templosity 66891, Pleaser contact the L	ezer IV. II. dol. 8 sieges to grav em ent. general per men and sen	All hazadous samples submitted most be topologic compay wit fell bills up serving. The most receive a compay wit fell bills up serving that the label cours of the hazard, by well as a contain remark follows must be the top provided for full by 1900 united.	1	MOTE: Plint to propare accupies at print, see at this four may see
MOTE: Shadret proas MUST be occup			DE MODETHENS DATE.	J	
Total of the Control		ار مدار معار	11841.		TIME:
	a l		* NETTOURINGS   PATE		
CONTRACTOR MANAGEMENT OF THE PROPERTY OF THE P		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		#41	
da salah	각(년 종)	1 - 2446 12	SAMPLE CONFIDENCE HISTORIANS		
7 (1 <u>11 fl., fanas</u> ), P.C., VSC SC Kommess			- PROZEK:	avisit'ni	
- 100 MO3	:: -  -  -		COLETTI I populación como con COLETTI		PIPS - Tie Con VELLOW - CHARTEL LOSS
$eta \cdot \omega t_{n-1}$					1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

#### Will Clustomer Copy 13 NOTE: Fall on privaty margine of periods of the Kurmany relay analysis Wildfor-Ryent Capy L17890 10 King 10 Kin MAD SAMPLE NO. MISON HENOME FRANKS $\mathfrak{O}$ WAC NOSTIBOSH STOWNS 18. 08. 12/2 1 볼 © All hetsetbus samples authoritied chartite lebellet is samply with VHMIS required to the most british for rethresofthe hazard, as welf as a conforting prodigitation and of kinds number that the can consider the format for further information. ELLIAB. IECENED BY FILLAS. ANALYSIS REQUESTED: AMBERT COURT HOWSERT BINOVEGES HEILD CARTE LECONOMINAL MODEL PROPERTY . . . ŧ 5 ... 00800... TELENGUISHED BY: RELYNQUISHED IN: ì 740.43.E. CHAIN OF CUSTODY (ANALYTICAL REQUEST FORM FBC (40), 437-201 Fac 1-800-29-7219 Fox (402) 291-028 Fac (40)-693 (383 Fac (40)-693 (383 604), 646, 6223 5090-880 95463 POBIZO SAMPLE IYPF MS LANGE Janes and lines; wif very departant on exception of energies & lab work can be from a schritische. Please contact the fall to control fund conditions. AS PFREIST PHEN- 1 3 1 1/4 1/2 CRESCIA.ED % (409) 413-327 (409) 413-327 (409) 410-400 Quote -Mazil FEICENS SCHECK (ME): NO SAMPLES SUDMISTICDS. 3 PIOLINATIVE SIGNATURES AS PERCODE 3: ( Jung ) OVIE / INCOMPLED がなる Cally WASHED P. P. NO. Ś ☐ DV%RGENCY Offine SUNCHAUSE) Citizento i tel 559 (general del 2005). Le sub 1935 del Avertiro M.F., Cetyany, Alexan 1725 etc. General Propose 2011, 124 (Alexandra), 4491, 3886 fino, 5886 (SAM 9ES 2011 for our 36 84), Tamble 1896, Out., 2011 fot. NOTE: Sheded areas AUST he completed in full by clent for sample processing to occur. Control Assertation SAMPLED BY × H 100 to 10 er Envirolest CHARACTER CONTRACTOR SPACE CONTRACTOR 0<u>46) - 000 - 194</u>0 62h Awar et Estrucreun, Moorte 1965 nPg. ў (точкия Привония вэжняясняя 23.1.00 0 35.00.00 Garah. 22.722.48.48.40.25. Quote number must be percented to encour proposity prong. 1184-S CT & C 1000 1000 ACRES & CONDITIONS: SERVICE REQUESTED SAMPLEID PATE SUBMITTED .... <u>6333</u> 98/1/00/20/04/19/9 CLARK

# APPENDIX IV GROUNDWATER WELL COMPLETION DETAILS

# TEST PIT P-SO-01-2200

Location

Right side of tailings road, 15 m

Elevation:

July 22, 2000 N. Vachop

Date: Logged By:

Depth Description Sample Conguents (m) (Interval in) : [Headspace, ppm] 0.0 - 0.6Fine grained, black, roots, loose, dry, Su. 01 subrounded class (ORGANIC) 0.2 Sa. 02 0.5 0.6 - 1.4Stiff, light brown, moist, plastic CLAY. Sa. 03 0.75 11 End of Yest Pit. Bedrock encountered.

Remarks:

Depth to scopage: no seeps

Depth to standing water: none

Rate of seepage

Terminated: J.J at. Bedrock

# TEST PIT P-SO-02-2200

Location.

Along tailing road 100 m north of P-SO-01-2200.

Elevation.

Date: Loggesi By: July 22, 2000 N. Vacaon

Depth (m)	Description	Sample (Interval, m) (Headspace, ppm)	Comments
0.0 0.2	Dark brown, fine grained, roots, dry ORGANEC.	Sa. 05 0.2	
0.0 0.4	Orange brown anguist to subrounded clast (pebble size), mainx is fine sand with sift, ety TRLL.		
(0.4	End of Test Pit. Bedrock eachuntered.		

Remarks.

Depth to suppage inone. Depth to standing water: dry

Rale of seepage:

Terminated, C.4 m. Beasonk

# TEST PIT P-SO-03-2200

Location:

50 m south of powerlines

Elsystion:

Date:

July 22, 2000

Logged By:

N. Vachon

Depth (m)	Description	Sample (Interval, m) (Headspace, ppm)	Comments
00-0.2	Grey, silry, no clast, very homogeneous, dry FILL	Sa. 01 0.1	
0.2 - 0.5	Organic, dark brown, fine grained, some roots, dry.		
0.3 - 0.8	S.lt with some clay, brown, fine grouned, some pebble-sized subrounded class, dry.	5a. 02 0.5	
0.8	End of Test Pri. Bedrock encountered.		

Remarks:

Depth to seepage: none

Depth to standing water dry

Rate of acepage:

Terminated: 0.8 m. Bedrock

# TEST\_PIT\_P-SO-04-2200

Locations

50 m north of shed

Elevation:

July 22, 2000

Date Loggod By: D. Panayi

Depth. (m)	Description	Sample (interval. m) [Headspace, ppm]	Comments
0.0 - 0.5	Organic, sulty clay, black, no clast, moist, some roots.		
31 - 0.9	Clay, dark brown, plastic, no clast, homogeneous, moist, roots. Colour gets lighter brown in bottom 30 cm.	Sa. G1 0.2 Sa. G2 0.5 So. G3 0.75	
0.9	End of Test Pit. Redrock not encountered.		

Remarks:

Depth to scepage, incha-

Depth to standing water lidry. Rate of seepage:

Terminated: 0.3 m.

# **TEST PIT P-SO-05-2200**

Location: Elevation: 10 m north of road, west of TPR

Date:

Logged By:

July 22, 2000D. Panayi

Depth (m)	Description	Sample (Interval, m) (Headspace, ppm)	Comments
0.0 - \$.3	Light brown, clay sitt, homogeneous, dryer towards too, cobble-sized clast, some small roots to 0.5 m, varve clay - not tallings.	Sa. 01 0.2 Sa. 02 0.4 Sa. 03 0.7	 
1.3	End of Test Pit. Bedrock encountered.		ļ

Remarks:

Depth to seepage: none

Depth to standing woter: dry

Ruft of secpage: Terminated: 3.3 mg

# TEST PIT P-SO-06-2200

Lecation

West of water treatment sludge impoundments

Elevation:

Date: July 22, 2000 Logged By: D. Panay:

Depth (का)	Description	Samole (interval, m) [Headspace, ppm]	Comments
0.0 - 0.35	liftl, light brown, sund with pebbles and coubles, angular to subrounded clast, dry, toose.	Sa. 01 0 2	
C.35 - 0.40	Organic, old top soil, biack, roots, no clast.		
0.4 - 1.2	Clayish silt. light brown, no clast, stiff, day.	Sa. 02 0.5 Sa. 05 + 0.75	
1.7	End of Test Pic Bedrock encountered.		

Remarks:

Depth to seepage: none

Depth to standing water, dry

Rate of scopage: Terminated, 1.2 gr

# TEST PIT P-SO-07-2200

Location.

Near crusher, 20 m from sand pile

Elevation:

Date:

July 23, 2000

Logged By:

D. Panayi

Depth (m)	Descr.ption	Sarople (Interval, m) (Headspace, ppm)	Comments
0.0 - 1.7	Sitty clay, brown, no clast, moist, roots to 20 cm, homogeneous to 1.7 m.	Sa. 01 0.2 Sa. 02 0.5 Sa. 03 0.7	
1.7	End of Test Pit. Bedrock not encountered.		

Remarks:

Depth to seepage: none

Depth to standing water: dry

Rate of scopage: Terminated: 1.7 m.

# TEST PIT P-SO-08-2200

Location:

200 m east of entrance

Elevation.

Date:

July 22, 2000

Logged By:

D. Panayi

Depth (m)	Description	Somple (Interval. m) [Headspace, pom]	Commeats
0.1 - 0.0	Fill, clast rich, angular clast, pobbles, cobbles, small boulder clast, moltix fine send and silt, grey, dry to compacted.	Sa 0. 0.2 Sa 02 0.5 Sa 03 0.75	
1.0	End of Test Pit. Bedrock not encountered.		

Remarkst

Depth to seepage: none

Depth to standing water: my

Rate of seepage: Terminated. | 0 m;

# TEST PIT P-SO-09-2200

Liquation:

10 m earth of road

Elevation

Da(e)

Jely 22, 2000

Logged By:

D. Panny

Depta (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0.0 - i.e	Light groy to medium grey, clayeshissle, muss down to 0.4 m, no class, muss, 0.05 m topsoil, homogeneous,	Sa. 01 0.2 Sa. 02 0.5 Sa. 03 0.75	
1.6	Und of Test Pit. Bedrock not errorintered.		

Remarks:

Dopth to seepage: none

Depth to standing water, dry

Rate of seepage: Terminated: 1.6 m

# TEST PIT P-SO-10-2200

Location

40 m north of entrance to postal

Elevation:

Date:

July 25, 2000

Logged By: D. Panayı

Depth (m)	Description	Sample (Interval, 16) [Headspace, ppm]	Comments
00-12	Clayish silt, brown, turns greyer grad i milito clast, moist, gets ifmer with depth, roots to 0.2 m, hemogeneous.	Sa. 01 0.2 Sa. 02 0.4 Sa. 03 0.7	
1.2	Find of Tay Pit Benrock not encountered.		

Remarks:

Depth to scapage inone.

Depth to standing water lary

Rate of secpage: Terminated: 1.2 m

Dry neadspace readings with 10.2 eV lump photoionization detector.

# TEST\_PIT\_P-SO-11-2200

Lucation:

Mill area

Elevation:

Date:

July 22, 2000

Logged By:

D. Panay:

Dopih	Description	Sample	Comments
(m)		(Interval, m)	
·	<u></u>	[Headspace, ppm]	
0.0 - 0.6	Matita silt and course sand, clast of peobles	Sa. 01	
	and cobbles and small boulders, light grey.	0.2	
	dry, fall.	Sa 00	
	!	0.4	
0.6 - 0.65	Dark brown, damp, matrix coarse send, some vegetation, less clast.		
0 65 - 0.7	Grey fill as first layer.	Sa. 03 0.7	
9.7	End of Test Pir. Bedrook not encountered.		

Remarks:

Depth to seepage: none

Depth to standing water: cry

Rate of scepage: Terminated: 0.7 m.

# **TEST PIT P-SO-12-2200**

Locations

Mill area

E)evation:

Date:

July 22, 2000

Logged By

D. Ралауі

Depth (m)	Description	Sample (Interval, m) [Headspace, pom]	Comments
0.0 - 0.6	Grey, wet, matrix silt and coarse sand, clast angled pebbics to cobbies, fill,	Sa. ()) 0.2 Sa. (/2 0.4	
0.5 - 0.7	Reddish brown clay, no clast, very wet, hole in filling up with water, could not go deeper due to water, fill.	Sa. 03 0.7	
0.7	Enci of Test Pit.		

Remarks:

Dopin at scopage: India-

Depth to standing water; any

Rate of scepage: Terminated: 0.7 m.

# **TEST PIT P-SO-13-2200**

Location:

Logged By:

Mill area

Elevation: Date:

July 22, 2000 D. Panayı

Depth (m)	Description	Sample (Interval, m) [Hendspace, ppm]	Comments
0.0 - 0.7	Clast rich, clast angular, pebble to small houlder, matrix is coarse sand and silt, top 0.3-0.3 m is silt, and sand, grey, dry on top, becoming damp at 0.5 m, water appearing in bottom at 0.5 m, fill, old metal parts (pipes and drill bits) seen 0.5 down.	Sa, 01 & Sa CIA 6,2 Sa, 02 0,4 Sa, 03 0,7 Sa, 04 1.0	Note: Test pet was re-dug to make deeper and potain duplicate of 0.2 m.
0.7	Bnd of Test Pit.		

Remarks

Depth to seepage: none-

Depth to standing water, dry

Rate of seepage: Terminated, 0.7 m.

# **TEST\_PIT\_P-SO-14-2200**

Location

Milliarea

Elevation:

Date: Legged By:

July 22, 2000 D. Panayi

Depth	Description	Sample	Comments
(m)		(interval. m) [Headspace, ppm)	!
0.0 - 0.7	Grey, silt matrix, angular pebbles to collide	Sa. fil	
	dasts, dry, fill, no vegetation, dry, getting damp with depth, fill, old core-sample found	0.2 Sa. 02	
	at 0.5 m.	04	
		58,03	
		07 .	
0.7	Bull of Test Pit. Beitroitk encounæred.		

Remarks:

Depth to seepage: none

Depth to standing water, dry

Rate of sectage: Terminated: 0.7 m.

# TEST PIT P-SO-15-2200

Lossifion

70 m west of shaft

Elevations

Date:

July 23, 2000

Logged By: D Panayi

Depth (m)	Description	Sample (Interval, m)	Comments
		[Ticadspace, ppm]	
0.0 - 0.0	Light brown, fill, class of angular pubbles	; Sal CL	
	and coobles, plast rich, dry and compact,	0.2	
	matrix of silt and coarse sand, slightly	5a.02	;
	damper with depth, otherwise homogeneous.	0.4	;
. 0.6 - 0.7	Reddish brown layer, otherwise (deatical to upper layer)	Sa. C3 0.7	
6.7	End of Test Pit. Bedrock encountered.		

Remarks.

Depth to seepage: none

Depth to standing water: dry

Rate of seepage: Terminated: 0.7 m.

# TEST\_PIT\_P-SQ-16-2200

Location:

Miff area

Elevation:

Date:

July 22, 2000

Logged By:

D. Panayi

Depth	Description	Sample	Comments
(m)	}	(Interval, m)	
	ļ	[Headspace, ppm]	
0.0 • 0.1	Brown, pebble clast, coarse sand matrix, damp.		
0.1 - 0.3	Groy, heavy clast, clast subsounced pebbles to cobbles, silt matrix, damp.	Sa. 01 0.2	
0.3 - 0.4	Brown, peoble clist, coarse sand matrix, damp.	Sr., 02 0.4	
0.4 - 0.€	Grey, beavy clast, class snissounded peobles to cobbles, siit matrix, damp		
0.6 - 0.8	Brown, peoble clast, coarse sand matrix. Camp. fill, old plastic bug seen at 0.5 m	Sa. 03 0.7	
1.0	End of Test Pit Bedrook not encountered.		

Remarks:

Depth to seepage: none

Depth to standing water, dry

Rate of seepager Terminated: 1.0 m.

# **TEST PIT P-SO-17-2200**

Location.

M.Rarga 20 in east of telephone gole

Elevation

Date: Logged By: July 22, 2000 D. Panays

Depth (m)	Description	Sample (Interval, m) (Headspace, ppm)	Comments	
0.0 - 0.2	Organic, grass growing, black, moist, matrix is fine sand and earth, no clast, wet, roots.	Sa. 0i C.15	•	
0.2 - 0.5	Clay, light brown, no clast, moist, some roots.	Sa. 02 0.4		
0.5 - 0.7	Organic layer, clay matrix, black, old plants	Sa. 03 0.7		
0.7 - 1.2	Clay, light brown, no clast, wet, some roots.			
1.2	End of Test Pit. Bedrock not engagement		·.	

Remarks:

Depth to scepage: none

Dopth to standing water: try-

Rate of secpage Terminated: 1.2 m.

# TEST\_PIT\_P-SO-18-2200

Location:

Mill area

Rievation

Date:

July 22, 2000

Logged By. D. Panayi

Depth (m)	Description	Sample (Interval, m)	Comments
		lleadspace, ppm;	
0.0 - 0.05	Dark brown, oil-stained, matrix medium-	Sa CI	
	grain sand, clast rounded pebbles, oily.	0.02	
0.05 - 0.8	Damp, grey, oil-stained, matrix meditin-	Sil. 02	
	Égrain Sand, clast rounded pebbles, some	0.2	
	boulder clast.	58, 03 J 1 0,4 i	
	İ	Sa. C4	
	Į	0.7	
0.8	End of Test Pit Bedrock not encountered.	:	

Remarks:

Dopth to seepage, none

Depth to standing water: dry

Rate of seepage: Terming,ed: 0.8 m.

# TEST PIT P-SO-19-2200

Location:

Elevation: Date:

July 23, 2000

Logged By:

D. Pannyi

Depth (m)	Description	Sample (Interval, m) [Headspace, ppm]	Comments
0.0 - 0.4	Brown, clast rich, clast subrounded pebbles and coubles, matrix coarse to medium sand, dry, fig., very compacted, homogeneous to 0.4 m.	Sa. 01 0.2 Sa. 02 0.4	
ì   0.4 	End of Test Pit. Bedrick roll encoursered.		

Remarks:

Depth to seepage: none

Depth to standing water: dry

Rate of scepage: Terminated: 0.4 m

# TEST\_PIT\_P-SO-20-2200

Location:

Mill area

Elevation:

Date:

July 23, 2000

Logged By:

D. Panayi

Depth (m)	Description	Sample (Interval, m) [Headspage, ppm]	Comments
0.0 - 0.7	Reddish brown, diayish silt, which has turbed obunky, chuaks can be broken up by band, clast of salabanded pabbles and cobbles, some roots down to 0.4 m, dry, not much clast.	Sa. 01 C.2 Sa. 02 C.4 Sa. 03	
0.7	End of Test Pit. Bedrock not encountered.		

Remarks

Depth to seepage: none

Depth to standing water; dry

Rale of scopage: Terminated: 0.7 m

# TEST PIT P-SO-21-2200

Location

Mill area

Elevation:

July 22, 2000

Date Logged By:

D. Paray:

Depth	Description	Sample	Comments
(cn)	į	(leterval, m)	[
	}	[Heodspace, ppm]	
0.0 - 0.3	Reddish brown, silt matrix on surface, grey silt matrix below surface, clast rich, clast angular pebbles to boulders.	Sa Ol & Sa, Ol A 0.2	Note: Text pit re-dug to make deciser and obtain duplicate at 0.7 ca.
03-08	Red ctay, some pebble class, angular petibles.	Sa. C2 - 0.4 - 5a. C3 - 0.75 - Sa. G4 - 1 0	
0.8	End of Test Pat. Beshock not encountered.		

Remarks

Depth to seepage: none

Depth to standing water: dry

Rate of seepage Terminated: L0 m

# TEST PIT P-SO-22-2300

Lougien:

Road to old townsite, west of old A houdframe

Elevation:

Date:

July 23, 2000

Loggod By:

D. Panay:

Depth	Description	Sample	Comments
(m)		(Interval, m)	
	<u> </u>	[Headspace, ppins]	!
0.0 - 0.2	Organic, peaty, moist, no clear, roots.	S2, 01	
		6.1	[
	!	Sa. 02	
	Į	0.2	
0.2 - 0.4	Cuty, dark grey, no class, hard and moist.	\$a. 03 0.4	Had to sample with shovel, as back-hoe could not reach site.
0.4	End of Test Pit. Bedrook not encountered.		

Remarks:

Depth to seepuse: none

Depth to standing water, dry

Rate of seepage: Terminated 0.4 m.

# TEST PIT P-SO-23-2300

Location:

Road to old townsite, west of old A headframe

£levation:

Date:

July 23, 2000

Lagged By:

D. Panaye

Depth (m)	Description	Sample (Interval. m) [Headspach. ppm]	Comments
G.O ~ 0.5	Datk brown, clayish soil, roots, dry, matrix sife or fine sand, little class, but some large boulders, class small pebbles, soft.	Sa. Ci 0.2 Sa. C2 0.4	
0.5 - 0.7	Grey, clay, metst, little clast, hard, gradient between two soil types.	Sa. 03 0.7	
C.7	End of Test Pst. Bedrock not encountared.	;	

Remarks:

Depth to seepage: none

Depth to standing water: dry

Rate of seepage: Terminated: 0.7 m

# TEST PIT P-SO-24-2300

Location:

Town site

Elevation:

Date:

July 23, 2000

Logged By:

D Panayi

Depih (m)	Description	Sample (Interval, m)	Comments
		[Headspace, ppm]	
0.0 - 0.7	Clast rich, clast angular pebbles to small boulders. fill, dark grey, dry, roots to 0.1 m, fill, homogeneous to 0.7 m, matrix silty fine sand.	Sa. 01 0.2 Sa. 02 0.4 Sa. 03 ().7	
0.7	End of Test Pit. Bedrock not encountered.		

Remarks:

Dopth to scepage: mane-

Depth to standing water: dry

Rate of scopage: Terminated: 0.7 m

# TEST PIT P-SO-25-2300

incation:

Town site

E'evation:

Date: Logged By.

July 23, 2000 D. Panayi

Depth (m.)	Description	Sample (Interval, m) [Headspace, ppm]	Continents
0,0 - 0,7	Light brown, clast rich, clast subrounded pebbles to boulders, tooks to 0.3 m, matrix is fine sand, fill, pernogeneous to 0.7 m, but gets slightly damp with depth.	Sa. 01 0.2 Sa. 02 0.4 Sa. 03 0.7	
.0.7	End of Test Pit. Bedsock not encountered		

Remarks:

Depth to scepage, none Depth to standing water ino standing water

Rate of scepage: Terminated: 0.7 m.

# **TEST PIT P-SO-26-2300**

Location:

Town site

Elevation:

)C

Date:	July 23, 2000
Logged By:	D. Радзуі

Depti: (m)	Description	Sample (Interval. m) [Headspace, ppm]	Comments
0.0 - 0.3	Dark brown, organic, matrix fine to medium sand, dry, 0.03 in layer up shii, no clast	Sa. 01	
0.3-06	Light brown, coarse sand, no class, some noots, dry.	\$a. 02	
9.5 - 0.8	i ight grey, coarse sand matrix, pebble to cobble clast, dry.	Sn. 63	!
0.8	Had of Test Pit. Bedruck not encountered.		:

Remarks:

Depth to scepage: none-

Depth to Standing water: day

Rate of seepage: Terminated, 0.8 m.

# TEST\_PIT\_P-SO-27-2300

Location:

Playground, Town site

Elevation

Date: July 23, 2000

Logged By: D. Penavi

Depth	Description	Sample	Comments
(m)		(Interval, m)	
		Headspace, pom)	
0.0 - 0.2	Light brown sand, find, pebble are: cobbie	Sa. 04	
	clast, some roots to 0.2 m. dry on surface (2-3 cm), damp below.	Surface	,
0.2 - 0.7	Light grey, silt matrix, class rich, pebble to builder class, fill, damp. All samples taken	\$a. 01 0.2	
	in this layer.	Sa. 02 0 4	
		Sa. 03 0.7	
0.7	Emil of Test Pit Bedrock not encountered.	16.1	

Remarks.

Depth to seepage: none

Depth to standing water: dry

Rate of seepage: Terminated: 0.7 m

Dry headspace readings with 10.2 eV lamp photo opization detector.

# TEST PIT P-SO-28-2300

Location:

Town site, next to old dock, 2 m off road in grass

Eigvation:

Date: Sury 23, 2000 Logged By: D. Panayi

Depth (m)	Description	Sample (Interval, in) [Headspace, poin]	Comments
0.0 - 0.2	Brown, clast sanounded peobles and cobbles, clast rich, damp, matrix medium sand, 5 cm topsoil, mors 20 cm, 50 metal parts at 40 cm.	Sa. 01 G.2	
0.2 - 0.3	Layer of sand, beach sand?, light brown, fine, no clast, damp.		
03-07	Brown, clast subbunded pebbles and sobbles, clast rich, damp, matrix medium sand, 5 cm topsoil, roots 20 cm, fill, metal parts at 40 cm.	Sn. 02 . 0.2 . Sa. 3 . 0.7	
0.7	End of Test Pst. Bedrock not encountered.		

Remarks:

Dupta to scopage: none

Depth to standing water dry

Rate of seepage: Terminated: (0.2 m)

# **TEST PIT P-SO-30-2300**

Location:

Propané tanks area.

Elevation

Dare: Logged By:

fuly 23, 2000 D. Panay.

Depth (m)	Description	Sample (Interval. m) [Heatispace, ppm]	Comments
0.0 - 0.2	Dark brown, organic, no clast, dry, clayish, roots.	Sa. C1 0.2	
().2 - ().4	Brown, clay, dry, no clast.	\$a, 02 0.4	
0.4 - 0.7	Light grey, silt or fine sand, no clast, dry.	Sa. 03 0.7	
6.7	End of Test Pit. Bedrock not encountered.		

Remarks:

Depth to seepage mone.

Depth to standing water: dry

Rate of seepage: Terminated: 0.7 m

### TEST PIT P-SO-31-2200

Location:

Propone tanks grea-

Elevation.

Date: Logged By: July 23, 2000 D. Parny:

Depin (m)	Description	Sample (Interval. m) (Yeadspace, ppm)	Coracients
0.0 - 0.4	Black, organic, fine sand matrix, as clast, dry, blends into they layer below over ???, more.	Sa. 03 - 0.2 - Se. 02 0.4	; i
0.4 - 0.7	Clay, brown, maist, muclas,	Sa. C3 0.7	
0.7	End of Test Pit. Bedrock sollenopuntered		

Remorkso

Depth to seepaget mone.

Depth to standing water: dry

Rate of zeepage Tempinated: 0.5 m

# **TEST PIT P-SO-32-2300**

Location:

Dyks rim, propane sank area

Elevation: Date:

July 23, 2000

Logged By:

D. Parayi

Depth (m)	Description	Sample (Interval. m) [Headspace, pom)	Comments
0.0 - 0.6	fill, clast rich, clast angular boulders to pobbles, grey, matrix grey silt, dry, damp towards bottom, homogeneous to 0.6 m. compacted.	Sa 01 0.2 Sa 02 0.4 5a 03 0.6	
0.6	End of Test Pit. Bedrock and encourage ed.		

Remarks:

Depth to seepage: none

Depth to standing water: dry

Rate of seepage: Terminated: 0.6 m

# **TEST PIT P-SO-33-2500**

Location:

Highway north of site, along creek

Elevation:

Logged By:

Date:

July 25, 2000 N. Vachon

0.0 - 0.15  Derk, fine grained, roots, csy, no clast, ORGANIC.  0.15 - 0.95  Silt, some fine sand, moist, well sorted material, light brown Sfl.T, getting really compact with depth.  0.5  Sa. 03  0.75	Dapth (m)	Description	Somple (Interval, m) (Headspace, ppm)	Comments
material, light brown Sff.F, getting really 0.2 compact with depth. Sa. 02 0.5 Sa. 03	0.0 - 0.1.5			
<u> </u>	0.15 - 0.95	material, light brown Sff.T, gettir greatly	0 2 Sa, 02 0.5	
0.95 End of Yest Pit. Bedrixtkinn, encountered	0.95	End of Test Pit.   Bedroxik rin, encountered		

Remarks:

Depth to seepage: none

Depth to standing water: dry

Rate of seepinger Designated: 0.95 m.

# TEST\_PIT\_P-SO-34-2500

Location

Highway north of site. North of TP33, 100 m perere swamp

Elevation:

Date: Logged By July 25, 2000 N. Vachor.

Depth (m)	Description	Sample (Interval, m) {Deadsnace, ppm	Comments
0.0 - 0.3	Fight brown, fine grained, well sorted, dry, FREE	Se. 01 & Sa. 01A 0.2	
C.3 - 0.4	Dark, fine grained, thy, tours, ORGANIC		
0.4 - 12	Compact, most, fine grained, brown, well sorted, no clast SILT - After 0.6 m, gradually turning into a compact, brown CLAY.	Sa. 02 0.5 Sa. 03 0.75	
1.2	and of Test Pil. Bedrock not encountered.		

Remarks:

Depth to seepage: none

Depth to standing water: dry

Rate of secpages Terminated: 1.2 mg

# TEST PIT P-SO-35-2300

Location:

Downstream of éam 7

Hevation:

Date:

tots, 23, 2000.

EMBLO:	July 20, 2008)
Logged By:	D. Papayi

Depth (m)	Description :	Sumple (Interval. cn) (Headspage, pom)	Comments
0.0 - 0 8	Dark brown elay, no clast, dry at top - meist towards bottom, no roots, nomogeneous.	Sa. 01 C.2 Sa. 00 G.4 Sa. 03 C.7	
0.8	End of Test P.t Bedrock sot encountered.		

Remarks:

Depth to seepage: none.

Depth to standing water: Gry-

Rate of scopage: Terminated 0.8 m

# **TEST PIT P-SO-36-2300**

Location:

Downstream of dam 7

Dievation:

Date:

July 23, 2600

Logged Sy: D. Panaya

Depth (m)	! Description	Sample (Interval. m)	Comments
;	İ		
0.0 - 0.6	Black, organic, roots, some dry clay chunks, dry, slightly damp towards bottom, matrix fine sand and earth, homogeneous through depth.	Sa. 01 0.2 Sa. 02 0.4 Sa. 03 0.6	
0.6	End of Test Pit. Bed-ook encountered		

Remarks:

Depth to seepage: none

Depth in standing water: dry

Rate of seconge. Terminated: 0.6 m.

# TEST PIT P-SO-37-2300

Locations

Downstream of dam 7

Elevation:

Date: Logged By: July 23, 2000 D. Panayi

Depth (m)	Description	Sample (Intervel, m) [Headspace, ppm]	Comments
0.0 - 0.2	Black, soil with clay chunks, no clast, organic roots.	Sa. 01 0.2	
0.2 - 0.7	Grey, silt, houvy clust, clast angular, pobbles to boulders, some roots, damp.	Sa. 02 0.4 Sa. 03 0.7	
0.7 - 1.5	Brown, clay, little clast.	Sa. 04 1.5	
1.5	End of Test Pit. Bodrook not encountered.		

Remarks.

Depth to sample: issue Depth to standing water, dry

Rate of secoupe: Terminated: 1.3 m.

# TEST PIT P-SO-38-2500

Cocations

Highway north of site, south side of ditch.

Revations

Date Logged By: July 23, 2000 N. Vachon

Depth (m)	Description	Sample (Interval. m) [Headspace, ppm]	Comments
0.0 - 0.5	Sitt, free grained, well-wated, few angular clasts, brown, dry SE 37.	Sc. 01 -0.0 Sc. 02 -0.5	
0.5 - 1	Brown, compact, moist, well screed, homogeneous, CLAY	\$6, 03 0.75	
1.1	End of Tess Pic. Bedruck not enumered.		

Remarks:

Depth to seconage: none

Depth to standing water: dry

Rate of scopago: Terminated: I.i.m

# **TEST PIT P-SO-39-2500**

Doention:

Akaitche area, 40 m south of intersection

Etevations

Logged Ry:

Date

Fairy 25, 2000. N. Vachen

Depth	Description	Capacita	/
	Description	Sample	Comments
(m)		(Interval, m)	
		; [Headspace, ppm]	
9.0 - 0.2	Dark, fine grained, roots, dry ORGANIC.	' Sa. D1	
		0.2	
]			
0.2 - 1 :	Brown, moist, bomogeneous, compact,	Sa. 02	
i	CLAY.	0.5	
_	CLAT.		
]		: 5n. 03	
Í		0.75	•
1	ì	·	
l.J	End of Tost Pri Bedrack not encountered.	. !	
ļ	}	. ,	

Remarkst

Depth to Respage: Inding

Dopth to stending water: day

Rate of seconds Terminated: ...! m.

# TEST PIT P-SO-40-2500

Location:

A coiteno oter.

Elevations

Date

July 25, 2000

Logged By:

N Vachon

Depth (rs)	Description	Sample (Interval. m) [Headspace, ppm]	Comments
0.0 - 0.4	Brown, dry, coarse sand with a few subrounded pebbles, compact FILL.	Sa. 0ţ 0.2	
0.4 - 0.7	Brown, dry, homogeneous, extremely compact and hard clay, no class CLAY.	Sa. 02 0.5 Sa. 03 0.7	
0.7	End of Test Pit. Bedrock not encountered.		

Remarks:

Depth to seepage: none

Depth to standing water: dry

Rate of seepage: Terminated: 0.7 m

# TEST\_PIT\_P-SO-41-2500

Location:

West of Akastohe shaft (50 m).

Elevation:

Date:

July 25, 2000

Logged By: N. Vachon

Depth	Description.	Sample	Comments
(m)		[ (Interval, m)	
		[Headspace, ppm:]	
			:
0.0 - 0.2	Dark, fine grained, roots, dry, contains	\$a.0t	
	ingular to subrounded classa gravel to could be	0.2	!
	size, ORGANIC.		<u> </u>
0.0 - 0.9	Brown, well graded, contains gravel to	Sa. 02	
į	cobble size clasts. Clasts are abundant,	0.5	
	angular to subrounded. Matrix is silt size to	Sa 03	
	medium sand size. Dry. Compact. TILL.	0.75	
0.9	End of Test Pit. Bedrook encountered.		
	The or Tent II. Desired Checking Co.		

Remarks:

Depth to seepage: none

Depth to standing water: dry

Rate of seepage; Terminated: 0.9 m.

# TEST PIT P-SO-43-0900

Location:

Tailings bond by Voc Lake (arran) next to Baker Creek

Elevation:

Date:

September 23, 2000

Logged By:

D. Panaya

Depth (m)	Description	Sample (Interval. m) [Haudspace, ppm]	Comments
00-0.7	Fine, stity staterial, homogenous to 70 cm. Light brown, no vegetation or organics, dry, salt deposits on surface, no class.	Sa. 1 0.7 Sa. 2 0.4 Sa. 3 0.7	

Romarks:

Depth to seepage: none.

Depth to standing water: dry

Rate of scepage:

Terminated: 0.7 m, bedrock not encountered

Dry headspace readings with 10.2 eV lamp photolonization detector.

#### TEST PIT P-SO-44-0900

Ερσετίση:

100 m from location P-SO-44-0900

Elevation:

Biovasion: Date:

September 21, 2000

Logged By:

D. Panayi

(Interval. m)	
[Headspace, ppm] 🚦	
Sa. 2	
0.4	
1	
	\$4, 1 0.2 \$5, 2

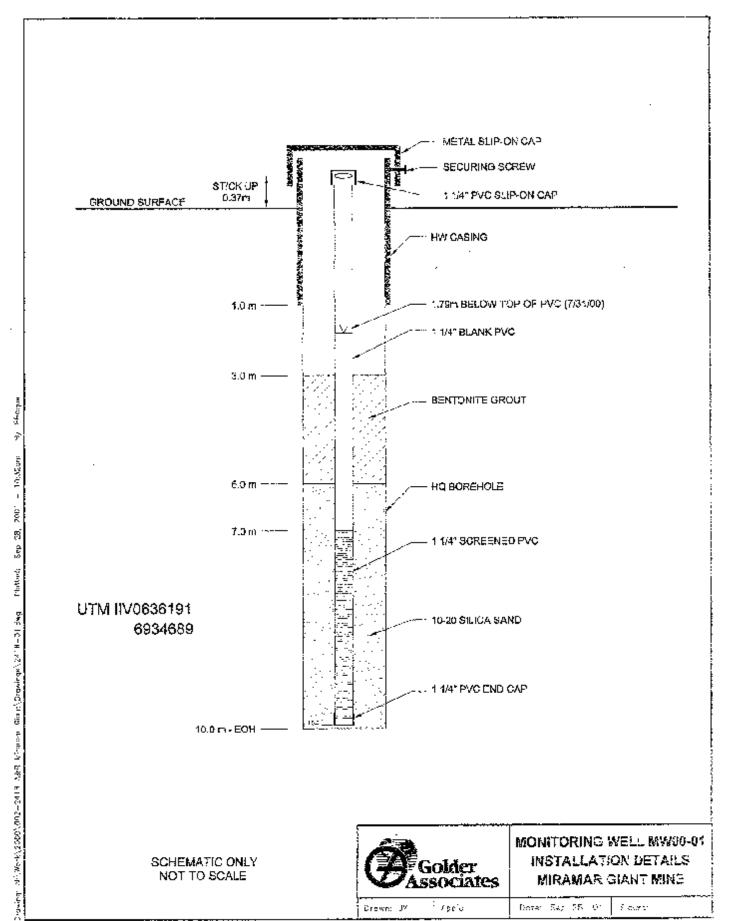
Remarks:

Depth to seepage indine. Depth to standing waters dry

Rate of seepage:

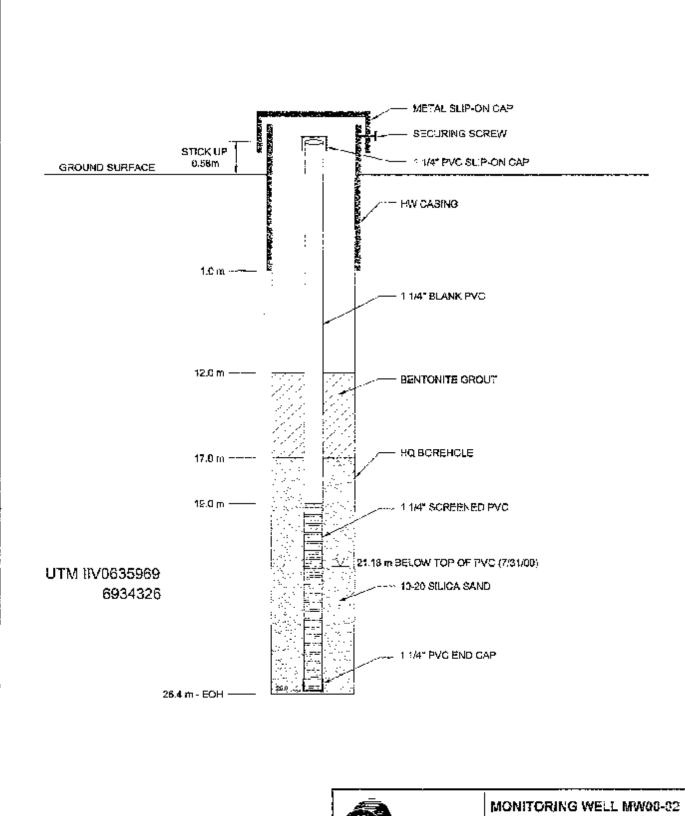
Terminated: 0.7 m. bedrock not encountered

# APPENDIX V GROUNDWATER SAMPLING SHEETS



Project No. CC2 0418

Кеизры (С



SCHEMATIC ONLY NOT TO SCALE

10,3483

2001

Sep 20.

