WOLVERINE MINE

2017 ANNUAL REPORT

WATER USE LICENCE QZ04-065

QUARTZ MINING LICENCE QML-0006

Prepared for:

Yukon Energy, Mines and Resources

And

Yukon Water Board

Prepared by:

Yukon Zinc Corporation

Vancouver, British Columbia

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Table of Contents

1 Introduction 1
2 Reporting Requirements 2
2.1 WUL QZ04-065 Requirements 2
2.2 Quartz Mining License Requirements 3
2.3 Reclamation and Closure Plan Update 6
2.4 Activities Conducted Under Temporary Closure Provisions of QML-0006 14
3 2017 Mine Activities 16
3.1 Underground Mine 20
3.2 Mill and Associated Infrastructure 23
3.3 Tailings Storage Facility 24
3.4 Access Road Operation 26
4 Water Use 28
5 Waste Discharges 30
6 Environmental Monitoring 31
6.1 Water Quality and Quantity Monitoring 31
6.1.1 Surface Water Monitoring 32
6.1.1.1 Tailings Storage Facility 34
6.1.1.2 Wolverine Creek Watershed 35
6.1.1.3 Go Creek Watershed 40
6.1.1.4 Money Creek Watershed 44
6.1.1.5 Access Road Route 46
6.1.2 Groundwater Sampling Program 48
6.1.2.1 Tailings Storage Facility 50
6.1.2.2 Wolverine Creek 52
6.1.2.3 Go Creek 65
6.2 Piezometer Monitoring 67
6.3 Aquatic Life and Sediment 68
6.4 Climate Monitoring Program 68
6.5 Wildlife Monitoring 70
7 Progressive Reclamation Effectiveness Monitoring Program 71
8 Biopass System 72
9 Geochemical Testwork 77

10 Environmental Incidents 78

11 Socio-Economic Assessment 79

12 Project Development and Production for 2018 80

12.1 2018 Underground Mine Water Treatment Program 80

12.2 2018 Tailings Storage Facility Water Treatment Program 81

List of Tables

Table 2-1: Document Submissions under Licence QZ04-065 2
Table 2-2: Document Submissions under Licence QZ04-065 3
Table 2-3: QML Annual Report Information Requirements and Corresponding Report Section 4
Table 2-4: QML Submissions in 2017 5
Table 2-5: QML Approval Conditions and Current Status 14
Table 3-1: 2017 Underground Mine Water Quality Results 21
Table 3-2: Site Infrastructure Inspection Recommendations and Status of Repairs 23
Table 3-3: Wolverine TSF Dam Safety Review Recommendations 25
Table 3-4: 2017 Access Road Vehicle Usage 27
Table 4-1: Wolverine Creek and Go Creek Watershed Water Use 2017 28
Table 4-2: Underground, Sewage Treatment Plant and Surface Runoff Discharged to the TSF in 2017 28
Table 6-1: Temporary Closure Surface Sampling Program Conformance for 2017 31
Table 6-2: Hydrological Stream Discharge Results in Wolverine Creek 36
Table 6-3: Hydrological Stream Discharge Results in Go Creek 40
Table 6-4: Water Levels in Groundwater Monitoring Wells in the TSF Area 50
Table 6-5: Water Levels in Groundwater Monitoring Wells along Wolverine Creek, 2017 53
Table 6-6: Water Levels in Groundwater Monitoring Wells along Go Creek 65
Table 6-7: Annual Total Precipitation and Average, Minimum and Maximum Temperatures, 2007 - 2017 69
Table 8-1: Pilot System Water Quality Results 74
Table 12-1: TSF Contaminants of Concern for Treatment 82

List of Figures

Figure 3-1: General Site Layout – Wolverine Mine Area 17
Figure 3-2: General Site Layout – Industrial Complex Area 18
Figure 3-3: General Site Layout –Tailings Storage Facility (TSF) Area 19
Figure 3-4: Underground Mine Daily Flow Rates 22
Figure 3-5: Underground Mine 2017 Monthly Average Inflow Rates Compared to Historic Rates 22
Figure 4-1: Water pumped to the Tailings Storage Facility (TSF); Volume Stored in TSF and Max Allowable Water Level 29
Figure 6-1: Surface Water Monitoring Stations 33

Figure 6-2: Copper, Selenium and Zinc Concentrations in the TSF – during Mine Operations and Temporary Closure....34
Figure 6-3: Thiosulphate Concentrations in the TSF....35
Figure 6-4: pH and Alkalinity Concentrations in the TSF - during Mine Operations and Temporary Closure....35
Figure 6-5: Cu, Se and Zn Concentrations Compared to Baseline in Upper Wolverine Creek (Station W82)....36
Figure 6-6: Hydrological Monitoring Results in Upper Wolverine Creek 2008-2017 (Station W82)....37
Figure 6-7: Cu, Se and Zn Concentrations Compared to Baseline in Campbell Creek 2009-2017 (Station W8)....37
Figure 6-8: Cu, Se and Zn Concentrations Compared to Baseline in Lower Wolverine Creek 2009-2017 (Station W9)....38
Figure 6-9: Hydrological Monitoring Results in Lower Wolverine Creek 2007-2017 (Station W9)....38
Figure 6-10: Cu, Se and Zn Concentrations Compared to Baseline in Wolverine Lake 2009-2017 (Station L1)....39
Figure 6-11: Cu, Se and Zn Concentrations Compared to Baseline in Upper Wolverine Lake 2009-2017 (Station W1)....39
Figure 6-12: Cu, Se and Zn Concentrations Compared to Baseline in Hawkowl Creek 2009-2017 (Station W15)....40
Figure 6-13: Cu, Se and Zn Concentrations Compared to Baseline in Upper Go Creek 2009-2017 (Station W31)....41
Figure 6-14: Cu, Se and Zn Concentrations Compared to Baseline in Upper Go Creek 2009-2017 (Station W16)....41
Figure 6-15: Cu, Se and Zn Concentrations Compared to Baseline in Go Creek 2009-2017 (Station W81)42
Figure 6-16: Cu, Se and Zn Concentrations Compared to Baseline in Lower Go Creek 2009-2017 (Station W80)....42
Figure 6-17: Cu, Se and Zn Concentrations Compared to Baseline in Lower Go Creek 2009-2017 (Station W12)....43
Figure 6-18: Hydrological Monitoring Results in Lower Go Creek 2009-2017 (Station W12)....43
Figure 6-19: Cu, Se and Zn Concentrations Compared to Baseline in Upper Money Creek 2009-2017 (Station W14)....44
Figure 6-20: Cu, Se and Zn Concentrations Compared to Baseline in Lower Money Creek 2009-2017 (Station W22)....45
Figure 6-21: Cu, Se and Zn Concentrations Compared to Baseline in Lower Money Creek 2009-2017 (Station W40)....45
Figure 6-22: Cu, Se and Zn Concentrations Compared to Baseline in Pitch Creek 2009-2017 (Station W71)....46
Figure 6-23: Cu, Se and Zn Concentrations Compared to Baseline in Putt Creek 2009-2017 (Station W72)....47
Figure 6-24: Cu, Se and Zn Concentrations Compared to Baseline in Bunker Creek 2009-2017 (Station W73)....47
Figure 6-25: Groundwater Monitoring Stations....49

Figure 6-26:Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-2A and MW05-2B 2009-2017 51
Figure 6-27: Cu, Se and Zn Concentrations in Groundwater Monitoring Well MW08-13 2010-2017 51
Figure 6-28: Water Levels and Temperature in Groundwater Monitoring Well MW08-13 2010-2017 52
Figure 6-29: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-3A and MW05-3B 2009-2017 54
Figure 6-30: Water Levels and Temperature in Groundwater Monitoring Well MW05-3A 2006-2017 54
Figure 6-31: Water Levels and Temperature in Groundwater Monitoring Well MW05-3B 2006-2017 55
Figure 6-32: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-4A and MW05-4B 2009-2017 55
Figure 6-33: Water Levels and Temperature in Groundwater Monitoring Well MW05-4A 2006-2017 56
Figure 6-34: Water Levels and Temperature in Groundwater Monitoring Well MW05-4B 2006-2017 56
Figure 6-35: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-5A and MW05-5B 2009-2017 57
Figure 6-36: Water Levels and Temperature in Groundwater Monitoring Well MW05-5A 2006-2017 57
Figure 6-37: Water Levels and Temperature in Groundwater Monitoring Well MW05-5B 2006 2017 58
Figure 6-38: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW06-8S, MW06-8M and MW06-8D 2009-2017 58
Figure 6-39: Water Levels and Temperature in Groundwater Monitoring Well MW06-8S 2006-2017 59
Figure 6-40: Water Levels and Temperature in Groundwater Monitoring Well MW06-8M 2010-2017 59
Figure 6-41: Water Levels and Temperature in Groundwater Monitoring Well MW06-8D 2006-2017 60
Figure 6-42: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW06-9S and MW06-9M 2009-2017 60
Figure 6-43: Water Levels and Temperature in Groundwater Monitoring Well MW06-9S 2006-2017 61
Figure 6-44: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW06-10S, MW06-10M and MW06-10D 2009-2017 61
Figure 6-45: Water Levels and Temperature in Groundwater Monitoring Well MW06-10S 2006-2017 62
Figure 6-46: Water Levels and Temperature in Groundwater Monitoring Well MW06-10M 2006-2017 62
Figure 6-47: Water Levels and Temperature in Groundwater Monitoring Well MW06-10D 2006-2017 63
Figure 6-48: Cu, Se and Zn Concentrations in Groundwater Monitoring Well MW06-11S 2009-2017 63
Figure 6-49: Water Levels and Temperature in Groundwater Monitoring Well MW06-11S 2006-2017 64
Figure 6-50: Water Levels and Temperature in Groundwater Monitoring Well MW06-12S 2006-2017 64
Figure 6-51: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-1A and MW05-1B 2009-2017 65
Figure 6-52: Water Levels and Temperature in Groundwater Monitoring Well MW05-1B 2006-2017 66
Figure 6-53: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-6A and MW05-6B 2009-2017 66
Figure 6-54: 2005-2015 Pieziometric Precipitation Data 67
Figure 6-55: Wolverine Mine Daily Precipitation and Average Daily Temperature 2007-2017 69
Figure 8-1: Pad 2 Bioreactor Inlet and Outlet Cadmium Concentrations (logarithmic) 2016-2017 75
Figure 8-2: Pad 2 Bioreactor Inlet and Outlet Copper Concentrations (logarithmic) 2016-2017 75

Figure 8-3: Pad 2 Bioreactor Inlet and Outlet Selenium Concentrations 2016-2017 76
Figure 8-4: Pad 2 Bioreactor Inlet and Outlet Zinc Concentrations (logarithmic) 2016-2017 76
Figure 12-1: Underground Mine Treatment Flowchart 80
Figure 12-2: Preliminary Results of Underground Mine Water Treatment Tests 81
Figure 12-3: Water Treatment Plant Flowsheet 83

List of Appendices

Appendix A: 2017 Wolverine Annual Physical Inspection Evaluation of Earth Structures, Works and Installations, CAP Engineering, August 24, 2017

Appendix B: Wolverine Mine Dam Safety Review Tailing Storage Facility and Earth Structures, Klohn Crippen Berger, August 2017

Appendix C: Summary of Wolverine Mine Tailings Storage Facility Lime Dosing, SRK Consulting, December 22, 2017

Appendix D: Summary of Water Quality Results

Appendix E: Water Quality Lab Reports

Appendix F: Wolverine EEM Cycle 3 Interpretive Report, November 29, 2017

1 Introduction

The Wolverine Mine, owned and operated by Yukon Zinc Corporation (YZC), is a zinc-silver-copper-lead-gold underground mine, with on-site milling capabilities of 1,700 tonnes per day (tpd) to produce copper, lead and zinc concentrates. The Wolverine Mine is in the southeastern Yukon near the headwaters of the Wolverine Lake watershed within the Kaska Nation Traditional Territory. The original estimated life-of-mine (LOM) was nine years, based on a 5.2 Mt mineable reserve. YZC completed major site construction throughout 2009 and 2010. Mill commissioning commenced in 2011 and commercial production of 1,020 tpd was achieved on March 1, 2012. Production first achieved 1,700 tpd in January 2013. Site access is via air, or over a 24 km all-season access road, which connects with the Robert Campbell Highway at km 190.

On January 27, 2015, YZC announced that it was temporarily shutting down operations at the Wolverine Mine, due to unfavourable market conditions, putting the site in "Temporary Closure". A notice of change of operations was submitted to the Yukon Government to that effect. Most employees and contractors were laid off at this time and the mine was put into care and maintenance. The Temporary Closure period continued throughout 2017, and was characterized by continued efforts to stabilize the site, manage water, and minimize site liabilities until the resumption of milling and mining activities.

The underground mine remains closed and gated, there are no industrial activities or processes occurring in the mill, no tailings are being added to the Tailings Storage Facility (TSF), and no waste or ore is being created or added to the existing waste piles. A 4-man crew is on site to maintain the site and ensure environmental compliance. In June 2017, the water level in the flooding underground mine reached the surface of the adit. Pumping infrastructure was immediately installed and surplus water from the underground mine was pumped to the TSF from June through to the end of December. All other water collected at the site (i.e., contact water) was also pumped or trucked to the TSF for storage. The access road was maintained year round during 2017, although the majority of equipment and personnel fly in and out, with regular flights to change out employees every three weeks.

This Annual Report has been prepared to satisfy requirements contained within Quartz Mining License QML-0006 (QML), and Yukon Water Board Type A Water Licence QZ04-065 (WUL) for activities that occurred during the period between January 1 to December 31, 2017 at the Wolverine Mine. As the mine is in temporary closure, and activities at site are minimal, the requirements for the QML and WUL have been combined into a single annual report.

This report summarizes the activities conducted at the Wolverine Mine in 2017, including activities conducted at the underground mine, mill, TSF and access road (Section 3). This report also summarizes water use (Section 4), waste discharges (Section 5), environmental monitoring (Section 6), progressive reclamation (Section 7), biopass experimental test work (Section 8), geochemical test work (Section 9), environmental incidents (Section 10), socio-economic commitment compliance (Section 11), and project development plans for 2018 (Section 12).

2 Reporting Requirements

The details of how the specific requirements of the QML and WUL have been met are provided below, as well as a summary of the Reclamation and Closure plan updates submitted in 2017, and the concordance with approvals issued under the QML.

2.1 WUL QZ04-065 Requirements

This annual report has been prepared to satisfy the requirements contained within Yukon Water Board Type A Water Licence QZ04-065 (the Licence), and specifically provides information with respect to Licence Conditions 12, 13, 16, 33, 34, 41 & 42 and Schedule A. The conditions (and sections in which they are discussed) are as follows:

Table 2-1: Document Submissions under Licence QZ04-065

WUL QZ04-065 Condition	Section
Condition 12: Annual reports shall be submitted to the Board by the Licensee. The first report shall be for the period from the effective date of the licence to December 31, 2008. Subsequent reports shall be for each calendar year. Annual reports will be submitted to the Board on or before February 28 of the following year.	This Report
Condition 13: Annual reports shall include the information required by this licence and by the Regulation, including but not necessarily limited to: a) Summaries of all data generated as a result of the monitoring requirements of this licence, including analysis and interpretation by a qualified individual or firm and a discussion of any variances from baseline conditions or from previous years' data, and b) a detailed record of any major maintenance work carried out or planned to be carried out that could have an impact on water.	6
Condition 16: The Licensee shall immediately contact the 24-hour Yukon Spill Report telephone number (867) 667-7244 and implement the most recent Spill Response Plan that has been filed with the board, should a spill or unauthorized waste discharge occur. A detailed written report on any such event, including but not limited to, dates, quantities, parameters, causes and other relevant details and explanations, shall be delivered to the board no later than 10 days after its occurrence.	10
Condition 33: As-constructed (record) drawings and construction reports, including quality assurance and quality control documentation, for all structures and facilities shall be submitted to the Board within 90 days of the completion of construction. Each submission shall be sealed by a Professional Engineer licenced to practice is Yukon.	n/a
Condition 34: As part of each annual report, the Licensee shall report on the status of the Decommissioning and Reclamation Plan and shall submit any updates to the Plan that have occurred since the previous submission.	2.3
Condition 41: Monitoring and inspection of all water retaining structure shall be carried out by a Professional Engineer licenced to practice in the Yukon and in accordance with the monitoring plan submitted as part of the Application. A report on the monitoring and inspection, prepared by the Professional Engineer, shall be submitted as part of each annual report. The report shall document in the inspection locations and methodologies, the results of the inspection, all problems identified, and	3.2 3.3

WUL QZ04-065 Condition	Section
remedial measures recommended in the previous year's report shall be appended to the report together with an explanation regarding any recommendation not implemented.	
Condition 42: Details of any maintenance, inspection and/or surveillance activities undertaken in the previous year in relation to dam safety shall be included in the annual report.	3.3

In 2017, YZC submitted documents to the Yukon Water Board per the Licence requirements. The documents and the corresponding Licence conditions and submission dates are summarized by licence condition in Table 2-2.