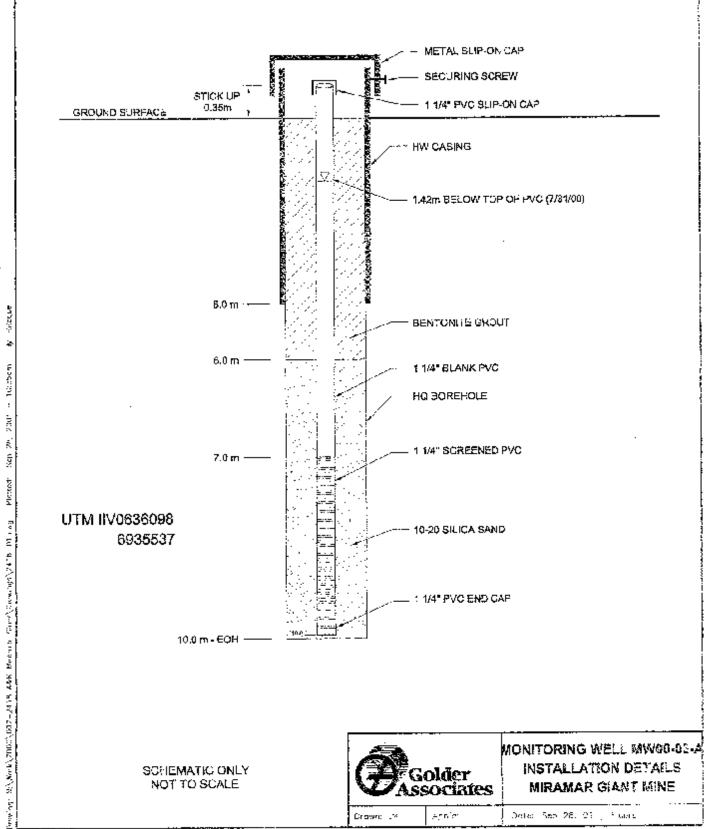
Pletted:

Working. With W. 2000 (002-2416 A&R Whamer Shu D. Drawings (2416-11) and



MONITORING WELL MW08-92 INSTALLATION DETAILS MIRAMAR GIANT MINE

Brown: JK Appin: Detail Sep 28, 03 | Figure:



SCHEMATIC ONLY NOT TO SCALE



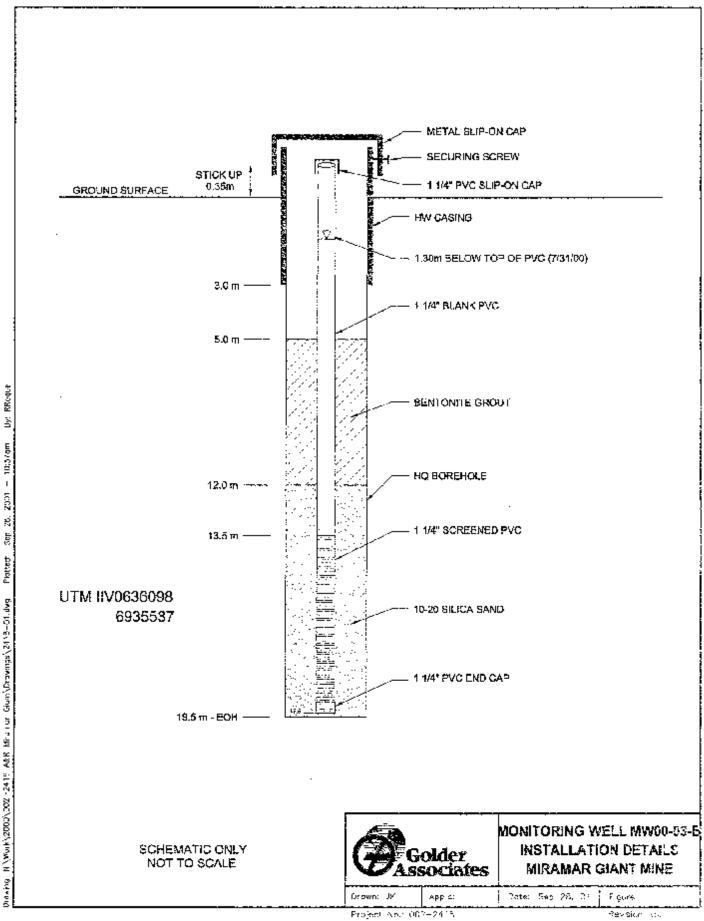
Project Ivol. 2015 2416

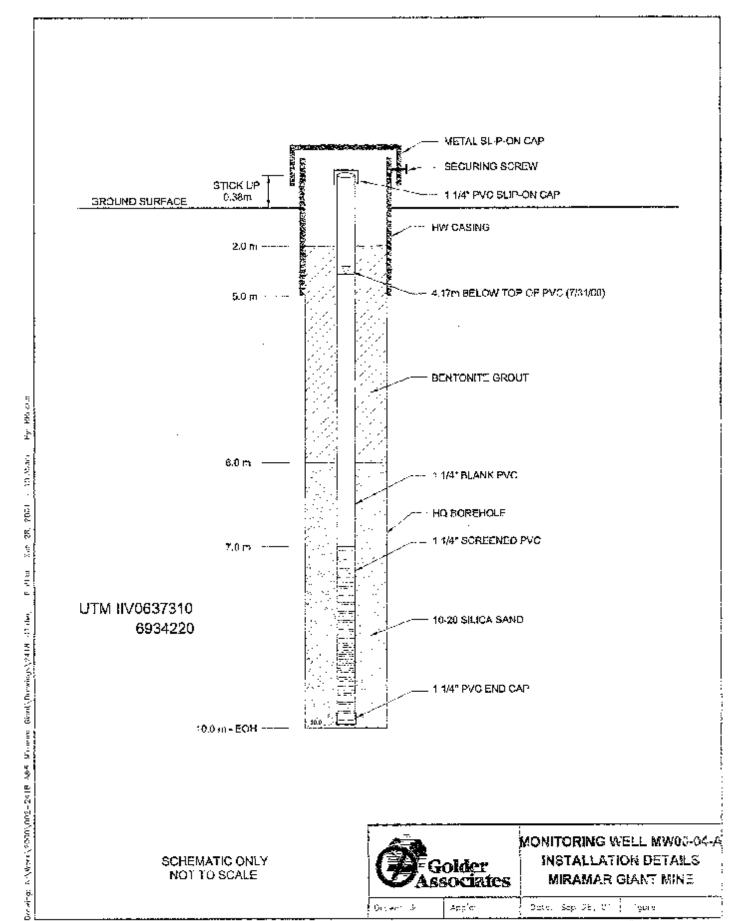
MONITORING WELL MW60-03-A INSTALLATION DETAILS MIRAMAR GIANT MINE

 $A_{\mathcal{F}}^{\dagger} \mathbf{n}^{\dagger} \mathbf{n}^{\dagger}$ 

Detect 555 28, 03 (13 date

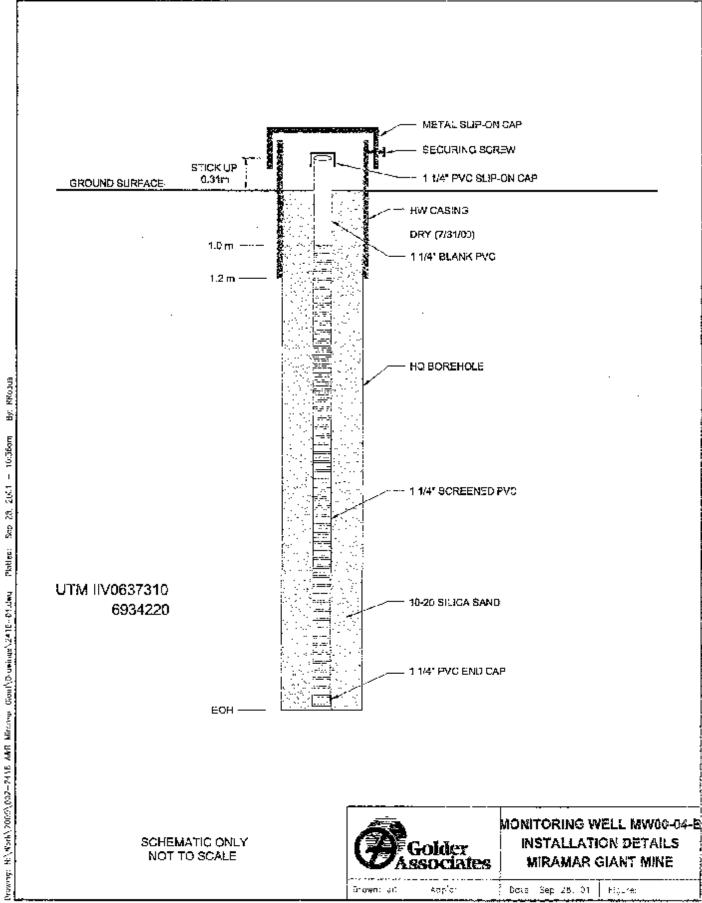
Appleion No.:





Project No. 1 (1001-24)8

Flowing to May



Project Nau 002-0410

Revision No.:

# **APPENDIX VI**

GROUNDWATER AND SURFACE WATER ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY RECORDS

#### Attechment A1-6

	·····			lder Asso					
		والمعارضة والمعارضة والمعارضة	Grounds	rater Sam	piiរាជ្ជ <b>D</b> at	a Sheet	<del></del>		10 mg 10 mg
General In	fermation								
	Well No.:	MW00-01	G	AL Job No.:			Short Title:		Wells / Glan
		Northwest (	Fond	Date:		Sanule Gr	o leateri iya	Nicola	is Vaanon
	Weather:	Sucrey		Time:	2:00 PM				
	Temperature:	22	<u>°C</u>	<del></del>	, <del>,</del>		<u></u> .		·······
Monitoring	ı Well Intorm	ation							
De	epth to Water b	olow Top di	Piezamater:	1.79	ıτ	Pipaomate	er Stick tip:	0.27	m
∓i	azometer Dept	h bekwi Gra	und Surface	16.0	m	Plezomete:	rintamai £:	1.0	:nah
	On	e Werl Stand	ling Valame	4.3	Liters				<u>.</u>
Equipmen	t List								
	H and Temper	ature Meter:	Hann <b>a</b> Instri	ument		Well purging	performed	by:	
			Hanna Insth				-		ra Hand Pum
			Hanna Instru			- Well Samplin	g рге:огт <del>е</del>		<b></b>
			Hach Colorli	metilo				Po	gistaltia Pum
		<u>Mkašinity Kiti</u>	Hach Kit						<del></del>
Well Purgi	វាថ្ង	Note:							_
	Volume	pН	Cone.	Temp,	Comments				
	Removed		]		(f.e.: Cotor	. Odor, Sheen	i, Turbicity	etc.)	ļ
	(Liters)		<u>( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( </u>	(°C) (	·	·			
	7.0	7.00	1555		Cloudy, sit				_
	14.0	7.80	1575		Cloudy, a k				_
	21.0	7.38	1735	10.5	Cloudy, alk				_
	28 0 35 0	7.88	614 606	9.5 9.4	Cloudy, sile Cloudy, sile				
	42.0	7.25	1624		Cloudy, sil				<b>-</b> ∤
	- 420	1100	1004	315	010001.04	·3			
Field Para	meters at Tir	ne of Sami	olina						
, но .о. г Неј	7.95		r <u>u</u>	0.0.:	0.35	nig/L			
Cond	1824	n8/cm		Aikalinity		nple Volume:	46	r-iL	
El.	-70.0	ntV		(3:000)1102		oncentration:	1.0	N H₂SO <sub>A</sub>	
Temp	9.5	···				ig l Becaline I	48		
1 00114	0.0	**				٠.		(as mg/⊑	04004
	0.000.00	Aurest In		ala MMON N		Aika inityo	115.0	/go mign	- (a <u>a</u> ,
	QAQC Note:				•	A marketin		····	
Bottles	Bottle Type	Size	Filtering		rvative	Analysis			
í	Plastic	500 ml	No No		ne :Na⊙⊔	Poutine Compide			
2	Plastic	100 ml	No.		N9OH SUNC	Cyanide Discolored No	4-20		
3	Pastio	250 cd	Yes		-	- Dissolved Me	rais		
Ţ	Plastic	250 ml	No		% HNO,	Tota Metals			
5	Plastic/Glass	500 m!	No		a H <sub>9</sub> SO₂	Атковія (тау		OC-gagas)	
6	Сияв	250 mi	Nic		пе	Nitrate/Nitrita			
7	Meta	250 mi	Yes		INO <sub>3</sub>	As Speciation			
8	Glass, Amber	î t	No	2 mileos	n:: HGt	- Milieral Oltar	иі Споско-		

Notes:

Routino perometers include responsementarior administrações. Ca, hardness, alka hity, th. conductivity, TDS, TSS.
 Discoveri faças include arsente successive administrações (CP-MS) AA for hybrides.

#### Attachment A1-6

	Golder Assor	ciatas Etd.	
Gre	oundwater Samp	oling Data	Sheet
Ganeral Information			
Well No.: <i>MW00-02</i>	GAL Job No.:	002-2418	Short Title: Miramar / Wells / Clant
Location: Tank Ferro	Date:	1-Aug 00	Sample Collected by: Nicoles Vacach
Worther: Sunny	Time:	12:30 PM	

Temperature: 22 °0

Monitoring Well Information

Depth to Water below Top of Piezomeier: 21.18 iii Piezomeier Stick thi: 6.58 iii Piezomeier Depth below Ground Surface: 25.6 iii Prozometer Internal ±: 1.6 inch.

One Well Standing Volume: 2.2 Liters

Equipment List

plif and Temperature Meter. Flance Instrument. Well perging performed by:

Conductivity Meter: Henne Instrument Well Sampling preformed with:

Well Sampling preformed with:

Eh Motor: Histina Instrument Well Sampling preformed with:
Dissolved Oxygen: Histin Colorimetric Well Sampling preformed with:

Waterra Hand Pump

. Alkelinity Kit: Hach Kit.

Well Purging Note:

J							
	Volume	рН	Cond.	Temp.	Comments		
	Homoved				(i.e.: Color, Odor, Sheen, Yarbidity etc.)		
	(Liters)		(mS/cm)	(***)			
	3.5	7.62	1102	11.0	Cloudy, sity		
	7.0	7.75	1082	7.5	Cloudy, saity		
	10.5	7.75	112	7.7	Cloudy, a Ity		
	14,0	7.76	1135	6.2	Cloudy, silty		
	17.5	7.75	11/2	7.7	Cloudy, ally		
	21.0	7.72	1170	6.5	Cloudy, silty		

#### Field Parameters at Time of Sampling

m٧

pH: 7/2 U.O.: 2.6 mg/L Cond.: 1070 e.5/gm <u>Alkalinity</u> Sample Volume:

Sample Volume: 40 m./ Acid Concontration: 1.6 MH<sub>2</sub>SO<sub>4</sub>

remp: 6.5 °C Digit Required: 82

Alkalinity: 205.0 (as mg/l. CeCO<sub>3</sub>)

**GAGC Note:** 

65.5

Eh:

Bottle Type	Size	Filtering	Preservative	Analysis	
Plastic	500 m!	No	None	Houtine	
Piastic	100 mJ	No	1 ml 6N NaOH	Gyande	
Plastic	250 ml	Yes	5 mi 20% #NO <sub>5</sub>	Dissolved Metals	
Plastic	$250  \mathrm{mi}$	١٥	5 ml 20%, HNO <sub>3</sub>	Total Motals	
Plastic/Glass	500 ml	No	$2\mathrm{mLoone},\mathrm{H}_2\mathrm{S}\Omega_1$	Amonia (may include DOC-glass)	
Glass	250 ml	20	None	Nitrate/Nitrite	
Meta	250 ml	Yes	5 ml HNO <sub>5</sub>	As Speciation	
Gioss, Amper	1.5	No	2 mi cond. HCL	Wimeral Ci, and Grease	
	Plastic Plastic Plastic Plastic Plastic/Glass Glass Meta	Plastic 500 ml Plastic 100 ml Plastic 250 ml Plastic/Glass 500 ml Glass 250 ml Meta 250 ml	Plastic         500 ml         No           Plastic         100 ml         No           Plastic         250 ml         Yes           Plastic         250 ml         No           Plastic/Glass         500 ml         No           Glass         250 ml         No           Meta         250 ml         Yos	Plastic         500 ml         No         None           Plastic         100 ml         No         1 ml 6N NaOH           Plastic         250 ml         Yes         6 ml 20% HNO <sub>2</sub> Plastic/Glass         250 ml         No         5 ml 20% HNO <sub>2</sub> Plastic/Glass         500 ml         No         2 ml conc. H <sub>2</sub> SO <sub>2</sub> Glass         250 ml         No         None           Meta         250 ml         Yes         5 ml HNO <sub>3</sub>	

Notes:

 $<sup>^{3}</sup>$  However parameters included major ections, major actions (SO $_{\odot}$ , C)), harchess, sikelinity, pH, conductively, 108–188

<sup>2.</sup> Disserve & distala include ensetto speciation and mercury (ICP-MS) AA for byoides.

#### Attachment A1-6

#### Golder Associates Ltd. Groundwater Sampling Data Sheet

General Information

Well No.: MW00-3A

GA! Job No.: 502-2415

Short Tille: Miramar / Wells / Glant

For ation: Vee Lake Road

Weather: Bunny

Date: 1-Aug-20

Sample Collected by:

Nicotas Vachon

Temperature: 22

Time: 9:30 AM

Monitoring Well Information

Dopth to Water below Toulof Plezomeler: Plezometer Deoth below Ground Surface:

1.42 æ 20.0 ren

Piezameter Stick Up. Piezometer Internal 1: 0.351.0

inch.

One Well Standing Volume: Liters

Equipment List

pH and Temperature Moter; Hanna Instrument.

Conductivity Meter: Inarma Instrument

En Weter, Henga Instrument

Well purging performed by:

Waterry Hand Pump!

Well Sampling proformed with:

Pleristatio Pump

Dissolved Oxygen: Hach Color/metric Alkajinity Kit, Hach Kit

Well Purging

Note:

•	.a	140101			
ľ	Volume	ρН	Cond.	Temp.	Comments
1	Removed				(I.c.: Color, Odor, Sheen, Turbidity etc.)
1	(Liters)		(r S/cm)	(℃)	<u></u>
ľ	7.0	6.94	1109	5.0	Croudy, sitry
ſ	14.0	5.93	1211	3.6	Cioudy, silty
Γ	21.0	7.16	1068	3.6	Cloudy, silly
ľ	28.0	7.05	964	3.8	Cloudy, silty
Ĺ	36.0	6.60	1053	3.8	Cloudy, silty
-	42.0	6,96	1075	4.1	Cloudy, ally
Ē	49.0	6.95	1120	5.9	Clourdy, silty
Γ	56.0 "	7.41	1212	5	Cloudy, silly
Γ	53.0	7,26	1940	4.3	Cloudy, silty

#### Field Parameters at Time of Sampling

grid; 7.45 Geneut 1240 0.0.5

mg/L

46 mL

±S/cm w٧

A'karinity

Sample Volume: Ас и Солевеснійли:

N B<sub>2</sub>SO<sub>44</sub> B.\$

Eh: 38 10 Temp: 4.3

Digit Requires: Alkalinity:

75 187.5

(sa mq/LL, CaCO₃).

OAGC Male:

1	QAUL NOIR:				
Bottles	Bottle Type	Size	FillerIng	Preservative	Analysis
1	Plastic	500 ml	No	Моле	Routhe
1 2	Plastic	100 mJ	No	t mi 8N NaCH	Syan de
3	Plastic	250 mJ	Yes	5 mi 20% HNO <sub>8</sub>	Dissolved Metals
4	Flasic	250 ml	No	a mi 20% HNO <sub>3</sub>	Lotal Metals
5	Flastic/Glass	500 ml	No	2 лагосию, ну80и	Amonia (may include DCC-g ass 🗩
6	Glass	250 ml	No	Non∈	Nitrate/Nitrite
7	Metal	250 m <sup>2</sup>	∨es .	કાના સપ્તરન	As Speciation
8	Glass, Amber	11	No.	2 miletne, HCL	Minora: Cirland Grease

<sup>4</sup> Foulthy per implication disjoins (each  $a_{2}$ ) major as one ( $SO_{2}^{*}$ , OI) here resp. alkalindy, cH, conduct Visy, <math>TOS, TSS.

Observed Wingle and consissents speciation and percury (CP M8) ANAs instribes.

#### Attachment A1-6

					ociates Ltd Ipling Dat				
General in	formation					a driedt		<del></del>	
	WeTNo.:			AL Jah No. Date Timo	••		Short Title: offerned by:		/Weils / Glai gg Vachon
Monitoring	Well Inform	ation							
	- epith fo Water t ezemeter Dept			1.30 19.5	LL LL	Piezometer Piezometer	er Stick tip: Internal E:	0.35 1.0	m inon
	Cn	o Woll Stand	ting Volume	9.4	Litera				
Equipmen	t List								
,	D sso)	divity Moter: En Meter: ved Oxygen: Akelinity Kib	: Hanna Instru : Hanna Instru : Hach Coloni	iment iment		Well sunging Well Sample		<i>Veteri</i> d with:	ra Hend Pun pristettic Pun
Weil Purgl د		Note:							_
	Volume Removed (Litera)	рН	Cond. (nSigm)	Temp. (10)	Comments (Le.: Color	; , Odor, Sneen	, Turbidity	etc.)	
	15.0	7 <b>8</b> 9	497	3.4	Głosey, silt	<del>У (1885 года и 188</del> 5) У			·=-
	36.0	7 6C	562	33	Clouby, silt	<u> </u>			<u> </u>
	45.0	760	648	34	Choucy, silt				
	60.0 75.0	734 749	757 748	3.6 3.7	-Ctoucy, silt (Ctoucy, silt				
	90.0	7.61	950	3.0	Capacy, silt				
	105,0	7.58	856	3.3	Cloudy sik				J
Field Para	meters at Tin	te of Samo	ling			<del>.</del>	<del></del>		
рHt	7.58	·	_	D.O.:	1.5	mg/L			
Conc.:	523	e Stem		<u>Alkalin4</u> y	. San	nple Volume.	40	·nL	
Ehr	67.4	tu.A				encentrations	1.8	NH2SO4	•
Temp	3.3	<b>*</b> O			D	git Rec <del>i</del> ured:	67		
						Alkallıı ty.	187.5	(as ang/lin	08003)
	QAQC Note:				*4 • • · · · · ·		<u></u> _		
3ottles .	Bottle Type	Size	Filtering	Prese	rvative	Analysis			
1	Plasto	500 m <sup>4</sup>	Nρ	N	one	Routhe			
2	Plastic	100 ml	No		HOaM M	Cyanide			
3	Plastic -	250 m)	Yes		M HNO₄	Dissolved Me	tals		
4	F!astic	253 ml	No		% HNO <sub>3</sub>	Total Metals			
2	Plastic/Glass	500 ml	No		to HySO,	Amonia (may		O-giass)	
ត	Giass	250 ml	No		nr <del>e</del>	Nitrare/Nitrate			
7	Melai	250 ml	Yes	5 M:	HNO₅	As Speciation	:		

2 ml cond. HCL

Mineral Oil and Grease

Nimbes

No

Glass, Ambor

 $<sup>^{\</sup>circ} \text{ Folivirus greatilises include: major cations, major anions } (SO^{\circ}_{\infty}, OI), \text{ hardness, alkalitely } pF, coccurately, TDS, 7.88.$ 

<sup>©</sup> Dissoftvard Serats include a ream appealator, and mercury (iOP-V.5) AA by hybrides

#### Attachment A1-6

Gold Groundwa		ciates Lto plīng Data		
General Information	:Jate:	002-2418 1-Aug 60 5:30 PM	Short Title Sample Collected by	Miramar ( Wells / Glant Nicelas Vaction
Monitoring Well Information  Dopth to Water below Tool of Piezomoter:	4 17	וד	Piezometer Btick Up	0.38 m
Piezamster Depth below Ground Surface: One Well Standing Volume:	10.0 3.1	m Liters	Piezometer internal for	1.0 (not
Equipment List				
pH and Verguerature Meter. <i>Harma Instrun</i> Conductivity Meter: <i>Harma Instrun</i> En Meter: <i>Harma Instrun</i> Dissolved Oxygon: <i>Harib Colorimi</i> A Kalinty Kit: <i>Hach Ki</i> t	neni noni		Well burging perfixme3 l Well Samp ing preforme	- Waterra Hand Pump

Well	Purging	Note:

Volume Removed	рH	Cond.	Temp.	Comments (i.e.: Color, Odor, Sheen, Turbidity etc.)
[Liters)		(mS/cm)	(2C)	
5.0	7.85	1189	9.6	Cloudy, silty
10.0	7.89	1216	68	Cloudy, silly
15.0	7.93	940	7.0	Cloudy, silty
20.0	7.99	906	. 7.7	Çipudy, silty
25.C	7.9	912	6.4	Cloudy, silty
20.0	7.82	773	6.4	Cloudy, slity
35.C	7.80	757	7.3	Cloudy, silly
40.0	7.80	758	6,5	Cloudy, silty

r	eia	t	'arameters a'	Ι	time of Sampling	
---	-----	---	---------------	---	------------------	--

ρH	7,80			4.0 mg/		
Cond.	758	πS/cm	<u>Alka@rity</u>	Samula Volume:	40	ii.γ.
Éά	63.1	mV		Acid Concentration:	1.6	N ∺₂SO₂
groe I ,	6.5	°C		Digit Required:	BC.	
				A.U U !	000.0	Language Car

Alkalinity: 200,0 (as mg/l\_ C/aCC<sub>3</sub>)

~ 4	$\alpha$	Note:	
1.154	LINE.	NULLE:	

Bottles	<b>Bottle Type</b>	Size	Filtoring	Preservative	Analysis
1	Plastic	500 ml	No	None	Rouline
2	Plast ::	100 ir I	No	≛m! 6N NaOH	Cyanice
3	Plasto	250 ml	Yes	5 ml 20% PINO <sub>5</sub>	Dissolved Metals
4	Plasto	250 ml	No	5 ml 20% HNO;	Total Metals
5	Plasto/Glass	500 ir l	No	2 m cone, H <sub>2</sub> SC <sub>4</sub>	Amonia (π/ay include DOC-glass)
6	Glass	250 ml	No	Nahe	Nitrate/Nitrite
7	Mcta <sup>2</sup>	250 ml	Yes	5 ml HNO <sub>7</sub>	As Speciation
ε .	Giass, Amber	1 l	No	2 ml cond. HC	Mineral Oë arvi Grease

Notes:

 $<sup>\</sup>textbf{1. Bruthne passions removed the months the symbols (SO'_1, O), hardness, alkaliety, \texttt{0+, conductivity, TDS, TSS}$ 

Dissolven Weble Indines arsenic appaisable and increasy (ICP-MS) AA Landoctdes.

# APPENDIX VII HABITAT MAPPING STUDY NOTES





### CHEMICAL ANALYSIS REPORT

Date:

November 16, 2000

ASL File No.

M3353

Report On:

002-2418/5300 Water Analysis

Report To:

Golder Associates Ltd.

500 - 4260 Still Creek Drive

Burnaby, BC V5C 6C6

Attention:

Ms. Valerie Bertrand

Received:

October 17, 2000

ASL ANALYTICAL SERVICE LABORATORIES LTD. per:

Brent C. Mack. B.Sc. - Project Chemist Heather A. Ross, B.Sc. - Project Chemist



#### RESULTS OF ANALYSIS - Water

File No. M3353

Sample ID		TLC-11- SW-10/00	TLG-7A- SW-10/60	TLG-7B- SW-10/00
Sample Date Sámple Time ASL ID		00 10 16 12:10 1	00 10 16 12:30 2	00 10 16 12:50 3
<u>Physical Tests</u> Hardness	GaCO3	1140	771	588
Dissolved Anio Alkalinity-Tot		136	169	252
Nutrients Nitrate Nitrog Nitrite Nitroge		6.31 0.006	0.86 0.010	0.007 0.001
<u>Cyanides</u> Total Cyanide	CN .	0.053	0.038	0.018
<u>Dissolved Met</u> Aluminum Antimony Arsenic Barium Beryllium	<u>als</u> D-Al D-Sb D-As D-Ba D-Be	<0.05 0.5 2.8 0.03 <0.005	<0.05 0.2 1.4 0.04 <0.005	<0.06 <0.2 0.3 0.03 <0.005
Boron Cadmius Caucium Chromium Cobalt	D-B D-Cd D-Ca D-Cr D-Co	0.3 <0.002 296 <0.01 0.06	0.2 <0.002 203 <0.01 0.03	<0.1 <0.002 166 <0.01 0.01
Copper Iron Lead Magnestum Manganese	D-Cu D-Fe D-Pb D-Mg D-Mr	0.21 <0.03. <0.01 98.4 0.33\$	0.01 <0.03 <0.01 64.2 0.046	<0.01 <0.03 <0.01 42.5 0.055
Mercury Molybdenum Nickel Selenium Säver	D-Hg D-Mo D-Ni D-Se D-Ag	<0.00003 <0.03 <0.05 <0.002 <0.001	<0.00005 <0.03 <0.05 <0.01 <0.001	<0.00005 <0.03 <0.05 <0.01 <0.001
Sodium Thaliium Uranium Zinc	D-Na D-Tl D-U D-Zn	111 0.002 0.0100 0.015	81 0.002 0.0042 <0.005	36 0.001 0.0102 <0,006
Organic Param Dissolved Org	<u>leters</u> ánic Carbon C	6.1	9.0	8.7

Remarks regarding the analyses appear at the beginning of this report. Results are expressed as welligrams per litre except where noted,  $\epsilon=$  Less than the detection limit insteaded.



#### METHODOLOGY (cont'd)

File No. M3353

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 ASL "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: ASL "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 absorption spectrophotometry (EPA Method 7470A/7471A).

Recommended Holding Time:

Sample: 28 days Reference: EPA

For more detail see: ASL "Collection & Sampling Guide"



Appendix

CHAIN OF CUSTODY FORMS dmunion (Main) 35F - 37 Ave tue ámarron, A3 98 OPS

лояв — (789) 413 G297 як — - 7760) 437-2311

dimoration (Downsown) ndustrial Hyglens na 74, 00158 - 103 Sixes dreamon, 88 5.. CXS

асле — 7780) 41 0-5205 (780) 424-4902 ÇK.

algazy 44-2 1202 44th Avo. RtB algany, AE 25 3L5

edge. (403) 294-9857 (493) 201-0228 63.

Gande Fralrie 505 - 111 Stream trance Prairie, AB 6/5001

flione: (788) 638-6196 38. (788) 619-2191

isskstoon

24 Votorisasy Ruad aslatoch, 8% (4) 6FA

None: (206) 668-6370 (300) 658-8333 -800-667-7645

üns off 45 Loga? Avenue Voortbeg, Mis-GE SLE 9ana: (204) 046 3705 8xi - (204) 946-9763

hander Bay 081 Carton Street hunder Bay, ON 75 683

Prone: (807) 923-6463 ex: (807) 923-7305

llisva.

lados Labaremrias, no. 3-3-31 (2006) (B50) .htt:101 atawa, CN 334.5 6965. (615) 731-7005. (615<sup>1</sup> 736 1107 ΩX.

tyoming. 420 (West First Street lasyon Myeming 22301. Trane (307) 389-6745 ak (307) 369-1678 -aut-686-0508

labada Wilde Prosect -8.51 188 0878

Vestom Canada Faz: 800 288-7319

exw.69visetast.com

# ETL Enviro-Test

A DIVISION OF ERLOY SWARE ANALYSICAL BRAIES

#### CHEMICAL ANALYSIS REPORT

DATE: November 18, 2000

GOLDER ASSOCIATES LTD

ATTN: VALERIE BERTRAND

\$00 4260 STILL CREEK DRIVE

BURNABY BC V5C 5C8

Lab Work Order #: L17746

Sampled By: CHENT Date Received: 09/20/00

SUME WEETER Project P.O. #:

Project Reference:

Comments:

ADDITIONAL 16-OCT-00 06:50

APPROVED BY:

Projekt Manager

NHIS REPORT SHALL NOT BEREPRODUCED EXCEPTIN FULL WITHOUT THE WRATEN AUTHORITY OF THE LABORATORY ALL GAMPLES WILL DE DISPOSED OF AFTER SCIONAGE FOLLOWING ANALYSIS, PLEAGE CONTACT THE LARTS YOU REQUIRE ACOIT ONAL SAMPLE STORAGE TIME.

ACCREDITATIONS: STANDARDS COUNCIL OF CANADA (SCC), IN COOPERATION WITH THE CANADIAN ASSOCIATION FOR ENVIRONMENTAL ANALYTICAL CABARA TORES (CABALI) FOR SPECIFIC TESTS AS REGISTERED BY THE CONTROL (FUNCTION) ANALYTICAL CABARATION, WINNIETH, HIGHER BAY), AMERICAN INDUSTRIAL HYGIENE ASSOCIATION (AIMA) FOR INCLISTRIAL HYGIENE ANALYSIS (EDIADNITON WISTERNICAN INDUSTRIAL HYGIENE ANALYSIS (EDIADNITON WISTERNICAN FORD INSPECTION AGENCY (OFIA) FOR FERTILIZER AND FEED TESTING (SAS (TOOM)).

Lab ID	Sample ID	Test Cescription	esuit	D.L.	Units	Extracted	Analyzod	Ву
7746-3	BC-062-8W-09/03		; ;				į	
ні рісі Овіа	19-SEP-00		!				:	:
atrix:	WATER .							;
							İ	
	Metals-Total						-	
	Silver (Ag)		<0.005	0.005	mg/L	!	1274SEF4C0	1 005
	Numinem (Al)		0.15	0.01	mg/L	i	27-SEP-00	CG5
	Barium (Ba)		0.025	0.003	mg/L	!	27-S\$P-08	CC5
	Beryllium (Be)		<0. <b>C</b> U2	5.002	mg/L	i	:27-SEF-09	003
	Carolum (Ca)		265	0.5	mg/L		;27-SEF-00	j 005
	Cadmium (Cd)		<0.004	0.900	img/L	!	i 27-SEA-CD	CG5
	Cobart (Co)		0.075	0.002	img/L		<sub>:</sub> 27-55P-00	i oda
	Chicasum (Cr)		0.007	0.006	<sub>i</sub> mg/L	i	27-SEP 00	CCS
	Oppper (Ou)		0.028	0.001	įmœ/L	İ	[27 SEF-00	003
	avin (Fe)		C.257	0.005	mg/L		27-SEP-00	CCS
	Potassium (K)		9.4	G.*	img/L		_27-SEP-00	CCo
	Magnesium (Mg)		49.8	0.1	mg/L	!	27-SEP-00	: 005
	Vanganese (Mr.)		0.055	0.001	img/L	:	27-SEP-00	G C 5
	Molybernum (Mo	7	0.027	0.005	img/L	1	1974 <b>S</b> EP400	005
	Sodam (Na)		159	1	mg/L		27-5 <b>2P-</b> 00	005
	Nickel (Ni)		C. 122	0.007	mg/L		27-SEP-00	005
	Phosphonis (P)		0.07	0.05	ing/L		27~SEP-00	CCS
	tlead (Pb)		<0.095	0.005	rng/L		\$27-8FP-90	GC5
	Tin (Sr.) Shontium (Sr.)		<0.05 :	0.05	mg/L	I.	(27-SEP-00	000
			2.3:	0.002	rng/L	!	127-SEP-00	000
	Titanium (fi) Ynallium (fl)		0.0 <b>0</b> 8 <0.08	0.001	mg/L r		27-SE9-00	000
	Yanadiym (V)		. c.303	0.05 6.004	mg/L		27-8EP-00	CC
	Zino (Zh)		0.300	0.001 0.001	mg/L		27-SE2-00	CC(
			!		mg/L	:	27-SEP-00	
	Ammonia-N		0.28	5.05	mg/L	i	25-SEP-40	EK
	Dissolved Organia	a Garaer.	8	*	mg/L	i	25-3∉⊃-00	HAN
	Nitratu-N		129	0 1	img/L	:	22-SEP-00	700
	NItrite-M		0.14	0.05	m@'L		22-\$EP-99	LDE
7746 <del>2</del> 4	BO4081-SW-09/00111				<del> </del>			
നാia Date ,	19-5⊆⊇-00				į	[		
atrix:	WATER				:	!		
	Rouชีกร Water Analys	iis				:	j	
	Chionge (CI)		262		mg/L		21-SEP-00	100
	Moate-Pillite-N		12,7	0.1	rig/L		22-SEP-00	LDS
	pH, Conductivity ar	rd Tatal Alkalinitu		0.1	, rar=	i	. 22-02-00	
	piri conductivity at	to Total Ameliaty	7.7	0.1	ąH;	!	20-\$EP-00	<u>_</u>
	Conductivity (EC)	1	2170	0.2	uS/cm	!	20-SEP-09	=-
	8 carbonata (HCC		95	5	rng/i		20-SEP-00	L
	Carbonate (CO3)		<ñ :	5	mg/L	:	20-55-00	מיד פן
	Flycroxide		<5	5	mig/L		20-SEP-00	5
	Awaiinity, Total		78	5	mg/l		20-SEP-00	=
	ton Balance Calcuta	ation			i		120-0200	:
	for Dalance	atibei	101		<u> 9</u> ,		26-8 <b>EP-</b> 00	į
	TDS (Cajoulated)		1520		img/L		;26-SEF-CC	E
	Hardness		983		ergaL	!	26-SEP-00	i
	ICP metals and SO	£ for routing water			6		1	:
	Caldum (Ca)	Tion routine water	259	0.5	( <b>ո</b> ցվ	:	 :25-S≣P-00	( Mo
	Polassium (K)		11.2	0.1	mg/L		25-SEP-00	MOI
				v.,				1

liab ID	Sample ID Test Description	Result	Ď.L.	Units	Extracted	Analyzed	Ey
. '7748 <del>4</del>	3C-D\$1-SW-09/00						i
Sample Date	19-SEP-00				i	i	:
Matrix:	WATER				ļ		į
	Metals-Total						
	Nickel (Ni)	0.127	0.002	mg/L		27-959-00	CCS
	Phosphores (P)	0.06	0.05	mg/L		27-SE <del>2</del> -00	GC5
	Lead (Pt)	<0.005	0.005	mg/L		27-209-00	CC5
	Tin (Sn)	<0.05	0.05	,mg/L		27-80P <b>-3</b> 0	. CC3
	Skonium (St)	2.34	0.502	mg/L	i	27-\$59-00	CC5
	Tkeniom (Ti)	0.002	0.001	mg/L		274557-00	CC5
	Thasium (II)	<0.05	0.05	mg/U	i	27-SEP-00	CCS
	Vanadium (V)	0.003	0.001	rag/L		27 SEP 00	CC5
	Zina (Zn.)	0.043	0.001	rag/L		27-SEP-00	CC5
	Ammonia-N .	0.49	0.05	mg/L	i	:25-SFP-00	EK
	Dissolved Organic Carbon	7 ;	•	mg/L	i	: 25-SEP-00	PAN
	Nilrate-N	12.5	0.1	·mg/s.		224SEP#00	1.00
	Nitrite-N	0.18	0.05	mg/L	:	,22-55P-00	j ∟⊃D
L17745-8	9C-D\$2-SW-99/00-C	:				-	<del></del>
Samale Date		:					
Matrix:	WATER				:	ı	
	Routine Water Analysis			•	;		i
•	Chiarde (Ci)	285	,	mg/L		21-SEP 00	ָ בַבְּבָן
	Nitrate+Nitrite-N	:26	0.4	lmg/L		2248EP400	מתני
	pH, Conductivity and Total Alkalinity						
	pΗ	7.7	0:	Hci		20-SEP-GC	٠ ٠٠٠
	Conductivity (EC)	2140	0.2	(u8/cm	:	20 <b>-</b> SEP-00	'
	Bicarporate (HOO3)	95	5	mg/L	:	20-85P-00	PT-
	. Cathonate (CO3)	<b>45</b>	5	mg/L	:	20-952-00	. S.E.
	Hvd≥oxide Alkalisity, Total	78	5 5	img/L		20-929-00	<u>सम्बद्ध</u> - सम्बद्ध
	•	'*	ü	്യൂ		:20-SE=-00	-: .
	ton Balance Calculation fon Balanco	98.8		%		: :26-SEP-00	
	TDS (Calculated)	1520		mg/L	:	26 SE⊇ dC	i
	Harchess	i 883		mg/L		28-SEP-00	!
	'CP metals and SO4 for routine water						
	Caldium (ua)	260	0.6	lπg/L	!	25 SEP-00	MCR
	Potassium (K)	51.9	a.	mg/L	İ	25-SEP-06	MCR
	Magnesium (Mg)	58.8	0.1	mg/L		25-SEH-00	MUR
	Sodium (Na)	162	*	mg/L		25-SEP-C0	VICR
	Sulfate (SO4)	659	0.5	-mg/L		25-SEP-00	MOR
	Antmony (Sb)-Dissolved	0.933	0.0004	:  mg/L	i	: 117 OCT-80	   RG
	Arsenio (As) 3+-Dissalved	0.0080	0.0002	ng/L		1 25(-65	71
	Arsenio (As) 5+-Dissalvea	0.260	0.0002	mg/L			77
	Arsenio (As)-Dissolved	0.318	0.0034	ints/E		17-0077-95	R.G
	Vietals, Dissolved	(	2.0034	Here		11-4 7/11-00	1702
	Silver (Ag)	<0.008	9.005	hg/L		,25-8EF-00	005
	Alaminum (Al)	<0.01	3.01	nig/t.		254SEP400	005
	Boron (8)	0.49	0.05	mg/L	!	25-5EP-00	COS
	Barium (Ba)	0.015	0.003	mg/L		25485P-00	CCS
	Bervlijum (Be)	<0.001	0.001	mg4.	!	25-96P-00	COS
	Cadmium (Cd)	<0.001	0.001	jag4.		25-\$@H-00	005
		i		<u>i                                      </u>	i	!	원ev위 tund

cability Sample its Test Description	Result	5.1	Units	Extracted Analyzed	Зу
L17746€ GP G1 SW 09/00					
Samale Date 119-80P-00					
Matrix: WATER	i				 :
Routine Water Analysis		i			
Cinaride (Cl)	36	1	mg/L	1214SEP400	LDD
Nilraio÷ivitrito-N	<0.1	2.5	mg/L	22/852-00	400
pH, Conductivity and Total Alkalinity			-		
pΗ	8.0	3.1	рΗ	20-SEP-00	PTY
Cenauctryty (EC)	1410	0.2	uS/cm	20-SEP-00	PTT
Steamenate (HCO0)	201	. 5	mg/L	25-SGP-00	i (277
Cafbánase (CC3)	<€   <6	; 5 ; 5	ರಾಜ್ರ್/೬ :==:::	20-SEP-00	179 : 179
Hydroxide Alkalinity, Fota	164		mg/L mg/L	20-SEP-00   20-SEP-00	; 9TF
ียก Balance Calculation	104	į ,	ing An	20.025-00	-1.
Ion Balance	94.5	ļ	7%	26- <i>SEP-</i> 00	
TÓS (Calculated)	947	!	nig/L	25- <b>5</b> 29-00	
Hardness	B&6		nig/L	25-SEP-03	
ICP metals and SO4 for routine water	i			i .	!
Calolum (Gai	197	0.5	/mg/L	25-SEP-00	MOR
Potassium (Ki	4.7	0.1	mg/L	25-SEP+00	MOR
Magnesium (Mg)	47.2	0.1	mg/L	25-827-03	: MO:
Sodium (Na)	21	1	mg/L	25-SEP-00	MOS
Suifate (SO4)	543	0.5	mg/L	25-SEP-00	MOF
Andmony (Sb)-Dissolved	G.0588	0.0004	mg/L	117-00 <b>T</b> -00	RG
Arsenic (As) 3+-Dissolvad	0.0040	0.0002	mg/L	į į	, JJ
Arsenic (As) 5~Dissolved	0 148	0.0002	mg/L		Ji
Arsenio (As)-O asofvęd	0.575	0,0004	mg/L	174QQT400	RG
Metals, Dissoived Silver (AC)	<0.005	0.005	i nig/L	: 125-\$EP-00	l cos
Aleminum (Ali	<0.01	0.01	mg/L	: 25-SEP-30	cos
Peror. (B)	0.17	0.05	mg/L	25-SEP-30	COS
Barum (Ba)	0.043	0,003	mg/L	25-3FP-30	COS
Beryillum (Be)	<0.001	0.501	mg/L	2548B9400	i cos
Cadim oxi (C6)	<0.00%	5.001	mg/L	25-SEP-30	cos
Corati (Co)	<0.002	0.802	mg/L	25-SEP-00	COS
Chromium (Cr)	<0.005	0.005	mg/l	25 <b>-</b> 55 <b>-</b> 200	; CC5
Coopen (Cu)	D.G05	0.001	<sub>i</sub> mg/L	25-SEP-30	· CCS
Iros (Fe)	<0.005	5,005	mg/L	25-8≊9-00	GCS
Manganese (Mn)	0 008	0,001	rmg/L	25-357-00	COS
Molybdenum (Mb) N.cxa' (Ni)	<0.000	0.000	mg/L	35-3EP-00	C05
Phosphorus (P)	0.012	0.002	.mg/L	25-55P-00	008
Lead (Po)	: <0.1 <0.005	0.005	img/L Img/L	25-35P+00 25-36P+00	000
Tin (Se)	: <0.05	0.005	mg/L	25-9EP400	Cos
Scontium (Sr)	G 477	0.005	mg/L	25-86P-00	200
Titanium (Ti)	<0.GC1	. 0.001	mg/L	25-8EP-00	200
Thall um (T.)	3.05	0.05	mg/L	25-SEP- <b>0</b> 0	003
Vacacium (V)	<0.001	0.001	img/L	25-8 <b>E</b> F-00	003
Zino (Zn)	0.011	0.004	ang/L	25-5EP- <b>0</b> 0	i dea
Assimosy (Sh)-Total	€.0597	0.0004	rag/L	174OQT-00	RØ
Assenio (As) Toip!	D 145	0.0004	img/L	17-007-00	RC
Metals-Tota <sup>*</sup>	,				
Saver (Ag)	<9,005	0.005	ang/L	27-ŞEP-00	CGa

Lab (Q	Sample ID	Text Description	Result	D.L.,	Un∙ts	Extracted	Anziyzed	еу
17740-7	OP-B2-SW-09/00	-2,						
amote Date in						!	:	!
	WATER		:		į	:	!	:
vialtix:	WATER				;	!		!
	Routine Water Analy					!		:
		14 for routine water			l		05 055 05	MOR
	Sodium (Na)		26	1	mg/L		25 SEP-00	
	Su fate (SC4)		970	<b>\$.</b> \$	mg/L		25-SEP 00	MO-
			4.604		j		1	· no
	Anämony (Sd)-C		0 388	0.0004	mg/⊑	•	17-00T-00	RG
	Arsenic (As) 3+-		ü •16	0.9002	mg/L		:	j.!  -
	Arsenic (As) 5⊪	Dissoived	5.93	0.0002	mg/L	İ	i	JJ
	Arsenic (As)-€≇s	soived	. 4.11	0.0004	mg/L		17-00 <b>T-</b> 00	RO
	Metals, Dissolved		•					
	Silver (Ag)		<0.005	0.005	mg/L		23-SEP-00	CC5
	(IA) munimial		<0.001	0.01	ლე/I		25-SEP-05	CC5
	Boron (S)		0.15	0.05	insg/L	!	2648EP400	CC5
	Barium (Ba)		0.928	0.003	rag/L	:	25-8EP-00	, CC5
	Beryllium (Be)		<0.001	! 0.001	μπg/L		_25-SE!?+00	000
	Geomann (Cd)		<0.001	0.003	mg/L		25-S≦≏-co	ုံ ငင
	Coball (Co)		0.042	0.002	mg/iL		26-SEP-00	j 003
	Chromium (Cr)		<0.055	0.005	mg/L		25-867-00	1.008
	Copper (CL)		0.004	9.001	lmg/L		254557-00	. DOS
	Iron (Fe)		<0.008	: 0.005	mg/L		26-8≣⊇-00	1 503
•	Manganese (Mn	4	0,273	0.001	mg/L			ಿ ಛರ್ಷ
	Molybdenum (Vi	•	0.032	0.005	mg/L		25-8E9-00	CC
	Nicsol (Ni)		0.078	0.002	img/L		25-SEP-08	CC:
	Phosphorus (P)		<0.1	0.1	mg/L		25-SEF-00	CC
	Lead (Pb)		<0.095	0.005	mg/L		:25-SEP-00	CC!
	Tin (Se)		<0.05	0.05	marr Imarr		:25-3±P-00	003
	, ,		0.778	0.005	-		25-SEP-00	003
	Strontlum (Sr)		:	•	·mg/L		25-SEP-00	COS
	itanium (1:)		<0.001	0.901	mg/L	!	1	
	Thallium (Ti)		<0.05	0.05	mg/L	j .	25-SEP-00	005
	Varadium (V)		0.003	0.001	rsg/L		25-5EP-00	COS
	Zjna (Zŋ)		J <sup>0.018</sup>	0.801	<sub>(</sub> mg/L	!	25-SEP-00	008
	Antimony (S5)-T	ote	0.289	0.0004	mg/L	1	17-OCT-99	RG
	Arsenio (As)-Tot	tę	4.13	3.0004	.mg/L	ļ	17-0011-00	RG
	Metals-Total		i	:		:		
	Säver (Ag)		<0.005	0.905	rxą/L		27-SEP-00	003
	A profesion $(Ai)$		0.08	0.01	rig/L	:	27-5≦₽-00	DC
	ֆերսլու (Be)		0.029	0.003	æg#		27-SEP-00	003
	Bery Kuna (Be)		<0.002	0.002	თე/L		27-SEP-00	OC:
	Caldidny (Ca)		292	0.5	mg/L	:	27-8EP-00	CC
	Cadmium (Cd)		40.004	0.001	rag#	:	27-SEP-00	003
	Cohalt (Co)		0.047	. 0.002	mg/l		27-SEF-00	CO
	Carpinion (Cr)		<0.005	0.005	reg/L		27-SEP-00	CC:
	Cooper (Cu)		0.010	0.001	gray/L		27-8EP-00	CC!
	Iron (Fe)		<0.005	0.005	mg/L		127-35P-00	00
	Potassium (K)		8.9	0.1	: TIG:"-		97-8 <b>2</b> P-00	00:
	Magnesium (Mg	!	83 2	: 0.1	mg/L	i	127-SEP-00	ca
	Mangenese (Mo		5,295	0,001	iwă,t	İ	27-8119-05	CC.
:	Molyboenum (M		0.033	: 0.005	mg/L	1	27-8EP-00	00
	Socium (Na)	107	17	; 1	mg/L	ļ	27-325-00	000
	Nicke (Ni)		0.005	0.002	mg/L		:27-32:100 (27-32P-00	003
	Paesphorus (P)		0.06		: -		12 <b>7</b> -8EP-00	00
	r pospinariis (F)		; 6.00	0.05	mg/L		2 740 21 700	

ab ID Sample ID Test	Description ! Resul	D.L.	<u>Units</u>	Extracted Analy	zel laz
746-8 OP-82-3W-09/00- <b>6</b>		•		İ	i
nple Oata (19-8/FP-00)	!			i .	ļ
frix: WATER	!	i			i
	i	i		1	
Retate, Dissolved		!			ļ
Copper (Cu)	2,004	9,005	mg/L	25-9≝	P-00 C
iron /Fe)	<0.005	0.035	mg/L	25-5E	P-00 - 00
Manganese (Ma)	2.283	0.001	mg/L	25-SE	P-00 C
Marybdenum (Ma)	2,033	0.008	mg/L	25-88	P-00 C
Nickel (Ni)	0.076	: 0.002	mg/L	i ;25-5€	P-00 C
Pacaphorus (P)	50.1	0.1	mg/L	1 25.85	원00 ¦ C
i.ead (95)	<0.005	0,005	lmg/L	: 25-SE	:
Tin (Sn)	40.05	0.09	img/L	25-SE	9-00 C
Strantium (Sr)	0.783	0.005	mg/L	29-SE	
Titanium (টা)	<0.001	0,001	mg/L	25-SE	
Thalsum (TI)	: <6.05	0.05	:mg/L	25-SE	9400 ! G
Vanadium (V)	0.003	0.001	mg/L	25-SE	F-30 C
Zine (Zn)	0.014	; 0.301	img/L	2549 F	
Antimony (Sb)-Total	0.425	0.0004	mg/L	. 17-00	
	4.35				
Arsenio (As)-Totai	4.25	0.40 <b>0</b> 4	mg/L	; 17-OC	1-00 12
Metals-Total					n *
Silved (Ag)	<9.095	0.005	:mg/L	27-S <b>Ē</b>	
Alan iram (Al)	0.75	0.01	mg/L	27-S <b>S</b>	
Sarium ( <b>Ba</b> )	0.083	0.003	mg/L	27-55	
Seryllium (Be)	<0.002	0.702	ing/L	:2 <b>7.</b> 8F !== 0 <b>0</b>	
Calcium (Ca)	. 334	j 0.5	ing/L	27-82	
Gadhkum (Co)	<0.001	0.001	mg/L	27-85	
Cobalt (Co)	E.064	. 0.002	mg/L	27-85	
Ohromium (Or)	<0.005	0.000	mg/L	27-95	
Copper (Cu)	0,003	0.301	mg/L	27-SE	
irun (Fe)	. 1.38	3000	mg/L	27-SE	
Potassium (K)	9.7	j 6.1	ma/L	27 SE	
Magnesium (Mg)	01.4	G.1	mg/L	27-SE	
Manganoso (Ms)	0.365	0.001	mg/L	27-SE	
Mo(ybdenum (Mo)	0.039	0.005	mg/L	27-SE	
Sodium (Na)	! 18	. 1	mg/L	27-SE	
Nickel (Ni)	j 2.099	0.002	mg/L	27.85	
Ресройств (원)	j 0.17	0.05	luᾶ/Γ	27 85	
Lean (Pb)	<0.005	0,005	mg/L	27-8E	
Tin (Sn)	<0.05	0.06	mg/L	27-86	
Strontium (Sr)	0.911	0.302	mg/L	27-SE	
T-tanium (ft)	2.013	1 0.001	mġ/L	,27-85	
ัha≋um ( <b>1</b> 1)	<0.05	. 0.05	'mg/L	27-85	
Værstüum (VI	0.009	0.001	mg/L	27•8 <del>8</del>	
Zmb (Zn)	5.025	0.001	mg/L	27-59	P-00 0
Ammonia-N	1.20	9.05	mg/L	25-86	:P-00 E
G ssolved Organic Carbon	: 3		mg/L	25-89	
N-trate-N				!	
	26.9	0.1	;mg/L	22-85	
tv trita-N-	9.80	0.05	,mg/Ļ	, 122-\$E	:8-00 E
		:	:	<u> </u>	
		i			
		İ	1		
	I	į	:		
		:	:		
				1	

### Methodology Reference

<u>ETL Tast Code</u>	Test Description	Methodology Reference (Based On)
AS-ASS-OIS-ED	Argenic (As) 3+ Dissolved	APRA 3114 C-AAS - Hydride
4\$-A85-DIS-E0	Arsonic (As) 54-Dissolved	APHA 3114 C-AAS - Hydride
AS-DIS-SIYD-SD	Arsenic (As)-Dissolved	APHA 3114 C-AAS - Hydride
A\$-707-HYD-90	Arsenic (As)-!fotal	APHA 3114 C-AAS - Hydride
0 DIS-ORG-ED	Disso ved Organic Carpon	APRA 5310 B-Instrumental
OL ED	Chloride (Cl)	APHA 4500 OI E-Colorimetry
ON CTITB	Cyanide, Total	APHA 4500CN C E-Strong acid Dist Colorini
57,-ROUTINE/ICP-ED	ICP metals and SO4 for routine water	AP#A, 3129 B-(CP-OBS
CMBALANCE-ED	Ion Balance Calculation	APHA 1030F
METAL-DIS-ED	Metala, Disselved	APHA 3120 SHCP-OES
METAL-TOT-ED	Welals-Potal	APHA 3126 B-ICP-OES
N2N3-ED	Mitrare+Nitrite-N	APHA 4600 NG3H-Color metry
NP4-ED	Антроп a-N	AP: IA 4500 NI ISF-Colorimetry
NO2-ED	Nikrita-N	APSIA 4500 NO29-Colonmetry
NO3-ED	Mitrate-N	APHA 4500 NO3H-Colorimetry
PH/EC/ALK-2D	pH, Conductivity and Total Alkerinity	APHA 4600 H, 2510, 2320
SB-D S-RYD-ED	Antimony (Sb)-Dissolved	APHA 3114 C AAS-Hydride
SB TOT HYD ÆD	Antimony (Sb) Tater	APHA 3114 C-AAS-Hydride

#### **ENVIRO-TEST OC REPORT**

Workorder £17748

	Beryllium (Be)	<0.002		mg/L	0.01	27-SEP-00
	Calcium (Ca)	<0.5		rng/L	2.5	27-SEP-00
•	Cadmium (Cd)	< 0.001		mg/L	0.005	27-SEP-00
	Cobatt (Co)	<0.002		mg/l <sub>v</sub>	0.01	27-SEP-00
	Chromium (Cr)	<0.008		mg/L	0.025	27-SEP-00
į.	Copper (Cu)	<0.001		mg/L	0.005	27-SEP-00
:	Iron (Fe)	0.142	Α	mg/L	0.025	27-SEP-00
•	Potassium (K)	<0.5		mg/L	0.5	27-SEP-00
	Magnesium (Mg)	<0.1		mg/L	0.5	27-SEP-00
	Manganese (Mn)	<0.001		mg/L	0.005	27-SEP-00
	Molybdenum (Mo)	<0.005		ന്നള/L	0.025	27-SEP-03
	Sodjum (Na)	<1		മും	ថ	27-SEP-00
	Nickel (Ni)	< 0.002		mg/L	0.01	27-SEP-00
	Phosphorus (F)	80.0		$\mathbf{m}\mathbf{g}t_{-}$	0.25	27-\$EP-00
	Lead (Pb)	< 0.005		m <b>g</b> /_	0.025	27-SEP-00
	l'In (Sn)	<0.05		mg/L	0.25	27-SEP-00
	Strontium (Sr)	< <0.002		mg/L	0.01	27-SEP-00
	Titanium (Ti)	0.002		mg/l	0.005	27-SEP-00
	Tha'lium (TI)	<0.05		mg/L	0.25	27-SEP-00
	Vanadium (V)	<0.001		mg/L	0.005	27-SSP-00
	Ziac (Zn)	0.03D	А	mg/L	0.005	27-SEP-00

QC Type: MB

Lab QC Number:		Result	Qualifier	Units	Limit	Analyzed	
WG20448-1							
AS-AS3-DIS-ED	Arsenic (As) 3+-Dissolved	<0.0002		mg/L	0.001	C3-OCT-C6	
WG20448-2					•		
AS-AS5-DIS-ED	Arsenic (As) 5+-Dissolved	0.0004	······	mg/L	0.001	C3-QCT-C0	

QC Type: MBLK

Lab QC Number:		Result	Qualifier	Units	Limit	Analyzed	
WG19461-1							
C-D:5-DRG-E0	Dissolved Organic Carbon	<1		mg/L	1	25-SEP-00	

QC Type: DUP

					<del></del>
Lab QC Number:		RPD	Qualifler	Limit %	Analyzed
WG19190-4					
PH/EQ/ALX-ED	p∺	C.D		0.88	20-SEP-09
	Conductivity (EC)	C.0		1.03	20-SEP-00
1	Bicarbonate (HCD3)	0.0		1.83	20-SEP-00
	Carbonate (CO3)	N/A	RPD-NA	1.83	20-SEP-00
1	Hydroxide	N/A	RPD-NA		20-852-00
	Afkalinity, Total	0.0		1,25	20-8#P-60

### ENVIRO-TEST QC REPORT Page 4 of 12

Workorder L17746

NH4-EC	Ammonia-N	2.6		4.33	25-SEP-00
WG19461-3					
C-DIS-ORG-ED	Dissolved Organic Carbon	3.7		8.53	25-SEP-00
WG20448-3					· · ·
A\$-A\$3-DI\$-ED	Areanic (As) 3-Dissolved	7.8		7.26	03-OCT-00
WG20997-2	• •				···-
AS-DIS-HYD-ED	Arsanic (As)-Dissolved	ΝίΑ	RPO-NA	20	17-OCF-00
WG20997-4			.4 - 1112		
	Connecte (On) Fileschund	Belo	COD MA		47.003.00
AS-DIS-HYD-ED	Arsenio (As)-Dissolved	N/A	RPD-NA	20	17-OCT-00
WG20997-6					
AS-DIS-HYD-SD	Arsenic (As)-Dissolved	55	Ġ	20	17-OCT-00
METAL-DIS-ED	Silver (Ag)	MA	RPD-NA	20	17-OCT-00
	Aleminem (A:)	0.050		20	17-CCT-00
	Boron (B)	5.1		20	17-OCT <b>-</b> 00
	Barium (Ba)	C.89		20	17-OCT-00
	Berylium (Be)	N/A	RPC-NA	20	17-OCT-00
	Calcium (Ca)	G.70		20	17-OCT-06
	Cadmium (Cd)	N/A	RPC-NA	. 20	17-OCT-00
	Cobait (Co)	N/A	RPC-NA	20	17-OCT-00
	Chromium (Cr)	N/A	RPD-NA	20	17-OCT-00
	Copper (Cu)	C.87		20	17-OCT- <b>0</b> 0
	fror (Fe)	N/A	RPC-NA	20	17-QCT-00
	Potassium (K)	N/A	RPC-NA	20	17-CCT-60
	Megneslum (Mg)	1.3		20	17-OCT-00
	Manganese (Mn)	2.3		20	17-OCT-00
	Molyhdanum (Mo)	N/A	RPC-NA	20	17-OCT-00
	Socium (Na)	N/A	RPD-NA	20	17-OCT-00
	Nickel (Ni)	9.4	10 5-15-	20	17-DCT-00
	Phosphorus (P)	1.1		20	17-OCT-00
	Lead (Pb)	N/A	RPD-NA	20	17-OCT-60
	Tin (Sn)	N/A	RPD-NA	20	17-00T-00
	Strontium (Sr)	2.5	IVE BANK	20	17-00T-00
	Titacium (Ti)	5.4			17-OCT-00
	Thallium (TI)	N/A	RPD-NA	20 20	17-00T-00
	Vanadium (V)	85	RPD-NA O	20	17-00T-00
		0.21	ט		17-CCT-00
en nië swe Pe	Zino (Zn)			20	
SB-DIS-HYD-ED	Antimony (Sb)-Dissolved	0.81		20	17-CCT-00
NG20997-8		_			
AS-DIS-HYD-EO	Arsenic (As)-Dissolved	0.074		20	17-CC7-00
METAL-DIS-ED	Silver (Ag)	N/A	RPD-NA	20	17-OCT-00
	Aluminum (At)	2.1		20	17-QCT-00
	Boron (B)	45	D	20	17-QCT-00
	Barlum (Ba)	0.67		20	17-0 <i>0</i> 71-90
	Beryllium (Ba)	N/A	RPD-NA	20	17-CCT-00

### ENVIRO-TEST QC REPORT Page 6 of 12

Workprden L17748

	Sulfate (SQ4)	1.7		4.44	25-SEP-00
VG20997-12	, , <u> </u>				
AS-DIS-HYD-ED	.Arsenic (As)-Dissolved	1.4		20	17-00T-00
METAL-DIS-ED	Säver (Ag)	N/A	RPD-NA	20	17-OCT-00
	Aluminum (Ai)	17		20	17-DCT-00
:	Beron (B)	14		20	17-DCT-00
	ਰੋ <b>a</b> rium (ਤੋੜ)	0.63		20	17-00T-00
:	Seryllium (Be)	N/A	RPD-NA	20	17-OC i7-00
	Carolum (Ca)	0.29		20	17-OCT-00
	Cadmium (Cd)	N/A	RPD-NA	20	17-007-00
	Cobelt (Co)	0.17		20	17-007-00
	Chromium (Cr)	N/A	RPC-NA	20	17-905-00
	Copper (Cu)	12	•	20	17-OCT-00
•	Iron (Fe)	1.9		20	17-OCT-00
	Potassium (K)	Q. <b>71</b>		20	17-OCT-00
	Magnesium (Mg)	0.96		20	17-0CT-00
	Manganese (Mn)	0.75		20	17-OCT-00
	Molybdenum (Mo)	N/A	RPD-NA	20	17-QCT-00
	Sodium (Na)	1.6		20	17-OCT-00
	Nickel (Ni)	0.14		20	17-OCT-00
	Phosphorus (P)	1.7		20	17-CCT-00
	Lead (Pb)	N/A	RPO-NA	20	17-OCT-00
	Tin (Ss)	N/A	RPD-NA	20	17-OCT-00
	Strontium (Sr)	0.85		20	17-CCT-00
	Titanlum (Ti)	1,9		20	17-OCT-00
	Thatlium (Ti)	N/A	R∃D-NA	20	17-OCT-00
	Vanadiom (V)	6.8		20	17-OCT-00
	Zinc (Zn)	29	Þ	20	17-OCT-00
/G20997-14					
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	0.067		20	17-OCT-08
METAL-DIS-ED	Silver (Ag)	N/A	RPD-NA	. 20	17-OGT-00
	Aluminum (AI)	2.3		20	17-OCT-00
	Boron (B)	2.0		20	17-007-00
	Barlum (Ba)	1.7		20	17-OCT-00
	Daryllium (Be)	N/A	RPD-NA	20	17-OCT-00
	Calcium (Ca)	0.73		20	17-OCT-00
	Cacmium (Cc)	N/A	RPD-NA	20	17-001-00
	Cobalt (Co)	0.12		25)	17-OCT-00
	Chromium (Cr.)	N/A	RPD-NA	20	17-OCT-00
	Copper (Cu)	3.0		20	17-0GT-00
	Iron (Fe)	0.93		2Ç	17-OCY-60
	Potassium (K)	0.60		20	17-007-00
	Magnesium (Mg)	0.24		20	17-007-00
	Manganese (Mn)	N/A	RPD-NA	<b>2</b> 9	17-OOT-00
	Molybdenum (Mo)	1.3		20	17-00T-00
	Sodium (Na)	0.33		20	17-OCT-00

### ENVIRO-TEST QC REPORT

Workarder

L17746

CiType: MS

Lab QC Number:	L \V	% Recovery	Qualifier	Limit %	Analyzed
WG19230-7		,			
CL-ED	Chloride (CI)	105		95-106	21-SEP-00
WG19286-3		· · · · · · · · · · · · · · · · · · ·			
N2N3-ED	Nitrate+Nitrite-N	103		88.2-107.E	22-SEP-00
WG19286-6					
NO3-ED	Nitrate-N	101		81.2-126	22-SEP-00
WG19302-3					····
NO2-ED	Nitrite-N	98		94.6-104.1	22-SEP-00
WG19378-2			<del></del>	· · · · · · · · · · · · · · · · · · ·	
CN-TOT-TB	Cyanide, Total	95		75-125	22- <b>\$EP-</b> 00
WG19404-6			<del></del> -	10 125	22 02, 33
ETL-ROUTINE-ICP-ED	Caldium (Ca)	103		94.2-107.8	25-SEP-00
	Potassium (K)	99		92.3-104.7	25-SEP-00
	Magnesium (Mg)	167		98.9-113.2	25-SEP-00
	Sodium (Na)	106		92.1-118.3	25-SEP-00
	Sulfate (SO4)	101		<b>8</b> 9 <b>.2</b> -109	25-SEP-00 25-SEP-00
WG19404-8					20 021 00
ETU-ROUTINE-ICP-ED	Calcium (Ca)	102		04.0.407.0	05 050 00
E15-, 1001111E-101-10	Potassium (K)	100		94.2-107.8	25-SEP-00
	Magnosium (Mg)	104		92.3-104.7	25-SEP-00
	Socium (Na)	100		98.8-110.2	25-SEP-00
	Sulfate (SO4)	103		92.1-116.3 <b>89.2-10</b> 9	25-SEP-00 25-SEP-00
WG19431-4				00.2-103	20-021-00
NH4-ED	Ammonia-N	114		04.6.403.6	0F 0=D 00
-	Ammoria-N	114		81.3-130.2	25-SEP-00
WG19461-4					
C-DIS-ORG-ED	Dissolved Organic Carbon	95		88.8-104.2	.25-SEP-00
WG20997-3					
AS-DIS-HYD-ED	Arsenic (As)-Dissoived	109		75-125	17-OOT-00
WG20997-5					
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	103		76-125	17-00T-00
WG20997-7				<u> </u>	
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	104		75- <b>12</b> 5	17-00T-00
META JOIS-50	Silver (Ag)	42	G	75-125	17-001-00
	Alumenum (Al)	97	_	75-125	17-00T-00
	Seron (B)	111		75-125	17-007-00
	Barium (Be)	102		75-125	17-00T-00
	∃eryllium (Be)	106		75-125	17-007-00
	Calcium (Ca)	111		75-125	17-00T-00
	Cadmisim (Cd)	94		75-125	17-00T-00
	Cobalt (Co)	100		75-125 75-125	17-001-00 17-001-00
	Ohromium (Or)	99		75-125	(7-00°-00
	Copper (Cu)	93		75-125 75-125	17-001-00
	ron (Fe)	100		75-125 75-125	17-061-00 17-061-00
	Potassium (K)	103		75-125	17-007-00 17-007-00

### ENVIRO-TEST QC REPORT Page 10 of 12

Workorder

11774€

WG20997-13			<del>-</del>		
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	108		75-125	17-QCT-00
METAL-DIS-ED	Siiver (Ag)	62	G	75-125	17-OCT-00
11.11.11.11.11.11.11.11	Aluminum (Al)	104	ζ,	75-125	17-0CT-30
	Boron (3)	106		75-125	17-001-30
	Barium (Ba)	103		75.125	17-001-00
	Beryllium (Be)	111		75-125	17-OCT-90
	Calcium (Ca)	101		75-125	17-OCT-00
:	Cadmium (Cd)	103		75-125	17-OCT-00
:	Cobalt (Co)	100		75-125	17-OCT-00
	Chromium (Cr)	109		75-125	17-OCT-00
	Copper (Cu)	111		75-125	17-00T-00
	Iron (Fe)	100		75-125	17-OCT-00
	Potassium (K)	101		75-125	17-OCT-00
	Magnesium (Mg)	99		75-125	17-OCT-00
	Manganese (Mn)	89		75-125	17-OCT-00
	Motybdanum (Mo)	93		75-125	17-OCT-30
	Sodium (Na)	96		75-125	17-OCT-30
	Nickel (NI)	101		75-125	17-OCT-30
,	Phosphorus (P)	102		75-125	17-OCT-00
	Lead (Pb)	109		75-125	17-OCT-00
	Tin (Sn)	101		75-125	17-OCT-00
	Strontium (Sr)	103		75-125	17-OCT-00
	Titanium (T)	103		75-125	17-OCT-00
	Thallium (Ti)	111		75-125	17-001-00
	Vanadium (V)	107		75-125	17-OCT-00
	Zinc (Žn)	100		75-125	17-OCT-00
WG20997-15				•	
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	108		75-125	17-OCY-30
METAD:S-ED	Silver (Ag)	79		75-125	17-OCT-00
	Aluminum (Al)	108		75-125	17- <b>0</b> 0T-00
	Boron (B)	105		75-125	17-OCT-00
	Barium (Ba)	118		75-125	17-OCT-00
	Beryikum (Be)	108		75-125	17-OCT-00
	Calcium (Ca)	81		75-125	17-00T-00
	Cadmium (Cd)	103		75-125	17-00T-00
	Cobalt (Co)	102		75-125	17-DOT-00
	Chramium (Cr)	107		75-12 <del>5</del>	17-DCT-00
	Соррет (Си)	99		75-125	17-00T-00
	iron (Fe)	102		75-125	17-00T <b>6</b> 0
	Potassium (K)	103		<b>75-12</b> 5	47 <b>-</b> 007-00
	Magnesium (Mg)	100		75-125	17-OCT-03
	Molybdenum (Mo)	101		75-125	17-DOT-00
	Sodium (Na)	95		75-125	17-DCT-00
	Nickel (Ni)	101		75-125	17-00T-00
	Phosphorus (P)	104		<b>76-12</b> 5	17-00T <b>-</b> 06
	Lead (Fb)	106		<b>75</b> -125	17-0GT-00
	Tin (Sa)	102		75-125	17-00T-00

### ENVIRO-TEST OC REPORT

Workproen 117746

#### Legend:

Į insit	95% Confidence Interval (Laboratory Warning Limits)
DÜP	Duplicate
RPO	Relative Percent Difference ((higher result-lower result)/Average, expressed as %)
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Materials
MS	Matrix Spike
MSD	Matrix Spike Dublicate
AD5	Average Description Efficiency
MB	Method Blank
JRM.	Internal Reference Material
CRM	Certified Reference Material

#### Qualifler:

RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
A	Method blank exceeds detection limit. Blank correction applied, where appropriate.
В	Method blank result exceeds detection limit, however, it is less than 5% of sample concentration.
	Blank correction not applied.
C	Method blank result exceeds detection limit, however, it is less than 5% of the regulatory limit for the
	analyte of interest. Blank correction not applied.
Ð	Duplicate result exceeds limit due to increased variability for low level samples.
Ē	Matrix spike limit exceeded due to high sample background.
F	Silver recovery low, likely due to elevated choride levels in sample.
Ģ	Outlier - No assignable cause for nonconformity has been determined.
H	Result fall within the 99% Confidence Interval (Laporatory Control Limits)

ประชาสถา (สิสติน) 536 - 67 Avolue ance ton, AB

3.000 http://(780) (13-9227 (280) 437-2311 ЭX

richines e (Da votave) idustrial Rygiene nd Riu, 10098 Fr 106 Street SA Johnson 63 DX6

auno: (785) 419-6263 (780) 494-4682

algany

ay 2, 1913 44th Avo. N.E. 1 as/y, 45 27 84.5

nore: (405) 251-4897. ux: 1402; 251-0298

Irande Prvide

865 - 115 Step rance Praina AS 89 8961

Pane: (780) 589-5196 (780) 518-2191

aekstoga.

24 Votentiery Boad askatodn, 88 7N 5ES Tera: (306) 068-3270 ax. (306) 669-3383 900-357-7345

Mussell. 46 loger Availab Yourges MB 13E 34.0 thane: (204) 945-8708

(204) 045 0765

bunder Bay 001 Borton Étropi

Finder Day ON 73 SN2

franc: (807) e2346468 (807) 623 7508 1%.

Hawa

area Caboretories Inc. 018 St. tacker (30)1 🕟 and only 4tawa 64 2010

hans: (048) /81-1005 0x1 (618) 736-1103

lyoming

70 Wood First Storet asper, Wyerbing, 82501 librar, (207), 256-5741 ax. (207), 269-1676 -800-566-0303

acada Wide Phone: -8.

28-9578

Vestanii Sagada Pate 800-256-7319

PMs, Rodingless.com

## ETL Enviro-Test

NION BOTHOS ON CHEWSHING WINDOWN THE COMPANIES.

#### CHEMICAL ANALYSIS REPORT

DATE:

November 16, 2000

GOLDER ASSOCIATES LTD

VACERIE BURTRAND

500 4260 STILL CREEK DRIVE

BURNABY BC V50,606

ATTN:

Lab Work Order#: - 및17833 -

sunf water

APPROVED BY

Sampled By:

CLIENT

Date Received: 09/21/00

Project P.O. #: Project Reference:

Chimments!

JOHNSON Project Manager

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN ACTHORITY OF THE LAWORK LORY. ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS, FLEASE CONTACT THE LAW IF YOU. REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ACCREDITATIONS: STANDARDS COUNCIL OF CANADA (SCC), IN COOPERATION WITH THE CANADIAN ASSOCIATION FOR ENVACONMENTAL ANALYTICAL LABORATORIES (CAEAL): FOR SPECIFIC TESTS AS REGISTERED BY THE COUNTIL (ECONOMIC). TALSARY, SASKATOON, WINNINGS THURDER DAY!

AMERICAN MILLSTOIAL HYGISHASSACCIA (IQNI)(AFA) FOR INDUSTRIAL HYSISHIB ANALYSIS (EDMONTON WILSTANDARDS OF INCILIDAD CAMPIAN IN COOPERATION WITH THE CANADIAN POOR INSPECTION AGENCY. (CFIA) FOR PERTILIZER AND FEED TESTING (SASKYOUN)

_eb (D	Sample ID Test Description	n j R≘s⊔t	DL.	i Urāts Extracted	Analyżed	Ву
17833-1	BC-US-\$W-09/00		:			
amole Date	20-SEP-00	i	i	1		
latrix:	WATER	!				:
		1	i	:	i	į
	Metals-Total		:	i	ļ	
	Asyminum (Ar)	0.05	0.01	img/£	128-SEP-00	MO
	Bariom (Ba)	0.010	0.003	.v.a.− .mg/L	28-SEP-80	: MD
	. Bery illun: (Se)	<0,002	0.002	.mg/L	28 SEP-00	l Mo
	Calcium (Ca)	22,0	L.5	img/L	23-S <b>£</b> 2-90	CN
	Cacmium (Co)	<0.001	0.051	img/L	28-SEP-99	MD
	Cobalt (Co)	<0.002	0.002	img/L	28-SEP-00	IVD
	Chromium (Cr)	<0.005	0.025	itagič	128-SEP-00	i ND
	Capper (Ca)	<0.GC1	0.001	.നള്ള. .നള്ള.	28 SEP-00	VD.
	irun (Fe)	0.48a	0.005	mg/l.	28-88P-00	l wb
	Potassum (K)	1.6	0.1	jmgA.	(28-8EP-01	. מע
	Magnes um (Mg)	1 7.4	0.1	img/L	28-SEP-00	MD
	Manganese (Mn)	0.025	0.001	mg/L	: 23-SEP-00	. MD
	Vic'ybdenum (Vo)	<9,005	0.005	img/L ;	28-8EP-00	MC
	Sodautr (Na)	5	1	rng/L	26-8EP-03	MO.
	Nickel (Ni)	i ≺0.002	0.002		23-SEP-00	MO
	Phosphoria (P)	0.21	0.05	lmg/L	23-3EP-03	MO
	.ead (Pb)	<0.005	0.0s 0,005	mg/i_		, MD
		! '		lmg/L	23-35P-03	
	트웨 (Sh)	! <0.06	0.05	mg/L	28-SEP-00	MP
•	Strontium (Sr) Litanium (Ti)	0,978	0.002	mg/L	23-SEP-00	MD
	• •	<0.001	0.001	img/L	28 SGP 00	MD
	Finalitiem (Ti)	< 3.06	0.05	lwā/F	29-8519-00	MD
	Vensdium. (V)	<0.001	0.001	imo:L	28-557-30	MD
	Zac (Zn)	0,020	0.001	mg/L	28 S&P 00	MD
	Ammonia-N	<0.06	0.05	mg/L	\$\$48E0-00	įEK
	Dissolved Organic Carpon	; 13	় ব	!mg/L	23 SIP 00	HAN
	Nitrate-N	! <0.1	0.1	img/l i	22-SEP-00	LOC
	Nitre-N	<3.05	0.05	'mg/L	22-SEP-00	טכבו !
	Total Suscended Scilics	3	i ê	.mg/L	27-\$EP-00	WN
17833 <del>.</del> 2	BO-EFM-SW-09/00	:	<u>.</u>			
	20-8E9-09		i	i		!
			:	i		
atrix;	WATER		•			
	Routine Water Analysis					:
	Ob origa (C¹)	301	1	mg/L	22-352-0D	1 550
	Nicate-Nitrite-N	12.5	( 0.1	:mg/L	22 SEP-00	; LD5
	pH, Conductivity and Total Atkalinity	:	•			
	pH property	7.6	. C.1	pН	22-SEP-30	WOR
	Concustivity (EC)	2119	0,2	uS/em	22 557-00	WOR
	Bicarbonate (HCO3)	. 197	: 5	mg/L	22 852-00	MOR
	Carbonate (CO3)	c.	: 6	mg/L	22-SEP-30	V.O.
	Hyorox de	1 <5	ő	mgv±	22-859-30	ViO
	Ackaamty, Toiz		5	mg/L	22-8EP-30	ViO:
	ion Balance Calculation	!			22/32/430	VIC.
	Ion Balance Catemation	97.7	:	: -%	-25-SEP-30	1
:	TDS (Calcoated)	17:10	! !	ang/L	28-8#P-00	-
1	Hardness	: 17.3 : 1000	•			i
		1 1500	: :	ന്നുവ്	25-552-00	
				. !		i
•	ICP metals and SO4 for routine water	5.50			190 100 100 100	1 4400
	Celoium (Ca)	258	C.#	න <b>ු</b> /L	26-SEP-00	MOI
		258 1∸.4	C.1	ang/L ang/L	25-959-00 25-959-00	j MOI j MOI

Lap:D	Sample ID Test	Description	Result	D.L.	Units	· Extracted	AnaiyzeU	₽}
1/2835-2	BC#F5F-8W409/00							
Samole Date:	2048±P400		j .					
Masrixt	WATER		·			:	!	:
			į		:	•		
	Nietois-Tota!				İ	:	!	ı
	Manganese (Mn)		ů.135	0.001	rgA₌	İ	'28-SEP-00	[ MD
	Morybdenum (Mb)		0.034	0.008	Lu8y.⁻		:28-SEP-00	MĐ
	Sedion: (Na)		>7S	1	mg/L	ļ	į28-S≣P-00	MD
	Nickel (Ni) Phosphorza (P)		9.138 3.08	0.002	mg/L	į	28-SEP-00	MD
	Lead (75)		<0.005	0.05 0.005	lmgå. Imad		28-SEP-00	' MD MD
	Tie (Sn)		<0.05	0.005	ing/L Ing/L	[	28-SEP-00 28-SEP-00	MD
	Strontium (Sr)		2.83	0.082	mg/L	ļ	28-86P-00	MD
	Tilenium (Ti)		0.000	0.002	ing/L	İ	28-SEP-00	MD
	Thailiam (T)		<0.05	0.05	LONG VE		28-SEP-00	MD
	Variation (V)		0.004	0.001	mg/L		28-3EP-00	MD
	Zine (Zn)		0,027	0.001	mg/L		28-SEP-00	MD
	Astronia-N		5.78 ·	0.05	lmg/L	! ·	27-SEP-00	EK
	Disactived Organic Caroon		5 :	4	img/L	į	26-SEP-00	HAN
	Nierate-N		121			į	22-SE2-60	1
				0.1	mg/L	:		LDD
	N:ake-N		0.38	0.00	mg/_		.22 SEP-00	LDD
	Total Susper ded Solids		<3	3	rng/L		<sub>1</sub> 2748E0400	WNG
_ 1833 J	DC DS -SW-00/00-0							
Sampio Dato (	20-SEP-00				:		i	į
Malrix	WATER				!		:	
>					:	:	i	į
	Antimony (6b)-Dissetved		0.0025	0.0004	rng/L	İ	26-SEP-03	MD
	Arsenia (As)-Dissolved		9.0018 .	0.0004	rag/L		28-SEP-00	₩D
	Mercury (hg)-Dissolved		<0.0002	0.0002	mg/L	l	26-SEP-03	W15
	Metals, Dissolved		;				:	
	Silver (Ag)		<0.005	0.665	mg/L		26-SEP-00	WD
	Altenkoum (A.)		<0.91	0.51	ng/L		26-SEP-00	[ WD
	Beren (D)		<0.05	0.05	;mp/L		26-86P-00	1 MD
	Gerium (Ba)		40.003	0.093	mg/l.		26-SEP-00	, WD
	Beryllium (Se)		<0.001	0.001	ang/L		26-SEP-90	MD
	Gedmium (Od)		<0.001	0.001	mg/L		26-8FP-00	· 4/5
	Cobalt (Co) Chromium (Cr)		<0.002	\$300,0	mg/L		26-SEP-00	, WD
	Copper (Cu)		<6.008	0.006	mg/L	İ	26-SEP-90	, MD
	Copper (CC) Issa (F≥)		<0,001 : 0,034	0.001	mg/L 	İ	28-SEP-00	MD
	Manganese (Mn)		0.004	0.005 0.001	mg/L		26-SEP-00 26-SEP-00	WD.
	Molytgenum (Mo)		<0.005	0.000	mg/L mg/L	}	26-SEP-00	WD WD
	Nickei (N.)		<0.002	0.002	mg/L		20-35F-00	VD.
	Phosphorus (P)		<0.1	01	mg/L		26 SEP-00	WD.
	Lead (Pb)		<0.005	0.005	ima/⊑		12G-SEP-00	₩D
	Tn (Sr)		<0.05	0.05	lmg/L	ļ	26-SEP-00	VD.
	Strontium; (Sr)		<9.005	0.005	μα:g/L		26-SEP-00	₩D
	Titanium (Ti)		<0.001	0.001	,r:g/L		26-SEP-00	2/b
	Tosillum (*);		: <0.55	0.05	mg/L		26-SEP-00	WD
	Venadium (V)		<0.001 	0.003	mg/L		25-\$5P-00	. VD
	Zing (Zri)		0.007	0.001	ima/L	:	26-SEF-00	: MO
			0.484-			;		
	Antimony (\$5)-Total		9.0005 ;	3,0004	നുദ്	:	(28-3EP-00	1 MD
	Antimony (Sp)/Tota. Arsenio (As)/Tota		9,0005 40,0004	3,0004 3,0004	•	:	28-3EP-00   28-3EP-00	· MD