Table 2-2: Document Submissions under Licence QZ04-065

A Licence Condition No.	Submission Requirements and Details	Date Submitted
#10	Annual Report – 2016	27-Feb-17
#14	Monthly Monitoring Report (Dec 16)	27-Jan-17
#14	Monthly Monitoring Report (Jan 17)	17-Feb-17
#14	Monthly Monitoring Report (Feb 17)	30-Mar-17
#14	Monthly Monitoring Report (March 17)	05-May-17
#14	Monthly Monitoring Report (April 17)	31-May-17
#14	Monthly Monitoring Report (May 17)	27-Jun-17
#14	Monthly Monitoring Report (June 17)	28-Jul-17
#15	Monthly Monitoring Report (July 17)	25-Aug-17
#14	Monthly Monitoring Report (Aug 17)	30-Sep-17
#14	Monthly Monitoring Report (Sept 17)	11-Oct-17
#14	Monthly Monitoring Report (Oct 17)	29-Nov-17
#14	Monthly Monitoring Report (Nov 17)	29-Dec-17
#16	Spill Report on Unauthorized Discharge May 25, 2017	27-Jun-17
#41	Earthen Structures Inspection by P. Eng.	15-Aug-17
#33, #41, #42	TSF and WRP Inspection by P. Eng.	24-Jun-17

2.2 Quartz Mining License Requirements

Table 2-3 outlines the QML Annual Report documentation requirements and the corresponding report section in which the information is provided. A Socio-Economic Assessment summary is provided in Section 11 of this report, to satisfy requirements of the Environmental Assessment Screening Document (issued September 20, 2006 by the Development Assessment Branch, Government of Yukon).

Submissions to the Yukon Government under the QML are summarized in Table 2-4, and all plans and reports submitted to Energy, Mines and Resources (EMR) are available on the EMR website: http://www.emr.gov.yk.ca/mining/wolverine.html.

Table 2-3: QML Annual Report Information Requirements and Corresponding Report Section

QML Section	Requirement	Section
10.5 a)	A summary of mining activities at the mine.	3
10.5 b)	A map showing all structures, works and installations associated with the Undertaking.	3
10.5 c)	The total amount of ore and waste removed from the mine.	n/a
10.5 d)	The total amount and the average head grade of ore processed through the mill.	n/a
10.5 e)	The total amount and grade of all stockpiled ore.	n/a
10.5 f)	The total amount and grade of concentrate produced, stockpiled, and transported from the Undertaking.	n/a
10.5 g)	As-built drawings of the mine and of all structures, works and installations constructed or altered in the mine.	n/a
10.5 h)	Details respecting any action taken as a result of the recommendations made by the engineer in relation to the inspection referred to in paragraph 10.1.	3.2 & 3.3
10.5 i)	A summary of any updates to estimates of ore reserves and mine life, including reserve category, tonnage and grade.	n/a
10.5 j)	A summary of any underground stability incidents.	n/a
10.5 k)	A summary of paste backfill placement activities conducted and their locations in the mine.	n/a
10.5 l)	A summary of humidity cell tests undertaken for waste rock and paste backfill.	9
10.5 m)	A summary of quantity and related analysis of leachate collected from paste backfill.	n/a
10.5 n)	The total amount of tailings deposited in the tailings impoundment.	n/a
10.5 o)	An evaluation of the performance of the tailings facility, including an estimate of remaining available storage capacity in the facility.	3.3
10.5 p)	The data generated from the full depth sampling of the tailings.	6.1
10.5 q)	A summary of any hydrogeology studies undertaken and related analysis of these data, including groundwater flow pathways as influenced by underground workings.	6.1
10.5 r)	A summary and evaluation of data results from the field pilot test of the bio-pass system.	8
10.5 s)	A summary of surface water quality monitoring, including any acute lethality testing conducted.	6.1

QML Section	Requirement	Section
10.5 t)	A summary of groundwater quality monitoring in wells downslope of the mine workings.	6.1
10.5 u)	A summary of the programs undertaken for environmental monitoring and surveillance as outlined in the Monitoring and Surveillance Plan and the Wildlife Protection Plan, including an analysis of these data and any action taken or adaptive management strategies implemented to monitor or address any changes in environmental performance.	6
10.5 v)	A summary of progressive and ongoing reclamation activities.	7
10.5 w)	A summary of proposed development and production for the coming year.	12
10.5 x)	A summary of activities related to care and maintenance of the Undertaking, including any temporary closure activities, if applicable.	1
10.5 y)	A summary of spills and accidents that occurred as a result of the Undertaking.	10
10.5 z)	A summary of the previous and projected use of the access road, including maintenance work conducted, a summary of the level of traffic, access control issues, wildlife incidents and other accidents, and upgrade or maintenance work planned for the upcoming year.	3.4

Table 2-4: QML Submissions in 2017

Submission	Date Submitted
Underground (UG) Inspection	n/a
Test work results of the *in situ* treatment must be submitted in the QML Annual Report by March 31, 2018	Appendix C
Experimental Water Treatment Systems - 3rd Report	04-Jan-17
Written summary from the Engineer of Record (EOR) for the TSF	05-Sept-17
TSF Inspection	11-Aug-17
Water Treatment Plan (water quality model update)	17-Aug-17
2016 Annual Report for QML-0006	27-Feb-17
UG Bulkhead	28-Jul-17
Earthen Structures Inspection	28-Aug-17
Experimental Water Treatment Systems - 4th Report	29-May-17
Experimental Water Treatment Systems - 5th Report	29-Sept-17
Wolverine Mine RCP 2016-07 V.2	29-Sept-17
Wolverine Mine RCP 2016-07 V.3	12-Dec-18

2.3 Reclamation and Closure Plan Update

On December 30, 2016, YZC submitted an updated Reclamation and Closure Plan (RCP) to reflect updates to the temporary and ultimate closure of the Wolverine Mine, following re-assessment of site conditions after two years of temporary closure (RCP 2016-07). On June 14, 2017, YZC submitted a request to the Yukon Government, EMR, to extend the temporary closure period from the currently permitted three years to five years in order for the company to pursue options to re-open the Wolverine Mine. Subsequently, a request was received from EMR on August 8, 2017 to submit an amended version of RCP 2016-07 to reflect the extended five-year temporary closure period. RCP 2016-07.V.2 was an amended version of RCP 2016-07 which included an extension of the temporary closure period from three years to five years, and resultant changes to the ultimate closure plan, consistent with the temporary closure amendments.

Also, comments were received on August 8, 2017 from the following Yukon Government reviewers:

- Mineral Resources Branch – Yukon Government;
- Environment – Yukon Government;
- Compliance Monitoring and Inspections – Yukon Government;
- Yukon Workers Compensation Health and Safety Board;
- Kaska Dena Council; and
- Lorax Environmental.

To include the above comments, as well as comments subsequently received on November 3, 2017 from the Yukon Government, Department of Environment, together with the results of costing discussions held on November 20, 2017, YZC submitted an updated RCP (RCP2016-07.V.3) on December 18, 2017.

A summary of the changes to RCP2016-07 that have been amended in versions 2 & 3 are provided in the table below from both versions 1 and 2. If not referenced below, the section remains unchanged from RCP2016-07.

Approval of RCP2016-07.V.3 was received from EMR on December 19, 2017. Should conditions remain unchanged, YZC will submit an update to the RCP in two years, in September 2019. Should mining resume or if closure conditions change, YZC will submit an updated RCP.

RCP 2016-07	RCP 2016-07.V.2	Amendment	Summary	RCP 2016-07.V.3
1 Introduction	1 Introduction	Updated to reflect temporary closure period extension	Updated Project Timetable to reflect 5-year temporary closure period.	
1.2 Purpose of the Plan and Changes to Previous Versions	1.2 Purpose of the Plan and Changes to Previous Versions	Updated to reflect temporary closure period extension	• Updated rationale and timeline for submitted and approved RCPs. • Updated material changes from RCP 2015-06 and 2016-07.	
2.1 Planning Considerations	2.1 Planning Considerations	Updated to reflect activities conducted since submission of RCP 2016-07	• Added list of correspondences with requirements for amended RCP 2016-07. • Updated Table 2-1.	
3.1 Climate	3.1 Climate	Updated climate data	Updated temperature and precipitation data with most recent weather station data.	
3.2.1 Hydrology	3.2.1 Hydrology	Updated hydrology data	Updated hydrological graphs for stations W9 and W82.	
3.3.1 Hydrogeology	3.3.1 Hydrogeology	Updated groundwater level data	As requested in April 17, 2017, letter from Lorax Environmental: • Updated potentiometric elevations to mid-2017. • Added monitoring well water level date from 2009 – 2017 in wells downgradient from the mine.	
3.3.2 Groundwater Quality	3.3.2 Groundwater Quality	Updated groundwater quality data	• Updated groundwater quality data to reflect downstream distance to help identify trends. • Update groundwater quality with most recent water quality values.	
4.1 Mine Features, Facilities and Equipment	4.1 Mine Features, Facilities and Equipment	Updated text to reflect flooded underground workings	Text now reflects pumping from the underground mine to the TSF during temporary closure period.	
5. Temporary Closure	5. Temporary Closure	Extension of temporary closure	• YZC has taken steps to evaluate the feasibility of re-opening the Wolverine Mine under current mineral market conditions. This process continues	

RCP 2016-07	RCP 2016-07.V.2	Amendment	Summary	RCP 2016-07.V.3
		period from January 2018 to January 2020	and includes requesting an extension of the temporary closure period from three years, to five years, which would delay permanent closure of the Wolverine Mine from January 2018 to January 2020. • The site will be maintained in a state that will allow for re-start during this extended temporary closure period.	
5.1.1 Site Security	5.1.1 Site Security	Update chemical storage status	• There are 18 bags of copper concentrate and 13 bags of lead concentrate remaining to be shipped off site by the purchaser. • Only 95 tonnes of lime remain on site and will be used in the treatment of the TSF.	
5.1.2 Monitoring Activities	5.1.2 Monitoring Activities	Update surface water and groundwater monitoring as per WUL QZ04-065	Environmental monitoring frequency and sites had been reduced following a letter from CMI; however, YZC will return to the sampling frequency and sites outlined in QZ04-065 for the temporary closure period, including monthly surface water sampling, and quarterly groundwater sampling.	
		Continued bioreactor monitoring	The bioreactor constructed between Waste Rock Pad #2 and the TSF will continue to be monitored throughout the extended closure period. Results from the test work will inform the permanent closure solution.	
		MMER EEM sampling	• Effluent characterization studies under the *MMER* EEM program will be required when discharging to Go Creek. • Cycle 4 EEM study will need to be conducted in late August 2019.	
		Vegetation monitoring	Add requirement to conduct vegetation monitoring for metals prior to closure. Small mammal sampling will be conducted if vegetation sampling indicates statistically-significant metals contamination.	

RCP 2016-07	RCP 2016-07.V.2	Amendment	Summary	RCP 2016-07.V.3
5.1.3 Maintenance Activities	5.1.3 Maintenance Activities	Increase period for maintenance	On-going maintenance of the site will be required for the extended temporary closure period and must be considered in the cost accounting.	
5.1.3.1 Underground Workings and Openings to Surface	5.1.3.1 Underground Workings and Openings to Surface 5.2.1 Underground Mine Interim Water Management Plan	Defer bulkhead installation	Bulkhead installation had previously been required by October 2017. As the mine will potentially be re-started, access to the underground must be maintained. On June 7, 2017, underground discharge reached the surface of the underground mine adit. Dewatering pumps have been installed, and water levels are maintained by pumping the excess water to the TSF. This system will be maintained throughout the temporary closure period.	
5.1.3.2 TSF Area and Water Management Structures	5.1.3.2 TSF Area and Water Management Structures	Add wildlife monitoring	Monitoring for wildlife is also conducted at the TSF pond regularly during the ice-free period.	
5.1.3.4 Mine Infrastructure	5.1.3.4 Mine Infrastructure	Land Treatment Facility (LTF) not decommissioned	The mine infrastructure will be monitored and maintained per current conditions. The LTF will not be decommissioned until permanent closure is initialized, as it may be required during re-start and subsequent operation of the mine. Decommissioning will be conducted in accordance with an approved plan from Yukon Environment.	
5.2 Interim Water and Solution Management Plan	5.2 Interim Water and Solution Management Plan	Update to reflect changes in bulkhead design and underground discharge	• Remove underground mine portal bioreactor. • Direct all contaminated water to the TSF. • Evaluate potential to treat underground discharge directly. • Evaluate *in situ* treatment of the TSF pond. • Install a WTP in the summer of 2018. • Discharge to Go Creek May – October as required.	

RCP 2016-07	RCP 2016-07.V.2	Amendment	Summary	RCP 2016-07.V.3
-	5.2.1 Water Balance	Updated water balance	Data collected over the temporary closure period has informed an updated water balance for the temporary closure period.	Updated to reflect UG flow measurements from August – October. Added high flow sensitivity analysis.
5.2.1 Underground Mine Workings	5.2.2 Underground Mine Workings 5.2.2.1 Adaptive Management Plan Appendix C: Portal Plug Design Report	Updated bulkhead design. Bioreactor installation dependent on water chemistry.	• An update to the bulkhead design was completed in July 2017 and is provided in Appendix C. Mine water will be dewatered to below the bulkhead installation. • If a decision to re-start the mine has not been made by early 2019, the bulkheads will be installed in summer 2019, in preparation for final closure in January 2020. • The updated design is water tight, and as such a bioreactor at the adit will not be required. • The installation of a bioreactor in Wolverine Creek to mitigate potentially-contaminated mine water will depend on the water chemistry of groundwater and surface water in Wolverine Creek. The installation will be required if the water chemistry meets certain defined trigger levels.	Update to mine inflow volumes. Provides results of October test work and preliminary plan to discharge underground mine water.
5.2.2 TSF Area	5.2.3 TSF Area 5.2.3.1 Water Treatment	TSF pond water treatment	• TSF supernatant will be treated using an active treatment system. • Appendix D: Assessment and Bench Scale Testing of Water Treatment Options	
6. Final Reclamation and Closure Measures	6. Final Reclamation and Closure Measures	Update to reflect changed timelines and changes to temporary closure plan	This section will now include the following, which were deferred from the temporary closure section: • LTF decommissioning • Temporary active water treatment • Increased decommissioning and post-closure environmental sampling	Inconsistency with Section 6.5.5 fixed

RCP 2016-07	RCP 2016-07.V.2	Amendment	Summary	RCP 2016-07.V.3
			• Wolverine Creek monitoring and adaptive management with potential bioreactor installation	
6.2.1 TSF Water Treatment	6.2.1 TSF Water Treatment	Add WTP	• As a WTP will be installed during the temporary closure period, it will continue to be used during the permanent closure period until all water is removed from the facility. • Deleted Sections 6.2.1.1 & 6.2.1.2.	
6.4 Water Management Structures and Systems	6.4 Water Management Structures and Systems	Change disposal of pipelines	Pipelines and liners will be disposed of in the landfill, not in the TSF.	
6.5.4 Landfill and Waste Storage Areas	6.5.4 Landfill and Waste Storage Areas	Removal of reference to disposal of special and solid waste in TSF	In response to the comment from Yukon Environment, no special or solid waste will be disposed of in the TSF.	Includes reference to Commercial Dump permit and facility closure requirements
6.5.5 Material and Equipment Salvage	6.5.5 LTF 6.5.6 Material and Equipment Salvage	LTF will remain operational	LTF will not be decommissioned during temporary closure, but will remain operational for the duration of the permanent closure phase to allow for disposal and treatment of contaminated soils.	
6.7 Roads and Other Access	6.7 Roads and Other Access	Added reclamation of quarries	In response to a comment from CMI, stabilization and revegetation of quarries was added.	
6.9.2 Environmental Monitoring	6.9.2 Environmental Monitoring	-	-	Removed sampling at station T1 post-closure. This was already considered in the closure costs.
6.10.1 Risk Assessment	6.10 Risk Assessment	Updated to reflect changes in temporary closure and permanent closure	Risks include: • TSF failure • Overtopping of dam • Discharge of untreated water	
6.10.2 Post-Reclamation	-	Deleted this section	• Adaptive management is discussed in Section 5.2.2.1.	