Revat 1.50

Lab ID Sample ID Test Describtion	l Result	9.L.	_nits	i Extracted Analyzed	By
.7832-4 TLC-9-9W-30/00	i		İ	i	
: πρ a Date   23-9ΣP-05					!
etrix: WATER	į.		!	I :	:
Antimony (Sh)-Dissoived	0.0075	0.0004		26-SEP-00	Mo
- · · · · · · · · · · · · · · · · · · ·			lmg/L	i	:
Argento (As)-Dissolveo	C.313	0.0004	img/L	26-SEP-00	· MD
Mercury (Hg)-Cisadived	<0,0002	0.0002	mgt	26-SEP-00	WD.
Merals, Dissoived					i
Silver (Ag)	<0.855	G.CH5	mg/L	28-SEP-00	MD
Aicmentin (Al)	0.01	. 001	කව\උ 	26-SEP-60	MD
Boron (B)	<0.05	0.65	mg/L	25-8FP-00	MD
Barium (Ba) Beryling (Be)	0.331	0.003 0.001	img/L	25-SEP-00 125-SEP-00	MD MD
Cadmium (O6)	<0.001 <0.001	0.001	က <b>္အ</b> /ပ် က <b>်</b> /ပ်	28-SIP-00	MD
Cebait (Co)	0.025	0.002	më/F suivi e	25-SEP-00	MD
Chromium (Cr)	<0.003	0.005	mg/L	20-8EP-00	i MD
Copper (Cu)	0.008	C.Q01	mg/L	26-SEP-00	MO
Iron (Fe)	G.248	0.005	mg/L	126-SEP-00	MO
Mangaresa (Mn)	0.148	0.001	-mg/L	26-SEP-00	MD
Molybaenum (Mo)	<0.005	0.005	mg/L	26-SEP-00	MU
Nicker (Ni)	0.006	0.002	mg/L,	26-SE9-00	MO
Phosphorus (P)	<0.5	3.1	mg/L	26 857-00	; MD
Lead (Po)	90,005	0,005	img/L	.26-SE2-00	MD
Tir. (Sn)	<0.05	0.05	mg/L	26-SEP-00	. ME
Strontlam (Sr)	€.154	C <b>CO</b> 5	mg/L	26-5世紀の	. WE
Yitangire (Ti)	<0.901	5 CO1	ang/L	26-559-00	ME
That Iom (Ti)	<0.05	0.05	മൂവ്വ	126-SEP-00	1 2/5
Vanadiem (V)	<0.001	0.001	/ng/t	26-SEP-00	MD
Zino (Zu)	0.034	0.007	ˈmg/L	(2648=9-00	ME
Antimony (Sh)-Total	0.0086	0.0004	mg/L	28-85P-00	MD
Arsenic (As)-Total	0.366	0.0004	mg/l	284SEP400	MS
Mercery (Hg)-Total	<0.0002	0.0002	mg/L	;23-6€₽- <b>0</b> 0	ME
Metals-Total Siver (Ag)	<0.00š	. 0.005	!  mg/L	! ;   28-SEP-00	: I MO
Alaminum (At)	0.06	0.61	mg/L	26-889-00   126-889-00	MU
Bartant (Ba)	: C.342	0.003	mg/L	[28-SEP-03	i ME
Seryllam (Se)	<0.002	0.003	mg/L	; (28-8E9-03	: ML
Calciem (Ce)	193	0.5	mg/L	123-SEP-00	MI
Cadmiem (Cd)	; <0.00°	0.001	mg/L	1 (28-S&P-00	: 1/0
Cobalt (Ge)	0.045	0.002	:mg/L	29-SEP-00	VC
Obtemium (Cr)	< 0.005	0,005	mg/L	284SEP-00	į ve
Copper (Cu)	0.009	0.001	nig/L	25-SEP-00	ME
Iron (Fa)	0.410	0.005	mg/L	29-SEF-00	ME
Potassium (K)	0.5	. 0,1	img/L	, 28-SkP-00	LME
Magnesium (Mg)	50.0	0.1	mg/L	28-SEP-00	MΓ
Mangenese (Mh)	5.207	0.001	infg/L	25-SEP-00	νt
Molybdenum (Mb)	<0.005	0.005	pmg/l.	28-85P-00	M.C
Sodium (Na)	48	ı	mg/L	28-8EP-00	; ME
Nickel (NI)	0.014	0.002	mg/l.	25-85P-00	. I Mπ
Phosphorus (P)	0.55	0.05	:11 <b>17</b> /E	125-SEP-30	į MS
Leac (Pb)	<0.995	0.005	irg/L	12948EP-50	∮ MC
1 n (Sn)	<0.05	9,65	nrg/L	28-8874-00	M
Strantium (Sr)	0.196	0.002	mg/E	25-865-00	M
Titenium (Ti)	0.702	0.001	mg/l	28×5FP×30	347

zā iD Sampie IC Test Description	<del></del>	Result		U.L.	hits	Extracted	j Analyzed	37
823-5 T1G-3-SW-00/60								
role Cate (20-3EP-30)						!	-	
trik: WATER					:		ļ	i
						:	1	į
Metals, Dissolved			·		:	:		į
ron (Fs)		0.424		0.005	img/L		26-SEP 00	j M⊃
Manganese (Min)		0.015		0.001	mg/L		[28-8EF-00	MO
Mo.ybdonum (Mb)		0.007	!	9.005	(mg/L	!	28-899-00	Ma
Nicken (Ni)		0.018		0.002	¦m <u>a</u> /L		26-SEP-00	ML
Phosphorus (P)		<0.1		9.1.	j⊓g/L	i	26-SEP-00	ME
Lead (Fb)		<0,00g		9.095	⊞g/L	ļ	264SEP400	ME
™n (Sn)		<0.05		0.05	,mg/L		26-SEP-00	MD
Strontrum (Sr)		0.612		0.005	;m <u>o</u> /L		26-SEP-00	ASĒ
Tilanisan (™)		<0.901	ļ	0,094	m\$%		26-SEP-00	ME
Thallium (TI)		<0,03	:	0,05	mg/%		:26-SEP-00	ME
Vanadium (V)		<0.001	i	0.001	mg/L		26-SEP-00	MU
Zinc (Zn)		0.005		0.001	mg/L	!	26-5EP-00	0,5[7]
Antimony (Sb)-Total		0.346	1	0.00 <b>04</b>	mg/L	!	28-SEP-00	ME
Arsenio (As)-Totel	:	3.79		0,8004	lmg/I		28-SEP-00	ΜŪ
Gyan de, T <b>ot</b> a:		0.002		0.002	mg/L	22-SEP-00	25-SEP-00	M3
•						44-0 <b>6</b> 1-00		
Vercury (Hg)-Total		<0.0002		5.0502	mg/L		28-SEP-00	, M0
Metals-Total	:	e0 000	:	0.005	i	:	00 555 00	,,-
Gilver (Ag)		<0.005	•	0.005	irng/l.		28-SEF-00  -28-SEF-00	i ME
Aluminum (Al)		0.12	:	0.01	mg/L /l	:	125-SEP-60	– M€ • M€
Sarium (Ba)		0.019 -0.007	:	809.6	mg/L		.28-\$EP-00	
Geryllium (Be)		<0.002 278	i	0,002	mg/i. /'		25-3EP-00	MO
Calcium (Ca) Cadmium (Cd)		∠/9 <0.001	•	0.5 0.001	mg/l		i28-85P-00  28-85P-00	į Mū
Cabinum (50)		0.000			mg/L i″	!	1	M3  : M3
Chromium (Cr)		<0.005		0.002 0.005	jm <u>a</u> /L		128-SEP-00 28-SEP-00	: M
Copper (Ga)		0.000		0.005 0.001	mg/L	-	28-8∄P-00 28-8∄P-00	M2
•		0.508		0.005	mg/L		26-5≣P-00 28-5≣P-00	. ME
ron (4d) Polasatum (K)		7.1		0.1	img/L mg/L	ļ	28-SEP-00	ME
Magnesium (Md)		71.7	:	0.1	mg/L		28-SEP-00	, MS
маўльыслі (жд) Мапдалезе (Мл)		0.016		0.001	-		28-S±P-00	MO
Mo ybdenum (Mo)		0.007	:	0.005	mg/L mg/L		28-SEP-00	; MS
Sedium (Na)		19	i	1	mg/L	:	28 SEP-00	ME
Nickel (Ni)		0.020		0.002	i igre ingre	İ	28-S±P-00	Ma.
Phosphoris (P)		3.07	:	0.002 0.05	mg/Ļ ingr∈	:	128 SEP-00	IVE IVE
1995 (Fb)		<0,005		0.005	mg/L		28-SEP-00	ME
Tin (Sn)		<0.05 <0.05		0.06	;mg/L	i	28-SEP-00 28-SEP-00	· ML
Stronfium (Sr)		C.562		0.002	lua/F		28-8EP-00	ME
Titasiam (Ti)		0.001		0.002	mg/L		.28-8EP-00	ME
Thellion (TI)		<0.05		0.05	ima,r initar	i	28-857-00	ME
Vanedium (V)		0.001	1	0.000	mg/L	!	28-SEF-00	Mi
Zine (Zn)	:	0.005	į	0.003	mg/L	i	:28-SEP-00	ML
Artimonia-N	:		:			i		
		<0,05		0.05	mg/L		27-8≝P-00	: Ek
Dissolved Organic Carbon	•	7	i	1	mg/L	ļ	26-SEP-00	: 56
Nitrata-N		<0.1	٠	0.1	,mg/L	!	22-SEP-80	i Lo
Nitriie-N		<0.05		0.05	img/L	İ	22.\$EP400	15
Total Suspanded Solids		7		3	mg/L		27-362-00	i Wi
								1
						!	į	
					:	-	:	

126 D	Sample ID	Test Description	Result	DI.	Units	Extracted	, Analyzed	Ey
7833 S	TLG 3C/SW/09/00			:				
mple Date	29-SER-00			:		i	i	
atnx:	WATER		i	! :		İ	1 .	
			:	į		İ	i	i
	Cyanida, Total		9.028	0.002	mg/L	   22-SEP-00	  25-SE⊇-00	MR
	, .		<0.0002	0.0002	-	22-53-1-100		MU
	Microury (High-Total		~0.0032	1 0.0905	mg/L		28-SEP-00	MO
	Metais-Total Silver (Ag)		< 9.005	0.005	:mg/L		28-SEP-00	: MD
	Asaminum (Al)		0.08	0.01	æg/Ļ		28-SSP-00	MO
	Barium (Ba)		0.033	5.003	ಪ್ರಾ/ <u>L</u>		.28-SEP-00	GM
	Sarvirum (Bo)		: <0.D02	3.032	mg/L	!	28-SEP-00	MD
	Calclum. (Ca)		324	0.5	iting/L		28-95-00	l Wb
	Cadmium (Cd)		<0.001	0.001	rmg/L	:	28-SEP-00	MD
	Cabert (Ca)		. 0.008	0.002	mg/L	!	28-SEP-00	i Mo
	Chromium (Cr)		<0.005	0.005	mg/L		28-SEP-00	MD
	Capper (Ca)		0.024	0.001	mg/k		28-852-00	MD
	(ran (∃e)		. 0.731	0.005	mg/i		128485P-00	j MD
	Potassii.m (K)		9.3	0.1	mg/i.		;28-8EP-00	j MD
	Magnesium (Mg)		61	G.1	mg/L		28-SÉP-00	MD
	Manganese (i√n)		0.040	0.001	mg/L		23-3EP-00	· MD
	Molyadenum (Ma)		0.013	0.005	mg/L		23-3EP-00	MD
	Socium (Na)		37	1	mg/L		23- <b>3E7-3</b> 0	. MQ
	Nicket (Ni)		0.025	0.002	jmg/L		23-SEP-00	; M€
	്രം Appropries (ന)		0.08	0.08	mg/L		23-9E7-00	MO
	Lead (25) ≕- (2-)		<0.005	0.005	img/L		23-SEP-00	MiD Mid
	Tin (Sn)		<0.06	0.05	mg/L		28-SEP-00	MO
	Strontiam (Sr)		1 0.767 : 0.003	0.002 0.004	mg/L		23-\$E7-30	_ MB   MB
	Titanium (TI) Thallium (Ti)	•	, <3,08	0,001 0,06	mg/L		28 SEP-00 28 SSP 00	MS
	Vanadum (V)		0.001	0.001	mg/L mg/L		28 SKF 30 28-SEP-30	. WD
	Zinc (2n)		U.106	0.001	mg/L	:	28-\$EP-30	ML
	Ammonia-N		<0.05				1	EK
			i	0.05	img/L		27-SEP-00	İ
	Dissorved Organic Ca	noon	12	1	jmg/L		29-SEP-00	. ⊬A
	Nilizle-N		<0.1	0.1	mg/L		22-SEP-00	; LDI
	Nitrito N		<0.65	0.05	nig/L		22-85.9-30	النبا (
	Total Suspended Soil	C3	15	2	nig/L		27-857-00	WE
783317	TUGISE SWIDSON TO THE				+		-	÷
mpio Date	20-SEF-00				!			:
ili x:	WATER		i		!	i	i	
	Routine Water Analysis				: ·			
	Charina (C!)		427	1	i  mg/L	:	22-SEP-00	. п
	Nitrase - Nitrite - N		:				i	
			15.5	C.1	mg/L	į	22-SEP-00	ے ا
	pH, Conductivity and T	otal Alkalinity		0.4	ĺp∹		00.000.00	Mo
	pH Conductivity (EC)		3.1 2770	0.1 0.2	uS/om		22-SEP-00 22-SEP-00	V/C
	Bicarbonate (HCO3)		142	6.2 5	img/L		22-85F-00	, WC
	Carbonate (CO3)		< 5	5	mg/L	:	22-8EF-00	; MC
	Hydroxide		<5	5	mg/L		22-SEP-00   22-SEP-00	MC
	Aikat nity, Yetal		i 113	;	luðy:	İ	22-SEP-00	MC
	Ion Balance Calculation	•	i .''-	~	10 g/ s	i	. 22-327 <b>-0</b> 0	1 1846
	ion palance calculation Ion Balance	1	97.6		%		126-869400	!
	TRS (Calculared)		1930		~ mg∧∟	1	20-859-00	
	Hardiges		1/10		img/L	:	126-SEP-00	
	· · · · · · · · · · · · · · · · · · ·		: ''''		u St.	:		

Cap D	Sample ID	7est Description	Result	D.L.	Un:ts	Extracted	Anatyzed	3у
17333-7	fE3-SP-SW-08/00					-		:
Sample Date 1	20-8EP-00			ļ	;			:
Varix 1	WATER					1	!	
			i				:	
	Metals-Total			•		İ	:	
	Sodium (Na)		186	1	:mg/L	İ	28-SEP-CQ	MD
	Nickel (Ni)		0.052	0.002	.mg/ <sub>→</sub>		28.SEP 00	MD
	Frasadorus (P)		0.07	0.05	mg/L		28-852-00	: MD
	Lead (Pb)		<0.005	0.005	mg/L	!	28-SEP-00	MU
	Tin (Şe)		<0.05	0.35	mg/L	!	[28-SEP-00	MD
	Stroatlere (Sa)		3.74	0.062	mg/_		26-SEP-00	¦ M⊃
	Titanlum (Ti)		0.003	0.001	നൂ∄	i	28-SEP-00	MOD
	Thellfurn (Ti)		<0.0£	0.05	ന്മൂ/പ	İ	28-\$≝P-00	1/2
	Vanadum (V)		: 0.00 <del>0</del>	0.001	mg/L		28-55P-00	MD
	Zina (Zn)		€,014	0.001	mg/L	İ	28-SEP-00	: MD
	Armmonia N		0.06	0.05	mg/L	:	27-S≣P-00	ΞX
	Dissolved Organia	т. Сегоон	e	1	mg/L	i	26-SEP-00	$\mu\Delta N$
	Niceta-M		15.2	0.1	irng/L		[22-SEP-00	100
	Natifie-N		0.27	0.05	mg/L	İ	22-SEP-0G	£DD.
	Total Suspenced	Soʻlda	12	. 3	mg/_	!	27-SEP-00	WNS
7838 <del>-</del> 8	T: G-NE-8W-09/00		+	<del> </del>	ļ			
imple Sate 10	20-8EP-00			İ			:	
។ ១ម៉ាក់ ។	WATER		İ	:		:		i
	Routine Water Analysi	io		!				!
	Chicride (C)	1-7	340	1	mg/_		22 SEP 00	LDD
	•		- 1		l			1
	Nitrata+Nitrite-N		13.5	9.1	æ1g/		22-SEP-00	ממ.ו
	pH, Conductivity an of :	of Lotal A kalinity	8.1	3.1	ρН		22-SEP-03	MOR
	Conductivity (EC)		2550	0.2	luS/am		22-SEP-00	VOR
	Ricarponate (HCC		129	. 5.2	mg/u		22- <b>SE</b> P-03	: WOR
	Carbonate (CO3)	, ,	<5	5	mg/ <sub>a</sub>		22-SEP-03	· MOR
	=vdroxide		<6	; 5	ωδ\7 a.v		22-SEP-03	W05
	Alka Inity, Total		114	į š	mg/L	1	.22-SEP-03	i Mor
	Ion Balance Galcane	tion			!	!	1	
	on Batange	Wall	98.1		:56 :56	:	126 <b>-SE</b> P-00	
	TDS (Calculated)		-830	İ	mg/L	:	25-SEP-00	
	Hardness		1080	-	mg/L		26-SEP-00	
	ICP metals and SO4	for routine water		:	-			:
	Celtrum (Ca)		299	0.5	mg/L	:	25-SEP-00	: VOR
	Fotassium (K)		14.6	0.1	;mg/L	1	25-SEP-60	1 WOR
	Magnesium (Vig)		84.0	0.1	mg/L	:	25\SEP-00	MOR
	Sodium (Na)		, 1 <b>E</b> S		mg/_	:	25-S≝∺-00	: MOR
	Surfate (SO4)		806	0.5	rng/L	;	25-SSP-05	; MOR
							İ	i
	Antimony (Sb)-Dia		<del>1</del> 64	0.0004	mg/ <sub>~</sub>	:	26-8CP-00	MO
	, Arsenio (As)-Diss		. 13,2	0.0004	mg/L	!	26-S≅F-30	MO
	Mercury (rig)40ess	salvae	<0.0952	0.0002	img/L	i	26-SEP-00	MO
	Metals, Dissolved		. !		•			!
	Sitver (Ag)		<0.005	0.005	mα/L		26-\$EP-00	GM
	Alaminum (A!)		0.97	0.01	/mg/L		26-857-05	GM.
	βοτοπ (B)		0.43	5.05	mg/L		26-SEP-96	MD
	Seriom (Ba)		0.016	0 003	mg/L		26-85P-00	MO
	Serykum (Se)		<0.00t	0.001	mg/L		26-8EP-00	MD.

Sample Data 20-85 Matrix: WATS	FR Total Suspended S G-215-SW-09-00 P-00	is d Total Alkalinity (3)	20 12 1.7 8.0 1990 75 <5 <5	3 0.1 0.2 6 5	mg/L mg/L oH us/om mg/L mg/L		27-SEP-00 22-SEP-00 22-SEP-00 22-SEP-00 22-SEP-00 22-SEP-00	WNG LDD LDD MOR MOR MOR
Sacrule Data 20-85 Matrix: WATS  L17050-8 TD Sample Date 20-SE Matrix: WATS  Ro	P-00 P-00 P-00 P-00 R G-23G-8W-09-00 P-00 R cuttine Water Analyst Chicoide (CII Nitrate I Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonate (PCO Corbonate (COS) Hydroxida Alkabety, Total Ion Balance TOS (Calculated) Hardness ICP metals and SO4	is d Total Alkalinity (3)	12 1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L mg/L oH us/cm mg/L mg/L		22-85P-00 22-85P-00 22-85P-00 22-83P-00 22-83P-00 22-84P-00	LDD LDD MGR
J:7650-8 TE Sample Date 20-SE Matrix WAy'S Ro	Total Suspended S G-219-SW-09-00 P-00 SK buttne Water Analyst Chrodde (Cli Nitrate i Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonata (PCO Carbonate (COS) Hydroxida Akabety, Total Ion Balance TOS (Calculated) Haptness ICP metals and SO4	is d Total Alkalinity (3)	12 1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L mg/L oH us/cm mg/L mg/L		22-85P-00 22-85P-00 22-85P-00 22-83P-00 22-83P-00 22-84P-00	LDD LDD MGR
J:7650-8 TE Sample Date 20-SE Matrix. WAy'S Ro	G-219-8W-08-00 P-00 R  outine Water Analysis Chorde (Cli Nitrate I Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonate (PCO Corbonate (PCO Corbonate (PCO Akabery, Total Ion Baiance Calcula Ion Baiance TOS (Calculated) Hardness ICP metals and SO4	is d Total Alkalinity (3)	12 1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L mg/L oH us/cm mg/L mg/L		22-85P-00 22-85P-00 22-85P-00 22-83P-00 22-83P-00 22-84P-00	LDD LDD MGR
Sample Date 20-SEI Matrix. WAVE Ro	G-219-8W-08-00 P-00 R  outine Water Analysis Chorde (Cli Nitrate I Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonate (PCO Corbonate (PCO Corbonate (PCO Akabery, Total Ion Baiance Calcula Ion Baiance TOS (Calculated) Hardness ICP metals and SO4	is d Total Alkalinity (3)	12 1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L mg/L oH us/cm mg/L mg/L		22-85P-00 22-85P-00 22-85P-00 22-83P-00 22-83P-00 22-84P-00	LDD LDD MGR
Sample Date 20-SEI Matrix. WAVE	G-219-8W-08-00 P-00 R  outine Water Analysis Chorde (Cli Nitrate I Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonate (PCO Corbonate (PCO Corbonate (PCO Akabery, Total Ion Baiance Calcula Ion Baiance TOS (Calculated) Hardness ICP metals and SO4	is d Total Alkalinity (3)	1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L mg/L oH us/cm mg/L mg/L		22-SEP-00 22-SEP-00 22-SEP-00 22-SEP-00	LDD   MGR   MQR
Sample Date 20-SEI Matrix. WAVE Ro	P-00  Reporting Water Analysis Chrodide (CII) Nitrate I Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonate (PCO Corbonate (PCO Corbonate (COS) Hydroxida Alkabety, Total Ion Balance TOS (Calculated) Hardness ICP metals and SO4	d Total Alkalinity (3)	1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L pH jus/cm mg/L mg/L mg/L		22-SEP-00 22-SEP-00 22-SEP-00 22-SEP-00	LDD   MGR   MQR
Matrix. WAYE	ER  Outine Water Analyst Chroride (CI) Nitrate I Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonata (PCO Carbonate (CO3) Hydroxida Akadety, Total Ion Balance TOS (Calculated) Hardness ICP metals and SO4	d Total Alkalinity (3)	1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L pH jus/cm mg/L mg/L mg/L		22-SEP-00 22-SEP-00 22-SEP-00 22-SEP-00	LDD   MGR   MQR
. Ro	Chorde (CII Nitrate (Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonate (PCO) Corbonate (COS) Hydroxida Alkabety, Total Ion Balance Calculation Salance TOS (Calculated) Hardness ICP metals and SO4	d Total Alkalinity (3)	1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L pH jus/cm mg/L mg/L mg/L		22-SEP-00 22-SEP-00 22-SEP-00 22-SEP-00	LDD   MGR   MQR
	Chorde (CII Nitrate (Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonate (PCO) Corbonate (COS) Hydroxida Alkabety, Total Ion Balance Calculation Salance TOS (Calculated) Hardness ICP metals and SO4	d Total Alkalinity (3)	1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L pH jus/cm mg/L mg/L mg/L		22-SEP-00 22-SEP-00 22-SEP-00 22-SEP-00	LDD   MGR   MQR
	Nitrate (Nitrite-N pH, Conductivity and pH Conductivity (EU) Sicarbonate (PCO) Corbonate (CO3) Hydroxida Alkabety, Total Ion Baiance Calculation Salance TOS (Calculated) Hardness ICP metals and SO4	03)	1.7 8.0 1980 76 <5 <5	0.1 0.2 6 5	mg/L pH jus/cm mg/L mg/L mg/L		22-SEP-00 22-SEP-00 22-SEP-00 22-SEP-00	LDD   MGR   MQR
	pH, Conductivity and pH Conductivity (EU) Sicarbonate (PCO) Corbonate (COS) Hydroxida Alkalarty, Total Ion Balance Calculation Salance TOS (Calculated) Hardness ICP metals and SO4	03)	8.0 1990 76 <5 <5	0.1 0.2 6 5	oH JuS/cm Img/L Img/L Img/L		22-85P-00 22-83P-00 22-83P-00	MOR MOR
	pH Conductivity (EU) Sicarbonate (PCO) Carbonate (COS) Hydroxida Akalanty, Total Ion Baiance Calcula Ion Baiance TOS (Calculated) Haptness ICP metals and SO4	03)	1990 76 <6 <5 62	0.2 : 6 : 5	us/cm mg/L mg/L mg/L		22-839-00 22-859-00	MOR
	Conductivity (EU) Sicarbonate (PCO) Corbonate (COS) Hydroxide Akadetry, Total Ion Baiance Calcula Ion Baiance TOS (Calculated) Hambess ICP metals and SO4	93)	75 <5 <5 62	5	mg/L mg/L mg/L		;22-SEP-00	1
	Carbonate (CO3) Hydroxida Akakety, Total Ion Baiance Calcula Ion Baiance TOS (Calculated) Hardness ICP metals and SO4		<5 <5 62	: 5	mg/L mg/L	ļ	•	MOR
	Hydroxida Akabety, Total Ion Balance Calcula Ion Balance TOS (Calculated) Hardness ICP metals and SO4	tien	<5 62		mg/L	:	1	IVICAN.
	Akabety, Total Ion Baiance Calcula Ion Baiance TOS (Calculated) Handress ICP metals and SO4	tien	62	1	:		22-852-00	MOR
	Ion Baiance Calcula ion Balance TOS (Calculated) Hardness ICP metals and SO4	tien		5		I v	22-\$EP-00	MOR
	ion Balance TOS (Calculated) Hardness ICP metals and SO4	tien			mg/L		22-SEP-00	: MOR :
	TDS (Calculated) Hardness ICP metals and <b>SO4</b>		, 07.0	•	%		26-SEP-00	
	Hardness ICP metals and SO4		99.8 1620	:	ing/L	:	26-SEP-00	į
	ICP metals and SO4		1180	:	mg/L	:	26-SEP-00	
		l for confine uniter		:			1	
	(4013-611 ,406)	FIOT TOURING WATER	270	0.5	mg/C	:	25-SEP-00	MOR
:	Potassion: (K)		5.7	0.5	mg/C		25-SEP-00	MOR
:	Magnosium (Mg)		124	0.1	mg/L		25-SEP-00	MØR
:	Sodium (Na)		31	1	mg/L		25-SEP-00	MOR -
:	Suffate (SO4)		1135	0.5	mg/L		25-85P-00	MOR
	Antimony (8b)+0ls	ssolved	0.125	3.03 <b>0</b> 4	mg/L		20-SEP-00	MD
	Arsenio (As)-Disso	olvád	0.302	0.0004	mg/L		27-859-00	MD
	Mercury (Hg)-C(ss	solved	<0.0002	0.0002	mg/L		20-SEP-00	MD .
:	Metsis, Dissolved			:	1	!		1
:	Silver (Ag)		<0.005	0.005	lmg/L	i	23-SZF-00	MD
	Alaminara (A.)		<0,01	0.01	mg/L	İ	23-SEP-30	MD
:	Boron (B)		0.13	0.05	mg/ <u>"</u>	i	28-88 <b>7-</b> 00	MD
	Barium (Ba)		0.021	0.003	img/L		25-SE7-00	, ND
•	Berylllum (Be)		, <0.001 <0.001	0.001	mg/L —==0	:	23-SEP-00	MD NSD
	Cadmium (Cd)		<0.001	0,001	mg/L		28-\$59-00	7/0 2/4
	Cobalt (Co) Chromium (Cr)		0.003 <0.005	0.002 0.005	mg/L mg/L	:	28-85P-00 28-85P-00	ν:ο 2/10
	Copper (Ce)		0.005	0.005	mg/L	İ	28-88F-00	MD
	lron (Fe)		0.647	0.005	mg/L	İ	28-SEP-00	, MD
	Manganese (Mn)		0.005	0.000	mg/L	!	25-8EF-00	MD
	Malybdenizm (Ma)	}	0.018	0,005	-mg/L		25-8GP-00	MD
	Nickel (Ni)		0.015	0.002	mg/L		35 SEF-00	MD
	Phasphorus (P)		<0.1	, 0.1	mg/L		28-85P-00	MD
	ileac (Pb)		< 0.005	0.005	m <u>∌</u> /L		28-3EP-00	MD
	in (\$n)		< 0.05	0.05	jmg/L	:	28-359-00	MO
	Strontlam (Sr)		1.22	0.005	mg/L		20-SEP-00	: WD
:	Fiterium (FI)		<3.001	0.001	m∌/L	İ	26-SEP-30	9/5
!	That ion (TI)		<0.05	0.05	mg/L		26-SEP-30	WE.
:			0.001	0.901	mg/L		26-SER-00	, WD
i	Vanadium (V)		<u> </u>			1		!

Lab O	Sample ID Test Description	; Result	0.1.	Units	Extracted	Analyzed	. ∋у
7833-16	LG-223-SW-09/00				i		
mpie Dato	20-857-00	İ			i		
EOX:	WATER		•	•			
	Routine Water Analysis						
	ton Balance Calculation			İ			!
	Inc Eglands	<b>963</b>		· 5%		25-SEP-00	
	TOS (Calculated)	1410		ing/L		25-SEP-00	
	Hardness	835		mg/L		35 SEP-30	
	ICP metals and SO4 for routine water				ı		
	Calcium (Cá)	227	0.5 ! 5.5	jmg/L Lavari	i	25-854-00	i MOI
	Porassium (K)	\$3.0	0.1	mg/L		.25-SEF-CO	MOI
	Magnesium (Mg)	55.1	0.1	mg/L		25-SEP-00	MO
	Sobuln (Na) Sidate (804)	120 93 <del>6</del>	1 0.5	mg/L	1	, 25-SEP-00 125-SEP-00	MO MO
	a maid for the	3.35	0.5	mg/L	i	· 25-65H-00	1817.4
	Antimony (Sb)-Dissolved	1 1.38	0.0004	mg/L		128-SEP-00	MO
	Arsenic (As) 34-Dissolved	9,0350	0.0002	mg/L		!	i JJ
	Arsenic (As) 5+-Disso yed	1.28	0.0002	mg/L			JJ
	Arsenic (As)-Dissolved	1,50	0.0004	mg/L		20-\$ÉP-00	i mo
	Mercury (hig)-D ssowed	<0.0002	0.0002	(mg/L		28-SBP-00	МD
	Metals, Dissolved	30,000	. 4.0006	119/1		120-321-00	: "
	Silver (Ag)	<0.005	0.005	mg/L	!	  26-5EP-60	! นก
	Aluminum (Al)	S0 01	0.01	'mg/L		26-SEP-00	. MD
	80°01 (B)	0.55	0.05	lang/L		i i 26-SEP-00	: MD
	Barlum (Ba)	0.038	5.003	img/L	İ	26-SEP-00	· MD
	Berylficm (Ba)	< 0.001	0.001	mg/l	:	2648EP-00	MD
	Cacmium (Cd)	<0.001	6,361	mg/L		26-8世紀-00	; MD
	Cobet (Co)	0.072	0.002	mg/L		20-569-00	MO
	Chromium (Cr)	j 0.005	0.305	mg/L		26-5 <b>E</b> P-00	MO
	Coppe: (Cu)	0.049	. Q.301	mg/L		26-55P-00	MD
	Iran (Fa)	0,357	0,008	mg/L		23 <b>-</b> 507-06	į MD
	Manganese (Mn)	0.708	0,001	mg/L		28-507-00	MD
	Molycdenurs (Mb)	0.030	0.006	mg/L		28-865-00	MD
	N-akel (N <sup>3</sup> )	0.031	0.002	jmg/L		<sup>1</sup> 26-8⊞ <sup>5</sup> -00	MD
	Phosphorus (P)	<0.1	D.4	img/L	:	28-5E7-00	ME
	vead (Pb)	* <0.005	! 0.005 ! oca	mo:L	:	26 SEP-00	ME
	lin (Sn)	<0.05	0.05	mg/L		26-SEP 00	į MD
	Strontium (Sr) Riserrum (Tr)	1,35	0.005	mg/L		26-8⊕#-05 26-557-66	MO
	Thaillem (TI)	9.001 <0.05	0.001 0.05	img/L		26-5回 <b>구-0</b> 0	MQ MD
	Vanadium (V)	0.004	0.001	:mg/L :mg/L	:	26-852-00 - 26-852-00	MO
	Zinc (Zn)	0.008	0.004	mg/L	1	. 28-85-40 . 28-85-40	, MD
		i		i -			
	Attemory (85)-™dal	1 1.35	0.0004	m <b>u</b> 'L		;28-857-00	: MD
	Arsen c (As)-l'otal	1.54	0.0004	img/L		28-8 <b>£</b> 2-00	MD
	Cyanice, Total	5.027	0.002	img/L	22-\$EP-00	25-SEF-00	íβR
	Mercury (Hg)-Total	<0.0002	0.0002	mg/L		128-8EP-00	ŅΒ
	Metals-Total	المناد والمور	,	İ			
	Stiver (Ag)	<0.005	0.005	img/L		128-SE7-C0	9.9E
	Alemiath: (Al)	0.02	0.91	rag/L	:	28.5₹⊇-30	i ME
	Bartum (Ba) Bartisan (Ba)	0.035	0.003	57g/L	i	25-52-4-00	· MD
	Berylitim (Be)	<0.002	0.002	mg/L	:	29-SER-CO	i RE
	Coldura (Ca)	256	0.5	mg/⊑ ==2		28 8年平60	ME
	Cadmium (Cd)	. <0.CO:	0.001	æg/L		25-599-00	350

ت. بــــــــــــــــــــــــــــــــــــ	Sample ID	Test Description	Result	<u>.</u>	Lnib	; Exeracted	Analyzed	. 5y
7803-11	T1G-220P-\$W-09/00			:		i		
opte Cale	26-SEP-00				!		ļ	
GIX:	WATER		•	;		i		
				:	i			
	Arsenic (As) 3←2i	isspived	0.0290	0.0002	mg/L	1		JJ
	Araenio (As) 5+-3i	issotved	1.13	0.0002	jmg/L		į	JJ
	Arsenio (As)-Disso	dved	1.27	0.0004	ļmg/L		26-SäP-00	ME
	Mercury (Hg)-Diss	olved	<0.0002	0.0002	•	İ	26-8 <b>5</b> P-00	ME
	Metals, Dissolved		1	!	;		!	
	Gilver (Ag)		<0.008	0.005	jmg/L	İ	26-SEP-00	ME
	Aleminum (Al)		<0.01	9.01	mg/L		26-899-60	M:
	. Boron (3)		0.45	0.35	jm <u>s</u> /L		129-\$≣P-00	M.
	Barturt (8a)		0.039	0.603	mg/L	İ	23-SEP-00	M,
	36ryllium (Be)		<0.001	0.001	mg/L		23-SEP-00	M.
	Cadmium (Cd)		<0.001	0.001	lma/L		26-SEP-00	M.
	Cobalf (Co)		0.088	0.802	mg/Li		:25-8EP-00	M.
	Chromium (Cr) Copper (Cu)		0.008 : 0.035	0.005 0.001	mg/L mg/L	:	28-SEP-00 28-SEP-00	M. M.
	loo (re)		0.390	. 0.005	:∟å\r avr	!	26 SEP-00	M.
	Manganese (Vin)		116	. 0.001	LJā\;; i i‱r	į	26 SEP-00	i M
	Molybalenom (Mo.)		0.027	0.005	.mg/L		25-SEP-00	M
	Nickel (Ni)		0.032	0.002	rig/L		25-SEP-00	M
	Phosphorus (P)		₹0.1	0.5	mg/L	-	28-SEP-00	i M
	Lago (25)		<0.005	0.005	mg/L		28-SEP-00	M
	Tin (Sp)		<0.05	0.05	jmg/L	İ	29-SEP-00	M
	Supraium (Sr)		1.24	; 0.005	mŋ/L		26/85P/00	ļм
	Tilanium (Ti)		6.301	0.001	mg/l		26-SEP-00	M
	That ium (TI)		<0.05	0.35	mg/L		26-SEP-00	M
	Vanadjum (V)		0,004	0.001	ന്നൂ/L		26-\$ <b>5</b> 9-90	M
	Zina (Zn)		6,022	0.001	an¢/L		,26-S≝₱-00	; M
	Antimony (Sb)-Tos	2.	1.22	0.0004	mg/L		28-SEP-00	M
	Arseniç (As)-Total		1:8	0.0004	mg/L		26-SEP-00	Mi
	Cyanida, Tota.		0.049	0.002	mg/L	_ 22-SEP-00	{25-SeP-00	: M
	Mercury (Hg)-Total	i	<0.0002	0.0002	ing/L		28-8 <b>£P-0</b> 0	M
	Metale-Totai		İ		:	:		
	Silver (Ag)		<0.CD5	0.005	mg/L		28-3EP-00	M
	Aleminum (Al)		0 24	0.01	img/L		28-8EP-00	M!
	ອິຣກ໌ແຕ (ຊົຣ) Baa (Jawa (2a)		I 0.040	0.003	ma∕L		28-SEP-00	; M
	Beryllum (3e) Calcium ( <b>C</b> e)		; <0.002 ; 223	0.002	:mg/L ==-/l		28-3EP-00	M
	Calcum (Cd)		<0.001	0.5 0.001	mg/L jmg/L		28-SEP-00 28-SEP-00	, M ⊥ M
	Cobeř (Co)		0.582	0.002	mg/L		25-5±7-09 25-5≡2-00	I M
	Chrom-um (Cr)		aco.c	G.005	m∌/L		: 28-SEP-00	M
	Cappor (Ca)		€.044	0.000	mg/L		128-SIP-00	M
	iran (Fe)		0.546	0.005	mg/L		28-8EP-00	- M
	Potassium (K)		13.6	Q.r	mg/L		28/SEP-00	, M
	Magnesium (Mg)		82.7	0.5	ng/L		28-S≣P-CU	M
	Узаделеве (Ма)		1.11	0.000	isig/L	:	25-S@P-Q0	2/1
	Molybaenum (Mid)		i a.d28	0.005	rng/L	:	28-SIP-00	i M
	Speium (Na)		120	1	mg/L	:	28-SEP-00	M
	Nickal (Ni)		0.034	0.002	mg/L		28-8E7-60	199
	Phosphorus (P)		0.07	0.05	mg/L		28-587-00	M
	Lead (Pb)		<9.905	0.005	:mg/L		28 859-00	25

abitO Sample ID Test Description	Rosut	D L.	Units	i fytracted	i Analyzes	! Ey
'823-12 TLC-*C-8W-09/00	i					İ
ਸ਼ਹੀਰ Date   20-\$ਫੋਟ-50	!					
rix: WATER	İ		!	i	ļ	
	İ					
Metais, Dissolved For. (8e)	0.266	0,005	.mg/L		26-SEP-03	MD
Masganesa (Mn)	800.0	0.001	img/L	!	26-SEP-30	C.We
Maryadanum (Mo)	<0.008	0.005	mg/L		25-S@P-00	פע ;
Mickel (Ni)	0.003	0.002	mg/L		23-5 <b>2</b> 2-00	ָּמע יָ
Phosphorus (P)	<0.1	0.1	mg/L		29-SEP-00	: MD
เคอส์ (Pb)	: <0.30E	0.008	mg/L		25-SEP-00	מעו
Tr. (Sc.)	<0.05	0.000	mg/L		25-SEP-30	i VD
Sten# m (Sr)	0.254	0.005	nig/E nig/E		23-8£P-00	l MD
Than um (T)	<0.00°	0.061	mg/L		23-SEP-00	MD
The Sum (TI)	<0.05	. 0.05	mg/l.	1	29-SEP-03	MD
Varedium (V)	0.001	. 0.301	mg/L		25-SEP-00	MO
Zigo (Ze)	. 0.009	0.301	-mg/L		25-SEP-00	MD
	ļ.	I				
Antimony (Sb)-Toto?	0.0124	0.0004	mg/L I	1	_26-SEP-00	MD
Atsenic (As)-Total	0.0757	0.0064	mg/L	ļ	25-8EP-00	· MD
Meroury (HgI-Total	<0.0002	0.9002	'mg/L	!	<sub>:</sub> 28 SEP-00	MD
Metals (Total	!	i		į	ļ	
Silvor (Ag)	<0.005	0.005	.mg/L	'	28-85-2-00	i MD
Aluminut: (Al)	3,11	70,0	mg/L		25-SEF-C0	MO
Barium (Ba)	0.035	0.003	img/4 "		28-SEF-C0	1 MA
Beryllium (Be)	<5.002	0,002	mg/L		28-SEF-00	MD MD
Calcium (Ca)	52.5	0.5	lmg/L		26-SEF-00	
Ceamieth (Cd)	<0.051	0.004	img/L		<sup>1</sup> 26-8E⊒-00	: MS
Cobalt (Co)	: 0.010	9.002	.mg/L		26-8EF-00	MO
Chromwon (Cr)	<0.005	3.005 3.004	(mg/L		25-SEP-00	MD
Copuer (Cts)	0.002	0.001	ima-ti		25-GEP-00	MD
iron (Ps)	0.272	0.005	m <u>g</u> /L		28-82P-00	MD.
Potassium (K)	4.2	01	mg/L		28-SEP-00	MD UB
Magnesium (Mg)	23.2	01	mg/L	i	28-SEP-00	i wa
Manganese (Mn)	0.013	0.001	mg/L	'	28-SEP-00	! MO
Molyödenum (Mo)	<0.005	0.005	mg/i.		28-8EP-00	MP . MP
Sodium (Na)	23	: 1	mg/L		28-8 <b>2</b> P-00	: MD
Nickel (MI)	0.004	0.002	mg/L		28-SEP-00	¦ M⊆ Livos
Phosphorus (P)	0.07	3.05	mg/L	Ì	! 28 SEP-00	MO
Lead (Pc)	<0.005	Q.005	mg/L		28-SEP-00	∦ M⊇
Tin (Sn)	: <0.05	0.05	mg/L		25-\$EP-00	MD Na-
Strontum (Sr)	0.241	0.002	mg/L	į	28-8EP-00	MO
Titacom (Ti)	0,005	0.001	ش <u>ن</u> ال ا		,28-SEP-00	i ME
Tha iium (T·)	<7.05	3.05	mg/L		128-SEP-00	1 MC
Variacium (V)	0.001	0.001	mg/L	!	28-SEP-00	ME
Zino (Za)	802.0	0.001	mg/L		28-SEP-00	Wil
Arrmneia-N	. <0.05	0.05	<sub>լ</sub> mg/L		27-SÉP-00	1 EK
Olssolved Organ a Carbon	20	1	Tig!L		26-8EP-00	HA
Nitrale-N	0.1	0.4	mg/l		27-SEP-00	ij Lo:
Mitrite-N	· <0.05	0.35	mg/L	į	22-SEP-00	. LO
Total Sespended Späps	: 4	3	(mgA		27-SEP-00	We
es3-12 TEQ-22B-SW-00/30-A		ļ				! ***
iple Date   20-SEP-50		:				i
MX WATER		}		1	:	
			į			

Cap IC	Sample ID Test Descript	on i Resut	D.I.	Units	Extracted	Anaiyzod	87
17833 13	TuG-228-8W-99/00-A	į					:
ample Data	20-SER-00	!	į				:
fatebo	WATER	i	!				:
	Gyanide, Tota	0.019	0.002	നൂട്ട	22-8FP-00	126-SBP-00	MRA
	Moreuty (Fig)-Total	<0.0092	j 3.0002	mg/L		28-8E=-00	MO
	Metals-Total	, *D 022	 	 	1	20.000.00	1
	Silver (Ag)	<0.0¢5 0.05	0,005 0,01	mg/it mg/it		, 25 SEF-00 ; 28-S69-00	MD
	Aluminom (A.) Bartum (Ba)	9,035	9,003	mg/L mg/L	İ	28-SEH-C0	UMD
	Benyllium (Be)	; 0.035 <0.002	0.003	img/L	:	28-SEF-00	I WD
	Calcium (Ca)	2:8	0,5	mg/L		28-SEP-00	MD
	Cadmium (Cd)	<0.001	0.001	mg/L	:	28-85P-00	MD
	Cobalt (Co)	0.087	0.002	mg/L		28-SEP-00	Mit
	Chromium (Cr)	0.005	0.905	mg/L		28-SEP-00	MO
	Cupple: (Cu)	0.053	0.001	mg/L		- 28-SEP-00	MD
	iron (Fe)	0.415	0.005	,mg/L		-28-SEP-00	ME
	Potassium (K)	19,1	0.1	mga.	İ	28-8E9-00	MO
	Magnesium (Mg)	5a.t	D.1	mg/L	-	28-SÉP-00	MO
	Mangarese (Mn)	0.798	0.001	mg/L	:	28-SEP-CO	MO
	Molybdenum (Mb)	0.028	0.005	.mg/L	İ	28-SEF-00	ME
	Sedium (Na)	120	1	mg/L		26√8EP-00	MO
	Nickel (Nii)	0.601	0.002	mg/L		28-8EP-00	, MO
	Phospharus (C)	0.07	. 0.05	mg/L	i	_28-SCP-00	ME
	Lapd (Pb)	<0.005	0,005	m3/r		128-SE7-00	M5
	Tir (Sn)	<0.05	0.05	ludy,r	1	28-SEP-00	ME
	Stront.um (Sr)	. 1.23	0.002	mg/L	!	28-SEP-00	ME
	Titonium (Ti)	0.003	0.001	mg/L		28-SEP-00	: ME
	dhalium (1.)	<0.05 0.034	; 0.05 ; 0.001	mg/L	1	28-8EP-00	: ME ML
	Venad um (V) ∠inc (∠n)	0,036	0 001	mg/L	ļ	;28-SEP-00 23-SEP-00	ME
			1	mg/L			
	Ammonia-N	1.40	0.05	mg/L	!	27-SIP-00	EK
	(Jisapaved Organio Carbon	ĭ	1	mg/L	:	26-SEP-00	HA
	Mfrate-N	€.1	G.1	img/E	İ	j22-SEP-00	i ro
	Minte-N	<0.05	0.09	ing/c		22 SEP-00	LO
	Total Suspended Solids	<3	9	്രൂഷ്ട		27-SEP-00	Ŋō.
7833 14	TLG TL SW 09/00	· <del></del> ·····	·[	- <del></del>		······································	
	20-SCP-00						
kiix.	WATER						i
	Routine Water Analysis Chlorde (Cl)	. 37	. ,	  -		103 955 60	,_
	• •	27		img/L	!	[2248FP-00	10
	Nitrate+Nitrate-N	<0.1	0.1	mg/L	i	22 SEP 00	10
	oH. Conductivity and Total Alkalinity		:	İ.,			:
	p= Construence (CC)	7.9	0.1	μH	1	22-SEF-00	M
	Conductivity (£C)	/12 -as	0.2	u\$/cm	1	22 SEP 00	M0
	Bicarbonate (HCO3) Carbonate (CO3)	:35	5 =	mg/L		22-SEP-00	MO
	Gargenate (CO3) Hydroxyde	<5	5 5	mg/L	İ	23 SEP 00	MO
	nydrowae Alkalinfy, Total		. 5	:mg/L l±coti	!	22-86P-00 123-86P-00	M9
	••	109	: 3	itrig/L		2.2-355-00	MC
	ion Balance Calculation on Balance	104		%	į	  23-88P-00	
	TOS (Calculated)	241	:	mg/L	1	23-85F-00 23-85F-00	
	*(erchess	191		mg/L		125 SEP 00	

Sample D	l est Description	Result	D.L.	Units	Extracted	Anslyzed	i By
7820-14 - TLG-TL-9W-09/00	3						!
imple Date   20-\$EP-00		!			İ		
otox: WATER				1	ļ	1	i
				!		İ	
Metals-Total				!	İ	•	
Sodium (Na	)	15	1	mg/L		28-SEP-00	į MD
Nickel (Ni)		0.003	0.002	;mg/L	!	28-SEP-00	MD.
Phosphorus	(P)	0.24	0.05	mg/L	!	28 SEP 00	, MD
Lead (Pc)		<0.005	0.005	mg/L	ļ	28-SEP-00	¹ ₩D
Tie (Sa)		≪2.05	0.65	mg/L		28-SEP-00	MD
Strontiem (:	ŝr}	0.194	0,002	luich.	i	28-S≣P-00	i Mo
litestura (1)	li .	0.812	0.301	mg/L		28-562-00	MD
Tháiliúm (T	•	<5.06	0.05	mg/L		28-55°-00	MD
Váradium (	Vi	0.001	0.001	mg/L		28-SEP-30	MD
Z na (Zn)		. 0.007	0.001	ing/L	:	.28-SEP-00	, wp
Aramonia-N	I	<0.35	0.05	mg/L		į27-8 <b>E≏-c</b> o	: EK
CVssolved 0	Irganto Carbon	: 24	1	mg#L	:	°26-\$ff≃-00	HAI
Nižato-N		<0.4	0.1	mg/L		,22-8EP-00	, LDI
NItrite-N		<0.05	0.05	mg/L	1	22-8 <b>5</b> 2-00	ומ) 🗄
	ended Spilds	5	2	mg/L	i	27-8EP-00	: WN
7823-15 TLG-NWP-SW-02				Impor	<u>:</u>		
ingle Date   20-SEP-00		:			'	;	
•					i		
átrix: WATER					i		
Rotifine Water A	nelysis				!		
Chlorice (C	ii	i 315 :	1	mg/'_		; 22-8Ëñ-60	LD!
Xtrate+Nft	Se-N	10.2	0.1	mg/L	į	22-\$ <b>5</b> P-05	$j \in I_i D^{\ell}$
pH, Conductiv	sty and Total Alkalinity			-	1		i
₽H	-	8.1	0.1	pН		22-SEP-00	∯ M⊃
Goodnekvis		2140	0.2	u8/cm		22-SEP-00	i Mo
Bicarbanate	-	126	5	mg/L	1	22-8EP-00	; MQ
Carconote :	(003)	, <5	5	7\gm	ļ	22-8EP-00	i Mo
: lyatoxide		<5	5	mg/L	;	22-SEF-90	MO
Aiƙa inity. T	ctzl	104	5	mg/L	1	22-SEP-00	Ma
ion Balance C				!	!	!	
en Galance		93.8		96	i	26-SEP-00	ļ
TDS (Calcu	lates)	; 1430	!	reg/L		26.8[]-90	
Нагаг.еза		922		mg/L		26-SEP-00	!
	d SO4 for routine water	0.00	^ <b>*</b>				1.,,
Coloium (Ca	•	233	0.5	/mg/L		28-8E9-00	MO
Potassiom ( Magnesiom	• •	90.5 58.3	0.1 0.1	img/L mm/l		25-8E9-00 25-8E9-00	i MC MC
v agnesiom Speism (Na		145		mg/L mg/l	i	25-SEP-00 25-SEP-00	
Sulfate (SO		557	1 0.5	img/L Img/L		25-SEP-00	MC MC
Suita (So	41	957	0.0	ing/L	i	25-8=6-90	IVEC
Antimess /	St.)-Dissoived	2.60	0,0004	mg/L	i	28-SUF-00	: Mid
	), 3+-Disablyed			i		70-074 -00	i
	•	0.271	0,0002	mg/L			
	) 54-Diasalved	5,93	0.0002	jmg/L	ļ	:	ļ Ņ1
Arsenio (As	)-Dissolved	10.0	0.0004	img/L	!	125-S≧P400	. ME
Mercury (H	g)-Dlasoived	<0.0002	0.0002	mg/L	i	-28-SIP-00	; M5
Metals, Disso	ivec				:	:	i
Sävac (Ag)		<0.005	0,005	mg/L		<sup>1</sup> 29-8EP-00	IME
Asuminum (i	Al)	9.02	3,01	mg/L	1	1284SE9400	II MD

Lab ID	Sample ID Test Description	Result	b.L.	Units	Extracted	, Analyzari	Ry
L17833 15	7LG-NWA-SW-09/00				· i · · · · · · · · · · · · · · · · · ·	:	
Santple Date		!			  -		
Matrixa	WATER	: :		1	•		
		:					:
	O'sspived Organic Carbon	5	:	/mg/L		25-36P-00	HAN
	Nitrate-N	0.1	٥٠	ത്യൂപ്ര		22-SEP-00	
	Närite-N	0,07 ;	0.05	img/L		: 22-8EP-00	: GOL
1.40.000°TN155	Total Suspended Solids	82	3	mg/L	!	127-SEP-00	WNG
L17833-16111 Sample Date	*15*TV-5W-19/00 20:45P-00	İ		!	ı	i	
Marrix!	WATER			İ			'
		!			:		İ
	Dissolved Osganic Carbon	21	1	mg/L	!	  26-8≅P•00	HAN .
				* ·	!	-	1 :
						-	! ;
		. !		!	ļ	i	!
		· i				-	į
					:		
				Ì			
		!			İ		:
		:					
				i i			:
		!			İ		
							į
		;			İ		
				ļ			
				i i			
		!					
				!	İ		
		!		:			İ
				:			:
		: !		:			
		· :		:	į		
		į			i		
		!				1	!
		:			:		
		i .					i
		: 		İ			į
					•		Rev# 1.00

, İ			-i+ p }-	:					· ;				i	$\top$		Adequal Adequal
		1174833	LAB SAMPLEMO		11	i) .	)  - 	8 t	01		NQQE: Falling to property complete at the following of the fix it may be ex-		W DATE	TheE:		WHITE - SHOULDING BY A SHOULD BY A SHOULD BY A SHOWN BY
ANALYSIS REQUESTED:						> >					All hazardaks sterotes subhilted miss rechaps on in comply with WMMS requestions. This must nature discuss of the Breakl, As wied as a compact name is phone trumble that the Lab can contact for further streamblun.	00 jos 02	ONTE 1700 ETLAB: PROFINED BY	Tilope: Elt.LM3:		770)
				2 2 2					7. 7.		Audyse sources subhilted missee's nist notine de nature of the baseid, le Leb can contact for Author vironnel	FECINOUSHED EX. 0	FEISHQUISHED IN D		CONDITION	FIDOZEK
CAL BEQUEST E	For (381, 407, 521) Lat. (-601) \$10, 525, 1 Lat. (-601) \$10, 525, 5 For (780) \$10, 507,	CURREMENTS / REGS CHOLE CHE TICH 1 COME AB MUST	SAMPLING SAMPLE TAILS					<i>F</i>		PR-SPINED FLABILD	nd analysis & kabil 3. Lebio confirm		:	18-6623	10. 8. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	
OUY (ANALYTICA	Teligations (148) 413 (120) Telegonal Telegonal Telegonal (140) 284 (1888 Telegonal (140) 284 (1888 Telegonal (140) 285 (1888 Telegonal (140) 285 (1888 Telegonal (140) 285 (1888 Telegonal (140) 285 (140)	SPECIAL NECK NISA TI BCMELP A	LOCATION SAMFLIN	12. 14. C	1 10000					<u>*</u>	uy dependent on complexity ilisakut Please contact fire		NO 3011:3 SUBMETER.	E. (404) 21	7631 Z	RIGHTER TOWN OF THE
CHAIN OF CUSTODY (ANALYTH	anson, Sociembine and STM SE3	L) EMPEGENCY	SAMPLED BY / DATE / TIME	20-191 B						: 	2. Lamareund linnes will vary Sepandant on compti workload ut time is skonlisskar Please contact humanaund times.	impleted in full by ing to occur.		nol Pur Lessos Couls O.	9-120 3011 00K 4K	
Fr Env Test	HITE of the Across Peterstru, Marcha 164 Illing Colorator of the Press, Cologory, Alberta T2E GLD 1919 and Across of GLD, Cologory, Alberta T3E GLD 1919 and Across of GLD, 190 Mething T3C 699 1919 of Legistro Committee (Alberta Across Across 1919) 1901 Benton Glade, An Den Bay, Colora 179 2001 1901 Benton Glade, An Den Bay, Colora 179 2001	$\cos(\lambda^2) \lambda p^2 d^2$ луке вединествению $\sin(\lambda^2) \lambda p^2 d^2$ луке вединест $k^2$ лезила $k^2$ лезила $k^2$ лезила $k^2$	SAMPLE ID S	Y4	16-9-50-09/00 16-9-50-09/00	140-3-50-0400	16-SP-SV-01/0	1.6-219-52-040	210-28-800Kg	116-148-148-148	Nutres & cognitions 1. Dunis sumes must be provided to ouszie. Voper system.	NOTE: Shuded areas BIUST be completed in full by other for sample processing to occur.	QUINTELLIGIEM ASSECTED	comon faking Bachand	River Commence 20-120 Still Old Ass.	

Workorder

£17833

Lab QC Number:		Result	Qualifier	Units	Limit	Analyzed	
WG19286-1							
N2N3-ED	Nitrate=Nitrite-N	<c.1< td=""><td></td><td>mg/L</td><td>0.1</td><td>22-SEP-00</td><td></td></c.1<>		mg/L	0.1	22-SEP-00	
NO3-ED	Nitrate-N	<c.1< td=""><td>•</td><td>mg/L</td><td>0.1</td><td>22-SEP-00</td><td></td></c.1<>	•	mg/L	0.1	22-SEP-00	
NO3-ED	Nivate-N	<0.1		mg/kg	0.1	22-SEP-00	
WG19352-1	1410210-14	-4,,					
VVG 19352-1 NO2-ED .	Nitripe-N	<c.05< td=""><td></td><td>mg/L</td><td>0.05</td><td>22-SEP-00</td><td></td></c.05<>		mg/L	0.05	22-SEP-00	
	141.11.8-14			marc			
WG19305-1	en a carlo retti			0	4	22-SEP-00	
CL-ED	Chloride (Cl)	<1		mg/L		ZZ-3E:=10	
WG19373-1							
CN-TOT-1'B	Cyenide, Total	<0.002		mg/L	9.002	25-SEP-C0	
WG (9404-1							
ETL-ROUTINE-ICP-ED	Calcium (Ca)	<0.5	<dl< td=""><td>mg/L</td><td>2.5</td><td>25-SEP-00</td><td></td></dl<>	mg/L	2.5	25-SEP-00	
	Potassium (K)	<0.1	<ÐL	mg/L	0.5	25-85P-00	
	Magnesium (Mg)	<0.1	<bl< td=""><td>mg/L</td><td>0.5</td><td>25-SEP-00</td><td></td></bl<>	mg/L	0.5	25-SEP-00	
	Sodium (Na)	<1		mg/L	. 2	25-SEF-00	
	Sulfate (SO4)	<0.5	<dl_< td=""><td>mg/L</td><td>2.5</td><td>25-SEF-00</td><td></td></dl_<>	mg/L	2.5	25-SEF-00	
WG19486-1							
AS/DIS-HYD-ED	Arsenio (As)-Dissolved	<0.0004		mg/L	0.002	26-SEP-00	
HG-DIS-HYD-EC	Mercury (Hg)-Disso vec	<0.0002		mg/L	0.001	26-SEP-00	
METAL-DIS-ED	Silver (Ag)	<0.005		mg/L	0.025	26-SEP-00	
1-11-11-11-11-11-11-11-11-11-11-11-11-1	Aluminum (Ai)	≈0.0°		mg/L	0.05	26-SEP-00	
	Boran (B)	<0.05		mg/L	0.25	26-SEP-00	
	Barium (Ba)	<0.003		mg/L	0.015	26-SEP-00	
	Beryllium (Be)	<0.001		mg/L	0.005	25-SEP-00	
	Cardium (Ca)	<0.5		nig/L	2.5	26-SEP-00	
	Cadmium (Cd)	<0.001		mg/L	0.005	26-SEP-00	
	Cobalt (Co)	<0.002		mg/L	0.01	25-859-00	
	Chromium (Cr)	< 0.005		mg/L	0.025	28-8EP-00	
	Copper (Cu)	<0.001		mg/L	0.005	26-SEP-00	
	Iron (Fe)	0.005		m:g/L	0.025	26-SEP-00	
	Potass.um (K)	<0.1		mg/L	0.5	23-SEP-00	
	Magnesium (Mg)	<0.01		mg/L	0.05	23-SEP-00	
	Manganese (Mn)	< 0.001		mg/L	0.005	23-SEP-00	
	Molybdonum (Ma)	<0.005		mg/L	0.025	28-SEP-00	
	Sodium (Na)	<0.5		mg/L	2.5	23 SEP-00	
	Nickel (NI)	<0.002		my/t	0.01	25-SEP-00	
	Phosphorus (P)	<0.1		mg/L	0.5	28-SEP-00	
•	Lead (Pb)	< 0.005		mg/L	0.025	26-SEP-00	
	Tin (Sa)	<0.05		rigÆ.	0.25	26 <b>-</b> SEP-00	
	Strontium (Sr)	<0.005		mg/L	0.025	26-SEP-00	
	Titanium (Ti)	tc0.0>		rng/≟	0.005	26-SEP-00	
	Thallium (TI)	<0.05		mg/≟	0.25	26-SEP-00	
	Vanadium (V)	<0.001		mg/L	0.005	26-SEF-00	
\$B-DI\$-HYD-ED	Astimony (Sb)-Dissolved	0,0004		mg/L	0.002	26-SEP-00	
WG19488-1							
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	<0.0004		mg/L	0.0004	27-SEP-00	

# ENVIRO-TEST QC REPORT Page 3 of 14

Workorder 117833

	Potassium (K)	<0.1		mg/L	0.6	28-SEP-00
	Magnesium (Mg)	<0.1		mg/L	0.5	28-SEP-00
	Manganese (Mn)	< 0.001		mg/L	0.005	28-8EP-00
	Molybdenum (Mo)	<0.005		mg/L	0.025	28-SEP-00
	Sodium (Na)	<1		mg/L	5	28-SEP-00
	Nickei (NI)	< 0.002		mg/L	0.01	28-SEP-00
: 1	Phosphorus (P)	0.05		mg/L	9.25	28-SEP-00
,	Lead (Pb)	<0.005		mg/L	0.025	28-SEP-00
	Tia (Sn)	<0.05		mg/L	0.25	28-SEP-00
	Strontium (Sr)	<0.002		mg/L	0.01	26-SEP-00
	Tiranium (Fi)	< 0.001		rig/L	0.005	26-SEP-00
	Thaillum (TI)	<0.05		rig/L	0.25	26-SEP-00
	Vanadium (V)	<0.001		mg/L	0.005	28-SEP-00
	Zinc (Zn)	0.011	Α	mg/L	0.005	26-SEP-00
/G19704-1	2 11/G (X-11)	0.0:1		1:19/2	0.000	20-02: -00
METAL-TOT-ED	Silver (Ag)	<0.005		mg/L	0.025	28-SEP-00
MIC INTERCOLOGICA	Aluminum (Al)	0.04		mg/L	0.05	28-SEP-00
	Boron (3)	<0.05		ಗಲ್ಲಿ/L	0.25	28-\$6P-00
	• -	<0.003		mg/L	0.20	28-SEP-00
	Barlum (Ba)				C.015	28-SEP-06
	Beryllium (Bo)	<0.002		m¢/L	2.5	28-SEP-00
	Calcium (Ca)	<0,5		m¢/L		
	Cadmium (Cd)	<0.001		mg/L	0.005	28-SEP-00
	Cobalt (Co)	<0.002		mg/L	€.01	28-SEP-00
	Chromient (Cr)	<0.005		mg/L	0.025	28-SEP-00
	Copper (Ct/)	<0.001		mg/L	0.005	28-SEP-00
	iron (Fe)	0.013		mg/L	0.026	28-SEP-00
	Potassium (K)	0.1		mg/L	0.5	28-SEP-00
	Magnesium (Mg)	<0.1		mg/L	0.5	28-SEP-00
	Mangenese (Mn)	<0.001		mg/L	0.005	28-SEP-00
	Malybdenum (Mo)	<0.005		mg/L	0.025	28-SEP-00
	Sodium (Na)	5		mg/L	5	28-SEP-00
	Nickel (Ni)	0.002		mg/L	€.01	28-\$≅P-00
	Phosphorus (P)	0.07		mg/L	€.25	28-SEP-(X)
	Lead (Fb)	< 0.005		mg/L	€.026	28-SEP-00
	₹[a (Sa)	<0.05		mg/L	0.25	28-SEP-00
	Strentlum (Sr)	<0.002		mg/L	0.01	28-SEP-00
	Titanium (TT)	<0.001		mġ/L	0.005	28-SEP 00
	Thallium (TI)	<0.05		mg/L	0.25	28-SEP-00
	Vanad:um (V)	<0.001		mg/L	6.005	28-SEP-00
	Žino (Zn)	0,010	A	mg/L	0.005	28-SEP-00
/G19726-1						
METAL-TOT-ED	Silver (Ag)	<0.005		mg/L	0.025	26-SEP-00
	Aluminum (Al)	0.09	Α	mg/L	0.05	28-8 <b>5</b> 9-00
	Boron (8)	<0.05		mg/L	0.25	28-SEP-90
	Barium (Ba)	< 0.003		n:g/L	0.015	28-SEP-00
	Beryllium (Bs)	< 0.002		mg/L	0.51	28-SEP-00
	Calcium (Ca)	1.1		mg/L	2.5	28-8 <u>5</u> P-20
	Cadmium (Cd)	<0.001		rrg/L	0.005	25+9EP-00

# ENVIRO-TEST QC REPORT Page 5 of 14

Workorder

L17833

	Sulfate (SO4)	1.2		4.44	25 SEP-00
WG19404-7					
ETL-ROUTINE-ICA-ED	Caldium (Ca)	0.065		1.19	25-SEP-00
E   E-  (OO   III E   OF ED	Potassium (K)	0.19		1.7	25-SEP-00
	Magnesium (Mg)	0.0		2.31	25-SEP-00
!	Sodium (Na)	6.4		5.16	25-SEP-00
·.	Sulfate (SO4)	1,5		4.44	25-SEP-00
WG19409-4					<u></u> .
PH/EC/ALK-ED	pH	9.65		98.0	22- <b>\$</b> EP-00
1166034014-50	Conductivity (EC)	3.0	e	1.03	22-SEP-00
	Bicarponate (HCO3)	0.59	_	1.83	22-S#P-00
	Carbonate (CO3)	N/A	RPD-NA	1.83	22-SEP-00
	Hydroxide	N/A	RPO-NA		22-SEP-00
	Alkalinity, Total	0.59	111 0 1111	1.25	22-SEP-00
WG19409-5	- Indiana in the second				
PH/EC/ALK-EC	pΗ	0.17		0.88	22-SEP-00
PHIEDIALN-CU	Conductivity (EC)	0.039		1.03	22-SEP-00
	Bloarbonate (HCO3)	0,17		1,63	22-SEP-00
	Carbonate (CO3)	N/A	RPD-NA	1.83	22-SEP-00
••	Hydroxide	N/A	RPD-NA	1,00	22-SEP-00
	Alkalinity, Total	0.17	IV. D-IAM	1.25	22-SEP-00
	Askentiky, Total	6.11			
WG19409-6					CO GER AG
PH/EC/ALK-ED	Нq	0.32		88.0	22-SEP-00
	Conductivity (EC)	0.0		1.03	22-SEP-00
	Bicarconate (HCO3)	0.055	555.11	1.83	22-SEP-00
	Carbonate (CO3)	N/A	RPD-NA	1.83	22-SEP-00
	Hydroxide	N/A	RPD-NA	4.05	22-SEP-00
	Alkalinity, Total	0.055		1.25	22-SEP-00
WG19486-2					·
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	89.0		20	26-SEP-00
HG-DIS-HYD-ED 1	Marcury (Hg)-Dissolved	N/A	RPD-NA	20	26-SEP-00
METAL-DIS-ED	Silver (Ag)	N/A	RPD-NA	26	26-SEP-00
	Aluminum (AI)	5.1		20	26-SEP-00
	Boron (B)	5.4		20	26-SEF-C0
	Barium (Ba)	0.63		20	26-SEP-00
	Beryllium (Be)	N/A	RPD-NA	20	26-SE <sup>n</sup> -00
	Calcium (Ca)	0.51		20	26-SEP-00
	Cadmium (Cd)	N/A	RPD-NA	20	26-SEP-00
	Cobalt (Co)	0.19		20	28-SEP-00
	Chromium (Cr)	9.6		20	26-8@P-06
	Copper (Cu)	0.034		20	26-3ÉP-00
	kron (Fe)	0.22		20	28/SEH-00
	Potassium (K)	0.048		20	26-SEP-00
	Magnesium (Mg)	2.8		20	28-SEP-00
	Manganese (Mh)	1.1		20	26-SEP-00

Workorden

L17833

WG19644-3					
SCUIDS-TOTSUS-ED	Total Suspended Solids	1.2		16.5	27-SEP-00
WG19683-2					
METAL/TOT-ED	Silver (Ag)	N/A	RPD-NA	20	28-SEP-00
	Afuminum (Al)	40	D	20	28-SEP-00
	Beron (B)	N/A	RPD-NA	20	28-SEP-00
	Barium (Ba)	N/A	RPD-NA	20	28-SE[*-00
1	Beryllium (Be)	N/A	RPD-NA	20	28-SEP-00
	Celcium (Ca)	N/A	RPD-NA	. 20	28-SEP-00
	Çadmium (Cd)	N/A	RPD-NA	20	28-\$EP-00
	Cobalt (Co)	N/A	RPD-NA	20	28-SEP-00
	Chromium (Cr)	N/A:	RPD-NA	20	28-SEP-00
	Copper (Cu)	N/A	RPD-NA	20	26-SEP-00
	Iron (Fe)	52	b	20	26-SEP-00
	Potassium (K)	7.0		20	28-\$8P-00
	Magnesium (Mg)	N/A	RPD-NA	20	28- <b>S</b> 5P-00
	Manganésé (Mn)	N/A	RPD-NA	20	26-S≌P-00
	Molybdenum (Mo)	N/A	RPD-NA	20	26-SEP-00
	Scdium (Na)	N/A	RPD-NA	20	28-SEP-00
	Nickel (NI)	N/A	RPD-NA	20	28-SEP-00
	Phosphorus (P)	48	D	20	28-SEP-00
	Lead (Po)	N/A	RPD-NA	20	26-SEP-00
	'fin (Sn)	N/A	RPC-NA	20	28-SEP-00
	Strontium (Sr)	N/A	RPC-NA	20	28-SEP-00
	Titenium (Ti)	N/A	RPC-NA	20	28-SEP-00
	Thallium (TI)	N/A	RPD-NA	20	28-SEP-00
	Vanadium (V)	N/A	RPC-NA	20	28-SEP-00
	Zinc (Zn)	42	G	20	28-SEP-00
WG19704-2				·	
METAL-TOT-ED	Silver (Ag)	N/A	RPD-NA	20	28-SEP-00
	Aluminum (Al)	19		20	26-SEP-00
	Boron (B)	0.59		20	28-SEP-00
	Barium (Ba)	0.49		20	28-SEP-00
	Beryllium (Be)	N/A	RPD-NA	20	28-SEP-00
	Calcium (Ca)	1.5		20	28-SEP-00
	Cadmium (Cd)	N/A	RPC-NA	20	28-SFP-00
	Cobalt (Co)	1.0		20	28-SEP-00
	Chromium (Cr)	4.4		20	28-SEP-00
	Copper (Cu)	0.59		20	28-SSP-00
	Iran (Fe)	1.2		20	28-SEP-00
	Polassium (K)	1.8		20	28-SEP-00
	Magnesium (Mg)	0.23		20	28-SGP-00
	Manganese (Mn)	1.8		20	28-SEP-05
	Molybdenom (Mo)	1.7		20	28-SSP-00
	Sodium (Na)	0.65		20	28-852-00
	··· v··-/				
	Nirkel (Ni)	1.9		20	26-8⊡9-08

Workorder

£17833

WG19409-2			-	<u> </u>	
PH/EC/ALK-ED	рH	102	G	69-10×	22-SEP-00
	Condustivity (EC)	102		98.4-103	22-SEP-00
	Alkalin'ty, Total	103		§5.2+104	22-869-00
WG19409-3				· · · · · · · · · · · · · · · · · · ·	
PH/EC/ALK-ED	pH	102	Ģ	£9-101	22-85P-60
``	Conductivity (EC)	95		94-100	22-8∄P-00
WG19548-2					
C-DIS-ORG-ED	Dissolved Organic Carbon	97		96-102	26-SEP-00
WG19577-2					
ETL-ROUTINE-ICP-ED	Calcium (Ca)	1D1		99.1-402.3	27-SEP-00
	Potassium (K)	100		98.4-101.8	27-SEP-00
	Magnesium (Mg)	103		101-106.5	27-SEP-00
	Sodium (Na)	102		95-104.6	27-SEP-00
	Sulfate (\$O4)	101		97.9-104.2	27-\$EP-00
WG19607-2					
NH4-EC	Ammonla-N	102		93.5-108.6	27 <b>-</b> SEP-00
พ′G19644-4				<del></del>	-
BOLIDS-TOTSUS-ED	Total Suspended Solids	94		69.8-106.2	27-SEP-00

QC Type: MS

Lab QC Number:		% Recevery Qualifier	Limit %	Analyzed
WG19286-3				
N2N3-ED	Nitrate+Nitrite-N	103	88.2-107.8	22-SEP-00
WG19286-6		<del>"</del>		
NO3-ED	Nitrate-N	151	81.2-126	22-SEP-00
WG19302-3				
NO2-ED	Nitrite-N	93	94.6-104.1	22-SEP-00
WG19305-5				
CL-ED	Chlorice (CI)	102	\$5-1¢6	22-SEP-00
WG19373-2				
CN-TOT-TB	Cyanide, Total	100	75-125	25-SEP-00
WG19404-8		••		-
ETL-ROUTINE-ICP-ED	Calcium (Ca)	123	94.2-107.8	25-SEP-00
	Potessium (K)	<b>3</b> 5	92.3-104.7	25-SEP-00
	Magnestum (Mg)	107	98.9-110.2	25-SEP-00
	Şodium (Na)	105	92.1-116.3	25-SEP-00
	Sulfate (\$04)	101	89.2-109	25-909-00
19404-8				
ETUROUTINE-ICP-ED	Calcium (Ca)	132	94.2-107.8	25-SEP-00
	Potassium (K)	100	92.3-104.7	25-5EP-00
	Magnesium (Mg)	104	98.9-110 2	25-SEP-00
	Sodium (Na)	100	92.1-116 %	25 5E#-00

# ENVIRO-TEST QC REPORT Page 11 of 14

Workorder L17833

	Potassium (K)	101		92.3-104.7	27-SEP-00
	Magnesium (Mg)	105		98,9-110.2	27-SEP-00
	Sodium (Na)	104		92.1-116.3	27-SEP-00
	Sulfate (SO4)	105		89.2-109	27-SEP-00
WG19607-8					
NH4-ED	Ammonis-N	104		81.3-130.2	27-SEP-00
WG19607-7				•	
NH4-ED	Ammonta-N	103		81.3-130.2	27-SEP-00
WG19683-3				•	
METAL-TOT-ED	Silver (Ag)	87		75-125	28-SEP-00
	Aluminum (Ai)	117		75-125	28-SEP-00
	Boren (B)	114		75-125	28-SEP-00
	Barium (Ba)	97		75-125	28-85F-00
	Beryllium (Be)	102		75-125	28-SEP-00
	Calcium (Ca)	105		75-125	28-SEP-00
	Cadmium (Cd)	100		75-125	28-SEP-00
	Cobalt (Co)	79		75-125	28-SEP-00
	Chromium (Cr)	93		75-125	28-SEP-00
	Copper (Cu)	102		75-125	28-SEP-00
	Iron (Fe)	104		75-125	28-SEP-00
	Potassium (K)	fQ1		75-125	28-SEP-00
	Magnesium (Mg)	103		75-125	28-SEP-00
	Mangenese (Mn)	105		75-125	28-SEP-00
	Molybderum (Mo)	103		75-125	28-SEP-00
	Sodium (Na)	104		75-125	28-SEF-00
	Nickel (Ni)	99		75-125	28-SEP-00
	Phosphorus (P)	96	•	75-125	28-SEP-00
	Lead (Pb)	110		75-125	28-SEP-00
	Tin (Sn)	108		75-125	28-SEF-00
	Szendum (Sr)	105		75-125	28-SEP-00
	Titanium (Ti)	162		75-125	28-SEP-00
	Thatium (TI)	111		75-125	26-SEP-00
	Vanadium (V)	105		75-125	28-SEP-00
	Zinc (Zn)	1C3		75-125	28-SEP-00
WG19704-3				·	
METAL-TOT-ED	Säver (Ag)	32	F	75-125	26- <b>SÉP-</b> 00
			•		
	, ,		E		
			_		
	Aluminum (Al) Boron (d) Barium (Ea) Beryllium (Ec) Calcium (Ca) Cadmlum (Cd) Cobalt (Co) Chromlum (Cr) Copper (Cu) tron (Fe)	106 106 97 100 146 99 99 97	E	75-125 76-125 76-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125	26-SEP-00 26-SEP-00 26-SEP-00 26-SEP-00 26-SEP-00 26-SEP-00 26-SEP-00 26-SEP-00 28-SEP-00

Page 13 of 14

Workorden L17833

· · · · · · · · · · · · · · · · · · ·			•	<u>-</u>	
	Nitrite-N	1.0	3.65	22-\$EP-00	
WG19305-6					
CL-ED	Chleride (CI)	0.0	1.19	22-SEP-00	

dinaction (Malc) \$33 - 67 Aventic catorian, 42 35 OP6

77800413-6527 4010 (783) 437-2311

Cimpaton (Downtown) ipostria: Hygiene ari Fin, 101.58 - 100 Squest di jagian, AB 51026 (780) 453-6269 hane:

(780) 424-4602

algary ay 2, 1375 - 4651 Ave. N.E.

algery A5 azi olis nous (400) 28 49857 (403) 231-0298 120

iande Pialite 595 - 115 Street rande Prairie, A3 6V 9W1

harks (750) 535-5166 (780) 513-9191

askatoon

24 Vatarinary Road pahakeen, SK 7% 500 hore: (300) 588-8370 (306) 568-8383 34. -800-66/-7845

Bringer<u>o</u> 45 Logar Avenue Pinnigeg, VB GE SES tioner (204) 945-3705 380 (204) 945-0763

hunder Bay 06% parior Street hundar Bay, ON 75 SN3

Эшяв. (907) 323-8463 (807) 023-7598 5°;

257172 enes Espotatorisa nic.

019 St. Lauren: 3 vd. Init 199 dizwa, CN 12,638 Povo (618) 731/1005 (613) 738-1107

gnimový 20 West First Street 9859 Wyorning 82801 hone (307) 235-6711 ax (807) 236-1375

anada Wide Phone: 18-9878

800-063-0505

festem Canaga Sax: -800-286-7319

remiseviralest.com

# ETL Enviro-Test

A DIVISION OF THE CHINASASC ANALYMOAL CLASSES

#### CHEMICAL ANALYSIS REPORT

GOLDER ASSOCIATES LTD

VALER E BERTRAND ATTN-

500 4260 STILL CREEK DRIVE

8URNARY 80 V50 608

DATE: November 23, 2000

Lab Work Order#: L18616

Sampled By:

CLIENT

Data Received: 19/02/00

Project P.O. #: Project Reference: GMNT MINE

Simp water.

Comments:

ADDITIONAL 23-OCT-00 13:55

APPROVED SY ROY NAMES

Project Manager

THIS REPORT SHALL NOT BE REPROCLED EXCEPT IN HIR I WHACUT THE WRITTEN ACTIONITY OF THE LABORATORY. ALL SAMPLES WILL BE ESPOSED OF AFTER 35 DAYS FOLLOWING ANALYSIS, PLEASE CONTACT THE LAB IF YOU REQUIRE ADD TIONAL SAMPLE STORAGE FIRES.

ACCREDITATIONS: STANDARDS COUNCIL OF CANADA (SOC), IN COOFTCRATION WITH THE CUMADIAN ASSOCIATION FOR ENVIRONMENTAL AMALYTICAL LABORATIONING (CASAL); FOR SPECIFIC TESTS AS REGISTERED BY THE COUNCIL (ECMAINTON CALGARY, SASMATOCN, WANNINGS, THUMDER BAY) AMATICAN INDUSTRIAL HYSIENE ASSOCIATION (AIHA) FOR INDUSTRIAL HYGIENE AMALYSIS (FIRMUNITOT), WASTANDARDS COUNCIL OF CAMADIAN COOFFERATION WITH THE CAMADIAN FOOD INSPECTION ASSECT.