RCP 2016-07	RCP 2016-07.V.2	Amendment	Summary	RCP 2016-07.V.3
Adaptive Management Plan			• All other activities will be conducted as planned and approved by this RCP and by EMR.	
8 Reclamation and Closure Liability	8 Reclamation and Closure Liability	Update unit rates	• Unit rates have been updated in the temporary and final closure cost estimates to reflect the changes outlined in the above rows of this table. • Costs have been updated to reflect the changes outlined in the above rows of this table.	Unit rates have been updated to include: • higher cost for power • higher unit rates for activities that use heavy equipment • 10% increase in costs for water quality analysis to account for QA/QC samples
8.1 Temporary Closure Cost Estimate	8.1 Temporary Closure Cost Estimate	-	-	This section has been deleted, and the costs moved to Section 8.1 Final Reclamation and Closure Cost Estimate. Changes to the costing include: • Assumes installation of Water Treatment Plant (WTP) in 2018, therefore not required in permanent closure. • Assumes operation of WTP May – October at 1200 m^3/day to dewater the TSF post-closure. • Fuel costs were increased from $0.05/kWh to $0.40/kWh. • Added a new liner for the decommissioning of the TSF.

RCP 2016-07	RCP 2016-07.V.2	Amendment	Summary	RCP 2016-07.V.3
				• Detailed waste pad decommissioning based on distance from the TSF. • Added a temporary mobile camp to complete decommissioning of the access road. • Added weekly flights during water release • Corrected some spreadsheet errors. • Added contingency costs.

2.4 Activities Conducted Under Temporary Closure Provisions of QML-0006

On December 19, 2017, YZC received approval of an updated RCP (RCP2016-07-V3). The approval included several requirements during the temporary closure phase, in addition to those previously received in earlier approvals. A summary of the various currently-applicable approval conditions, and the status to date, is provided in Table 2-5.

Table 2-5: QML Approval Conditions and Current Status

Approval Letter	Approval Condition	Current Status
December 23, 2015	Dispose of all reagents and other hazardous materials.	COMPLETE - with the exception of 70 tonnes of lime, as approved July 25, 2017.
	Workplan outlining the Installation of the hydraulic plugs to be submitted by June 30, 2016.	Extension received July 21, 2017.
	Environmental monitoring of underground workings.	ON-GOING - The *Environmental Monitoring of Underground Workings Plan* was submitted to YG EMR on May 31, 2016. The trigger levels for installation of the biopass in Wolverine Creek were updated in RCP 2016-07-V3.
	Experimental water treatment system test work.	ON-GOING – *in situ* pilot scale Biopass system installed. A report summarizing the results to date was submitted on January 31, 2018.
	Environmental monitoring	ON-GOING - monthly and quarterly sampling is reported in monthly reports, due by the 30th of the month following the last day of the month.
July 21, 2017	Extension to submit the revised bulkhead design to July 30, 2017.	COMPLETE – submitted July 28, 2017.
July 25, 2017	Approval to treat the TSF with lime.	Application #1 complete. Application #2 to be conducted in Spring 2018. Results provided in Appendix C.
December 19, 2017	Maintain the water level in the TSF below the 1310 m elevation.	ON-GOING – elevation taken prior to freeze-up was 1309.05 m (September 29, 2017).
	Commission the full-scale WTP by August 1, 2018.	ON-GOING – commissioning planned for summer 2018.
	Commence treatment of underground mine water by May 1, 2018.	ON-GOING – planning for mine water treatment is on-going, with treatment proposed to occur in spring 2018.
	Submit a re-vegetation plan by May 1, 2019.	ON-GOING
	Submit an updated Wildlife Protection Plan by March 1, 2018.	ON-GOING
	Conduct a bathymetric survey of the TSF using a qualified hydrologist by June 1, 2018 and submit a report within 30 days.	ON-GOING
	Develop a numerical hydrogeological model using a qualified hydrogeologist by May 1, 2018 and submit a report within 30 days.	ON-GOING
	Repair or replace compromised groundwater monitoring wells by August 1, 2018.	ON-GOING

Approval Letter	Approval Condition	Current Status
	Continue sampling monitoring station T1 at 3 depth profiles and analyze for thiosulphates.	ON-GOING
	Submit a stand-alone Adaptive Management Plan for review and approval by July 1, 2019.	ON-GOING
QML-0006	Annual inspections of the TSF and aboveground infrastructure by July 1, 2018.	PENDING
	2017 Annual report due March 31, 2017.	This Report

3 2017 Mine Activities

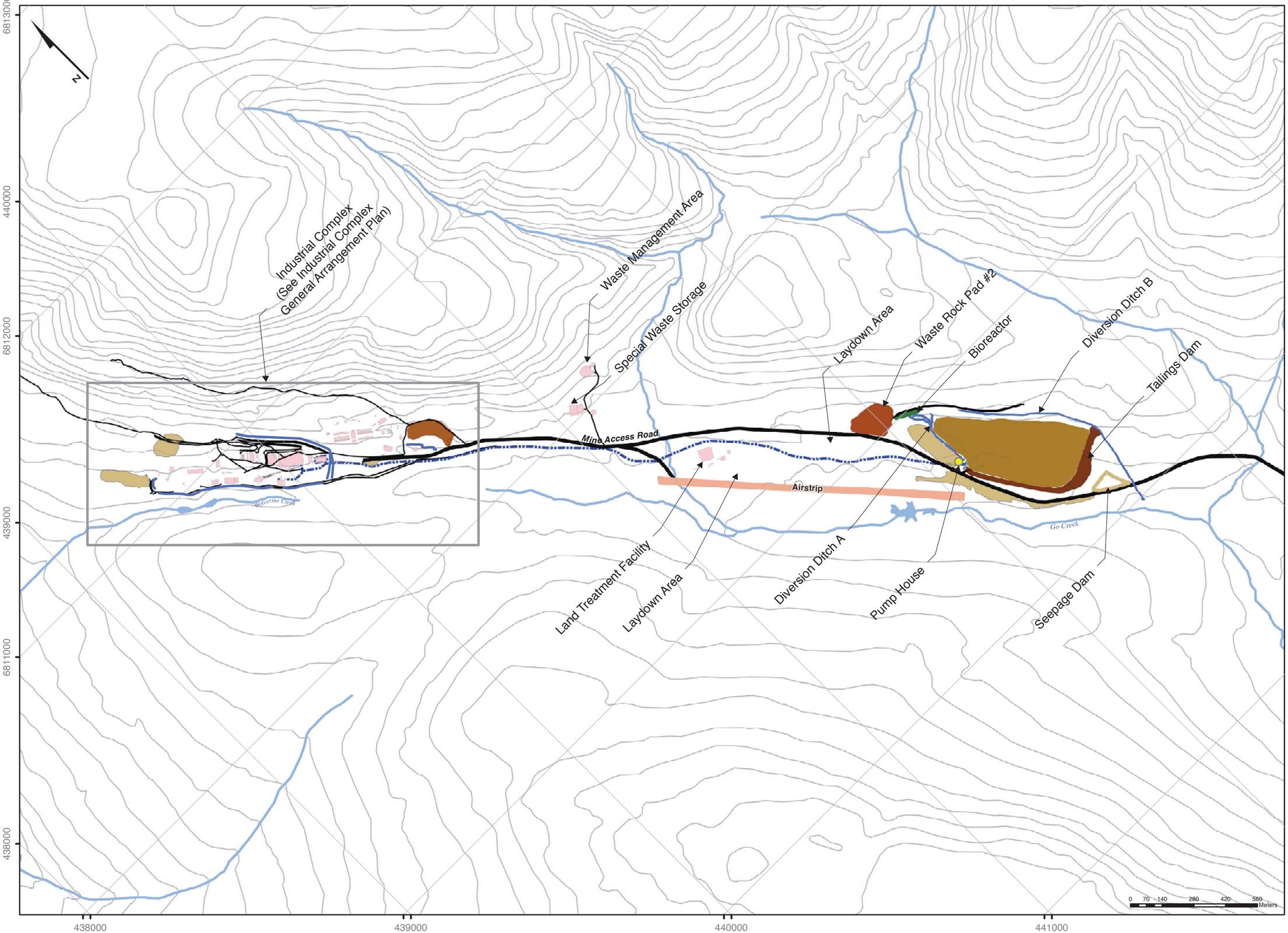
Temporary closure of the Wolverine Mine commenced on January 27, 2015, and has continued in 2017. Activities in 2017 focused on water management, specifically, the underground mine discharge and other water pumped to the TSF for storage. Maintenance activities at the site include, mainly: snow removal, environmental monitoring, and reduction of liabilities in the mill and mine storage areas. All water collected at the site (i.e., contact water) has been pumped or trucked to the TSF for storage, which has approximately 1-2 years of storage at the current rate of filling. The access road was not maintained over the January – April period, but was maintained over the October – December period. The site is accessible year round on a fly-in/fly-out basis.

No mining or milling activities were conducted in 2017.

Mine infrastructure remains in place during temporary closure and the general mine site layout is illustrated in Figure 3-1. Figure 3-2 and Figure 3-3 provide the layouts for the industrial complex and TSF areas, respectively. The surface facilities and infrastructure at the Wolverine Mine include:

- Tailings Storage Facility (TSF);
- Seepage collection pond;
- Waste rock storage piles;
- Industrial complex and camp;
- Land Treatment Facility (LTF);
- Landfill;
- Mine roads;
- Airstrip; and
- Site access road.

The 2017 activities at the underground mine, mill and associated facilities, TSF and access road, are summarized in Sections 3.1, 3.2, 3.3 and 3.4, respectively.



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Figure 4-3

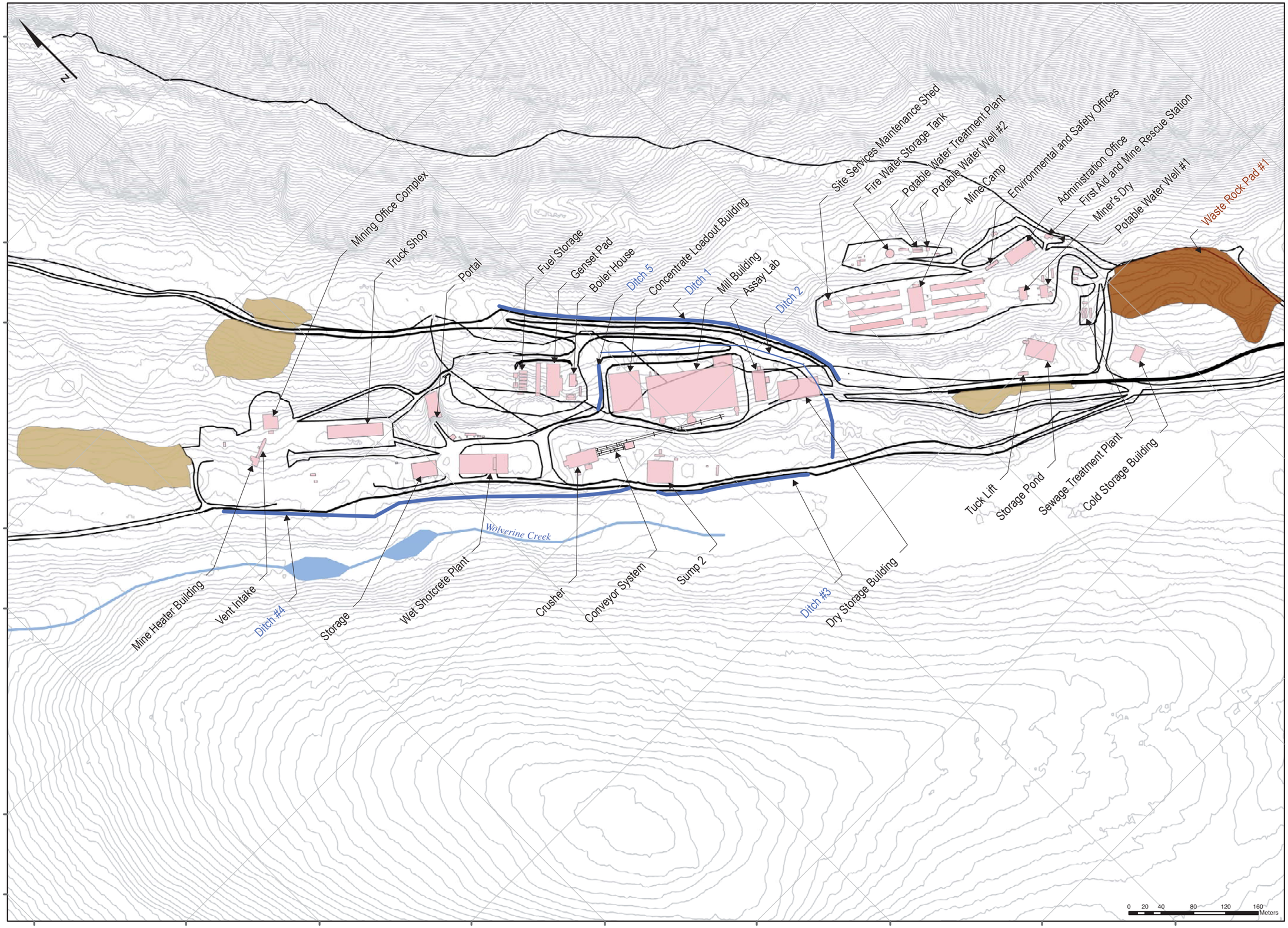
Wolverine Mine:
Site Location
General Arrangement

Date: 22/12/2016
Author: H.Seeley, P.Geo, Wolfbear Geological Consulting

Coordinate System: NAD 1983 UTM Zone 9N
Projection: Transverse Mercator
Datum: North American 1983

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Figure 4-4
Wolverine Mine: Industrial Complex General Arrangement