Lab 10	Sample ID Test Description	Result	 Д.Г.	 Urlts	Extracted	Analyzed	Ву
. L1861ä-1	LG-74-8W-09/00					<b></b>	i
Sample Cata		i				:	
Matrix	WATER			:		•	i
i islektiv	7,411,15				:		i
	Wetals-Total	·		<u>:</u> .			:
: :	Beryllium (Be)	<0.002	0.002	mg/L	i	05-OCT-00	i ccs
!	Cadmism (Cd)	<9.000	0.00%	mg/L		:05-QCT-00	CC5 !
	Cobalt (Co)	1 - 0.027	0.002	,mg/L		pa6-0/07-20	DC3 :
	Chromium (Cr)	<0.605	0.005	mg/L	i	06-00T-00	೧೧೩
	Copper (Cu)	0.008	0.001	mg/L		D6-0011-00	005
	ltim (Fe)	0.045	0.005	mg/L		00-70G-06	005
	Manganese (Mn)	0.009	0.001	під∕Е		96-007-00	005
	Molyndenum (Mo)	0.015	0.005	mg/i.	1	1	i CC5
	Nickel (NI)	€.018	0.002	пр∕ш		06-OCT-00	ÇÇ5
İ	Phosphorus (P)	0.05	0.05	mg/L		26-007-09	005
	Lead (Pa)	<0.005	0.005	mg/L		36-007-00	005
	Tin (Sn)	<0.05	2.05	mg/s		06-00T-00	CC5
	Sirondum (Sr)	C.774	0.002	mg/u	!	06-OCT-00	CC5
	Titenium (石)	0.006	0.00%	img/L		106-0CT-00	CC5
	Thatiium (TI)	<0.05	0.35	mg/L		06 OCT-00	CC5 -
İ	Vanadium (V)	6,002 0,008	0.001 0.001	mg/L		08-0 CT-00	, ccg
i	Ziac (Zn)			.mg/L "	:	1	3÷ .
. Sures en e	Ammoria-M	<0.05	0.05	.;⊓⊋/L 	<u> </u>	04-0CT-00	<u></u>
1 118676 2	TLC 76 SW-09/00					ļ	
Sample Date							:
Matrix:	WATER					İ	
:	Routine Water Analysis					İ	!
:	Chlorde (CI)	. 242	1	¦∟\$/L	İ	100-007-00	LOD
:	Nitrate-Nitriks-N	<5.1	0.1	mg/U	ļ	64-OCT-00	LDD
!	oH, Conductivity and Total Alkalinity			!	İ		. !
	P <sup>;–</sup>	7.4	0.1	ън		_63-OCT-00	PTT
	Conductivity (EC)	2830	9.2	uS/cm		:03-0CT-00	PTT
	6learbarate (HCO3)	<b>2</b> 09	5	mg/ <sub>#</sub>	İ	:03-QCT-96	רווק .
	Carbonare (CO3)	55 -	5	mg/l.		03-00T-00	PTT
į	Hydroxide	<b>5</b> 5	5 5	mg/L		C3-00T-00	PTT PTT
İ	Aikalinity, Total	416	a	mg/L	:	C3-DCT-90	111
	ion Belance Calculation Ton Salance	97.3		₩	:	:00-OCT-00	
:	TOS (Calculated)	2050	1	'm'p/_		06-007-00	,
:	Hardness	1890		mg/ .	1	06-OCT-00	
	iCP metals and SO4 for routine water	******			İ		. !
	Calcium (Ca)	861	Ċ.5	mg/L		05-00T-00	MOR
	Potassium (K)	3.5	0.5	:mg/_	:	06-007-00	: MOR
	Magnesium (Mg)	! f18	Ç.f	;mg/'_	!	05-007-00	NOR
	SodJum (Na)	134	1	mg/_		05-OCT-00	, MOR
	Spifeta (SO4)	636	0.5	mg/-		08-007-00	MOR
	Arsenio (As)-Diesolved	0.293	0.6004	mg/_	:	11-007-00	or .
	Metals, Dissolved	l		:	İ		i
:	Silver (Ag)	<0.005	0.005	jmę/L		11-067-00	05
!	Aluminum (Al)	0.52	0.01	m⊈/'-	:	.11-007-00	i Cr
•	Boron (B)	C,14	0.05	mg/L	:	,14-007-00	; 61
	Berium (38)	0.020	0.000	ing/L		11-0CT-00	OL OL
	Beryllium (Do)	<0.001	0.001	mg/L	:	11-007-00	: CL
· .				;	:	•	:

Lao (D	Sample ID	Test Description	Result	<u> </u>	Units	Extracted	Analyzed	By
178546/3	TLG-7C-8VV-09/00			•			:	
Sample Date	20-SBP-09					İ	i	!
Matrx:	WATER			!				
	Routine Water Analysis	5	İ			İ		
	gH, Conductivity and						ļ	
	Concuctivity (EC)		1620	Ċ.2	uS/cm		03-OCT-00	ਾਜ
	Bicarbonate (≕CC	3)	. 369	5	mg/L	!	03-DCT-00	ंशार
	Carboneta (CO3)		<5	5	mg/L		99-70Q-R0	РП
	Hydroxide		i <5	5	<sub>,</sub> mg/L	!	03-567-00	PTT
	Alkalinity, Total		<b>2</b> 53	5	mg/L	:	03-DCT-00	i PTT
	ion Balance Calcula	tion						
	lon Balance		2.86	•	<b>1%</b> .	 	03-507-00	
	TDS (Calculated)		1200		ma/L		05 007-00	
	Hardness		835		/mg/L	!	08-OCT-00	i
	ICP metals and SO4	for routine water	-701					LAGE
	Caloum (Ca)		298	0.5	ang/L		05-001-00 05-001-00	! MOR
	Potassium (K)		8.3	0.1	ang/L ane∂		35-OCT-00	: MOR
	Magnesium (Mg) Sodium (Na)		i 76.0 ! 68	. 0.1 1	ന്തുവ സൂവ		05-001-00	· MOR
	Su late (SO4)		562	0.5	ang/C eng/C		05-001-00 05-001-00	MOR
	an iske (close)		100	V.L.	e::Br~		100-001-00	!
	Arsenio (As)-Disso	.ved	0.282	0,0004	amg/L		17-OCT-00	CL
	Metals, Dissolved		;		[			!
	Silver (Ag)		<0.005	0.305	mg/L		11-007-00	CL
	Aliminian (At)		, 0.01	0.01	iu6/F		11-007-00	) DL
	Bomn (8)		83.0	0.05	mg/l		11-007-00	j og
	Balicer (Be)		0,043	0.003	mg/i.		114-OCT-06	DL
	Berylliom (Be)		<0.001	0.001	mg/L		11 <b>-</b> 00T-00	DC.
	Carmium (Sb)		<0.001	0.001	mg/L		11-067-00	OF
	Cabalt (Cd)		0.021	0.002	įmg/L	i	11-001-00	0.4
	Christolium (Cr)		<0.005	0.005	rsg/L		11-OCT-90	OL
	Copper (Cu)		3,903	0.001	mg/L		11-QCT-00	OL
	fron (Fe)		<0.005	0.005	mg/L		11-007-00	OL
	Manganese (Мл)		3.018	0.001	mg/L	ļ	11OCT-00	ΟL
	Malyadenum (Ma)		<0.045	0.005	mg/L		11-OCT-00	DL.
	Nickel (Ni)		0.015	0.002	mg/L	İ	: 11-OCT-00	OL.
	Phosphorus (P)		<0.1	. 0.1	mg/L	!	11-QCT-99	OL
	Load (Pb)		, <0.005	800.0	reig/L	İ	11:007:00	CL
	Tin (Sh)		, <0.05	0.65	mg/ <sub>+</sub>		11-003-00	0.5
	Strontum (Sr)		5,505	0.005	mg/L		11 007-00	O.F
	i itanium (1))		<0.001	0.001	mg/u		11-OCT-00	01
	Challius (9)		<0.05	3.05	mg/L	:	111-00 (-00 Laboration	. 01
	Vanadium (V)		! <0.001 0.645	0.001	πg/ <sub>~</sub>		11-007-00	Oi.
	Zins (Zn)		2.013	! 0.001	mg/L		11-007-00	05
	Arseniç (As)-Total		3.284	0.0004	mg/L	:	24-007-00	RG
	Metats-Totas Seivez (Ag)		<0.005	0.005	l mod		05-00T-00	ccs
	Aluminum (All)		0.02	1	jmg/L Img/L		03-001-00 03-00T-00	೦೦ಽ
	Boros (8)		0.02	0.01 - 0.05	mg/L	i	105-001-00 105-001-00	005
	Barium (Ba)				img/L mg/l		08-OCT-00	COS
	Barust (Ba) Beryllum (Be)		0.051 <0.002	0.003 0.002	img/L Img/i	•	:58-001-00 :58-001-00	000
•	Geomium (Gc)		<0.002 <0.001	0.002	mg/L	:		003
	Cabalt (Ca)			: 0.001 ! 0.002	img/L l/I		08-00T-00 08-00T-00	1 000
	·		0.021	0.002	mg/L	:	08 CCT 00	
	Chromium (Cr)		<0.005 0.034	0.006	!mg/L		08-00T-00 08-000-00	_ 008
	Copper (Cu)		0.004	0.001	mg/L	1	06-0003-00	+ 600

L185/6-2 TL3-GL-SW-03800 Samp a Day 20.48P-0.0  Matais, Dissolved  Marganese (Mr.)  Molydemum (Mol)  Nickel (Nil  Possphona (P)  Lead (Pb)  Tin (8n)  Stronkm (Sr)  Thorism (T)  Vanadam (V)  Zin (Zin  Alumiem (Al)  Bero (B)  Be	LabiD	Sampia iC	Test Description	Result	i <u>D.L.</u>	Units	Extracted	Analyzed	. В <u>у</u>
Material   Material	L13616-4	TLG-GU-SW-03/00				Ţ	:		
Matais, Dissolved         0.188         C.001         mg/L         11-CCT-00         CV           Molyddenum (Mo)         <0.055	Sample Date	20-SEP-00		i :	!		•		:
Meriganese (Mr)	Matex:	WATER			i		i	· [	:
Meriganese (Mr)						İ	:	i	:
Molybdenum (Mo)					I			İ	
Nicker (%)		_				-	•	1	
Priospherus (P)					:			:	
Lead (Pb)					1	-	i		1
Tin (8n)				i			İ		
Strontum (Sr)				I	1				:
Thantum (T)				1		-	ļ		
Thellium (TI)		·			!				-
Vanadiem (V)						_			
Zinc (Zn)				1			1		-
Arsenic (As)-Total				ı					
Metals-Tota'									
Silver (Ag)		·		0.203	0.0004			21-001-00	1
Aluminum (Al)	:			: < <6.595	9.005	mg/L	1	106-OCT-00	CC5
Berox (5)	İ					: -			1
Barium (8a)		-				1 -		1	ÇC5
Beryllium (Se)	İ				1			06-0 <b>C</b> 7-00	QQ5
Cobat (Co)	'	Beryllium (Se)			1	mg/C		36-001-00	, ೧೦೦೯
Ceromium (Cr)	i	_			0.001	-		36-007-00	
Copper (Cu)	:	Cobalt (Co)		<0.032	0.002	mg/L		36-QCT-00	
Iron (Fe)	<u> </u>	Chromium (Cr)			1	1 -		•	
Mangenesa (Vn)         0.198         C.001         mg/L         O5-OCT-00         CCD           Motybdenum (Mo)         <0.005	į				0.00-	_			1
Maybdenum (Mo)	į				1	:			
Nickel (NI)   0.003   0.002   mg/L   08-OCT-60   CC5						•		1	
Pleaspharas (=)	i						:	i	
Lead (Pb)	į	-				•	:	:	
Tia (8h)   <0.05							į		
8 tronsum (Sr)						_	:	I	
Titan den (Ti)   0.001 mg/L   06-OCT-06   CC5   Titan den (Ti)   <0.05   0.05 mg/L   06-OCT-06   CC5   CC5   Vanedium (V)   <0.001   0.001 mg/L   06-OCT-06   CC5   CC5   CC6   CC6   CC7   CC6   CC7   C	į						į		
Thatlium (T )       <0.05			•			: '		1	
Varied um (V)     <0.001     0.001     mg/L     06-OCT-00     CCS       Zinc (Zn)     0.008     0.001     mg/L     06-OCT-00     CCS	! !					-	:	I	
Zinc (Zn) 0.008 0.001 mg/L 06-0-07-00 CC5	:							:	
						_			
	i .				:				
		·		0.20	1 0.00	1	-		<del>                                     </del>
					!		i		
				!	İ	!	•		
				!					ļ
	:			İ			:		İ
				į	İ		:		ļ
				!	i			:	!
					:	!		İ	
				İ		i	:		
·				:		:		:	1
i	;			i	:			:	[
	:			i					
							İ		
	:			i	;		1		i

#### Adoptionation, Jacobson WHERE CHOSED IN ROTE: Diffue to preparty complete all portions of this form may detay unabytis. LAB SAMPLE NO. 91981-4 Ŋ 1982 A. A. Lauverred firms with vary dependent as complexity of analysis & Lub. B. All subsets of a subset of an analysis of the last of a subset of a sub 178 (1915) 871 (REC 11919) 872 RECEIVED BY ANALYSIS REQUESTED: CHADOLE SOMEON ON SECOND PROBLEMS OTHER ACCOUNT FORMATS AND STATE 파네 텵 WI WILLIAM TR 医后面形形形 ..... NEZGE 100 12×27 SPECIAL REQUIREMENTS / REGS CHAIN OF CUSTODY / ANALYTICAL REQUEST FO Have (787) 437 £11.1 Have New Hillowite 7.09 Fav. (783) 574 £18.1 Fav. (783) 574 £18.1 Fav. (784) 675 675 Fav. (407) 677 £578 900-4260 Still Cock Dr. 604 299 5253 SAMPLING MICE OD Graf 2016 479/2 PRESTRATO CINC PIGNO? AB MUST CHEST WATER 2 auty GON K Aspense (170) 413-579, region in - 20-sillada I. R. Tegodore (102) 231-587 Televine (172) 535-529 Televine (172) 535-570 Televine (201) 524-570 Televine (201) 524-570 Mo. Sortuse suskiniten. MISA BC MELP . 00 RG; SAMPLED BY / DATE / TIME 20/04/00 20/09/W Chronic PRT (Action Control of the C 20/09/05 20,770 Shaded areas <u>80,581</u> to completed in full by CL EMERGENCY Burnaly Bo USC 66 client iter gample byoesesing to nooth one Walezie Burtonel 5ame -DOTES & CONDITIONS 7. Chelomy disciplied to previous la LITERATE NEW (SON SAITRUMENT EL 9959 In Princepoor, Education, About 1950FC 1.6.34-503-09eu 166 7850 Cate 11-40 SOM 多でくたった。中心 Characteristic Campionist tiap of actor/builture 100 to 2010 NOSSEC ... SERVICE REQUESTED SAMPLE ID

Workorder

L18616

:21518-1 A <b>S-TOT-</b> HYD-ED	Arsenic (As)-Total	<0.0004		mg/L	0.002	24-OCT-00
	Zinc (Zn)	0.000	A	mg/L	0.005	11-OCT-00
	Vanadium (V)	<0.001		mg/L	0.005	f1-OCT-00
	Thaliium (TI)	<0.05		mg/L	0.25	11-OCT-00
	'Iltanium (TT)	< 0.001		mg/L	0.005	11-OCT-00
	Streatium (Sr)	<0.005		mg/L	0.025	11-001-00
	Tin (Sn)	< 0.05		mg/L	0.25	11-0GT-90
	Lead (≐b)	<0.005		mg/L	0.025	11-00T-60
•	Phosphorus (P)	<0.1		mg/L	0.5	11-0CT-60
	Nickel (NI)	< 0.002		mg/Ľ	0.01	11-0GT-93
	Sodium (Na)	<0.5		mg/E	2.5	11-007-00
	Molybdenum (Mo)	< 0.005		mg/L	0.025	11-007-00
:	Manganese (Mn)	*CO.0>		ang/E	0.005	11-DCT-00
· ·	Magnesium (Mg)	<0,01		mg/L	6.05	11-DCT-00
<b>5</b>	Potassium (K)	<0.1		mg/L	0.5	11-0CT-00
	tron (Fe)	0.015		mg/L	0.025	#1-00Y-00
	Copper (Cu)	<0.001		mg/L	0.005	11-OCT-00
	Caromium (Cr)	< 0.005		mg/L	0.025	14-CCT-00
	Cobalt (Co)	<0.032		mg/L	0.81	11-OCT-00
	Cadmium (Cd)	< 0.001		mg/L	0.005	f1-00T- <b>0</b> 0
	Calcium (Ca)	<0.5		சுத/∟	2.5	11-OCT-00

QC Type: DUP

Lab QC Number:		RPD	Qualifier	Limit %	Analyzed
WG20056-3					
NH4-ED	Ammonia-N	1.0		4.33	04-0CT-00
WG20172-4					
PH/EC/ALK-ED	pH	0.96	н	88.0	93-0CT-00
	Conductivity (EC)	3.1	G	1.03	03-OCT-00
	Bicarbonato (HCC3)	0.0055		1,83	03-OCT-00
	Carconate (CO3)	* N/A	RPD-NA	1.83	03-OCT-00
	≓ydroxide	N/A	RPO-NA		\$\$-QC7-00
	Alkelimity, Total	0.0055		1.25	03-OCY-00
WG20172-5					-
PH/EC/ALK-E0	HC	<b>0.7</b> E		0.85	03-007 <b>-0</b> 0
	Canductivity (EC)	1.7	C	1.03	03/OC1-00
	Blcarbonate (HCO3)	2.9	G	1.83	03-0CT-00
	Carbonate (CO3)	N/A	RPD-NA	1.83	03-OCT-00
	∺ydroxide	N/A	RPD-NA		03-007-00
	Alkalinity, Total	2.9	D	1.25	08-007-00
WG20172-6					
PH/EC/ALK-ED	рH	0.51		88.0	6S-OCT-03
	Conductivity (EC)	1.9	Ģ	1.03	93-00°°-00
	Bicarbonete (HCO3)	0.39		1.83	\$0-00T <b>-</b> 00

Workorden

L18616

	Nickel (Ni)	7.7		20	13-OCT-00
	Phosphorus (P)	. N/A	RPD-NA	20	18-007-00
	Lead (Pb)	N/A	RPD-NA	20	13-OCT-00
	Tin (Sn)	N/A	RPD-NA	20	13-OGT-00
	Strontium (Sr)	0.026		20	13-OCT-00
:	Titanium (Ti)	38	Ð	20	13-OCT-00
į	Thallium (TI)	N/A	RPD-NA	20	13-DCT-00
•	Vanadium (V)	14		20	13-OCT-00
:	Zinc (Zn)	38	D	20	13-007-00
NG20172-10					·
FH/EC/ALK-ED	р <b>Н</b>	0.0013		0.38	03-OCT-00
	Conductivity (€C)	0.086		1.03	03-OCT-00
	Bicarbonate (HCO3)	0.40		1.63	03-007-00
	Cerbonate (CO3)	N/A	RPD-NA	1.83	03-OCT-00
	Hydroxide	N/A	RPD-NA		03-OCT-00
	Alkalinity, Total	0.40		1.25	03-007-00

QC Type: LCS

∟ab QC Number:		% Recovery Qualifier	Limit %	Analyzed
WG20038-2				
<b>Q</b> L-ED	Chioride (CI)	105	98.4-107	03-OCT-00
WG20038-3				
CL-ED	Chioride (CI)	101	98.4-107	03-007-00
WG20056-2				
NH4-ED	Ammonia-N	102	93.5-103.6	64-0CT-00
WG20092-2				
N2N3-ED	Nitrate+Nitrite-N	112	89.2-118.9	04-OCT-00
WG20172-1				
PH/EC/ALK-ED	рH	10,1	99-101	03-CCT-00
	Conductivity (EC)	106	. 94-109	03-001-00
	Alkalinity, Total	100	95.2-104	03-OCT-00
WG20172-2				
PH/EC/AUK-ED	р <del>Н</del>	89	<b>୬</b> ೪-101	63-OCT- <b>0</b> 0
	Conductivity (EC)	100	94-109	03-OCT-00
WG20172-3				
PH/EC/ALK-ED	pН	100	59-101	03-007-00
	Conductivity (EC)	94	94-109	03-001-00
1 120242-2				
CTL-ROUTINE-IOP-ED	Caldium (Ca)	101	99.1-102.3	05-OC™-00
	Potassiem (K)	100	98.4-101.6	05-OCT-00
	Magnesium (Mg)	104	101-106.5	06-DOT-69
	Sodium (Na)	10C	95:104.6	05-00T-0 <b>0</b>
	Suffate (SO4)	102	97.9-104.2	05-DCT-90

Page 6 of 7

## **ENVIRO-TEST QC REPORT**

Workorder

L18616

Lab QC Number:		RPD	Qualifier	Limit %	Analyzed
WG20038-8		· ·			
CL-ED	Chloride (Ci)	0.98		1.19	£3-00T-00
WG20092-6	· ".				
N2N3-ED	Nitrate+Nitrite-N	2,1		4.48	04-OCT-00

dinonton (Main) 053 - 67 Avenue detentou, 43 55 CP5

narier (780) 413-3237 ext 790) 437-2811

dimentan (Dawntown) rousty at Hygiene ny Fin, 10188° 108 Straut. drintton AD 5J 0XE

hope: (780) 416-b26b (280) 424 4602 5 X:

algary

ay 2 1313 - 44# Ave Nit algory, AB 2É 5Ĺ5

haber (463) 295-3897 (463) 291-7297

irande Pskiriū 505 - 111 Street rizase Prairis, AB SA EM.

1-jing (730) 839-3599 (780) 813-2191 ex!

leskateon

24 Veterinary Adap iaskatoor, SK 7N SES Maria: (308) 686-5370 9x: (305) 658-8763 -200-697-7645

Minnipeg. 45 ungan Averus Sanipag ME rad sildî

thora: (504) 945-3705. (294) 945-0763

Brunder Ray 341 Barton Street in near Bay, CN 78 EN3

Uranic: (807) 923 5463 (897) 072-7599 7X:

lltawa.

.endo Liberationes ma one Stutieurent Bwd 15# (00) blava, CN ាខាធាន

hone: (613) 73141003 (613) 736-1107

Vyoming

20 Wast First Street lasper Myorning 82603 Core (307) 535-8741 ax: (307) 250-1078 -800-G06-03CB

Jannan Wilde Phone: -{ 8-5675

Vestern Canada Paxil 8004288-7019

Asia envirotest.com

# ETL Enviro-Test

A DMS ON OF SMICHINGS CLASSIC MODERNICS

#### CHEMICAL ANALYSIS REPORT

GOLDER ASSOCIATES LTD

ATTN: VALERIE BERTRAND 500 4260 \$T;££ CREEK DRIVE BURNARY BC V50 808

DATE: November 18, 2000

surp water

Lab Work Order #: L19643

Sampled By: DP Date Received: 10/17/00

GOLDER 002-2418 Project P.O. #: Project Reference: 002-2418-5300

APPROVED BY:

Comments:

ADD/ft/DNAt/23-007-00/12:00

Projekt Manager

**I**ONES

RO₩

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WATHOUT THE WALTTEN AUTHORITY OF THE LABORATORY. ALL SAMPLES WELL EDD SPOSED OF AFTER 20 DAYS FOLLOWING ANALYSIS, PLEASE CONTACT THE LAB IT YOU REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ACCREDITATIONS: \$1ANDARES COUNCIL OF CANADA (SOC), \$1 COOPERATION WITH THE CANADIAN ASSOCIATION FOR FOR SOVERLINE TESTS AS REGISTERED BY THE COUNCIL (EDMONTON CALSARY), SASKATOON, WINNERS THEOLOGY, SASKATOON, WINNERS THEOLOGY, SASKATOON, WINNERS THEOLOGY, SASKATOON, WINNERS (SAY) AMERICAN INDUSTRIAL MYCHER ASSISTATION (AIFA) FOR INDUSTRIAL RYSIERE ANALYSIS (COMONTOR WI STANDARDS COUNCIL OF CANADAIN COOPERATION WITH THE CANADIAN FOOD RESENTATION AGENCY. (CFM) HOR FÉRTILIZER AND FEED TESTING (SASKTOGN)

TuG-(1-SW-10/00) 6-OCT-60 Whickel (N) Phosphorus (F) Load (Pb) Tin (Sn) Strontum (Sr) Tironium (Ti) Thakum (Ti) Vanadium (V) Zinc (Zn) A katimity Total Ansenio (As)-Total Gyspide, Total Misseury (Fig)-Total		0.027 <0.1 <0.005 <0.03 1.29 <0.031 <0.035 0.004 0.016 131 0.516 2.68	0.002 0.1 0.005 0.005 0.001 0.05 0.001 0.001	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L		28-007-00 23-007-00 22-007-00 22-007-00 23-007-00 23-007-00 23-007-00	RG RG RG RG RG RG RG RG RG
Metals, Dissolved Nickel (N) Phosphorus (P) Lead (Pb) Tin (Sn) Stronburn (Sr) Titenium (Ti) Thakum (Ti) Vanadium (V) Zinc (Zn) A kelinity Total Ansenio (As)-Total Cysnide, Total Miscoly (ftg)-Total		<0.1 <0.505 <0.05 1.29 <0.001 <0.065 0.004 0.016 191 0.516	0.1 0.005 0.005 0.005 0.001 0.05 0.001 0.001	mg/L mg/L mg/L mg/L mg/L mg/L mg/L		23-CCT-00 22-CCT-30 23-CCT-30 23-CCT-90 23-CCT-00 23-CCT-00	RG RG RG RG RG RG
Metals, Dissolved Nickel (N') Phosphorus (P) Lead (Pb) Tin (Sn) Strontum (Sr) Titenium (Ti) Thakum (Ti) Vanadium (V) Zinc (Zn) A keiinity Total Ansenio (As)-Total Cysnide, Total Miscoly (ftg)-Total		<0.1 <0.505 <0.05 1.29 <0.001 <0.065 0.004 0.016 191 0.516	0.1 0.005 0.005 0.005 0.001 0.05 0.001 0.001	mg/L mg/L mg/L mg/L mg/L mg/L mg/L		23-CCT-00 22-CCT-30 23-CCT-30 23-CCT-90 23-CCT-00 23-CCT-00	RG RG RG RG RG RG
Nickel (N) Phosphorus (P) Lead (Pb) Tin (Sn) Strontum (Sr) Titenium (Ti) Thakum (Ti) Vanadium (V) Zinc (Zn) A katinity Total Ansenio (As)-Total Gyshide, Total		<0.1 <0.505 <0.05 1.29 <0.001 <0.065 0.004 0.016 191 0.516	0.1 0.005 0.005 0.005 0.001 0.05 0.001 0.001	mg/L mg/L mg/L mg/L mg/L mg/L mg/L		23-CCT-00 22-CCT-30 23-CCT-30 23-CCT-90 23-CCT-00 23-CCT-00	RG RG RG RG RG RG
Nickel (N) Phosphorus (P) Lead (Pb) Tin (Sn) Strontum (Sr) Titenium (Ti) Thakum (Ti) Vanadium (V) Zinc (Zn) A katinity Total Ansenio (As)-Total Gyshide, Total		<0.1 <0.505 <0.05 1.29 <0.001 <0.065 0.004 0.016 191 0.516	0.1 0.005 0.005 0.005 0.001 0.05 0.001 0.001	mg/L mg/L mg/L mg/L mg/L mg/L mg/L		23-CCT-00 22-CCT-30 23-CCT-30 23-CCT-90 23-CCT-00 23-CCT-00	RG RG RG RG RG RG
Phoephorus (P) Lead (Pb) Tin (Sn) Strontum (Sr) Tironium (Ti) Thakum (Ti) Vanadium (V) Zino (Zn) A katinity Total Ansenio (As)-Total Gyenide, Total Miscory (ftg)-Total		<0.1 <0.505 <0.05 1.29 <0.001 <0.065 0.004 0.016 191 0.516	0.1 0.005 0.005 0.005 0.001 0.05 0.001 0.001	mg/L mg/L mg/L mg/L mg/L mg/L mg/L		23-CCT-00 22-CCT-30 23-CCT-30 23-CCT-90 23-CCT-00 23-CCT-00	RG RG RG RG RG
Lead (Pb) Tin (Sn) Strontum (Sr) Tironium (Ti) Thakum (Ti) Vanadium (V) Zinc (Zn) A kalinity Total Ansenio (As)-Total Gyenide, Total Miscory (ftg)-Total		<0.03 1,29 <0.001 <0.05 0.004 0.016 131 0.516	0.005 0.05 0.005 0.001 0.05 0.001 0.001	mg/L mg/L mg/L mg/L mg/L		23-CCT-30 23-CCT-30 23-CCT-90 23-CCT-90 23-CCT-90	RG RG RG RG
Tin (Sn) Strontum (Sr) Titenium (Ti) Thakum (Ti) Vanadium (V) Zinc (Zn) A kaiinity Totai Antimony (Sb)-Lotal Arsenio (As)-Total Oyenido, Total Miscory (ftg)-Total		1,29 <0,001 <0,05 0,004 0,016 131 0,516	0.05 0.005 0.001 0.05 0.001 0.001	mg/L mg/L mg/L mg/L		23-007-30 23-007-30 23-007-00 23-007-00	RG RG RG
Titenium (Ti) Thakum (Ti) Vanadium (V) Zinc (Zn) A kalinity Total Antimony (Sb)-Lotal Arsenio (As)-Total Oyenido, Total Miscopy (fig)-Total		<0.001 <0.05 0.004 0.016 191 0.516	0.001 0.05 0.001 0.001	mg/L mg/L mg/L mg/L		23 OCT-00 23-OCT-00	RG RG
Tholkum (TI)  Vanadium (V)  Zinc (Zn)  A katinity   Total  Antimony (Sb)-1 osal  Arsenio (As)-Total  Cyanido, Total  Misroury (fig)-Total		<0.001 <0.05 0.004 0.016 191 0.516	0.05 0.001 0.001	mg/L mg/L mg/L mg/L		23-OCT-00	RG
Tholkum (TI)  Vanadium (V)  Zinc (Zn)  A katinity   Total  Antimony (Sb)-1 osal  Arsenio (As)-Total  Cyanido, Total  Misroury (fig)-Total		3,004 3,016 191 3,516	0.05 0.001 0.001	mg/L mg/L mg/L		23-OCT-00	
Zinc (Zn) A kelicity Total Antimony (Sb)-1 osal Arsenio (As)-Total Cyanido, Total Marcury (fig)-Total		3 016 131 3.516	0.001	mg/L		23-OCT-00	KI3
A kelicity Total Antimony (Sb)-1 osal Arsenio (As)-Total Cyanido, Total Misroury (fig)-Total		131 3.516	. 5	1			
Antimony (Sb)-1 osal Arsenio (As)-Total Cyanido, Total Marcury (ftg)-Total		3.516		1		23-OCT-00	RG
Antimony (Sb)-1 osal Arsenio (As)-Total Cyanido, Total Marcury (ftg)-Total		3.516				23-OCT-00	: PT
Arsenio (As) Total Gyanido, Total Missoury (fig)-Total		i	0.400.0	:mg/L		23-OCT-05	RG
Gyenide, Total Metality (fig)-Total		7021	0.0604			23-00: -00 23-00T-00	RG
Mercury (Hg)-Total		J.G27		്നള്ദ്. 'അദ്	20 OCT 00		MR
			0.002	lmg/L	20-OCT-00	23-Q <b>C</b> T-00	
Metals-Letal		<0.0902	0.0902	mig/L		23-OCT-00	RG
Styer (Ag)		<0.006	0.005	മ്പൂർ.		23-OCT-00	RĠ
Atuminum (At)		0.91	0.01	mg/L		23-OCT-00	RG
				-			RO
							RC
							RG
Csicium (Ca)		1 234 ;			1		1 RG
Cedmium (Cd)		<0.00r		1		(23-DCT-00	: 20
Cobalt (Co)		680.0		1	;	23-DOT-00	. 48
Chromium (Cr)		; <0.005					∹@
Cooper (Cu)		3,262	0.001			23-0001-00	RG
Iron (Fe)		0.916	0,005	1		Z3-OG1-00	3.0
Potaas:um (K)		. 9.6	0.1	mg/L	I	23-001-00	₹Ģ
Magaesium (Mg)		97.2	0.1	mg/L	1	23-001-00	36
Mańcanesa (Mn)		0.389	0.001	mg/L	:	22-OCT-00	ં વલ
Molybdenum (Mo)		3.027	0,005	mg/L	!	23-OCT-20	RG
Sodium (Na)		97	1	mg/L	İ	23-001-00	56
Mickel (NI)		3.015	0.002	mg/L		23-0 ČT-00	₹0
Prosphoris (9)		0.07	0.05	mg/l.		23-OGT-00	5.6
tead (Pb)		<0.005	0.005	mg/L	1	23-001-00	: 50
Tir: (Sn)		40.65	0.05	m <u>o</u> il		22-0 GT-00	, 40
Suonlium (St)		^ 2±	0,002	mg/L	į	23-DGT-F0	RG
Titealant (Ti)		0.035	0.051	ing/L		23-0 <b>0</b> 7-00	RG
Thalium (11)		€0.05	0.05	mg#		22-067-00	RG
Marceditan (V)		9,006	0.001	mg/L	!	234007400	RG
Zino (Zn)		0.101	0.001	mg/L	:	23-007460	RS
Ammonia-N		40.05	0.06	mg/L		10-OCT 00	ET
Dissoived Organic Carbo	סח	: 7	1	10932	!	19-007-00	НА
Närste-N		3.0	0.1	mg/L		, 18-OCT 00	נט
Strife-N		40.05	0.05	mg/L	į	18-OCT-00	į ub
Tug-11A-5W-10/06 ***********************************		i	i i	†	<del>-</del>  - · · · · · · · · · · · · · · · · · · ·	<u>.</u>	<u> </u>
6-OGT-99		:				:	:
VATER				!	:	•	
		!	!				
	Boron (B) Darum (Da) Dervilum (Be) Csudium (Ca) Csudium (Cd) Csudium (Cd) Csudium (Cd) Ccosit (Co) Chromium (Cr) Ccoper (Cu) Iron (Fe) Potassium (Mg) Magaesium (Mg) Magaesium (Mo) Sodium (Na) Motybdenium (Mo) Sodium (Na) Interval (Pt) Lead (Pt) Tit: (Sn) Submitted (Pt) Thallium (Tt) Thallium (Tt) Thallium (Tt) Ammonia-N Dissolved Organic Carb Norste-N Kirite-N ToG-(1A-SW-10/06 S-OCT-00	Boron (B)  Darium (Da)  Dervisium (De)  Cacium (Cd)  Cadmium (Cd)  Coosit (Co)  Chromium (Cf)  Cooper (CL)  Iron (Fe)  Potassum (Mg)  Magnessum (Mg)  Marganesa (Mn)  Molybdenum (Mo)  Sodura (Na)  Mrkel (Ni)  Prosphoris (P)  Lead (Pb)  Tic (Sn)  Suonlium (Ti)  Thalium (Ti)  Thalium (Ti)  Dissoived Organis Carbon  Nitrate-N  Kinite-N  Tog-11A-SW-2006  COCT-90	Boron (B)	Boron (B)	Boron (B)   0.26   0.05   asy/L	Boron (B)	Boron (B)

Royal ಕೃತ್ತಿದ್ದಿ

t,ab ID	Sample ID	i est Description	Resuit	D.L.	Units	Extracred	Analyzed	Ву
L19648-4	TLG-11A-SW-18/00							
Sample Date	16-007-00			i		ŀ	!	
Manika	WATER			•	!			İ
	TLG-11A-SW-10/00		:	:				İ
		1	<b>6</b> 5.4	G.1	mg/L		· 24-OCT-00	, OL
			0.372	3,001	mg/L		24-OCT-00	OL
			0.027	0.005	mg/u		24 OCT-00	OΕ
		•	131	1	mg/L	:	24-OQT-00	οL
			0.039	0.002	mg/L	į	24-0CY-00	OL
			0.08	0.05	πg/L		24-CCT-90	0!
			<0.305	0.005	mg/L		24-00T-03	OL
	Tin (Sn)		<0.05	0.05	mg/L		24-00T-00	OL
	Strontium (Sr)		1,20	0.002	vrg/L	:	24-0CT-00	: OI
			0.028	0.001	ಕ್ಕಾಗ್ಲಿ	i	124-OCT-05	OI.
			<0.05	0.05	mgΛ.	!	24•OGT-00	ÖL
			0.005	0.003	mgA.		24+OGT-00	ЭL
	Zina (Zn)		0.908	0.001	lag/L	į	24-007-00	, OL
	Arrenonia-N		<0.05	0.05	mg/L	-	19 OCT 05	15
	Płasolyea Organ	(с Сагоол	. 6	1	កាតូវ]	!	19-0GT-00	, BAN
	Niliato-N		5.2	0.1	ಜ್ಞಾಗಿ.	İ	18-0 <b>0</b> 7-00	100
	Natite-N		<0.05	0.05	ore/L	i	19-DC7-00	LOS
	•				•	1		1
					i	!		
			:		ļ			
					İ	•		
			:		!		1	1
							!	
			ļ		i			i
					;	•	ļ	!
			!	:	:		i	
					!	:	i	
			;			i	İ	i
							!	!
			i			i	:	
			i	:			:	
							:	
			:	: :			•	
				i		1		
			i					
					!	: "		
			i			:	!	
				:	:		į	İ
					1		1	
			ļ .	:				İ
								!
			!		1			i
			i	:			!	!
			i				;	İ
				!			:	į
			İ					

#### WRISE Appealant FIRST PLOTE. ABLANCE COURSE Payer on property complete all portions of the form may delay 10 t- (ADO 840617 EAD SAMPLE NO. 43-444-SQ 2 250 TOS ED K-52-52-K-K | FTI.148 | [JAVI] 発しいでいいる ANALYSIS REQUESTED: \$21E L Malabert TIMED TO COMPANY OF THE WIND OF THE SECTION OF THE 14 ş 975 PULLAGUE - ICO 82 SAME 21. J.R. 40 ( SA Car as spec) SPECIAL REQUIREMENTS / REGS CHAIN OF CUSTODY / ANALYTICAL REQUEST FO COMP Par. (44.0) 201-0208 Par. (200) 404 919 Par. (200) 458 6882 Par. (200) 975-0760 Far. (500) 625-0598 es Golder COZ 7418 Tignagand times with very depart that on amplewing of analysis 5 Lebies and time of a print size. Present sense file 1 still to confirm. Sampling Stilling 100 Ag8-6253 Grab PERMITABLE Stab 52 m/g - 882 (89) ancom Sag Am 9-0118 - 6750m PO TO THE SURVESTION TAMES OF COMME AR MUST SAMPUNG SAMPUNG chasstuce. QUOTERS: 0,5463 11 west Valesbore (170) Sueld-98 Telephone (2004) 669-69 70 Valesbore (2004) 645 8705 Telephone (407) (293-546) Down 7 Dun I なな Telephone (1965-415 9250) (Blackone (1920-659-950) 2015-660: (400-29) (1057-Dig 7 RC MPI P OTHER. #J||9# Metak かべて HX 35000CHD NA SAMPLED BY JOANE / IME 음 건 070 October 39.46 Car Vegerra, Edinasian, editativi TAE 2025. Edinasia Perfectività Millera Vini. 1412. Le Privace de Casaga, editeria TAE 9-5. 2016. A. E. Brook (Barille Perfect Oberts TAE 9574). 2016. A. E. Brook (Barille Perfect Oberts TAE 9574). 2017. Le Perrana Perrana Perrana Servicio Servicio Servicio Servicio Servicio Servicio Servicio Servicio Servicio Servicio Servicio Servicio Servicio Servicio Servicio Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Perio Millera Servicio Servicio Perio Millera Servicio Servicio Servicio Perio Millera Servicio S 4x2SONC 4x 100011 x4 COS SUBCRARCE LX TXING SK BS AC Turns round lines. ACTE: Started avera NHOCho completed in full by #501 Burnely BC\_108 16C6 34 CONT ACT OF THE SHIP CONTRACT OF THE chant for sample processing to occur 12416 16 04/00 CATE SCORITED 30\_ com Golder Historiales on an Walking Beathorn 716-11-50-10/60 DP Mary Sept - As expand Ouch concernor and as provided to one receptor adding. DOWNEY STR ele Env. Mest 74-21-24-10fbd 76-11 A-SUZ-10/00 [[cz-7#-SW-1060 ☐ PRIDITY NOTES & CONDUCTOR SCIPMOS (RICKURS) ED. SAMPLERO A DECUME

Workorder

L19648

<u> </u>						
	Molybdenum (Mo)	<0.005		πg/L	0.025	23-OCT-00
	Sodiem (Na)	<0.5		mg/L	2,5	23-OCT-00
	Nickel (N:)	<0.002		mg/L	0.01	23-OCT-00
	Paosphorus (P)	<0.1		mg/L	0.5	23-OGT-00
	Lead (Pb)	<0.005		mg/L	0.025	23-OCT-00
	Tin (Sn)	<0.05		mg/L	0.25	23-OCT-00
	Strontium (Sr)	<0.305		mg/L	0.025	23-OCT-00
	Titanium (TI)	0.001		ng/L	0,005	23-OCT-00
	Thallium (TI)	<0.06		mg/L	0.25	23-QCT-00
	Vanadium (V)	<0.501		mg/L	0.005	23-OCT-00
	Zinc (Zn)	0.002		mg/L	0.005	23-OCT-00
SB-D(S-HYD-ED	Antimony (Sb)-Dissolved	<0.9004		ਜ਼ਾg/L	0.003	23-OCT-00
	Alternoty (307-013-08-60	<u> </u>	<del></del>	H 2/L	0.00.7%	23-007-00
VG21420-1						
METAL-TOT-ED	Sliver (Ag)	<0.005		mg/L	0.025	24-QCT-00
	. Alumínum (Al)	0.05		mg/L	0.05	24-OCT-00
	Boron (9)	<0.05		mg/L	0.25	24-OCT-00
	Barium (Ba)	< 0.003		mg/L	0.015	24-OCT-00
	Beryliium (Be)	<0.002		mg/L	0.0 <b>1</b>	24-OCT-00
	Calcium (Ca)	<0.5		mg/L	2.5	24-OCT-00
	Cadmium (Cd)	<0.001		mg/L	0.005	24-OC1-00
	Cobalt (Ce)	<0.002		mg/L	0.01	24-OCT-00
	Chromium (Cr)	<0.005		mg/L	0.025	24-OCT-00
	Copper (Cu)	0.001		mg/L	0.005	24-OGT-00
	(ron (Fe)	0.028	Α	π <b>g</b> /L	0.025	24-OCT-00
	Potassium (K)	<0.1		mg/L	0.5	24-0CT-00
	Magnesium (Mg)	<d.1< td=""><td></td><td>mg/L</td><td>0.5</td><td>24-OCT-00</td></d.1<>		mg/L	0.5	24-OCT-00
	Manganese (Mn)	<0.001		mg/L	0.005	24-OCT-00
	Molybdenum (Mo)	<0.905		mg/L	0.025	24-OCT-00
	Secium (Na)	<1		mg/L	5	24-OCT-00
	Mickel (Ni)	<0.002		mg/l.	0.01	24-OG7-00
	Phosphorus (P)	0.06		mg/L	0.25	24-QCT <b>-</b> 00
	Leac (Pb)	<0.005		mg/L	0.025	24-OCT-00
	Tin (Sr.)	<0.05		mg/L	0,25	24-OCT-00
	Strontium (Sr)	<0.0021		mg/L	0.01	24-QGT-00
	Titanium (Ti)	<0.001		mg/L	0.005	24-OGT-00
	Thallium (T!)	< 0.05		mg/L	0.25	24-OCT-00
	Vanadium (V)	<0.001		mg/L	0,005	24-OCT-00
	Zinc (Zn)	0.016	Α	mg/L	0.005	24-OCT-60
VG22281-1						
AS-AS3-DIS-ED	Arsenic (As) 3÷-Dissolved	<0.0002		mg/L	1,00.0	02-NOV-00
AS-ASS-DIS-ED	Arsenic (As) 5+-Dissolved	<0.0002		mg/L	0.001	02-NOV-00
AS-DIS-HYD-ED	Arsenic (As)-Disselved	< 0.0004		reg/l.	0.002	02-NOV-00

23-007-00

75-125

## **ENVIRO-TEST QC REPORT**

L19848 Workorder

· <del></del> - ··· ·					
Al.K-TOT-ED	Alkalinity, Total	3.4	G	1.25	20-OCT-00
QC Type: LCS					
Lab QC Number:		% Recovery	Qualifier	Limit %	Analyzed
WG21129-2					
NO2-ED	Nîlrite-N	103		£5-111.7	18-OCT-00
NO3-ED	Nitrate-N	103		95-111.7	18-OCT-00
WG21129-3					
NO2-ED	Nitrite-N	103		95-1 <b>1</b> 1.7	18-OCT-00
NO3-ED	Nitrato-N	103		95-111.7	18-QCT-00
WG21248-2					
NH4-ED	Ammonia-N	108		\$3.5-108.6	19-OÇT-60
WG21262-2					
C-DIS-ORG-ED	Dissolved Organic Carbon	98		96-102	:9-CCT-80
.√G21289-1					
ALK-TOT-ED	Alkalinity, Total	103		95.2-104	20-007-00
WG22281-2	<u> </u>		• • • •		
AS-AS3-DIS-EC	Arsenic (As) S+-Diasolved	94		90-110	02-NCY-00
WG22281-3					
AS-AS5-DIS-ED	Arsenic (As) 5+-Dissolved	69	G	90-110	02 <b>-</b> NOV-00
QC Type: MS	<u></u>				
Lab QC Number:		% Recovery	Qualifier	Limit %	Analyzed
WG21129-6					
NO2-ED	Nitrlie-N	93	H	\$4.6-1Q4.1	18-OCT-00
WG21248-4					
NH4-ED	Ammonia-N	109		81.3-130.2	19-007-00
WG21262-4					
C-D(S-ORG-ED	Dissolved Organic Carbon	99		88.8-104.2	19-OCT-00
WG21389-2					
CN-TOT-TB	Cyanide, Total	100	<del></del>	75-125	23-OCT-00
WG21397-5					
AS-DIS-HYD-ED	Araenio (As)-Dlascived	<b>1</b> 15		75-125	23-OCT-00
4G-DIS4RYD-ED	Mercury (Hg)-Dissolved	100		75-125	23-OCT-00
METAL-DIS-ED	Silver (Ag)	91		75-126	23-007-03
	Atuminum (At)	1G1		75-125	23-OCT-00
	Boron (B)	105		75-125	23-OCT-03
	Badam (Ba)	97		75-125	28-CCT-00

107

Beryllium (Se)

Workorder

L19648

#### Legend:

Limit	95% Confidence Interval (Laboratory Warning Limits)
CUP	Duplicate
RPD	Relative Percent Difference ((higher result-lower result)/Average, expressed as %)
N/A	Not Available
LÇŞ	Laboratory Control Sample
SRM	Stançard Reference Moterials
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Description Efficiency
MB	Method Brank
IRM	Internal Reference Material
COM	Cortiford Reference Material

#### Qualifier:

	RPD-NA	Rejative Percent Difference Not Available due to result(s) being less than detection limit.
	A	Method blank exceeds detection limit. Blank correction applied, where appropriate.
	₿	Method blank result exceeds detection ilmit, however, it is less than 5% of sample concentration.
		Blank correction not applied.
	С	Method blank result exceeds detection limit, however, it is less than 6% of the regulatory limit for the
		analyte of interest. Brank correction not applied,
•	D	Dupticate result exceeds limit due to increased variability for low level samples.
	2	Matrix spike limit exceeded due to high sample background.
	=	Silver recovery low, likely due to elevated choride levels in sample.
	G	Outlier - No assignable cause for nonconformity has been determined.
	H	Result fall within the 99% Confidence Interval (Laboratory Control Limits)

цар ID	Sampe ID	Test Description.	Result	[J,L,	Linite	Extracted	Analyzed	Зу
1821-2	MW20-8A					:	:	
mple Date	01-AUG-00			i	i	:		
atrix:	WATER				i	!		
"	Enuties Winter Apply	solo.		!				
	Routine Water Analy Chlorde (Cl)	/81%	132	i 1	mail .		104-AUG <b>-6</b> 0	LDE
				¦	mg/L			
	Nikater Mitrite-N		0.5	0,1	mg/L		04-AUG-00	LDS
	· pH, Conductivity : pH	and Total Alkalinity	7.5	0.1	  cirl		54-ASG-00	9***
	Conductivity (E	rn	1790	0.: 0.2	uSr <b>c</b> m		: 04-AUC-00	
	Bicarbanate (H)	•	25:	6	,uorum -mg/⊑		104-A37G-00	,
	Carponate (CQ)	•	<5	5	ing/L		64 AUG-00	. PTI
	∺ydroxide	-1	<5	: 5	mg/L	!	104-AUG-00	. P.
	Alkalinity, Total		206	5	img/L	İ	04-AUG-00	PH
	Ion Balance Calcu		200	į	1.2911		1	i ' ''
	on Salance	ивнол	103	<b>!</b>	:%		08 AUG-00	
	TOS (Calculates	d)	1190	İ	.mg/L		08-AUG-00	:
	Hardness		618		mg/i	!	08-AUG-00	!
	ICP metals and St	04 for routine water		!	!	İ	100.104.00	İ
	Caldum (Ca)	De los lossine weter	156	<b>0.5</b>	mg/L	İ	OB-AUG-OU	MO
	Petassion (X)		17,5	C.	mg/L	i	:08-AUG-00	MO
	Magnesson (Mg	i)	75.6		mg/L		06-AUG-00	MΘ
	Sodium (Na)		163	1	mg/L	•	£8-AU€-60	MO
	Sulfate (SO4)		<b>54</b> 4	i 05	mg/L		n8-AUG-00	ΜO
				İ				
	Antimony (Sb)-3		0.0056	0.0004	mg/L		HI-AUG-00	· MI
	Arsenic (As) 3+-		0.0042	0.0002	mg/C	!	23-857-00	الل
	Arsenio (As) 54-	-Dissolved	0.0318	0.6002	mg/L	İ	23-SEP-00	ا،ل
	Mercuty (Fg)-Ci	sstved	<0.0002	0.0002	mg/L	İ	11-AUG-00	CM
	Metals, Dissolved				١.,		1	١
	Silver (Ag)		<0.005	0.005	mg/L	!	11-AUG-00	MD
	Asuminum (Al)		0.32	0.01	mg/L	İ	:11-AUG-00	MD
	მითი (8) მირათ (Ba)		0.044	0.05	mg/L		11-AUG-00	MD
	Beryllum (3c)		1	0.003	mg/L	1	11-AUG-00	i MD Lisasi
	Cadmium (Cd)		<0,001 - <0.001	0.001	Img/L		11-AUG-00	MO
	Cabalt (Co)		0.082	0.001	ļmg/L ļπg/L		11-AUG-00 : 11-AUG-00	MD GM ¦
	Chromkia (Gr)		<0.005	0.002	ing/L	į.	11-AUG-00	MO
	Capper (Ca)		0.003	8,000	mg/L	:	11-AUG-30 11-AUG-30	I ME
	Iran (Se)		1.23	0.005	⊥u <b>ā</b> t,Γ		15-AUG-00	MO
	Manganese (Mn	11-	0.435	0.005	eng/L		15-AUG-00	ME
	Malybdenimi (M		0.011	0.005	ring/L		11•AUG-00	M2
	Nickel (Ni)	-21	0.008	9.602	Imp/L		: 11-AUG-00	I WD
	Phosphorus (P)		7.5	. 0.002 a:	ing/i		11-AUG-00	MD
	Leac (Pb)		<0.005	0.005	ng/L	:	11-AUG-99	MO
	To (Sa)		<0.05	3.05	esting: Lugar		11-AUG-00	MD
	Strontum (Sr)		1.63	0.005	mg/L	:	11-AUG-00	MT
	Ttanium (Ti)		E.010	0.001	ng/L	:	11-AUG-00	MO
	Traillum (7)		<0.00	0.05	ngr∟ ung/L		15-AUG-00	MO
	Variadium (V)		0.008	8.081	inge mg/L		11-AUG-00	MO
	Zina (Žn)		0.053	0.001	mg/L		11-AUG-00	Mo
	Arsenic (As)-Bissi	stveri		V100	, magnitude			'''
	Arsenic (As)-Dis		0.0085	0.0004	: ,mg/L		07-SE9400	ال
	Arsenic (4a)-Dis		0,0745	0.0004	mg/L		11-AUG-00	ME
	Antimony (St)-T		0.0031	0.0004	mg/L		08-AUC-00	ME
		17-	, 0.000	0.0004	iiigi c		OB-MOID-DO	· WIL

Lg5 (D Sample ID Test Description	Residt	D.L.	Units	Extracted	Analyzad	Ey.
.14821-3 VW00-38	!				!	:
'ampis Detai 01-AUG-30	i		ļ	:		
datrix: WATER	i		!	:	i	
Routine Water Analysis			į	i		
ICP metals and \$04 for routine water	İ		-			
Potassium (K)	9.1	0.1	mg/L		08-AUG-00	MOR
Magnesium (Mg)	47.2	0.1	mg/L		05-AUG-00	MOR
Socium (Na)	, 86	i	mg/I		, 08-AUC-00	MOI
Sulfate (SO4)	375	0.5	ing/L l		- 08-AUG-00	į ма
Antimony (Sb)-Olsso ved	0.0163	0.0004	mg/L		11-AUG-00	j GM ;
Arsenio (As) 3n-Dissolved	<0.0002	0.0002	: :mg/L		23-5EF-00	JJ
Arsenio (As) 5∻- <b>Dis</b> solved	0,0267	0.9002	,mg/L		23-SEP-00	1.33
Meraury (Hg)-Dissolved	<0.0002	0.0002	mg/L		11-AUG-00	MO
Metals, Dissolved	3.000	4.2002			1.1.02 03	,_
Silver (Agi	<0.005	0.005	mg/L		11-AUG-00	. WD
Aluminam (AI)	0.14	0.01	mg/L		11-AUG-00	; ND
Boron (B)	0.13	0.05	,mg/L	:	11-AUG-00	. ND
Barum (Ba)	. 0.081	0.003	rng/L		11-AUG-00	MD
Bery lium (Be)	<0.001	0.001	mg/L		11-403-00	1 MD
Cadmium (Cit)	<0.001	0.001	ngA	i	(11-AUG-00	MD
Copalt (Co)	3.033	0.002	mg/L		11-AUG-00	MO
Chramium (Cr)	<0.005	0.005	;mg/L	i	11-AUG-00	MO
Copper (Cu)	. 0.005	0.001	mg/L		11-AUG-00	MD
logn (žei	0.067	0.005	mg/L	i	11-AUG-00	MD
Vanganese (Mh)	. 3.285	0.00%	լուն^.	İ	14-AUG-00	i Ma
Molyboenum (Mo)	3.013	0,005	mg/t.		15-AUG-00	MD
Nicke. (Ni)	. 0.001	0.002	ng/L		11-AUG-00	MD
Phosphorus (P)	2.5	0.1	75g/L		115-AUG-00	MD
Lead (Pb)	<0.005	0.005	:.ub.,_ i		15-AUG-00	MD
7ir (8a)	<0.05	0.05	T:G/*+		11-AUG-00	MD
Stronliam (Sr)	1.42	0.005	mg/L	:	11-AUG-89	M.D
· Titanium (Ti)	<0.001	9,001	ng/L	•	11-AUG-00	MD
Toai/futo (T/)	<0.05	; 0.05	mg/L	i	.11-AUG-00	MD
Variadium (V)	0.009	0.001	710/2	1	11-AUG-00	MD
Zinta (Zin)	2.004	0.001	mg/L	į	11-AUG-00	ЖD
Arsenic (As)-Disacived	1		1	:		:
Arsanio (As)-Diagoved	0.0287	0.0004	:ng/L		57-SEP-00	12
Araenic (As)-Diasolved	0,0465	0.0004	mg/L		11-AUG-00	MO
Antimony (Sb)-Totar	6.0133	8.0004	hg/L	1	: 05-AUG-00	MO
	0.0687	0.0034	1	į	05-AUG-00	; MD
Ataenic (As)-Tip <del>t</del> a:		1	mg/L	•	:	1
Cyanide, Total	0.014	0.502	ng/L	05-AUG-00	09-AUG-00	¦ MR
Mercury (Ag)-Total	<0.0002	0.0002	mg/L		:08-AUG-00	į MO
Metals-Total Silver (Ag)	<0.005	0.005	mg/L	:	66-AUG-00	M⊃
Auminum (Al)	44.9	3.01	mg/L		;08-AUC-00	MO
Boren (D)	9.14	9.05	mg/L	i	08-AUG-00	ME
Barum (Ba)	5.523	0.002	mg/L	1	00-AUG-00	V.S
Rerylium (Be)	, 0.020 <0.062	9.002	mg/L	1	08-AUC-00	, MD
Cadmium (Cd)	<0,004	0,004	ng/L	:	98 AUG 60	MU
Copalt (Co)	0.064	9.002	mg/L	:	08-AUG 00	. ME
···		•		i	08-ASG 33	ME
Chromit m (Or)	0.052 0.093	0.005	img/L Ima/l	!	C8-A5G-55	ML
Copper (CL) Iron (Fe)	59.5	!	img/L	!	05 AUG-00	i
II an i en l	ರಿ.ಅರ	0,005	;mg/L		GE /VOL9-60	j MU

Lab ID	Sample ID	Tes! Description	Result	p.e	Units	Extracted	<u>  Analyzed                                    </u>	Ey
821-4	MW00-2				ļ		l	!
rala Qato	01-AUC-00			i	:			:
πx.	WATER			'	İ		!	İ
			· i			İ	•	į
	Metals, Dissolved		i			İ	İ	
	Baran (B)		0.75	: 0.0a	img/L		15 AUG-00	i . M⊡
	Barum (Ba)		0.063	0.003	mg/L		11-AUG-00	พย
	Bery liam (Ba)		<0.001	0,000	mg/L		11-AUG-00	ND
	Cachadin (Cd)		<0.001	0,001	mg/L	i	11-40-2-20	CM ;
	Cobait (Co)		0.032	0.002	mg/L		11-AUG-20	เพอ
	Corpollum (Cr)		<0.005	0.005	mg/L		31-AUG-00	MO
	Copper (Ox)		0,002	0.001	mg/L		15-AUG-00	140
	Iron (Fe)		<0.005	0.005	mg/L	!	15-AUG-00	MD
	Manganese (With		2,494	C.301	mg/L		11-AUG-00	MD
	Molyboanum (Mo	)	0.024	0.305	mg/L		. 11-AUG-00	• M.D
	Nickel (Ni)	•	0,007	0.002	mg/L		15-AUG-00	MO
	Phosphorus (P)		0.9	0.1	mg/L		15-AUG-00	ND.
	Lead (?b)		<0.005	0.005	mg/L		111-AUG-00	· MD
	Tin (Gn)		<0.05	0.05	:mg/L		11-AUG-00	M⊇
	Sirgnijym (Sr)		1.43	0.005	mg/L		11-AUG-00	MS
	Titagium, (Ti)		<0.001	0.301	mg/L		11-AUG-00	MS
	Thallium (Tt)		<b>\$0.05</b>	0.05	mg/L		11-AUG-00	I MD
	Vanadium (V)		3.003	0.001	mg/L		-11-AU3-00	ME
	Zino (Zn)		3,002	C.301	Img/L		11-AUO-00	ME
	Arsenic (As)-Dissol	und	1,000	C.301	imare		.11-100-00	1712
	Arsenic (As)-Diss Arsenic (As)-Diss		0,275	0.0004	mg/L		11 AUG 00	MD
	Arsenio (As)-Diga		0.290	0 0004	mg/L		07-SEP-00	JJ
	Antimony (Sb)-To		0.167	!	-		i	
	• • •			0.0004	/mg/L		56-AUG-66	; MD
	Arsanic (As) Tota		2.58	0.0004	mg/L		08-AUG-00	MO
	Cyanide, Total		0.160	0,002	jing#.	05-AUG-00	DR-AUG-00	MB
	Versury (Hg)-Tob	a <sup>;</sup>	<0.0002	0.0002	mg/L		08-AUG 00	MC
	Metals-Total		:		:		i	
	Silver (Ag)		<0.005	0.305	mg/L		08-AUG-00	្គ មាន
	Aluminum (Al)		204	0.01	mg/L		08-AUG-00	MD
	Boron (B)		0.37	0.05	mg/L		08/AUG-00	MD
	Barium (Ba)		5.70	0.003	mg/L		08-AUG-96	: ME
	Berykium (Be)		3.004	0.002	mg/L		08-AUG-00	WC
	Gaszelucs (Cd)		0.002	0.301	mg/L		08-AUG-00	l vr
	Cohalt (Co)		0.382	0.302	mg/L		08-AUG-00	V.C
	C comban (Ct)		1.07	0,405	imgit.		08-AUG-00	ļ VD
	Copper (Co)		0.745	0.001	mg/L		08-AUG-30	į ve
	Iron (Fe)		348	0.005	mg/L		08-AUG-00	ME
	Manganese (Mo)		8.21	i dona	mg#.	:	<sup> </sup> 08-AUG-00	i wh
	Wolyndenam (Mo	)	0.035	0.505	ang/L	:	08-AUG-00	: Mo
	Nickel (NS)		0.535	0.562	æg/l.		08-AUG-00	ME
	Phosphorus (P)		4.15	0.05	rogit.		08-AUG-00	, M5
	Load (Pb)		3.111	0.005	Teg/L		108-AUG-00	i ME
	fin (Sn)		<0.05	0.05	ing/L		08-AUG-00	Mβ
	Stronäum (Sr)		2.60	0.002	riig/L		08-AUG-08	, M5
	Titarsum (13)		8.29	0.004	mg/L	!	108-AUG-00	ME
	Teathum (TI)		÷0.55	0.05	mg/L	į	[05-Aug-ac	ME
	Vanadom (V)		1.01	0.001	rag/L	i	(08-AUG-00	MD
	Zino (Zn)		0.523	0.001	mg/L	:	28-AUG-20	ME
	Ammoria-N		3.17	0.05	mg/L		[20-AUG-00	ЬK
	Or let- 1		3.17	· 0.00	H-SHE		100-400-06	EIN

(abit)	Sample iD	Test Description	Result	D.L.	Units	Extracted	Analyzed	Ry
14R21-8	M/W00-1				!	:		
ampte Dete	01-AUG-00				!	:		
atrix	WATER		!		i	i	:	
			İ					
	Metale, Dissolved				!			
	Strontium (Sr)		2.04	0.005	;mg/L		18-AUG-00	MO
	Ti室asam (Ti)		<0.001	G.001	mg/L	i	16-ABG-00	MD
	That ium (Tl)		<0,05	0.05	(mg/L	İ	16-AUG-00	, MD
	Vanadium (V)		6.003	0.001	mg/L		16-AUG-00	MD
	Zinc (Zn)		0.940	0.001	mg/L	1	16-AUG-00	MD
	Arsenic (As)-Dissolv	red	i	į		1	!	į
	Arsonic (As)-Diasc		2.50	0.0004	mg/L		074SEF-00	JJ
	Msenia (Asi-Dissa	dved	4.40	0.9004	ተነ <u>ታ</u> ር		16-AUG-00	MD
	Antimony (Sb)-Tul	넴	1,92	0.0004	jmg/L	!	10-AUG-00	ViD
	Arsenic (As) Total		4.91	. 2.0004	img/L		flakAUG-BO	MD
	Cyanhie, Total		0.183	9.002	mg/L	05-AUG-00	09-AUC-00	MR
	Wercury (Hg)-Tata	!	< < 0.0002	0.0002	mg/L	i	10-AUG-00	MD
	Metals-Total						1	'
	Silver (Ag)		<0.003	0.005	mg/L	ļ	10-AUG-00	MD
	Aleminum (Ai)		1.74	C.01	mg/L		10-AUG-00	MC
	Spron (B)		. 5.63	0.05	ang/L	-	10-AUG-60	! MD
	Barium (Ba)		0.029	i 0,903	img/L	!	,10-AUG-00	· WD
	Servillum (Be)		<0.002	0.002	mg/L		10-AUG-00	MD
	Cadmium (Cd)		<0.001	0.001	mg/L		10-AUG-00	M2
	Cobalt (Co)		0.081	0.002	mg/L		10-AUG-00	MO
	Core atum (Cr)		0.005	0.005	mg/L	1	10-AUG-90	MO
	Topper (Ca)		0.028	0.001	mg/L		10-AUG-80	M2
	ren (Fe)		2,33	0.003	mg/L		10-AUG-00	MO
	Wanganesa (Mn)		0.314	0.001	mg/L	:	10-AUG-00	M₫
	Molyadetum (Md)		0.032	į 0.003	mg/L	i	10 AUG-00	j MD
	Make: (Nii)		0.013	0.002	mg/L		10-AUG 00	į MD
	Phosphanis (F)		0.14	0.05	mg/L	İ	10-AUG-00	MID
	⊆oad (Pb)		0.016	0.005	.mg/_	į	10-AUG-00	! MU
	Tin (Sc)		< 0.05	0.05	mg/L	i	110 AUG 00	j MD
	Strontum (Sr)		2.27	0.002	mg/L	İ	10-AUG-00	MD
	Fitanium (TI)		D.C18	0.001	:mg/_	1	10-AUC-00	MU
	Fraīlium (TV)		<0.05	0.05	mg/L	:	10 AUG-00	; ME
	Vanadium (V)		0.010	0.001	mg/ <sub>=</sub>		[19-AUG-00	, WE
	Zinc (Zn)		0.025	0.001	mg/L	•	10 AUG-00	į Mū
	Ammoria-N		3.34	0.05	mg/L	į	08-AUG-00	EK
	N:hais-N		5.7	E.1	lmg/L	1 .	04-AUG-00	(LD
	Nizite-N		0.74	0.05	erg/L	i	(04-AUG-00	LD
	Oil and Grosse		<1	1	mg/L	09-AUG-00	16-AUG-00	ZW
		C cylinder			-	20.726.00		1
. 25 51 ==== =	Total Suscended (	SUMUS .	. 41	3	n:g/L	_]	04ALG-00	CM
4821-7	T/W65-1A		i :			:	i	
	01-AUG-00							
;ארֹדבּ	WATER					-	!	
	Routine Water Analysi	is.				:	:	i
	Ottokee (CI)		298	۱	mg/L	:	64-AUG-30	, LD
	Nitrate (Nifr te-N		7,5	0.1	mg/L	:	04-AUG 00	Ļр
	pill, Conquet;vity an	d Total Alkažeštv						"
	ри, <b>Сопсис</b> суну ап рН	G TOLET MINESTLEY	7.8	9.1	Нç		04 /V/1G-00	1 -:
	la. i				p- 1		A 1 17 14 1 14 1	1

Lab IC	Semple IZ	est Description	. Result	D.,	Units	Extrapted	Anaiy <b>zed</b>	Ву
<u>L14((2)-7</u>	MW00-3A		i .					
Sample Date	s 01-AQQ-00					:	:	İ
Aatox!	WATER		i		!		:	!
			:					:
	Metals-Total						!	
	Silver (Ag)		<0.005	0.005	_⊏ <b>a</b> /~		10-AUG-00	MD
	Alamicum, (Al)		£ 0.99	10.01	mg/L		10-AUG-90	MD
	Baren (B)		0.65	0.05	:□g/ <sub>+</sub>	į	10-AUG-00	MD
	Barium (Ba)		0.017	0.003	me/L	I	10-AUG-00	MD
	Beryllium (Be)		<0.002	0.002	mp/E	İ	10-AUG-03	MD
	Cadmium. (Cd)		<0,001	0.001	lmg/L	:	16-AUG-00	CM ;
	Cobeit (Co)		0.081	0.002	πgÆ		10-AUG-00	i MD
	Chrendum (Cr)		0.006	0.005	mg/L		110-AUG-00	MD
	Cooper (Cu)		0.027	0 001	mg/L		10-AUG-00	MD
	Iron (Fo)		1.3⊋	0.005	шâуг		10-AUG-00	МD
	Manganesa (Mn)		0.310	0.001	mg/Ļ		10-AUG-00	MD
	Molypdanum (Mo)		0.632	0.005	μâζ	1	10-AUG-00	MEX
	Nicke: (Nii)		: 0.012	0.002	mg/L	1	110-AUG-00	GM CM
	Phospherus (P)		0.14	0.05	mg/L	İ	10-AUG-00	GM i
	Lead (Pb)		1 0,014	0.005	mg/ī.		110-AUG-00	GM '
	Tift (Sn)		<0.05	0.05	mg∆.		In-Aug-00	MO
	Strenburn (Sr)		2.34	0.002	ntg/E		10-AUG-00	. MD
	Titanium (T)		0.613	0.001	#g/€		10-AUG-00	MD
•	Thaillum (Ti)		<0.05	0.05	rrg/L		10-AUG-00	MD
	Valledium (V)		01500	: 0.001	ang/L		10-AuG-00	, MD Leep
	Zinc (Zn)		0.026	0.004	mg/L		10-ABG-00	MD
	Ammonia-N		3.59	0.05	İωδ/Γ		05-ÐUA-60	i Ex
	N trate-N		7.5	0.1	mg/L		04-AUG <b>-</b> C0	MOD
	Altrica N		0.72	0.05	mg/L		04_AUG-¢0	LDD
	Oil and Grease		: <:	j 1	mg/L	08-AL G-00	10-AUG-00	ZW
	Total Suspended Sólida		i <sub>36</sub>	3	mg/L	35/12/01/	04-AUG-20	CMN
4.160- 6	10 01 305persons 35 libe	·		<u> </u>				
.14821-5			į	İ	İ			1
Sambie Date	s 01-AUS-00		!	! !				
Mairx:	WATER		i					
	Routine Water Analysis							i
	Chloride (CI)		2	່ 1	mg/L	:	04-AUG-00	100
	Nitrate+Nitrite-N		0.5	0.1	mg/L	:	04-ABŒ-00	_00
	pH, Conductivity and Tol	al Alkalinity		'	:	i	1	
	pH		7.7	0.6	زاع.		04-AUG-00	: ਜਾ
	Cordictivity (EC)		972	C.2	uS/sm	İ	04-ADG-00	. בני
	Bitarbonate (FCC3)		269	· .	mg/L	!	04-AUG-90	FTT
	Carbonate (CG3)		: <5	5	:mg/L		34-AUG-88	ी लाइ
	Hydroxide		÷ <5	C	mg/L		: 04-AUG-00	[]
	A kalinity, Tat≥		223	5	/mg/L		04-AUG-08	FIT
	ion Balance Calcul <b>ati</b> on				i	i		1
	Ion Baiance		104		ν,		00-AUG-00	
	TOS (Calculated)		993		mg/L		; DS-AUG-00	!
	Hardness		423		ma/L		08 AMG-00	-
		ourino water			i	'	-	į
	ICP metals and <b>SO4</b> for r	OFICIAL MACON			¦mg/L		(DS-AMG-00	MOR
	ICP metals and <b>804</b> for t Caldum (Ca)	Ociente Mace	88.1	6,5	imane		!	
		Octime Mater	; 88.1 4.8	0,5	mg/L		08-/\ <b>U</b> G-00	
	Cardi m (Ca)	Octimo Maco						MOR MOR

Salv (f)	Sample ID Test Description	n ·	Result	DI.	Units	=xtracted	AnalyzeJ	By
j u14821-8	M/V00-4A	!					i	
- Sample Date	01-AUG 00	:			ļ		İ	.
Marrix:	WATER	:			i	•	•	!
							-	:
	Metals-Total				ļ :			i
	Phosphorus (P)				img/L	:	10-AUG-00	. WD '
:	Lead (Pb) Tin (Sh)		0.038 <0.05	0.005 0.05	.mg/L	:	10-AUG-00 10-AUG-00	MD ;
:	Street um (Sr)		0 706	0.002	img/L leng/L	İ	10-AUG-00	: MD :
i	Titarshem (TI)		7.13		mg/L		10-AUG-00	MP
	The fiors (Ti)		<0.05		marl.	<u> </u>	20-AUG-00	MD ;
	Vanaośum (V)	1	0.532		,mg/L	!	10-AUG-00	. MD
	Zinc (Ze)		0,548	0.001	img/L		16-AUG-00	: MD
	Ammonia N	·	0.16	0.05	mg/L		09-AUG-00	EK j
	Mitrate-N		50.0	0.1	mg/L		.04-AUG-00	ממ
	Nitrite-N		<0.05	0.05	mg/L		04-AUG-00	נפנ
	Oli ardi Grease	:	<;	1	rmg∆.	1 094AUG-00	10-4039-00	ZW
•	Total Susponded Solics	•	3470		mg/L	!	04-AUG-30	OMN
					i	<del> </del>	<u>-</u>	··· ·
		÷			!	İ	İ	
		:			į	!	:	; [
		•				:		
:						!		İ
		:				! !		
		:			!			
		:				!		!
		ļ						
		i			! !	!		
:					İ			
					!			
		- 1				İ		
		İ				-		
		!		i	:	i		
		:			:		:	
		;			i			;
		!		į	:		:	:
						!		
		İ						:
				!	:		1	į
					[			
					İ			
		İ		İ				!
		İ		-			İ	
		į		:	i	-		!
				:			į	:
				į	!		:	:
		:					:	
:				<u>i.———</u>	<u> </u>			<u></u>

# CHAIN OF CUSTODY RECC., JANALYSIS REQUEST

Colder Colder	Project Number: 0.2-24(8 T 72/2)	Services Name:
ASSARTANCE	++	Address:
500 - 4260 Silv Craek Urive		Telephone-lina;
Bornaby, Sritish Columbia, Certaba Varine to Telepthone (60x) 298-8823 Fax (604) 296-5253	Valerie Frestand	402 - U.S - 522   Rick Zalkeusk
		Agalyses Required
Contract of the contract of	Sample Date	
Namber (SCN)	Sampled	The state of the s
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
一名 かんしかりかん	Woter 1/8/00	×
10 2 - 2 Conno	(6,00	X X
MAD 5 - 420 MA	1dster 1/2/100	7 ×
Mithebant Offer	11 April 1/9 (1)	7 X EDM
PANJOO-W. AS		73 X WFG
Wylco-W 🚳		7 X CA.
- 07		T.8
- 08		- B
60 -		9K
- 10		* THESE TESTS STING
- 11		N 01 00
- 12		
- 13		
- 14		
- 15		
Configer Seguitare !   Reg	Rechtigues Appender	Time Received by: Signature Company

WilstE: Oolder Copy

Shipment Cerdition: Seal Infact YELLOW: Loth-Copy

PIRK: Lab Beturns with Final Record

Conter operad by:

Temp (°C)

Receiped for Late by:

Waybill No:

derhad of Shipment

CTYPIE SIDINGE (T)

POLISION CONTRACTOR

Company

Company

Received by: Sagnature.

Workorden

L14B21

<u>.</u> .		<u>.</u>				
	Potassium (K)	<0.1		mg/L	0.5	10-AUG-00
	Magnesium (Mg)	0.1		mg/L	0,5	10-AUG-00
	Manganese (Mn)	0.811	А	mg/L	0.005	10-AUG-90
	Molybdenum (Mo)	<0.005		mg/L	0.025	10-AUG-00
	Sodium (Na)	<1		mg/L	5	10-AUG-06
	Nickei (Ni)	< 0.002		mg/L	0.01	10-AUG-00
	Phosphorus (P)	<0.05		mg/L	0.25	10-AUG-00
	Lead (Pb)	< 0.005		mg/L	0.025	15-AUG-00
	Tin (Sr.)	< 0.05		mg/L	0.25	10-AUG-00
	Strontium (Sr)	<0.002		ng/L	0.01	10-AUG-00
	Titaniam (Ti)	< 0.001		mg/L	0.005	10-AUG-90
	Thailium (Ti)	<0.05		mg/L	0.25	10-AJG-00
	Vanadium (V)	<0.001		mg/L	0.005	10-AUG-00
	Zinc (Zn)	<0.001		mg/L	0.005	10-AUG-00
WG16309-1	- 11					
CN-TOT-TB	Gyanide, Total	<0.002		mg/L	0.002	09-AUG-00
WG16313-1					_	
ETL-ROUTINE-ICP-ED	Çalçium (Ca)	<0.5	<dl< td=""><td>mg/L</td><td>2.5</td><td>08-AUG-00</td></dl<>	mg/L	2.5	08-AUG-00
E1E-8001W#=-ICP-#D		<0.5	<0L	mg/L	0.5	08-AUG-00
	Potessium (K)	<0.1 <0.1	<dl< td=""><td>mg/L mg/L</td><td>0.5</td><td>08-AUG-00</td></dl<>	mg/L mg/L	0.5	08-AUG-00
	Magnesium (Mg)	<1	~DL	mg/L	5	D8-AUG-00
	Sodium (Na)	<0.5	<dl< td=""><td>mg/L</td><td>2.5</td><td>08-AUG-00</td></dl<>	mg/L	2.5	08-AUG-00
·	Sulfate (SQ4)			itigru.	2.0	<b>99</b> -ABC-86
WG16399-1				1	0.00	CD 21.40 00
NH4-EC	Ammonia-N	<0.05		mg/L	0.05	C9-Au/G-00
NH4-Ff:	Ammonia-N	<1		mg/kg	1	09-AUG-00
WG16430-1						
0GG-ED	Oil and Grease	<1		mg	1	10-AUG-00
WG16498-1						
OGG-ED	Oil and Grease	<1		វាទ្ធ	1	10-AUG-05
WG16504-1			. —	٠	····	
OGG-ED	Oil and Grease	<1		mg	1	10-AUG-00
WG16587-1						
AS-DIS-HYD-ED	Arsenic (As)-Dissolvod	<0.0004		mg/L	0.002	11-AUG-00
HG-DIS-HYD-ED	Mercury (Hg)-Dissolved	<0.0002		mg/L	0.001	15-AUG-00
METAL-DIS-ED	·	<0.005		mg/L	0,025	1-AUG-00
ME I MENDIOSER	Silver (Ag)	0.000	Α	mg/L	0.05	11-AUG-00
	Aluminum (Al)	<0.05	~	mg/L	0.25	11-AUG-00
	Boron (B)	<0.003		mg/L	0.015	11-AUG-00
	Barium (Ba)	<0.003		ing/L.	0.005	11-AUG-00
	Beryläum (9e)	<0.5		mg/=	2.5	11-AUC+00
	Calcium (Ca)			_	0.005	11-AUG-00
	Cadmium (Cd)	<0.001		നു√∟	0.01	11-AUG-00
	Cobatt (Co)	<0.002		πg/i. matt		11-AUG-00 11-AUG-00
	Chromium (Cr)	<0.005		mg/L	0.025	\$1-AUG-00
ļ	Copper (Cu)	<0.001		mg/L	0.005	11-AUG-00
}	Iran (Fe)	0.011		mg/i.	0.085	Firmograde

Workorder L'

L14821

SOLIDS-TOTSUS-ED	Total Suspended Spiids	N/A	RPD-NA	16.5	64-AUG-00
WG16187-3			···		
SOLIDS-TOTSUS-ED	Total Suspended Solids	13		16.5	04-AUG-00
				<u> </u>	·
WG16187-4	T-tal Supposed of Spiida	15		15.5	04-AUG-00
SOLIDS-TOTSUS-EC	Total Suspended Spilds	10		13.5	24-7.00.0
WG16187-5					0.4.41145.60
SOLIDS-TOTSUS-ED	Total Suspended Solids	N/A	RPD-NA	16.5	04-AUG-00
WG16302-2					
METAL-TOT-ED	Silver (Ag)	N/A	RPD-NA	20	13 <b>-AUG-0</b> 0
	Ajuminum (AI)	22	н	20	10-AUG-00
	Boron (B)	N/A	RPD-NA	20	10-AUG-00
	Barium (Re)	1.1		20	10-AUG-00
	Seryllum (Be)	N/A	RPD-NA	20	10~AUG-00
	Calcium (Ca)	1.4		20	10-AUG <b>-00</b>
	Cadmium (Cd)	N/A	RPD-NA	26	10 <b>-</b> AUG-00
	Cobalt (Co)	0.72		20	1C-AUG-00
	Chromium (Cr)	4C	Đ	20	10-AUG-00
	Copper (Ca)	58	D	20	10-AUG-00
	Iron (Fe)	N/A	RPD-NA	20	10-AUG-00
	Potassium (K)	0.53		20	1C-AUG-00
	Magnesium (Mg)	1.4		26	10-AUG-00
	Manganese (Mn)	0.21		20	1 <b>0-</b> AUG-00
	Molyodenum (Ma)	1,9		20	10-AUG-08
	Sodium (Na)	91.0		20	10-AUG-00
	Nickel (Ni)	9.9		20	10-AUG-00
	Phosphorus (P)	N/A	RPD-NA	20	10-AUG-00
	Lead (Pb)	N/A	RPD-NA	20	10-AJG-00
	Tin (\$6)	N/A	RPD-NA	20	10-AUG-00
	Strontlam (Sr)	2.3		20	10-AUG-00
	Titarium (TI)	30	D	20	10-AUG-00
	Thallium (Ti)	N/A	RPD-NA	20	10-AUG-00
	Vanadium (V)	54	D	26	10-AUG-00
	Zinc (Zn)	180	G	20	10-AUG-00
WG16309-3					
CN-TOT-1B	Cyanide, Total	22		25	09-AUG-00
WG16313-5	<u>u</u>				
ETL-ROUTINE-ICP-ED	Calcium (Ca)	0.40		1.19	68-AUG-66
	Potassium (K)	0.38		1.7	68-AUG-60
	Magnesium (Mg)	1.1		2.31	08-AUG-00
	Sodium (Na)	1.2		<b>5.16</b>	08-AUG-00
	Sulfate (SO4)	1.2		4,44	08-AUG-03
WG16313-7					
ETL-ROUTINE-(CP-ED	Calcium (Ca)	0.57		1.19	08-AUG-00
	Potasaium (K)	7.7	D	1.7	06-DUA-80

Workorder

L14821

	Cadmlum (Cd)	N/A	RPD-NA	20	11-AJG-00
	Cobalt (Co)	N/A	RPD-NA	20	11-AUG-00
	Chromium (Cr)	N/A	RPD-NA	20	11-AUG-00
	Copper (Cu)	0.77		20	11-AJG-00
	Iron (Fe)	0.24		20	11-AJG-00
	Potassium (K)	N/A	RPC-NA	20	11-A3G-00
'	Magnesium (Mg)	N/A	RPC-NA	20	11-AUG-00
	Manganeso (Ma)	0.52		20	11-AUG-00
	Molybdenum (Mp)	0.35		20	11-AUG-00
	Sodium (Na)	N/A	RPD-NA	20	11-AUG-00
	Nickel (Ni)	2.6		20	11-AŮG-00
	Phosphorus (P)	N/A	RPO-NA	20	11-AÚG <b>-</b> 00
	Lead (Pb)	N/A	RPD-NA	20	11-AUG-00
	Tin (Sn)	N/A	RPD-NA	20	11-AL)G-00
	Strontium (Sr)	N/A	RPD-NA	20	11-AUG-00
	Titanium (Ti)	15		20	11-AUG-00
	Thailium (Ti)	N/A	RPD-NA	20	11-∆UG-00
	Vanadium (V)	N/A	RPD-NA	20	11-AUG-00
!	Zinc (Zn)	0.29		20	11-AUG-00
WG16567-6					
AS-D/S-HYD-ED	Arsenic (As)-Dissolved	3.8		14.1	11-AUG-00
HG-DIS-HYD-EC	Mercury (Hg)-Dissolved	N/A	RPD-NA	46	11-AUG-00
METAL-DIS-ED	Silver (Ag)	N/A	RPD-NA	20	11-AUG-00
	Aluminum (Al)	6.6		20	11-AUG-00
	Boren (B)	N/A	RPD-NA	20	11-AUG-00
	Barium (Sa)	0.70		20	11-AUG-00
	Beryllum (Be)	N/A	RPD-NA	20	11-AUG-00
	Calcium (Ca)	N/A	RPD-NA	20	11-AUG-00
	Cadmium (Cd)	N/A	RPD-NA	20	11-AUG-00
	Cobalt (Co)	N/A	RPD-NA	20	11-AUG-00
	Chromlem (Cr)	N/A	RPD-NA	20	11-AUG-00
	Copper (Cu)	2.1		20	. 11-AUG-00
	(ron (Fe)	N/A	RPD-NA	20	11-AUG-00
	Potassium (K)	NIA	RPD-NA	20	11-AUG-00
!	Magnesium (Mg)	N/A	RPD-NA	20	11-AUG-00
	Menganese (Mr.)	2.5	10.5.151	20	11-AUG-00
:	Molybdenum (Mo)	N/A	RPD-NA	20	11-AUG-00
ļ	Sodium (Na)	N/A	RPD-NA	<b>2</b> 0	11-AUG-00
:	Nickel (Ni)	5.8	1.5 2-141	20	11-AUG-00
	Phosphorus (P)	N/A	RPD-NA	2Ç	11-AUG-00
:	Lead (Pb)	N/A	RPD-NA	2Ç	11-AUG-00
	Tin (Sri)	N/A	RPD-NA	2C	15-AUG-00
I	tin (Sn) Stronklum (Sn)	N/A	RFD-NA	20	11-AUG-90
	Strontom (Sr)	11	11 12/11/2	20	11-AUG-00
		N/A	RFD-NA	20	#1-AUG-00
	Thallium (TI)	N/A	RFD-NA	20	11-AUG-30
	Vanadium (V) Zinc (Zn)	5.4	IN DIAM	20	11-AUG-00
	care (E11)	. 5.7		·,	