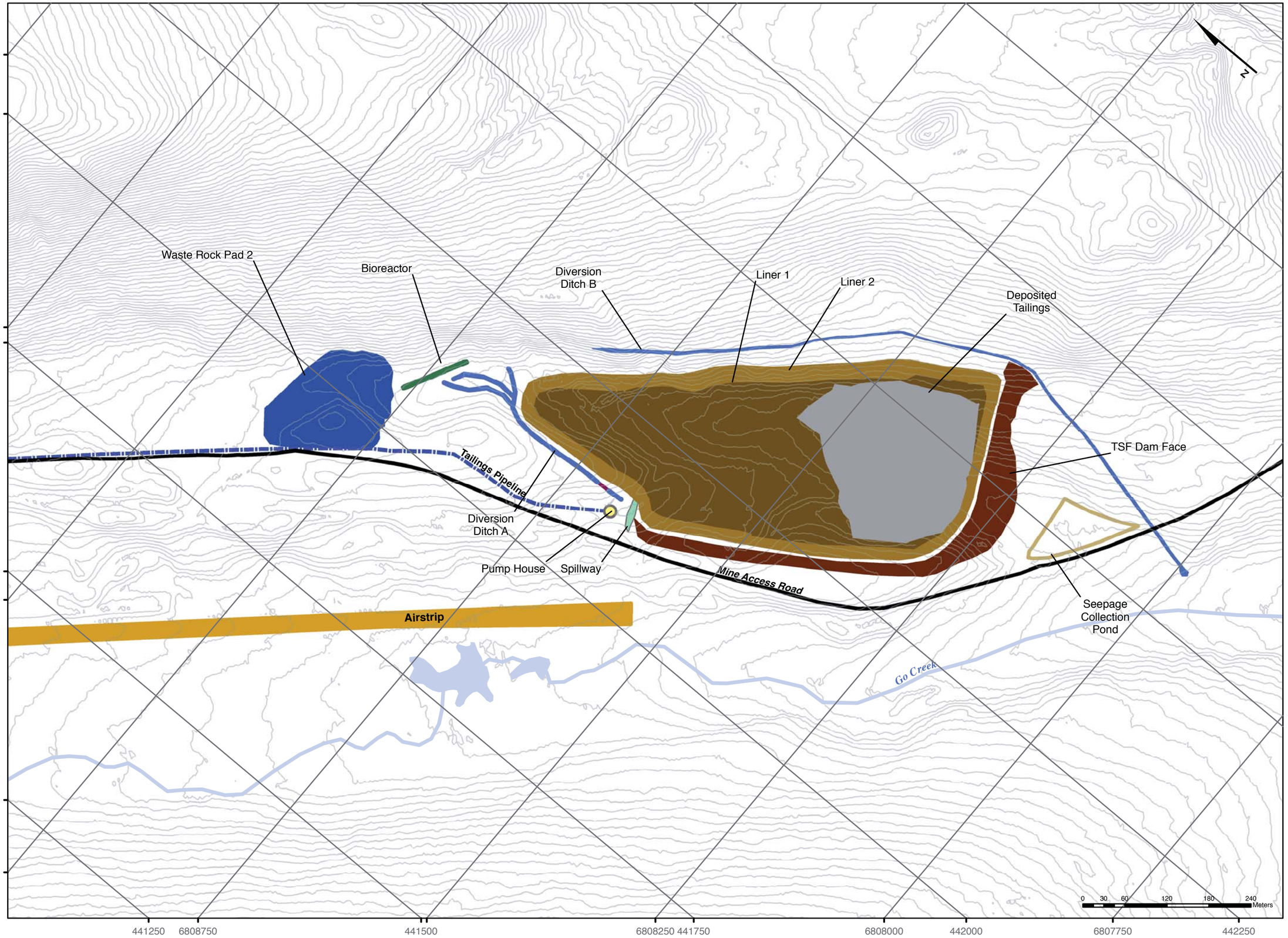
Ditch
Existing Road
Mine Access Road
Infrastructure
Organic Stockpile
Waste Rock Pad

Topography

Contour
Watercourse
Waterbody

Date: 22/12/2016
Author: H.Seeley, P.Geo, Wolfbear Geological Consulting

Coordinate System: NAD 1983 UTM Zone 9N
Projection: Transverse Mercator
Datum: North American 1983



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Figure 4-5

Wolverine Mine: Tailings Storage Facility

- Mine Access Road
- Tailings Pipeline
- Culvert
- Diversion Ditch
- Pump House
- Bioreactor
- Liner
- Seepage Collection Pond
- Airstrip
- Waste Rock Pad 2
- Spillway Stage 2
- Deposited Tailings
- TSF Dam Face

Date: 07/12/2016
Author: H.Seeley, P.Geo, Wolfbear Geological Consulting

Coordinate System: NAD 1983 UTM Zone 9N
Projection: Transverse Mercator
Datum: North American 1983

3.1 Underground Mine

The underground mine is accessed by a surface ramp that extends from approximately 1,345 masl (the portal entrance) to 1,115 masl (the current lowest elevation). Additional access is through a ventilation raise that has an evacuation route.

The underground mine is currently gated and locked, as the mine is flooded. An early morning inspection on June 7, 2017 indicated that groundwater discharge had reached the mine adit collar. A pump and piping system has been installed at the adit of the underground mine (Photo 3-1) to pump excess groundwater recharge from the adit to the TSF. This system is installed above the gated entrance to the mine in the mine collar, as access below the collar is prohibited. The pump runs for a few hours per day as needed to maintain a consistent water level that prevents discharge to the mill pad. During the snow-free months, water is pumped from the adit to the pumpbox in the mill, where it is then pumped to the TSF. During winter, water is trucked to the TSF from the adit. Monitoring of the underground mine is conducted daily to ensure structural stability of the collar, functionality of the pumping and piping system and status of the groundwater recharge.



Photo 3-1: Wolverine Mine Adit Groundwater Pump System (July 13, 2017)

Water quality has been monitored in the water pumped to the TSF since June, as summarized in Table 3-1, and compared to allowable discharge limits.

On average, the water in the underground mine during the period in which there are no mining operations, exceeds discharge limits for most metal parameters, with exceedances of cadmium, copper, lead, selenium, and zinc. Groundwater recharge tends to have low concentrations of nitrogen species (i.e., ammonia, nitrate and nitrite) as these are directly tied to mine operations, due to explosives residues. Cyanide is also relatively non-present, with concentrations below the method detection limit.

Table 3-1: 2017 Underground Mine Water Quality Results

Parameter (mg/L)	A License QZ04-065 Allowable Discharge Limit (ADL)*	2017 Portal Samples				
		07-Jun	28-Jun	10-Jul	18-Aug	23-Oct
Total Suspended Solids (TSS)	15	**18**	**23**	**42**	**16**	**61**
Ammonial Nitrogen	5	1.4	1.5	1.1	1.5	-
Total Arsenic	0.05	0.0052	0.0043	0.0069	0.0054	0.0137
Total Cadmium	0.002	0.000519	0.00112	**0.013**	**0.00296**	**0.018**
Total Copper	0.015	0.005	0.006	**0.042**	0.004	0.006
Total Lead	0.02	0.005	0.016	**0.198**	0.004	**0.248**
Total Nickel	0.5	0.01	0.02	0.02	0.03	0.07
Total Selenium	0.02	0.001	0.004	**0.046**	0.003	0.008
Total Zinc	0.5	0.3	0.5	**1.0**	**0.6**	**1.2**

*ADL = Allowable discharge limits from Type A Water Use Licence QZ04-065; red values indicate exceedances of the ADL

Most of the 2017 samples (Table 3-1) were below discharge limits, except for iron (not shown), cadmium, lead, zinc and TSS in most samples. However, the water is generally of relatively good quality, and indicates that it may be amenable to treatment and discharge the water without being pumped to the TSF. Test work was conducted in October 2017 to evaluate whether the underground mine water is amenable to direct treatment using ferric sulphate, similar to the system used in 2006-2009, but with an additional lime treatment step (Section 12.1).

Flow rates from the underground mine have also been monitored, and daily flow rates are summarized in Figure 3-4. Flow rates are generally seasonal, with higher rates in the summer than the winter. The 2017 inflow rates were very high during the summer (i.e., 713 m^3/day) due to impacts from high-precipitation events (Section 6.4) affecting the amount of water running into the adit and which required pumping to the TSF. The 2017 measured groundwater discharge rates were comparable to those measured during mine operations (Figure 3-5).

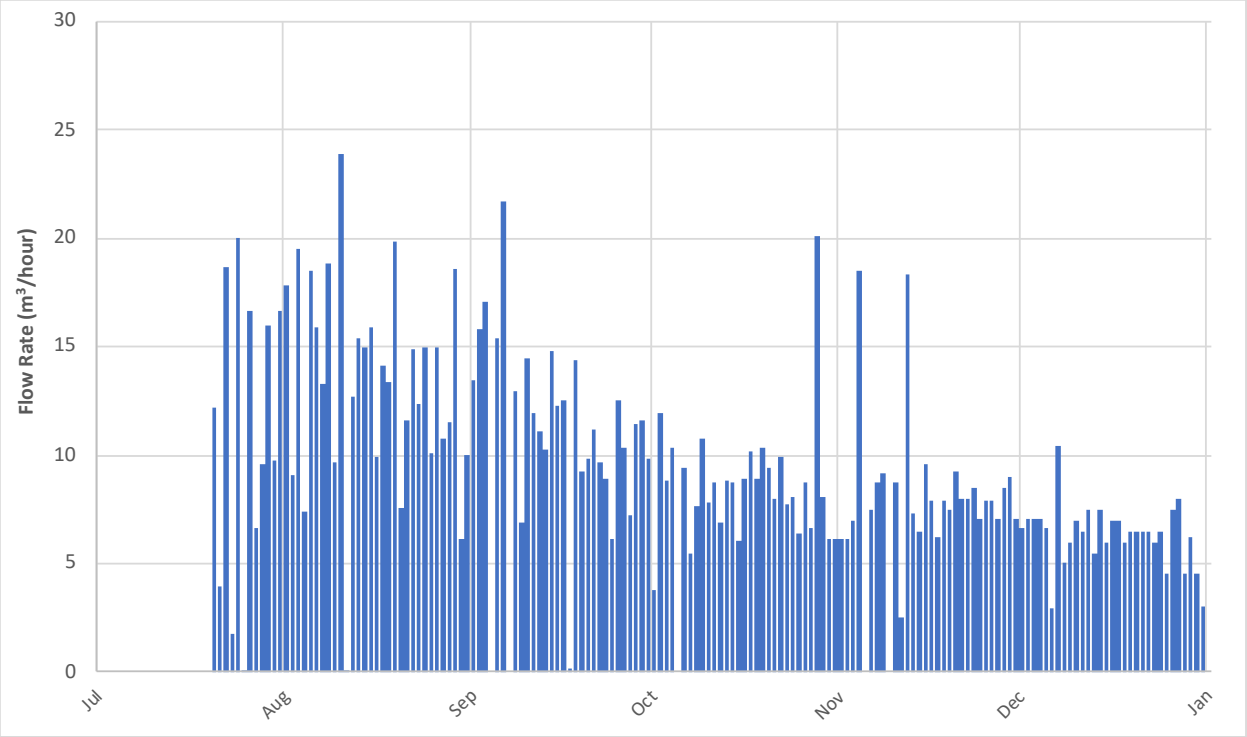


Figure 3-4: Underground Mine Daily Flow Rates

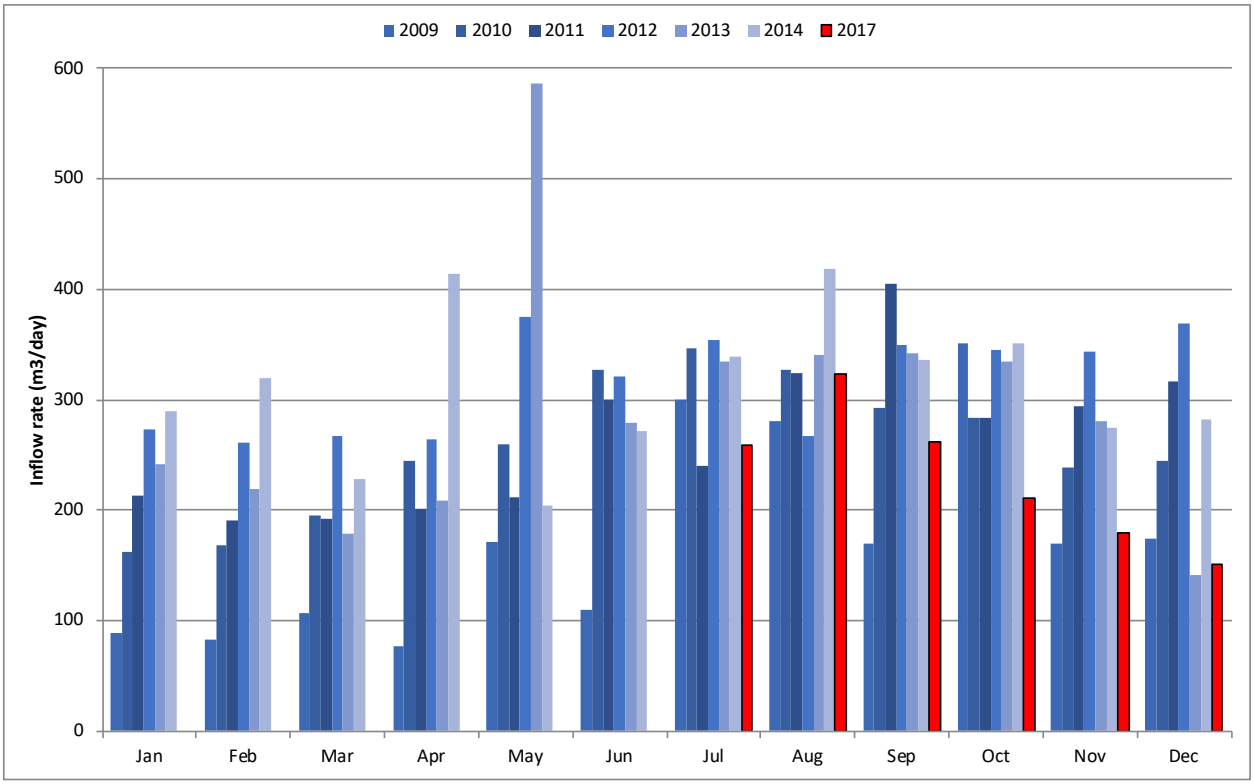


Figure 3-5: Underground Mine 2017 Monthly Average Inflow Rates Compared to Historic Rates

3.2 Mill and Associated Infrastructure

There are no industrial activities or processes occurring in the mill. There is currently no zinc concentrate remaining on site and there are less than 20 bags of lead and copper concentrate remaining to be shipped off site by the purchaser. The concentrate load out building has been swept and cleaned out; all reagents except for the lime to be used to treat the TSF, have been removed from site. The remaining lime is securely packaged and stored in sealed freight containers on the site.

No explosives remain on site. The explosives magazines have been emptied, the explosives burned, and the licences returned to Yukon Worker's Compensation Health and Safety Board to be held for YZC.

There is no other work planned for the processing plant and mill during temporary closure and the facility is locked.

Visual inspections of on-site earth structures was conducted by CAP Engineering August 15 - 16, 2017. The full report is provided in Appendix A. The following areas were inspected:

Industrial Complex – the mill building pad;

Industrial Complex – the MSE wall;

Industrial Complex – fuel tanks and generator pad;

Sumps (1,2 & 5) – includes liners and slopes;

Diversion Ditch 1 – Includes cut and fill slopes;

Collection Ditches (2,3,4 & 5) – includes liners and cut and fill slopes;

Mine Camp Pad & Area – includes upper generator, potable water pad, sewage treatment plant, sewage effluent pond - liner, cut and fill slopes;

Waste Rock & Ore Pad – includes seepage pond, liners, cut and fill slopes;

Land Treatment Facility- runoff collection sump;

Vent Raise – slopes; and

Truck Shop Pad – slopes.

The main recommendations from the 2017 annual site infrastructure inspection are summarized in Table 3-2, with the status of repairs also provided.

Table 3-2: Site Infrastructure Inspection Recommendations and Status of Repairs

CAP Engineering Recommendation	Status of Repairs
Site Culverts – It is recommended that all culverts on site be cleaned of all fines and sediment. Additionally, if culverts are damaged, repairs should also be completed.	Culverts have been cleaned and repaired in some areas and will be on-going throughout 2018.

CAP Engineering Recommendation	Status of Repairs
Site Erosion and Cracks – Continue monitoring and repairing erosion rills and gullies as they appear throughout the year. Tension and settlement cracks can be visually monitored by backfilling the crack with soil and spray painting over the filled soil.	On-going throughout 2018.
Mill Pad – Erosion at the northwest corner of the Mill Pad around hydrant #10 should be repaired with rip-rap as reasonably as possible.	Completed.
Fuel Pad – Erosion undermining the concrete anchor should be repaired as best as possible.	Completed.
Waste Rock Pad #1 – Construct a berm between the waste rock pad access ramp. This will fully enclose the waste rock pad and help contain runoff water.	Completed.
Mine Portal – Monitor the shotcrete at the mine portal for additional peeling and bedrock erosion.	This area has been monitored with no changes, and will be on-going throughout 2018.