Workorder L14821

	Chromium (Cr)	N/A	RPD-NA	20	11-AUG-00
	Copper (Cu)	7.6		20	11-AUG-00
	Iron (Fe)	N/A	RPD-NA	2G	11-AUG-00
	Potassium (K)	N/A	RPD-NA	20	11-AUG-00
	Magnesium (Mg)	N/A	RPD-NA	20	11-AUG-00
	Manganese (Mo)	5.7		20	11-AUG-00
•	Motybdenum (Mc)	5.0		20	11-AUG-00
	Sodlum (Na)	N/A	RPD-NA	20	11-AUG-90
	Nickel (Ni)	N/A	RPD-NA	2C	11-AUG-00
	Phosphorus (P)	N/A	RPD-NA	20	11-AUG-00
	Lead (⊇b)	N/A	RPD-NA	20	11-AUG-60
	Yin (Sn)	N/A	RPD-NA	20	11-AUG-00
	Strontium (Sr)	N/A	RPD-NA	20	11-AUG-00
	Titanium (TI)	26	D	20	11-AUG-00
	Thelijum (TI)	N/A	RPD-NA	20	11-AUG-00
	Vacadium (V)	N/A	RPD-NA	20	11-AUG-00
	Zinc (Zn)	8.2		20	11-AUG-00
VQ16567-12		W			
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	1.1		14.1	11-AUG-00
HG-DIS-HYD-ED	Mercury (Hg)-Dissolved	N/A	RPD-NA	46	11-AUG-00
METAL-DIS-ED	Silver (Ag)	N/A	RPD-NA	20	11-AUG-00
	Aluminum (Al)	0.068		20	11-AUG-00
	Boron (B)	N/A	RPD-NA	20	11-AUG-00
	Barium (Ba)	2.9		50	11-AUG-00
	Berylilum (Be)	N/A	SPD-NA	20	11-AUG-00
	Caldum (Ca)	N/A	RPD-NA	20	11-AUG-00
	Cadmium (Sd)	N/A	RPD-NA	20	11-AUG-00
	Cebalt (Co)	N/A	RPD-NA	20	11-AUG-00
	Chromium (Cr)	N/A	RPD-NA	20	11-AUG-00
	Copper (Cu)	4.6		20	11-AUG-00
	Iron (Fe)	N/A	RPD-NA	50	11-AUG-00
	Potassium (K)	N/A	RPD-NA	20	11-AUG-00
	Magnesium (Mg)	N/A	RPD-NA	20	11-AUG-00
	Manganese (Mr.)	0.84		20	11-AUG-00
	Molybdenum (Md)	0.072		20	11-AUG-00
	Sodlem (Na)	N/A	RPD-NA	20	11-AUG-00
	Ntcket (NI)	A\N	RPD-NA	20	11 <b>-</b> AUG-00
	Phosphorus (F)	N/A	RPD-NA	20	11-AUG-00
	Losd (Pp)	N/A	RPD-NA	20	11-AUG-00
	Tin (Sn)	N/A	R≏D-NA	20	11-AUG-00
	Strontium (Sr)	N/A	RED-NA	20	11-AUG-00
	Titanium (Ti)	N/A	RPD-NA	26	11-AUG-00
	Thallium (Tl)	N/A	R≐D-NA	20	11-AUG-00
	Vanadium (V)	N/A	RPD-NA	20	11-AUG-00
	Zinc (Zn)	0.95		20	11-AUG-00

Workorder

L1482 [

WG16187-6					
SOLIDS-TOTSUS-ED	Total Suspended Solids	98		89,6-106.2	04-AUG-00
WG16313-2					
ETT-ROUTINE-ICP-ED	Calcium (C≥)	102		99.1-102.3	08-AUG-00
	Potassium (K)	101		98.4-101.6	68-AUG-00
٠,	Magnesium (Mg)	103		101-106.5	08-AUG-00
	Sodium (Na)	101		95-104.6	08-AUG-00
	Suffate (SO4)	94		97. <b>S-1</b> 04.2	09-AUG-00
WG16399-2					
NH4-ED	Ammonia-N	100		93.5-108.6	09-AUG-00
NH4-ED	Ammonia-N	10C		90-110	09-AUG-00
WG16433-2					·····
DGG-ED	Oil and Grease	85		70.9-94	10-AUG-00
WG16495-2	•				
OGG-ED	Oi- and Grease	85	_	70.9-94	10-AUG-00
WG16504-2					
OGG-ED	Cir and Grease	77		70.9-94	13-AUG-00
316712-2					
AS-AS3-DIS-ED	Arsenic (As) 3÷-Dissolved	98		90-110	23-SEP-00
NG16808-2					
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	94		94.4-107	07-SEP-00
WG16808-3					
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	96		94.4-107	07-SEP-00

QC Type: MS

Lab QC Number:		% Recovery Qualifier	Limit %	Analyzed
WG16137-6				
CL-EO	Chloride (CI)	104	95-108	04-AUG-00
WG16169-3		· · · · · · · · · · · · · · · · · · ·		22.7.4.
N2N3-ED	Nitrate+NItrIte-N	99	88.2-107.8	04 <b>-</b> A <b>UG</b> -00
WG16183-3				
NO2-ED	Nitrite-N	97	94.5-104.1	04-AUG-00
WG16302-3				
METAL-TOT-ED	Sliver (Ag)	96	75-125	10-AUG-00
	Aluminum (Al)	111	75-125	10 <b>-</b> AUG-00
	Soron (E)	105	75-125	10-AÚG-00
	Вагіцті (Ва)	110	75-125	10-AUG-00
	Saryllium (Sa)	108	75-125	ชอ <b>-</b> Aปี <b>G</b> -00
	Celdium (Ca)	114	75-125	10-Aนื่©-00
	Cadmium (Cd)	106	75-125	10-AUG-00
	Cobalt (Co)	109	75-125	10-AUG-00
	Chromium (Cr)	104	75-125	10-AUG-00
	Copper (Cu)	108	75-125	10-AUG-00

Workorder L14821

				•
	Copper (Cu)	102	<b>75</b> -125	11-AUG-00
	Iron (He)	109	75-125	11-AUG-00
	Potassium (K)	112	75-125	11-AUG-00
	Magnesium (Mg)	110	75-125	11-AUG-00
	Manganese (Mn)	99	<b>7</b> 5-125	11-AUG-00
	Mofybdanum (Mo)	108	75-125	11-AUG-00
•	Sodium (Na)	103	75-125	11-AUG-00
	Nickel (Ni)	103	75-125	11-AUG-00
	Phosphorus (P)	107	75-125	11-AUC-00
	Lead (Pb)	114	75-125	11-AUG-00
	Tin (Sn)	110	75-125	11-AUG-00
	Strontium (Sr)	109	<b>75</b> -125	11-AUG-00
	Titanium (Ti)	109	<b>7</b> 5-125	11-AUG-00
	Thalium (TI)	1(7	75-125	11-AUG-00
	Vanadium (V)	108	75-125	11-AUG-00
	Zinc (Zn)	110	75-125	11-AUG-00
SB-DIS-HYD-ED	Antimony (Sb)-Dissolved	109	75-125	11-AUG-00
/G16567-5		<del></del>		
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	112	75-125	11-AUG-03
HG-DIS-HYD-ED	Mercury (Hg)-Dissolved	105	75-125	11-AUG-00
METAL-DIS-ED	Silver (Ag)	113	75-125	11-AUG-00
	A'uminum (Al)	111	75-125	11-AUG-05
	Boron (B)	110	75-125	11-AUG-00
	Barium (Ba)	. 111	75-125	11-AUG-00
	Beryllium (Be)	105	75-12ē	11-AUG-00
	Calcium (Ca)	113	75-125	1-AUG-00
	Cadmium (Cd)	105	75-125	11-AUG-00
	Cobalt (Co)	113	75-125	51-AUG-00
	Chramium (Cr)	107	75-125	11-AUG-00
	Copper (Cu)	110	75-125	11-AUG-80
	fron (Fo)	118	75-125	11-AUG-00
	Potassium (K)	109	75-125	11-AUG-00
	Magnesium (Mg)	109	75-125	11-AUG-00
	Manganese (Mb)	111	75-125	11-AUG-00
	Melybdenum (Mo)	103	75-125	:1-AUG-00
	Sodium (Na)	111	75-125	11-AUG-00
	Nickel (Ni)	112	75-125	11-AUG-00
		112	75-125	18-AUG-00
	Phosphorus (P) Lead (Pb)	10\$	75-125 75-125	11-AUG-00
	` '	110	75-125 75-125	11-AUG-00
	Tin (Sn)	112		11-AUG-00
	Strontlem (Sr)	109	75-125 25 (25	114AUG-00
	Titanium (刊)		75-125 76-125	11-AUG-00 11-AUG-00
	Thaläum (TI)	113	75-125	
	Vanadium (V) Zisc (Zn)	107 118	75- <b>12</b> 5 75-125	11-AUG-99 11-AUG-99
	Zinc (Za)	110	10-17-1	1.14410125757

## ENVIRO-TEST QC REPORT Page 14 of 17

Workorder L14821

	Phosphorus (P)	108		75-125	11-AUG-00
	Lead (Pb)	108		75-125	11-AUG-00
	Tin (Sn)	109		75-125	11-AUG-60
	Strontlurn (Sr)	105		75-125	11-AUG-00
	Fitanium (Ti)	109		7 <del>5-1</del> 25	11-AUG-00
	Thallium (7)	112		75-125	11-AUG-00
	Venedium (V)	108		75-125	11-AUG-00
	Zinc (Zn)	103		75-125 75-125	11-AUG-00
WG16712-4	<u> </u>			<del></del>	
AS-AS3-DIS-ED	Arsenic (As) 3+-Dissolved	90		86.5-105.6	23-\$E#-00
WG16808-5				- June Viller	
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	97		86.5-106	07-SEF-00
WG16808-6					
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	92		86.5-106	07-SEE-00
WG16567-11					
AŞ-DIS-HYD-ED	Arşanic (As)-Dissolved	. 108		75 <b>-</b> 125	11-AUG-00
HG-DIS-HYD-ED	Mercury (Hg)-Dissolved	96		75-125	11-AUG-00
M≊TA∟-DIS-ED	Silver (Ag)	100		75-125	11-AUG-00
	Aluminum (Al)	88		75-1 <b>2</b> 5	11-AUG-00
	Boron (B)	101		75-125	11-AUG-00
	Badum (3a)	112		75-125	11-AUG-00
	Beryllium (Be)	96		75-125	11-AUG-00
	Calclum (Ca)	114		75-125	11-AUG-00
	Cadmium (Cd)	104		75-125	11-AUG-00
	Cobalt (Co)	107		75-125	11-AUG-00
	Chromium (Cr)	105		75-125	11-AUG-00
	Copper (Cu)	104		75-125	11-AUG-00
	Iron (Fe)	110		75-125	11-AUG-00
	Porassium (K)	106		75-125	11-AUG-00
	Magnesium (Mg)	96		75-125	11-AUG-00
	Manganeae (Mn)	102		75-125	11-AUG-00
	Molyadenum (Ma)	111		75-125	11-AUG-00
	Sodium (Na)	53	Ē	75-125	11-AUG-00
	Nicket (Ni)	104	_	75-125	11-AUG-03
	Phosphorus (P)	103		75-125	11-AUG-03
		112		75-125	11-AUG-00
	Lead (Pb)				
	Tin (Sn)	110		76-125 75-125	11-AUG-09
	Struntiom (Sr)	117			11-AUG-00
	Titanium (Ti)	108		75.125	11-AUG-00
	Thallium (TI)	114		75-126 75-40-	11-AUG-00
	Vanadium (V)	108		75-125	15-AUG-00 47-AUG-00
	Zinc (Zn)	107	· · · · · · · · · · · · · · · · · · ·	75-125	11-AUG-00
WG16567-13	4	445			A.IO CC
AS-DIS-HYD-ED	Arsenic (As)-Dissolved	110		75-125	11-AUG-00
MG-CIS-HYD-≦D	Mercury (Hg)-Dissolved	95		75-125	15-AUG-05

Workorder L14821

	=			
	Tirt (Sn)	97	75-125	18-AUG-00
	Strontlure (Sr)	102	75-125	16-AUG-00
	Titanium (Tt)	100	75-125	16-AUG-00
	Thallium (TI)	91	75-125	18-AJG-00
	Vanedium (V)	101	75-125	16-AUG-00
	Zinc (Zn)	66	75-125	16-AUG-00
SB-D(S-HYD-EO	Antimony (Sb)-Dissolved	97	75-125	16-AUG-00

QC Type: MSD

Lab QC Number:		RPD	Qualifier	Limit %	Analyzed
WG16137-7			•		
CL-ED	Chloride (Cl)	0.96		1.19	04-AUG-00
WG16169-4					
N2N3-ED	Nitrate+Nitrite-N	0.0		4.48	04-AUG-09
WG16183-4					-1
NO2-ED	Nitrite-N	0.0		3 65	04-AUG-00

Dominion (Main) 7 tom (Mari) // tomorius AF (Mari) // tomorius AF (Mari) // (100074 - Mari) // (100074 - Mari) // Prend: (780) 417-2011 (1997)

-Benvalsion (Downtown) (2) jedustrial (1797ana - 6) 12-o Pr. 40 (55-102 Sport .Fernanion, AS 1 -1910k6 (a) -12.0 of Franc. (780) 433-5285 Fax. (280) 424-1002 285, A

Celgary Br. 7, 12:3 - 6th Available Celgary Ab 10F OLS Fhore: (403) 79 - 3267 8 5 Fax: (403) 201 6369, 4

Tev eyal 4 7 3 60 Frame: (760) 575 5198 55 Fax: (760) 517 918 44 

Szskalovi 124 Velerinery Rose of Engageren, SA 1.25 of 5.70 SE3 5.75 SE3 570 SE3 Frome: (700) EST-B3 (1986) - 501 (1995) RS-\$160 (1986) - 500-007-7140 (1986)

Winnipeg 74: Toyan Avende

- Paix: (207) 833-7360 (n. 36 Crpawa gegne Lateryalchrass 23°2 St. Leuren byd St. Onk 16° One w. CN

Fig. 418 (819) /2:4005 Fac. (813) 78-7197, Wooming

Wyamine PS 4-0 Was First Sheet Caspar (Nygrang 6787) Priorie (307) 735 87(1) Pag. (307)200-1078 7 4-602 565 0303 / / 1/8

Ganada Wigh Phologi 1-870 fife 90/9 1889

Western Caliada Fabilita -B00-286-7318

EL	Enviro Test
<b>9</b>	A DIVISION OF EIL CHEMSTED ANALYTICAL LIMITED

	CHEMICAL A	NALYSIS RE	PORT	<u> </u>
GOLDER ASSOCIATES UTD ATTN: BETTINA SANDER 500 4250 STUL CREEK DRIVE BURNASY BO VSC 306		DATG:	Juna	*3, 2501
Lab Work Order#: L32566 Project ⊇.O. #: Project Reference: Comments:	Sampled By:	CI <sup>2</sup>		Date Received: 16-MAY-01

THIS REPORT SHALL NOT BE REPRODUCED EXCRET IN FOLL WITHOUT (ILD WOLTTON AUTHOR TY OF THE LABORATORY). ALL SAMPLES WALL BE DISPOSED OF AFTER BE DAYO FOLLOWING ANALYSIS, FLEASE CONTROL THE LABOR YOU REQUIDE ADDITIONAL SAMPLE STORAGE TIME.

AUDREDICATIONS: SYANDAYIDS COURCIT OF CANADA (SUC), IN COOFFRATION WITH THE CANADIAN ADDICATION FOR ENVIRONMENTAL ANALYTICAL LACENTYPICALS (CARAD) FOR SPECIFIC TESTS AS REGISTERED BY THE COUNCY (COMONTON), CALDATY, CACKATON, WINNIED, THURSER BRY)

AMERICAN NOUSTRIAL HYGENCIA (SOCIATION (AHA) FOR INDUSTRIAL HYDENE ANALYSIS (BUMONTON, WISHA) AND ADAIDS COUNCY OF CANADIA IN COOFFRAL ROW WITH THE CANADIAN EDGG MISPIZE (ION AGENCY (CERL, FOR FERTIL ZEA AND FEED TRIZITIES (MASK (OUR)

Lab (D	Sample ID	Test Description	Result	<u>D!</u>	Units	Extracted	Anstyzed	By
132569-1	BC-U\$-SW-06/01					İ	:	İ
Sample Dale:	15-MAY-01   01:00 PM							İ
Matrix:	WATER		ŀ					
	Total Metals				!		1 .	İ
	Total Major Metals						147 MAY 01	EC
	Magnesium (Mg	))	4.4	0.1 1	img/L mg/L		17-MAY-01 17-MAY-01	±0
	Sodium (Na) tron (Fe)		0.179	0,005	mg/L	1	17-MAY-01	āc
	Manganese (Mr	٠١	0.097	0,000	mg/L	1	: 17-MAY-03	EG
	Routine Water Analy		2.30					
	Chloride (CI)	,	1 4	1	mg/L		22-MAY-01	DN⊃
	Nijraje+Nfinte-N	i	<0.1	6.1	ima/L		;22-MAY-01	CNP
	ell. Conductivity	and Total Alkalinity	į					
	H		7.4	0.1	∮pH		17-MAY-01	OMN
	Conductivity ([10	•	195	0.2	iuS/cm		17-MAY-01	OMN
	Bicarbonale (HC	•	57	5	mg/L	İ	17-MAY-01 17-MAY-01	OMN
	Carbonata (CO)	3)	<5 <5	5	mg/l. mg/l.		: 17-MAY-01	CMN
	Hydco×ide A(ka⊓nity, Total		47		mg/L		17-\$/AY 01	CMK
	Ion Batance Calcu	listian	7'	_		1	:	1
	ion Balance	MENON	907		%	!	24-MAY-01	:
	TDS (Calcutato	d',	65		ang/L	÷	24-MAY-51	
	Hordness		54		mgr.	1	24-MAY-01	İ
		04 for routine water		:   5-	i	i	23 MAY 01	MCR
	Calcium (Ca)		14.0	0.5 0.1	mg/L mg/L		23-MAY-01	MGR
	Petasalvin (K) Magnesium (Ma	,\	4.8	0.1	mg/L		23-MAY-01	MOR
	Secium (Na)	<del>!</del> )	4	1 1	mg/L	!	23-MAY-01	MOR
	Şulfata (SO4)		8.2	ति ह	mgd	İ	23-MAY-01	i MOR i
	Artimony (Sb)-9	Dissolved	0.0017	0.0004	nig/L	ļ	17-MAY-01	NO.
	Arsenic (As)-Dia	seo'ved	0,0350	0.0006	mg/i.	:	17-MAY-01	: MD
	Mercury (Hg)-D	rssolved	<0.0002	0.0002	,mg/L		17-MAY-01	MO
	Astimony (Sp)-1		3.0019	0.0004	į mg/L		17-MAY-01	M⊇
	- Austria (As)-To		5.0399	0.0004	ingA.		17-MAY-01	ΜŒ
	Mercury (Hg)-1		<0.0002	0.0002	։ հայ <sub>ա</sub> /	i	157-MAY-05	MO
	Ammonia-N		0.20	0.65	img/L	!	22-MAY-94	LAX
	Dissolved Orga	nic Carbon	12		mg/L		22-MAY-01	HAN
	Nitrate-N		<0,1	01	mţ/L	İ	-22-MAY-01	CNP
	Natio-N		<0.05	0.05	jmg/L	1	22-MAY-01	CNP
	Total Suspende	id Solids	<5	3	ing/L		18-MAY-01	WNG
[32566-2]	BD-BFF-SW-95/C1		<del></del>		· · · · · · · · · · · · · · · · · · ·		<del></del>	:
	15-MAY-01 01:00 PM			İ	i			i
Metrix:	WATER					ļ	•	
W-2111X.	Figenived Metals					!		
	Dissolved Metals	Metals		!		:		!
	Silver (Ag)		<0.00S	0.005	mg/L	i	17-MAY-01	MD
	Aluminam (Ai)		0.06	: 0.01	'mg/L		; 17-MAY-01	MO
	Seren (B)		<0.05	0.06	img/L		- 17-MAY-01 17-MAY-01	MO MO
	Sariom (06)		0.012	0.003	mg/L mark		CAMATAVI COMMAYAN	, MS
	Berylism (Se) Continues (Cd)		<0.001	9,001 0,001	lmg/L Img/L		17-MAY-01	MD
	Codmium (Cd)		50,00	1 " " "	h. 2. –	:	!	-

Jac 30 Sample ID Fest Description	Result	F:	Units	Extracted	Analyzed	Бу
132566-2 SC-EPF-SW-05/01	!		'	:	!	
Sample Date: 15-MAY-01 01:00 PM			;			
Matrix: WATER			i			
Routina Water Analysis			!		!	ļ
Nlfra:e+Nātrīl=N	<3.1	D.1	(regit		22-MAY401	CNP
pH, Conductivity and Total Alkalinity			i	İ		
pH	7.3	0.1	ipH luStom		17-MAY 01 17-MAY-01	CMN:
Condectivity (EC)	197 53	0.2	img/L		17-M/(T-0)	- CMN
Biosrbonate (HCO3) Carbonale (CO3)	=>> <5	ā ! 5	mg/L	-	117-MAY-01	CMN
Hydroxide	<5	. 5	mg/L	İ	17-MAY-01	CM/9
Alkatinity, Total	43	. 5	mg/!		17-MAY-01	CMN
Ion Balance Calculation		:	*		!	
lon Salance	102	;	%		24-MAY-01	
708 (Calculated)	103	:	mg/L	i	24-MAY-01	
reenbyer!	79	:	mg/L	:	24-MAY-01	
JCP metaja and \$04 for routine water Calcium (Ca)	21,1	. u.s	mg:L	:	73-MAY-01	MOR
Potassium (K)	2.1	0.1	mg/L		23-MAY-01	MOR
Magnesium (Mg)	65	61	mg/L	i	23-MAY-01	MOR
Sodium (Na)	5	1	്യൂറ്റ്		10-YAM-82	MOR
Sulfate (\$04)	33.7	C.5	mp*L		23-MAY-01	MOR
. Antimony (Sb)-Dissolved	: 0.0193	0.0004	: imaŭ		17-MAY-01	MD
	0.07231	0.0004	leade.		12-JUN-01	JJ
Assenic (As) 3*-Dissolved	• • • • • • • • • • • • • • • • • • • •	0.0002	! -	i	12-JUN-01	! 33
Araenic (As) 5+-Disselved	Ú,113	0,0004	,FIG <sup>r</sup> L	!	17-MAY-01	. MĐ
Arsenic (As)-Dissolved	0.138		maru 	İ	117-MAY-01	: MD
Mercury (Hg)-Dissolved	<0.0002	0.0002	jngs.	-	17-MAY-01	WO
Antimony (Sb) Total	0.9259	0.0004	righ.		ļ	
Arsenic (Az)-Yofa:	0.166	0.0004	Láy		17-4:AY-01	หม
Cyanida, Total	<n,ŋcr2< td=""><td>0.002</td><td>mg/L</td><td>18-MAY-01</td><td>.18-MAY-01</td><td>3Ľ</td></n,ŋcr2<>	0.002	mg/L	18-MAY-01	.18-MAY-01	3Ľ
Mercury (Hg)-Total	<0.0002	0.0002	mg/L		17-MAY-01	MD
Arranonia-N	0.09	. 0.05	m‡/L		22 MAY 01	_AK
Dissolved Organic Carbon	13	: 1	mg/L	!	22-MAY-01	HAN
Nitrale-N	' <0.1	. C.1	mg/L	:	22-M/(Y-0)	ONP
Nitr15-N	<0.05	0.05	րդի		22-MAY-01	CMP
Total Suspended Solids	9	3	mg/L		15-MAY-01	WNG
L3256673 BC-D51-SW-05/01	:				:	
Sample Date: 15-MAY-01 - 01 00 PM			ļ			
Matrix: WATER				!	:	i
Dissolved Metals				İ	:	
bissoived Trace Metals Silver (Agj	<0.005	0.505	sng/L	İ	17-MAY-01	MO
Alua inten (Al)	0.02	0.01	ลญ/L		17-MAY-01	MO
Boinn (B)	< 0.05	0.05	mg/L	;	17-MAY-01	GM
Bertuck (Ba)	0.009	0.003	mg/L	:	17-MAY-01	MD
Burylium (Se)	<0.001	0.001	,mg/L	:	17-MAY-01	MD
Dedmium (Cd)	<0.001	0.501	mg/L		17-MAY-01	909
Cohalt (Ce)	<0.002	0.002	img/L	i	17-MAY-C1	מא
Chromium (Or)	<0.005	. 0.005	img/L	1	17-MAY-01 47-34-07-04	MD MAD
Dopper (Ou)	0.007	0,050	mg/  mg/		17-MAY-01 117-MAY-01	MD MD
Marybdenum (Mo)	<0.605 	0.005	±πε/_	1	research 1	i laura

Lots ID Sample ID Test Description	Result	i D.L.	Unita	Exgrapted	Analyzed	By
L62566 3 BC-DS1-SW-05/01		i	: 	:	1	
Sample Date: 15-MAY-01   01:00 PM				i	:	i
Matrix WATER		!		İ	:	:
Routine Water Analysis	!	!	:	!		
pH <sub>i</sub> Conductivity and Total Alkalinky	i					1
Bicarbonate (HCO3)	81	5	mg/L		17-MAY-01	CMN
Carbonate (CO3)	<b>45</b>	5	mg/L	Ļ	17-MAY-01	CMN
Flydroxide	. <5	5 5	eng/L		17-MAY-01	CMN
Alkedinity, Total	50	7	mg/L	i	-7-MAMG:	CMA
ion Bafance Calculation ion Balance	104	:	%	İ	24-MAY-01	i
TOS (Celculated)	93		mg/L		24-MAY-01	!
Hardness	75		mg/L		24-MAY-01	i
ICP meta's and SQ4 for routing water			. •			
Calcium (Ca)	21.2	n.s	mg∆.	İ	23-MAY-01	MOR
Potessium (K)	1.8	0.1	£ng/L	i	23-MAY-01	MOR
Magnosium (Mg)	; 8.3	· 0.1	ಮ್ಮಾಗ್ತಿ		23-MAY-01	MOR
Sodium (Na)	8	1	:mg/L		23-MAY-01	! MOR
Şulfate (SO4)	28.5	D.5	mg/L		23-MAY-01	- MOR
Antimony (Sb)-Dissolved	0.0121	0.0004	: :mg/L	  -	17-MAY-01	MD
Arsenic (As) 3*-Dissolved	0.519	0.0002	<del>m</del> g/L	!	12-JUN 01	15
Arsenic (As) 5Dissolved	0.593	0.0002	ang/L		52-JUK-01	11
Assenic (As)-Dissalved	0.656	0.0004	mg/L		17-MAY-01	MD
Moreury (Hg) Dissolved	<0.0002	0.0002	mg/L		17-MAY-01	: MD
Antimory (Sp)-Total	0.0131	9,0004	mg/l.		17-MAY-01	MD
Arsenic (As)-Total	0,662	0.0004	mg/L		17-MAY-01	MO
	<6.C02			13-MAY-01	1	ST
Cysnide, Total	1	0.002	,mø/L	154WAT=01	18-MAY-01	
Memury (Hg)-Trial	<0.7002	. 8.0002 i	mg/L	!	17-MAY-01	MD
Ammonia-N	0.16	0.05	nig/L	!	22-MAY-01	LAK
Dissolved Organic Cerbon	13	1	mş/L		22-MAY-01	HAN
Nilrate-N	<0.1	3.1	mg/L		28-MAY-01	CNP
Nicrite-N	<0.05	0.05	mg/L		22-MAY-01	CNP
Total Suspended Solids	17	я	mg/l		18-MAY-01	WNG
32568-4 BC 352 SW-05/01	ļ			:		İ
Sample Date: 15-MAY-01   C1:50 FM			i	:		
Matrix WATER	i			: I	!	i
Disselved Metela		:				
Dissolved Trace Metals Silver (Ag)	<0,005	0.005	mg/L		174MAY401	MD
Alverioum (Al)	0.03	0.003	mg/L	!	17 MAY-01	MO
Geron (B)	<0.05	0.01	mg/L		17-MAY-01	; MD
ರ್ಷಚಿತ (8a)	0,611	0,003	lw2\\ lwave		177-MAY-01	MD
Seryllium (Be)	40.601	6 001	നച്ച്		17-MAY-01	MO
Cedmium (Cd)	i <0.000	0.001	mg/L		17-3401/401	MD
Cubal. (Ou)	<0.002	0.002	rng/L		17-MAY-01	MO
Chromical (Cr)	<0.005	0.005	mg/E		57-MAY-01	MD
Copper (Qu)	0.605	G Q01	mg/L	;	17-MAY-01	MD
Molybaenum (Mb)	<0.005	0.005	mg/s	:	17-MAY-01	, MD
Njokel (Ni)	0.002	0 002	mg∆		17-MAY-01	: 400
Phosphorus (P)	³ <5.1	0.1	mg/L		17-548/4-01	M.D
Lead (Pb) 1	. ≪0,005	0.005	mg/C <sub>a</sub>		17-MAY-01	MD

<b>L</b> ab ID	Sample ID	Tes! Description	Result	₽.⊑	Urils.	Ехігарівої	Analyzed	Ey
32566-4	₽C-092-\$W-05/01						į	i İ
	15-MAY-01 01:00 PM			:	i		!	
vtetrix:	WATER		į				i	ļ
CSC III.	Routine Water Analy	10[0		i			İ	<u>:</u> ·
		and Total A.keiinity	:	:	!		İ	
	Alkalinity, Total	and rate: A.xanimiy	47	, 5	mg/L		17-MAY-01	CMN
	ion Balance Calcu	ilation		:				
	Ion Balance		106		156		24-MAY-01	i
	TDS (Calculated	3)	77		laudyr		: 24-MAY-01	!
	Haroness		£4		mg/L	j	24-MAM-01	:
	,	04 for routing water		١	:	:		
	Ceicium (Ca)		16.8	6.5	ണൂ/L		*23-MAY-05 .23-MAY-01	, MOR I MOR
	Polašsřum (K)		1.8 6.3	Ç,t	mg/L		23-MAY-01	, WOR
	Magnesium (Mg	];	9.3	. C.1	mg/L		23-MAY-01	· MOR
	Sodium (Na) Sulfate (SO4)		17.1	0.5	mg/L mg/L	ļ	28-MAY-01	MOR
	2018/6 (204)		11	0.0	11.2	:	12	
	Αηέπουν (St)-0	Cissolved	0.0073	0.0004	reg/L		17-MAY-01	M.D
	Artenic (As) 3h		0,0160	0.0002	mg/_	.'	1-2-JUN-01	1.1
			0.0798	0.0002	155 Q/L	į	12-JUN-01	. J.J
	Arsenic (As) 5+				i -	}	17-MAY-05	GM
	Arsento (As)-Dia		0.0933	0 0004	mg/i	İ	17-MAY-03	MD
	Mercury (Hg)-D		<0.0002	0 0002	img/L		1	
	Actimony (\$1)-1		0.0198	0.0004	mg/L	1	17-MAY-01	MO
	Arsenia (As) Te	trá .	0.231	Q.0004	mátr.		17-MAY-03	MO
	Cyanide, Total		<0.002	0.002	កានូវ៤-	18-MAY-01	13-3/AY-01	SF
	Marcury (Hg)-Te	cta!	<0.0002	0.0002	mg/L		17-MAY-01	MD
	Ammonja-N		0.20	0.05	mg/L		2 <b>2-</b> MAY-01	LAK
	Dissolved Orga	ale Carbon	13	j 1	mg/L	:	22 MAY-01	HAR
	Mitrate-N		<0.1	0.1	mg/L	-	22-MAY-01	j ONP
	Nitfite-N		<0.05	0.08	mg/L		+22-MAY-01	CNP
	Yoral Suspende	of Splide	21	3	(mg/L	:	:18-MAY-01	WNG
	go.p <u>s2-sw-os/61</u> C		2.1	Ļ <u>-</u>		<u> </u>		
325/68-6					•			
-	. 15-MAY-01   01:00 PM		:		i	ļ	į	
MalriX:	WATER			ĺ				
	Dissolved Metals			!		1		
	Dissoived Trace N Silver (Ag)	victors	<0.005	0,005	mg/L	!	17-MAY-01	WD.
	Aluminum (Al)		0.03	0.91	mg/L	1	117-MAY-01	MD
	Baron (B)		<0.05	0.05	mg/L	i	17-MAY-01	CM
	Barium (Ba)		0.01%	0,003	mgd	į	17-MAY-01	· MO
	Berylium (Be)		<0.001	0.000	mg/L	i	17 WAY 01	, WD
	Cadmium (Cd)		<0.001	0.001	$mgA_{-}$		17-MAY-05	MO
	Cobalt (Co)		<0.002	0.002	<sup>k</sup> rag/L		17-MAY-01	MO
	Chroaisim (Cr)	•	<0.005	0.005	ludir.	!	17-MAY-01	MO.
	Copper (Qc)		0.005	0.001	mg/L	:	:7-MAY-01	I MD
	Molybeignum (N	Ac)	40.006	0.005	mg/L		17-MAY-01 37-MAY-04	MD
	Nickal (Ni)		0.002	0.002	mg.'L		17-858Y-01 17-858Y-01	MD
	Prespherus (P)	;	<5.5	. C.*	mg/L		17-MAY-01	I MD
	L∋a5 (P5) =:		<0.005	0.005	ļmy/L mail		17-MAY-01	MD
	Tin (\$1)		<0.05 0,051	0.005	,mg/L insg/µ	:	10-MAY-01	:
	Streetuer (St)		45.J01	0.005	Luight Luight	İ	1174MAY-0,1	
	Thanium (Ti)		j ~6.961	ψ.σσ1	l=	1		

Lab (D	Sample IO	Test Description	Rasult	O.L.	ปกไร	Extracted	Analyzed	₽y
L32566-5	BC-0\$2-SW-05/01-C			:	}			~-
sample Date:	: 15-MAY-01   01:00 PM				!	İ		
datrx:	WATER			:		İ		
	Routine Water Analysis					İ		
	tor, Belance Catculati				1	:	:	
	TOS (Calcolated)		79		rng/L	:	24-MAY-01	
	Hardness		64	! :	ang/L	:	-24-MAY-01	:
	ICP metals and SC41	for routine water			į	:		i
	Calcium (Ca)		\$5.9	0.5	ngA.		23-MAY-01	MOR
	Palessium (K)		•,១	D 1	mg/L		23-MAY-01	MOR
	Magnesium (Mg)		5.2	0.1	iπg/L		23-MAY-01	MOR
	Sodium (Na)		4	. 1	itag/L	ļ	23-MAY-01	MOR
	Sulfate (SQ4)		. 17.8	95	mg/L	İ	128-MAY-01	MOR
	Antimeny (Sb)-Diss	olved	0.0074	0.0004	ng∕L		17-MAY-01	ИD
	Areenic (As) 3+-Dis	solved	0 0149	0.0002	rmg/L		\$2-3UN-03	. JJ
	Arsenic (As) 5+-Dis	solved	0.0608	0.0002	aigA.		12-JUN-01	JJ
	Arsenic (As)-Dissoi		0.0927	0.0034	mg/L		17-MAY-91	MO
	Marcury (Hg)-Disac		<0,0002	3.0032	mg/L	i	17-MAY-01	MD
			1 n n 205	0.0004	1 -	i		
	Antimony (Sb)-Tota	bi .		•	mgA.		17-MAY-01	:
	Arseruc (As)-Yota		0.229	0.0004	mg/L		17-MAY-01	MD
	Cyanice, Total		<0.002	0.002	πgÆ	16-WAY-01	16-MAY-01	SF
	Merbury (Hg)-Total		<0.0002	3.0032	ಪರ್ಧ	i	17-MAY-01	MD
	Ammonia-N		0.20	0.05	mg#L	:	22-MAY-01	JAK
	D'ssolved Organic	Carbon	13	1	ಗಿತ್ತಿಗೆ	:	22-MAY-01	HAN
	Nitrate-N		<0.1	ų.•	mg/L		22-WAY-01	CNP
	Nitrlto-N		! <0.05	0.05	tag/L	!	22-MAY-01	CNP
	Total Suspended S	elida	28	į 3	mg/L	1	18-MAY-01	WKG
32566-6	BO-DSX-SW-65/67-D		·- <del></del>		-	÷ ~		
	: 15 MAY-01   01:00 PM		ļ			1	i	:
datox:	WATER							
	Dissolved Motels -		:				:	
	Dissolved (race Meta	ats	:					
	Silver (Ap)		<0.005	0,005	mg/L		17-MAY-31	GM
	Aluminam (Al)		<0.01	0.01	mg/L	i	17-MAY-01	MØ
	Beron (B)		<0.05	0.05	ಗಳಿ∕ಒ		17-MAY-01	MD
	Barium (B <b>a</b> )		<0.003	0.003	ოვљ		17-MAY-01	MO:
	Berylllum (Be)		(0.001	0.004	mgti		117-MAY-01	!vi⊅
	Cadmium (Cd)		<0.001	0.001	mg/L		17-MAY-01	ИĐ
	Cobe't (Co)		<0.002	0.002 0.005	img/L		17-MAY-01 17-MAY-03	MD MD
	Chromium (Cr)		' <0.005 ' <0.001	0.005	rng/L rmg/L		17-MAY-01	MD
	Gappe: (Cu) Malybdenum (Ma)		<0.007 <0.005	0.005	mg/L	i	-17-MAY-01	MP
	Moskettering (mm)		<0.002	0.003	img/L		-17-MAY-01	MD
	Mecal (NP			0.002	I -		17-MAY-01	MD.
	Njekel (Ni) Poosphores (Fi)		I	a.	!!nn!L			
	Paosphores (F)		<0.1	0.5 0.005	lmg/L mu/L		17-MAY-01	MC
	Prosphores (F) Lead (Pa)		<0.1 <0.005	0.005	mg/L	!	:17-MAY-01 :17-MAY-01	MD MD
	Paosphores (F) Lead (Pa) Tip (Sn)		<0.1 <0.035 <0.05	!	mg/L Img/c	:		
	Prosphores (F) Lead (Pa) Tits (Sn) Strontium (Sn)		<0.1 <0.005	0.005 0.25	my/L hag/c lmg/L	!	17-MAY-01	MD
	Paosphores (F) Lead (Pa) Tip (Sn)		<0.1 <0.005 <0.05 <0.005	0.005 0.06 0.005	mg/L Img/c		17-MAY-01   17-MAY-01	MD
	Prosphores (F) Lead (Pa) Tits (Sn) Strondies (Sr) Titanburn (Yi)		<0.1 <0.005 <0.05 <0.005 <0.001	0.005 0.25 0.005 0.001	mg/L hag/c lag/L mg/L	! : :	17-MAY-01 17-MAY-01 17-MAY-01	MD MD MS

Roy# (,DC

# Methodology Reference

ETL Test Code	Test Description	Methodology Reference (Based On)
AS-A33-DIS-ED	Arsenic (As) 3+-Dissolved	APHA 8114 C-AAS - Hydride
AS-A85-DIS-ED	Arşenic (As) 5+-Dissolved	APHA 3114 C-AAS - Hydrid∋
AS-DIS-HYD-EC	Areanic (As)-Dissolved	APHA 3154 C-AAS - Hydridə
AS-TOT-HYD-ED	Araenic (As)-Totel	APHA 3114 C-AAS - Hydride
ල-පූ:S-ORG-සිව	Dissolved Organic Carbon	APHA 9310 B-instrumental
CL-EO	Chioride (CI)	APHA 4500 CI E-Color/metry
CN-TOT-TB	Cyanide, Total	APHA 4500CN C E Strong and Dist Colorim
RTL-ROUTINE-IOP-ED	ICP metals and SO4 for multine water	APHA 8120 B-ICP-OES
HG-D(S-HYD-S0	Mercury (Hg)-Dissolved	APHA 3112 B-AAS Cold Vapor
MG-TOT-RYD-ED	Mercury (Hg)-Tota;	API (A 3112 B-AAS Cold Vapor
IONBALANÇE-ED	ion Balance Calcolytico	APHA 103CE
MET1-DIS-ED	Efissolved Trace Matels	APHA \$120 840240€8
METH-TOT-ED	Total Traco Matela	APHA \$120 B-ICP-OES
MET2-DIS-FD	Dissolved Major Metals	APHA 3120 B-ICP-OÉS
MET2-TOT-ED	Total Major Metals	APBA 3120 BHOP-OES
N2N3-ED	Nitrate+Nitrite-N	APHA 4500 NO3H-Colodmetry
N-44-ED	Atturionia-N	APHA4500NH3F Colorimetry
NOZ-EO	Nibrite-N	APHA 4500 NO23 Colorimotry
NO3-ED	rška:e-N	APRA 4560 NQSH-Qolosimetry
PH/SC/ALK-ED	pH, Conductivity and Total Alkalinity	APRA 4500-H, 2510, 2520
SB-DIS-NYD ED	Antimony (89)-Dissolved	APRA 3114 C-AAS-Hydridə
SB-TQT-HYD-CD	Antimony (Sb)-Tota	APHA 3114 C-AAŞ-Hydridə
SOLIDS-TOTSUS-ED	Total Suspervied Solids	APFIA 2540 D-Gravimetrio