3.3 Tailings Storage Facility

The tailings storage facility (TSF) is located south of the mill facility and stores tailing discharged as slurry. The TSF embankment was designed using homogenous earth fill material with an impervious geo-synthetic liner, and constructed as a dam in two stages with a current height of 26 m. In 2009, the first construction stage consisted of a 19 m high dam and the second stage was a 7 m downstream raise in 2012. The liner covers the base of the TSF impoundment and the upstream face of the dam to the crest. The TSF continues to accumulate water and has a full water cover on top of the tailings. A seepage collection dam downstream of the main dam collects seepage water to be returned to the TSF, or settled prior to discharge into the Go Creek drainage. During mining operations, water from the underground workings and the tailings slurry from the milling process is pumped to the TSF and reclaimed water from the TSF is pumped back to the mill for process water use. During temporary closure, the mill is not operational however inputs to the TSF include precipitation and surface runoff collected in sumps at the industrial complex, Waste Rock Pad #1, Waste Rock Pad #2 and at the seepage pond and groundwater discharge from the underground mine.

Water is not being discharged from the TSF as the planned water treatment plant has not been constructed. As of freeze-up in October 2017, the total volume in the TSF was estimated at ~1,197,515 m^3 based on a water elevation of 1309.05 m. Approximately 530,000 m^3 is occupied by saturated tailings with the rest occupied by free water.

Annual inspections are required by the QML Clause 10.1; in addition, with a Canadian Dam Association (CDA) dam consequence classification of “High”, a Dam Safety Review (DSR) is required every 7 years. A

DSR of the Woverine Mine tailings dam was conducted in 2017 by the Engineer of Record (EoR) – Klohn Crippen Berger). The CDA Dam Safety Guidelines define a DSR as "a systematic review and evaluation of all aspects of design, construction, maintenance, operation, processes, and systems affecting a dam's safety, including the dam safety management system." The comprehensive review was to provide verification of:

- safety and environmental performance of the facility;
- adequacy of the surveillance program;
- adequacy of delivery of OMS requirements;
- design basis with respect to current standards and possible failure modes; and
- compliance with engineering standards.

The recommendations from the DSR are summarized in Table 3-3 and the report is provided in Appendix B. The conclusion of the DSR assessment is that the dam is "reasonably safe". The EoR recommended adopting a classification of "Very High" for the Wolverine Tailings Dam, which requires that Dam Safety Reviews be completed at least every 5 years. The next DSR for Wolverine Mine should be completed in 2022 or earlier if the dam classification is revised upward in the future.

Table 3-3: Wolverine TSF Dam Safety Review Recommendations

Deficiency or Non-Conformance	Recommended Action	Schedule	Status
Deficient Flood Event Values and Assessment	The hydrology assessment appears to be comprehensive, however, the specific rainfall total used to calculate the IDF should be presented (not just the design event duration). PMF volume inflow volume should also be provided.	December 2017	On-going
North End Slump Repair	The slumped section under the liner at the north end should be repaired prior to placement of additional 1 m of water (2020) or additional tailings in the TSF.	Repair by Dec 2019 or prior to restart of mining activities (whichever is first)	Scheduled for spring 2018
Out of date inundation study	The inundation study was conducted based on published tables and does not meet the current state of practice for inundation studies. This should be updated and used to update the Emergency Preparedness Plan.	C&M – Dec. 2018 Active Mining – Dec. 2018	December 2018

Deficiency or Non-Conformance	Recommended Action	Schedule	Status
		Closure – part of closure plan development	
Lack of consolidated site records	Site records need to be consolidated into a centralized file, including: • site investigation data and laboratory test data (historic and recent); • as-constructed records, including site visit notes and foundation preparation assessments; and • design basis with assumptions to key design parameters and criteria.	Closure – August 2019 Prior to restart of mining activities (whichever is sooner)	To be conducted prior to restart of mining activities
OMS document not updated	The OMS manual should be updated as summarized in Table 4.3 of the DSR (Appendix B)	December 2017	October 2017
EPP update	Emergency preparedness plan should be updated to reflect current operating staff and communications. The plan should be reviewed/revised again once the new inundation study is available. This can also be used for communication with local stakeholders on potential impacts of a dam safety incident.	December 2017	On-going

3.4 Access Road Operation

There is one access control gate at km 0.1, to prevent public use of the access road. A radio-controlled automated gate opener was installed at the gate at km 0.1 in 2008 and is in use during road use periods. All vehicles entering and leaving the site are required to call security, via radio, to gain access/exit through the radio-controlled gate. Maintenance to the road included grading and gravel put into potholes. No major construction activities were conducted along the access road. In 2017, the access road was maintained from throughout the year.

In 2017, all freight and service vehicles entering and exiting site were recorded by site personnel and are summarized by month in Table 3-4. The total annual access road usage for 2017 was 80 vehicles.

Table 3-4: 2017 Access Road Vehicle Usage

Month	January	February	March	April	May	June	July	August	September	October	November	December	Total
Vehicle Traffic													
Light Vehicles	0	3	0	3	3	13	2	6	4	3	3	5	**45**
Heavy Vehicles	0	12	0	1	3	4	2	3	3	3	3	1	**35**
Total	0	15	0	4	6	17	4	9	7	6	6	6	**80**

4 Water Use

The WUL permits the use of water from the Go Creek and Wolverine Creek watersheds, up to 7,230 m^3/day. Use from the Wolverine Creek watershed is in the form of groundwater discharge to the underground mine, which had been flooding since mine closure in January 2015 and reached the surface on June 8, 2017. Water use from the Go Creek watershed is for the purposes of potable water (from a groundwater well upslope of the accommodation camp). The total water use in 2017 was 38,705 m^3 from the Wolverine Creek watershed and 212 m^3 from Go Creek watershed (Table 4-1). The maximum daily water use in 2017 was 310 m^3/day in August.

Table 4-1: Wolverine Creek and Go Creek Watershed Water Use 2017

Water Source	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total (m^3)
Go Creek: Potable Water	16	16	16	16	16	27	20	22	24	23	15	227	212
Wolverine Creek: Underground Mine	0	0	0	0	0	1,874	3,323	9,602	7,849	6,623	4,738	4,696	38,705

All potentially-contaminated water is collected from Sump #2, at the waste rock pad #1, at the land treatment facility sump, and from the sewage treatment plant and is pumped or trucked to the TSF. Starting in June 2017 excess water from the underground mine was also pumped to the TSF. The monthly volumes pumped and/or trucked to the TSF are summarized in Table 4-2 and illustrated in Figure 4-1.

Overall, in 2017, 51,776 m^3 of water was discharged to the TSF, excluding precipitation and runoff from the catchment around the TSF. Water levels were also measured in the TSF throughout 2017 until the pond froze at the end of September, at a water level of 1,309.05, equivalent to a volume of 1,191,042 m^3 (Figure 4-1).

Table 4-2: Underground, Sewage Treatment Plant and Surface Runoff Discharged to the TSF in 2017

	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total (m^3)
Sewage Treatment Plant	0.2	0.2	0.2	0.2	9.8	583	973	291	118	43	48	42	2068
Land Treatment Facility + Waste Pad #1	0	0	0	0	0	207	2683	97	0	0	0	0	2987
Sump #2	0	0	15	0	394	1732	5935	3814	285	0	0	0	12175
Mine Discharge	0	0	0	0	0	1874	3323	9602	7849	6623	5276	4696	34547
Water to Tailings	**0.2**	**0.2**	**15**	**0.2**	**403**	**4396**	**12914**	**13804**	**8252**	**6666**	**5324**	**4738**	**51776**

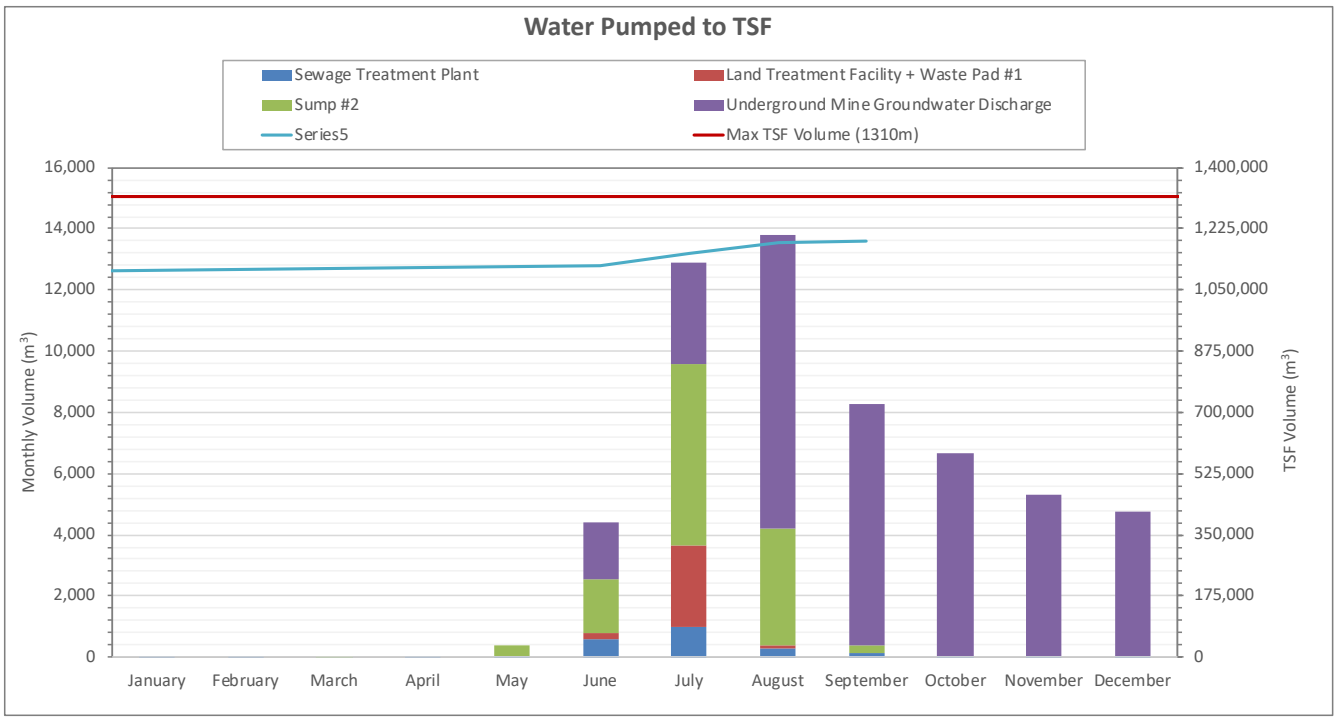


Figure 4-1: Water pumped to the Tailings Storage Facility (TSF); Volume Stored in TSF and Max Allowable Water Level

5 Waste Discharges

There were no waste discharges to the environment in 2017.

6 Environmental Monitoring

Environmental monitoring at the Wolverine Mine is conducted per Schedule A of the WUL QZ04-065, and per the program details outlined in the *Monitoring and Surveillance Plan V2011-03* and in the *Wildlife Protection Plan V2009-01* (WPP). The program includes:

- Surface water, including water quality sampling and hydrology;
- Groundwater, including: water quality sampling, water levels and water table (piezometers);
- Piezometric monitoring of the water table above the underground mine;
- Aquatic life and sediment monitoring as part of the *Metal Mining Effluent Regulations (MMER)* Environmental Effects Monitoring (EEM) program;
- Weather; and
- Wildlife monitoring.

6.1 Water Quality and Quantity Monitoring

The environmental monitoring program approved by Yukon Government Mineral Resources Branch details surface and ground water quality sampling requirements to be conducted in the temporary closure period, summarized in Table 6-1. The conformance with those requirements is also provided in Table 6-1.

The results of the monitoring conducted at those sites is summarized below, and water quality results are compared to the historic (1995-2008) baseline average and 95th percentile values provided in the Lorax Environmental report, *Baseline Characterization Summary Report* provided in Appendix A of *Monitoring and Surveillance Plan V2011-03* (*Baseline Report*).

Table 6-1: Temporary Closure Surface Sampling Program Conformance for 2017

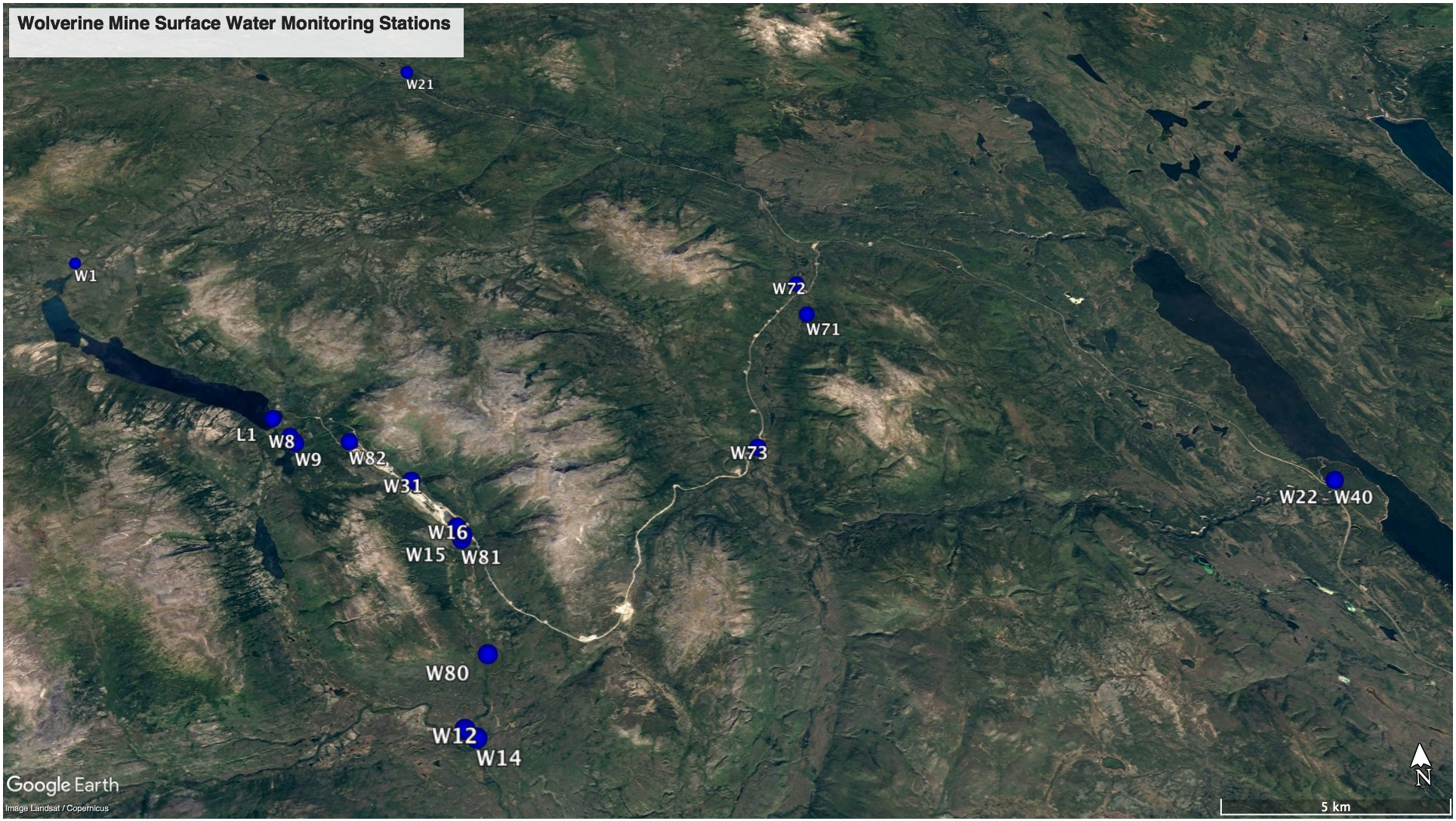
WQ Monitoring Site	Required Sampling Frequency	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		Sampling Performed											
T1	Monthly						✓	✓	✓	✓	✓	✓	✓
W1	Monthly						✓	✓	✓	✓			
L1	Monthly						✓	✓	✓	✓			
W8	Monthly						✓	✓	✓	✓			
W9	Monthly						✓	✓	✓	✓			
W12	Monthly						✓	✓	✓				
W14	Monthly						✓	✓	✓				
W15	Monthly						✓	✓	✓	✓	✓	✓	✓
W16	Monthly						✓	✓	✓	✓	✓	✓	✓
W21	Monthly						✓	✓	✓	✓	✓	✓	✓
W22	Monthly					✓	✓	✓	✓	✓		✓	✓
W31	Monthly						✓	✓	✓	✓	✓		
W40	Monthly						✓	✓	✓	✓		✓	✓
W71	Monthly					✓	✓	✓	✓	✓	✓	✓	✓
W72	Monthly					✓	✓	✓	✓	✓	✓	✓	✓
W73	Monthly					✓	✓	✓	✓	✓	✓	✓	✓
W80	Monthly						✓	✓	✓				

WQ Monitoring Site	Required Sampling Frequency	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		Sampling Performed											
W81	Monthly						✓	✓	✓	✓	✓	✓	✓
W82	Monthly						✓	✓	✓	✓	✓		
MW05-1A, 1B	Quarterly							✓	✓		✓		
MW05-2A, 2B	Quarterly							✓	✓		✓		
MW05-3A, 3B	Quarterly							✓	✓		✓		
MW05-4A, 4B	Quarterly							✓	✓		✓		
MW05-5A, 5B	Monthly					✓		✓	✓		✓		
MW05-6A, 6B	Quarterly							✓	✓		✓		
MW05-7B	Quarterly	Underwater at TSF seepage pond											
MW06-8S, 8M, 8D	Quarterly	Blockage in wells, not able to sample											
MW06-9S, 9M	Quarterly							✓	✓		✓		
MW06-10S, 10M, 10D	Quarterly							✓	✓		✓		
MW06-11S	Monthly					✓		✓	✓		✓		
MW06-12S	Quarterly	Well contaminated; needs to be re-developed											
MW08-13	Quarterly							✓	✓		✓		

6.1.1 Surface Water Monitoring

Surface water monitoring includes surface water quality and hydrological monitoring in the Wolverine and Go Creek watersheds (Figure 6-1). The results of the water quality analyses at the TSF area, Wolverine Creek watershed, Go Creek watershed, Money Creek watershed and Access Road route are summarized below. Hydrological sampling was not conducted in 2016. Full water quality monitoring results are provided in Appendix D, and the full third-party laboratory reports are provided in Appendix E. Additionally, to enhance confidence in the stability and robustness of the water quality results at the surface water monitoring stations, results are provided graphically below for key water quality parameters (e.g., copper, selenium and zinc).

As illustrated in the figures below, the present water quality in the surface water monitoring sites is consistent with baseline water chemistry (1998 – 2008). Water chemistry in receiving environment sampling sites was consistent with past copper, selenium and zinc concentrations, which are generally indicative of overall water chemistry.


Wolverine Mine Surface Water Monitoring Stations
W21
W1
W72
W71
L1
W8
W9
W82
W73
W31
W22 - W40
W16
W15
W81
W80
W12
W14
Google Earth
Image Landsat / Copernicus
N
5 km

6.1.1.1 Tailings Storage Facility

TSF monitoring (station T1) commenced in July 2010 to examine the chemistry of the tailings supernatant. The results of sampling at station T1 is presented in Figure 6-2 for copper, selenium and zinc. As this station was not included in the *Baseline Report*, there are no average values or 95th percentile values against which to compare the data, therefore, the concentrations are compared to ADLs (Figure 6-2). The tailings supernatant (station T1) indicates that concentrations generally increased (most notably for copper and zinc) as operations progressed. Selenium and copper values have decreased slightly from operational values over the temporary closure period, while zinc concentrations have continued to increase.

An assessment conducted in November indicated a decreasing trend in alkalinity, most pronounced at lower depths, closer to the tailings interface. This is thought to be due to thiosalts ($S_xO_y^{2-}$) (Figure 6-3), resulting in conditions that release metals, as well as a consumption of alkalinity and depressed pH (Figure 6-4). To counteract the alkalinity consumption, lime treatment was applied at the end of October, and a slight increase in pH was evident in the November and December samples (Figure 6-4). No increase in alkalinity was evident, potentially due to ice cover over the pond, which reduced the mixing in the pond. A memo summarizing the lime treatment and field observations conducted by SRK Consulting is provided in Appendix C. It is likely that a second round of lime dosing will be required once the ice is off the TSF pond in spring 2018.

A water treatment plant to treat and discharge TSF pond water is currently under design, with installation expected in mid-2018.

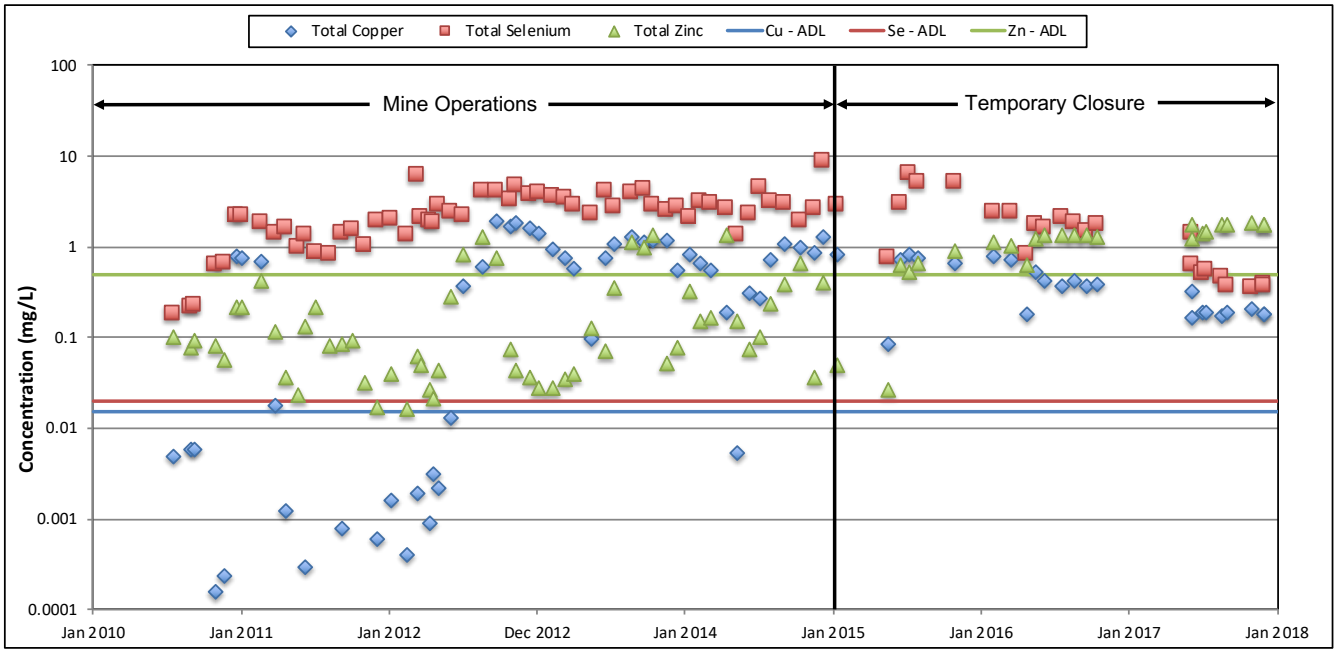


Figure 6-2: Copper, Selenium and Zinc Concentrations in the TSF – during Mine Operations and Temporary Closure

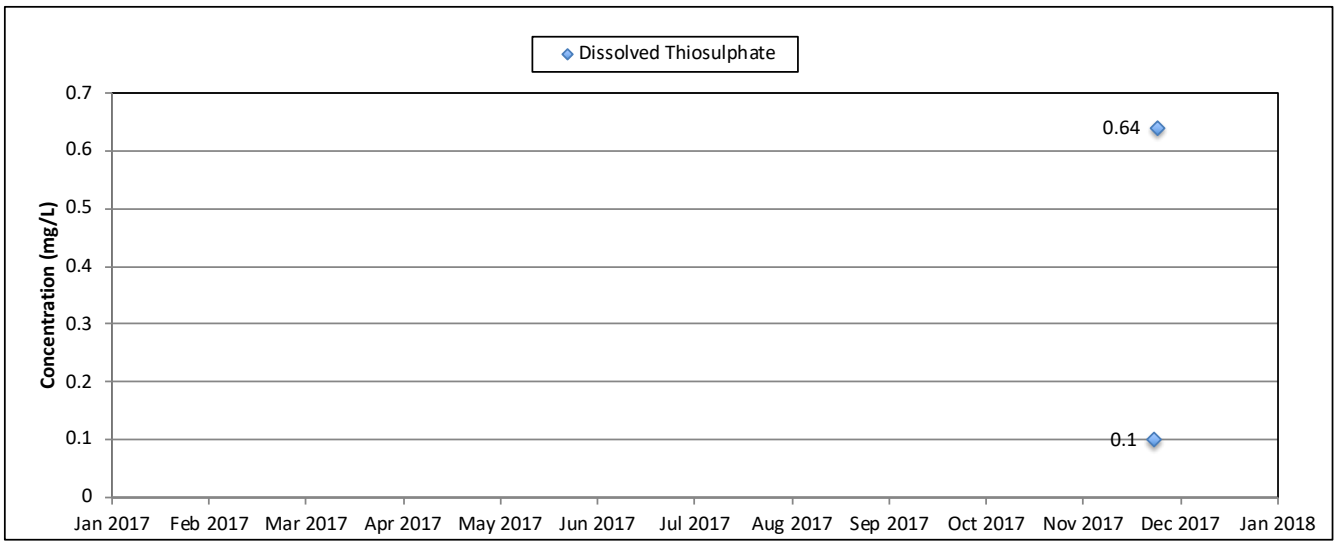


Figure 6-3: Thiosulphate Concentrations in the TSF

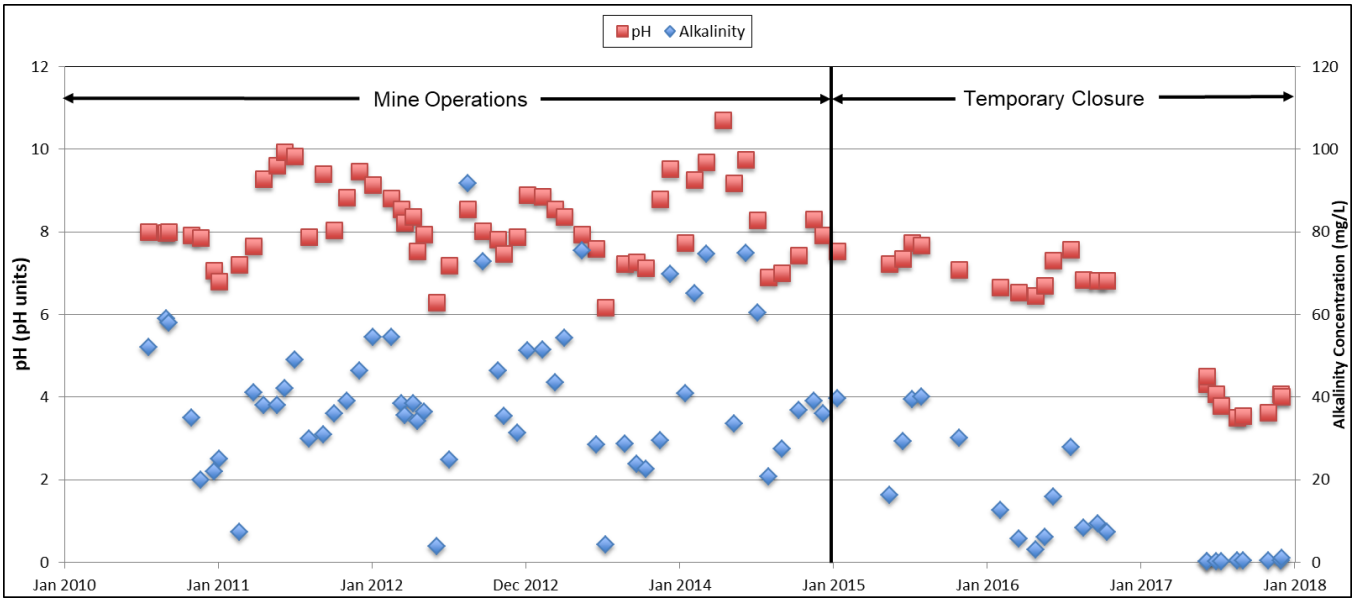


Figure 6-4: pH and Alkalinity Concentrations in the TSF - during Mine Operations and Temporary Closure

6.1.1.2 Wolverine Creek Watershed

Wolverine Creek water quality stations are located at upper Wolverine Creek (W82) to monitor the impact of mining on the immediate receiving environment, and progress downstream to the confluence of Wolverine Creek (W9) with the confluence of Little Wolverine Lake and Wolverine Lake (L1). The water quality in the Wolverine Creek watershed has been extremely consistent over the operational period,

which is in turn consistent with baseline water chemistry (see Figure 6-5 through Figure 6-10). This chemistry has remained relatively consistent throughout the Temporary Closure period.

Hydrological monitoring was conducted at stations W8, W9 and W82 in the Wolverine Creek watershed. Stream discharge results are provided in Table 6-2 and compared to historical values at stations W82 and W9 in Figure 6-6 and Figure 6-9, respectively.

Table 6-2: Hydrological Stream Discharge Results in Wolverine Creek

Hydrology Site	Stream Discharge (m^3/s)		
	June 30, 2017	August 18, 2017	October 27, 2017
W8	0.138	0.063	-
W9	0.021	0.009	-
W82	0.021	0.036	0.006

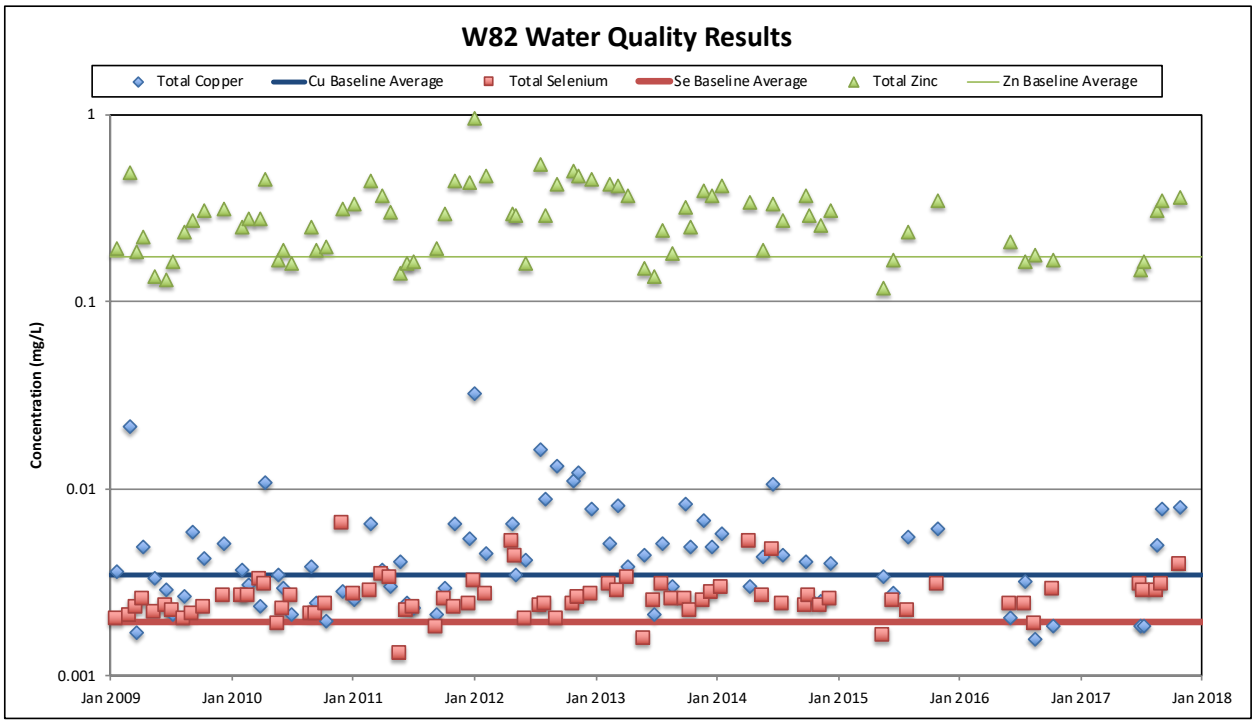


Figure 6-5: Cu, Se and Zn Concentrations Compared to Baseline in Upper Wolverine Creek (Station W82)

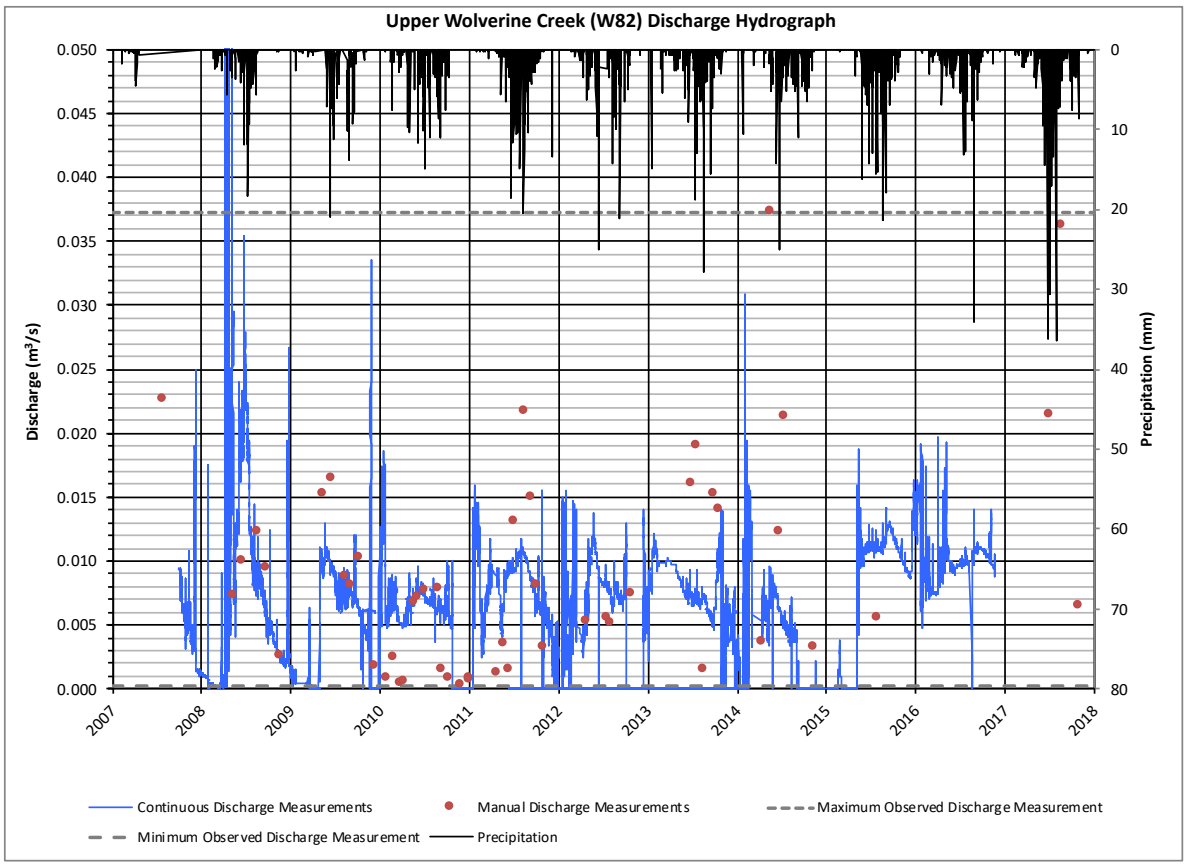


Figure 6-6: Hydrological Monitoring Results in Upper Wolverine Creek 2008-2017 (Station W82)

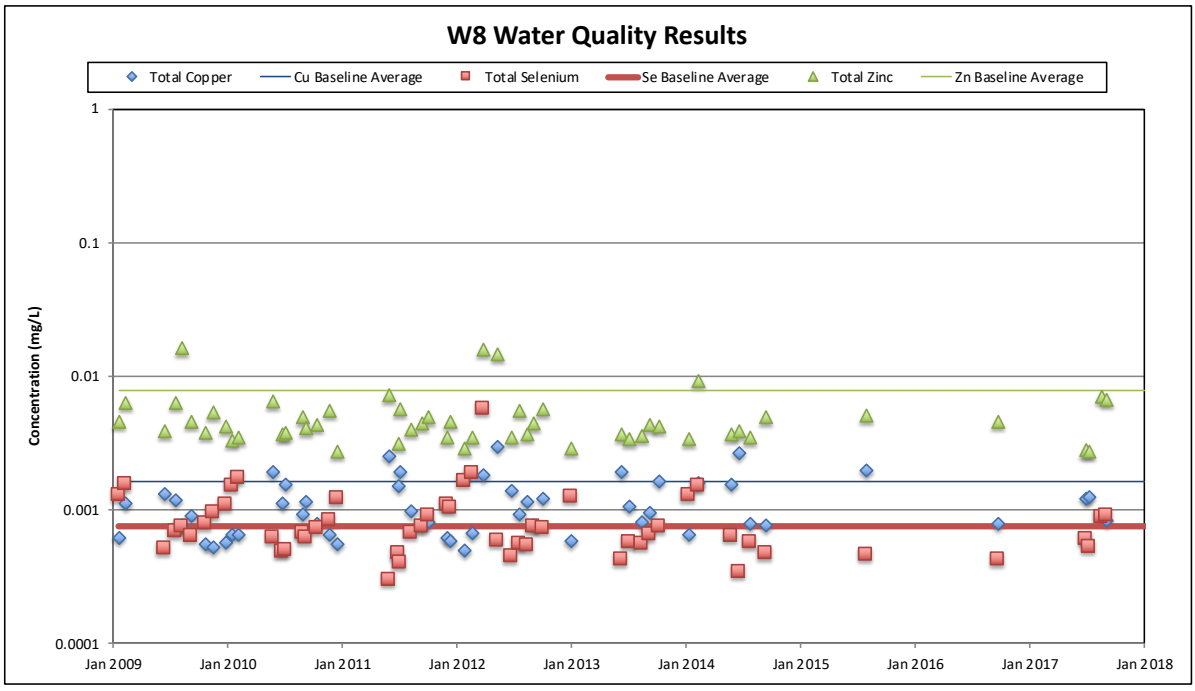


Figure 6-7: Cu, Se and Zn Concentrations Compared to Baseline in Campbell Creek 2009-2017 (Station W8)

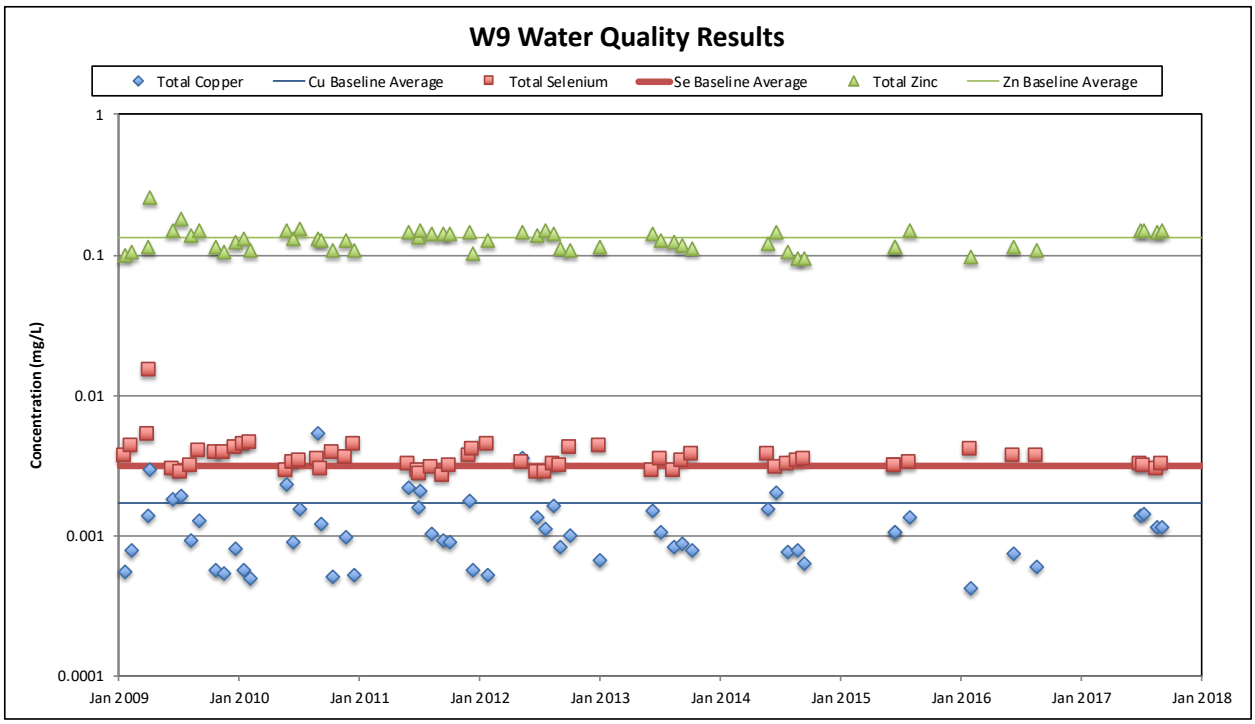


Figure 6-8: Cu, Se and Zn Concentrations Compared to Baseline in Lower Wolverine Creek 2009-2017 (Station W9)

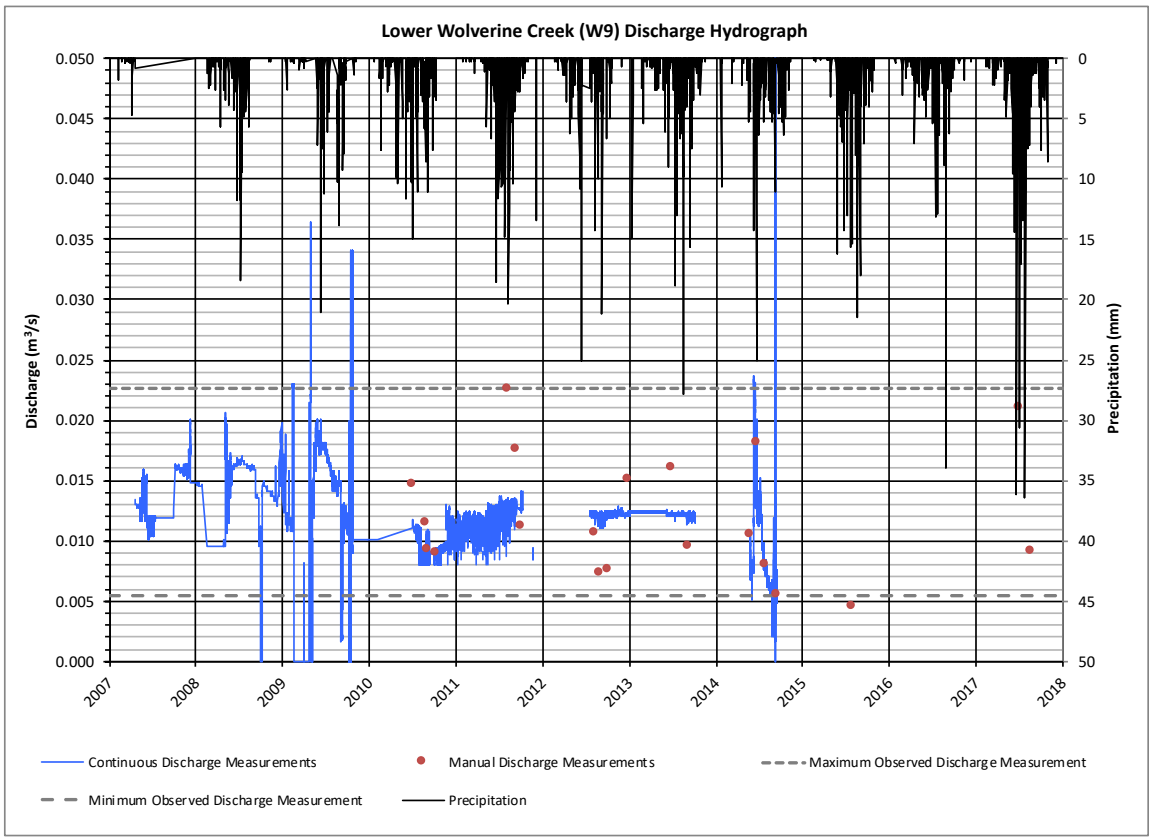


Figure 6-9: Hydrological Monitoring Results in Lower Wolverine Creek 2007-2017 (Station W9)

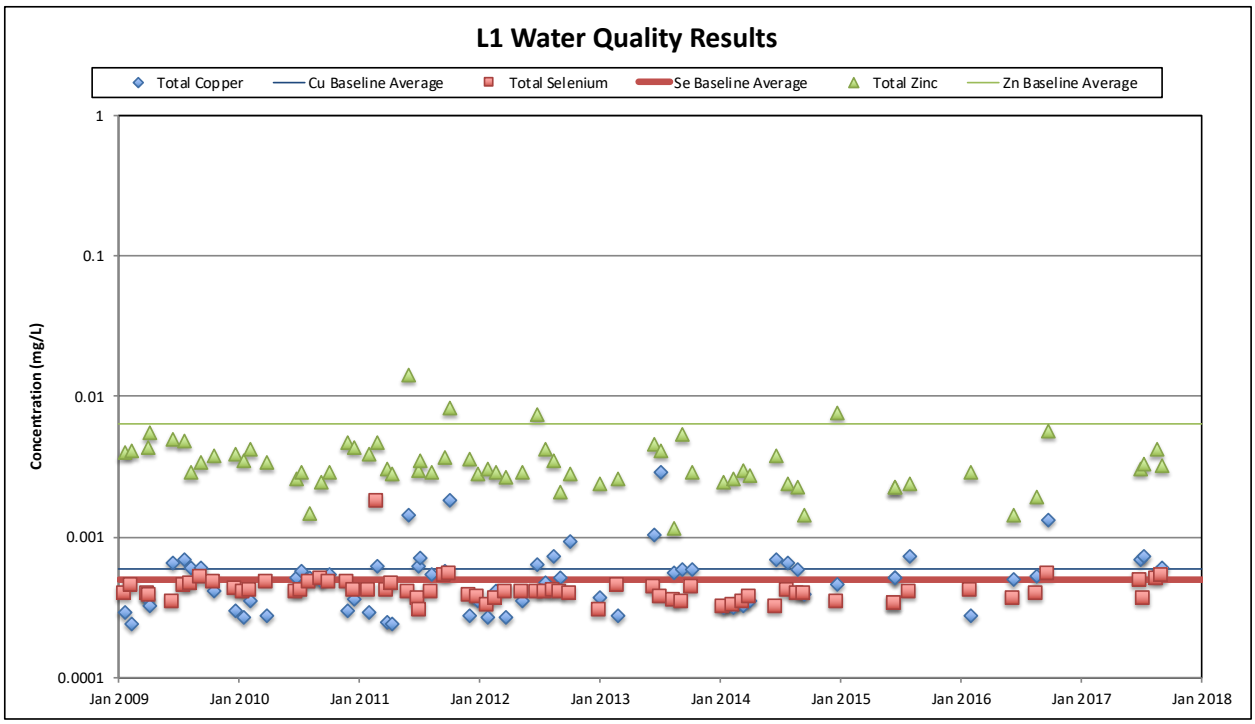


Figure 6-10: Cu, Se and Zn Concentrations Compared to Baseline in Wolverine Lake 2009-2017 (Station L1)

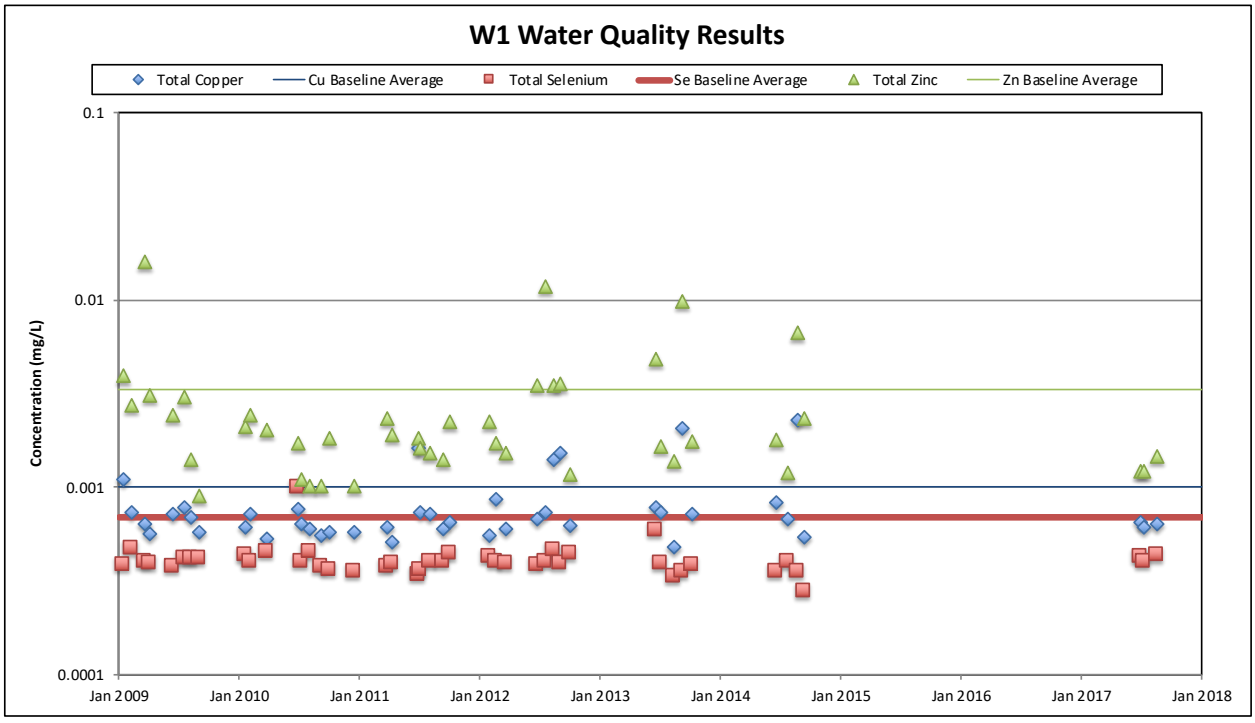


Figure 6-11: Cu, Se and Zn Concentrations Compared to Baseline in Upper Wolverine Lake 2009-2017 (Station W1)

6.1.1.3 Go Creek Watershed

Go Creek surface water monitoring starts at upper Go Creek (W31) and progresses down Go Creek (W16) to its confluence with Hawkowl (W81), and to station W80, which was the upper limit of fish presence noted during baseline monitoring, as well as the water quality objective compliance point. Go Creek watershed monitoring is also conducted at Hawkowl Creek (W15), which is a tributary to Go Creek above the TSF and at lower Go Creek, upstream of its confluence with Money Creek (W12) (Figure 6-1). Water quality in Go Creek is more variable than in Wolverine Creek, with larger seasonal fluctuations (Figure 6-12 through Figure 6-17). Water quality monitored during the operational period and into the Temporary Closure period has remained consistent with baseline water chemistry for all Go Creek sites.

In addition, hydrological monitoring was conducted at stations W12, W15, W16, W31, and W81 in the Go Creek watershed. Stream discharge results are provided in Table 6-3, and graphs of hydrology results at station W12 are provided in Figure 6-18. The data logger at stations W12 and W80 are no longer functioning, and will need to be repaired in 2018. Data loggers are not installed at any other stations in Go Creek.

Table 6-3: Hydrological Stream Discharge Results in Go Creek

Hydrology Site	Stream Discharge (m^3/s)		
	June 30, 2017	August 18, 2017	October 27, 2017
W12	0.738	-	-
W15	0.232	0.146	0.024
W16	0.217	-	0.050
W31	0.053	0.042	0.001
W81	0.475	0.027	0.078

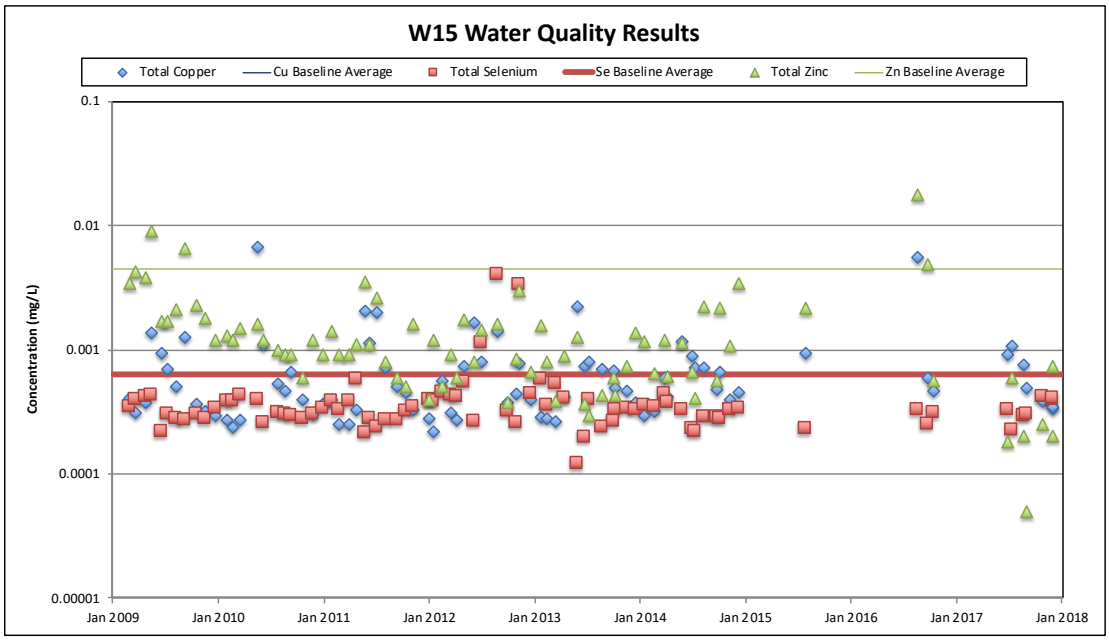


Figure 6-12: Cu, Se and Zn Concentrations Compared to Baseline in Hawkowl Creek 2009-2017 (Station W15)

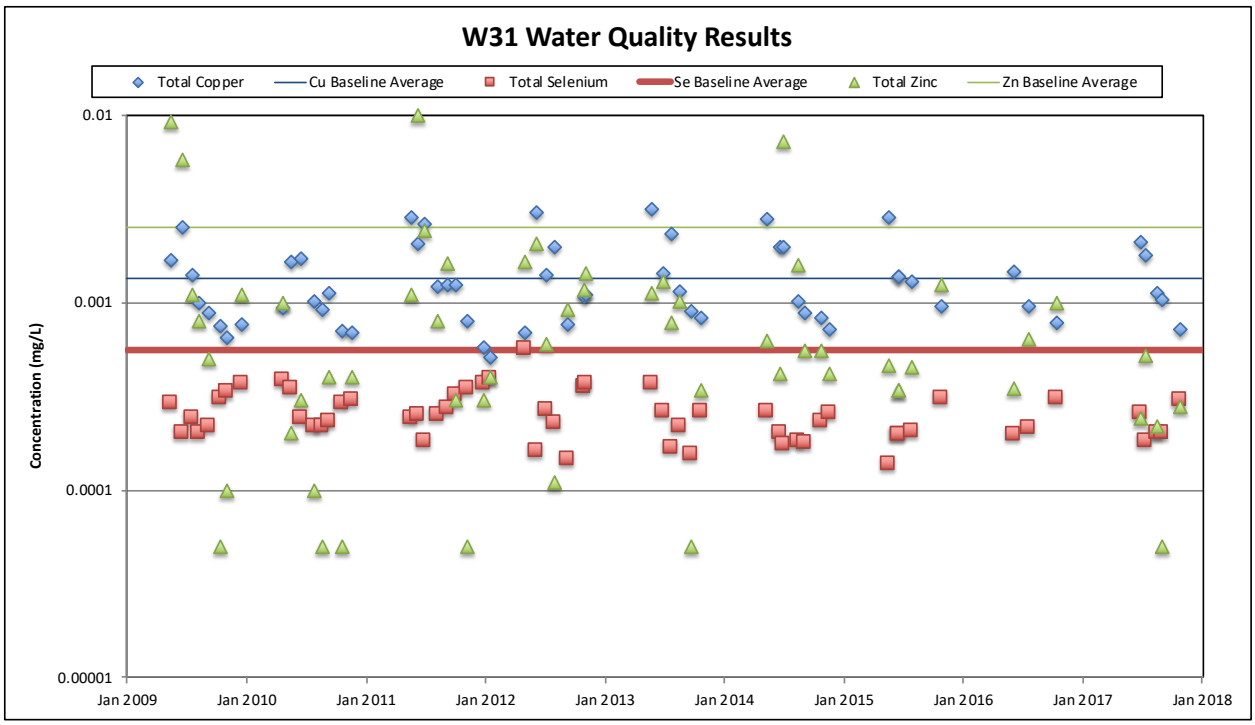


Figure 6-13: Cu, Se and Zn Concentrations Compared to Baseline in Upper Go Creek 2009-2017 (Station W31)

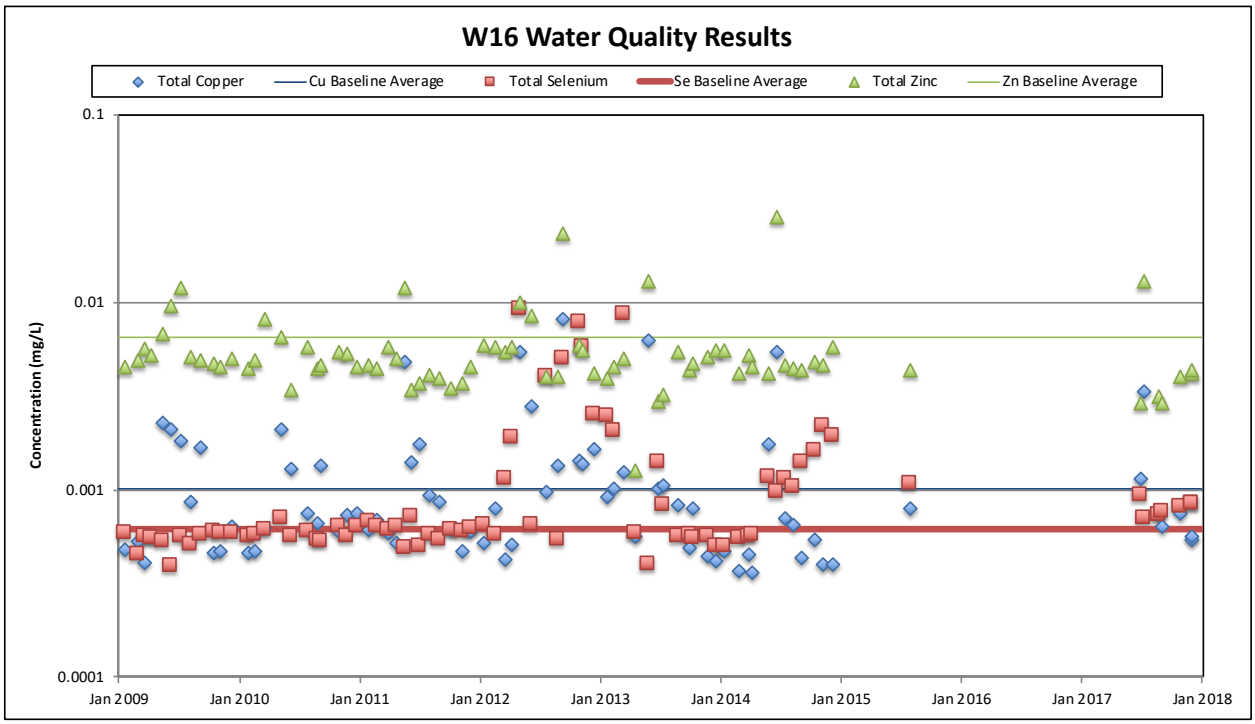


Figure 6-14: Cu, Se and Zn Concentrations Compared to Baseline in Upper Go Creek 2009-2017 (Station W16)

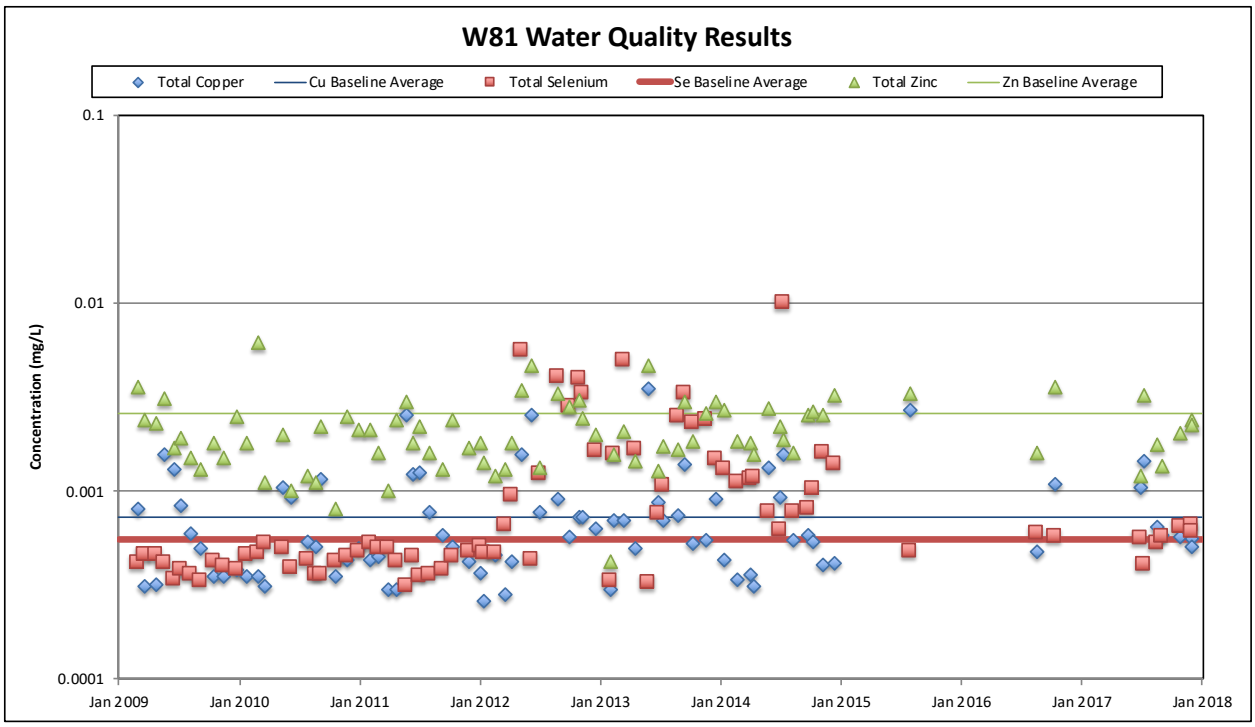


Figure 6-15: Cu, Se and Zn Concentrations Compared to Baseline in Go Creek 2009-2017 (Station W81)

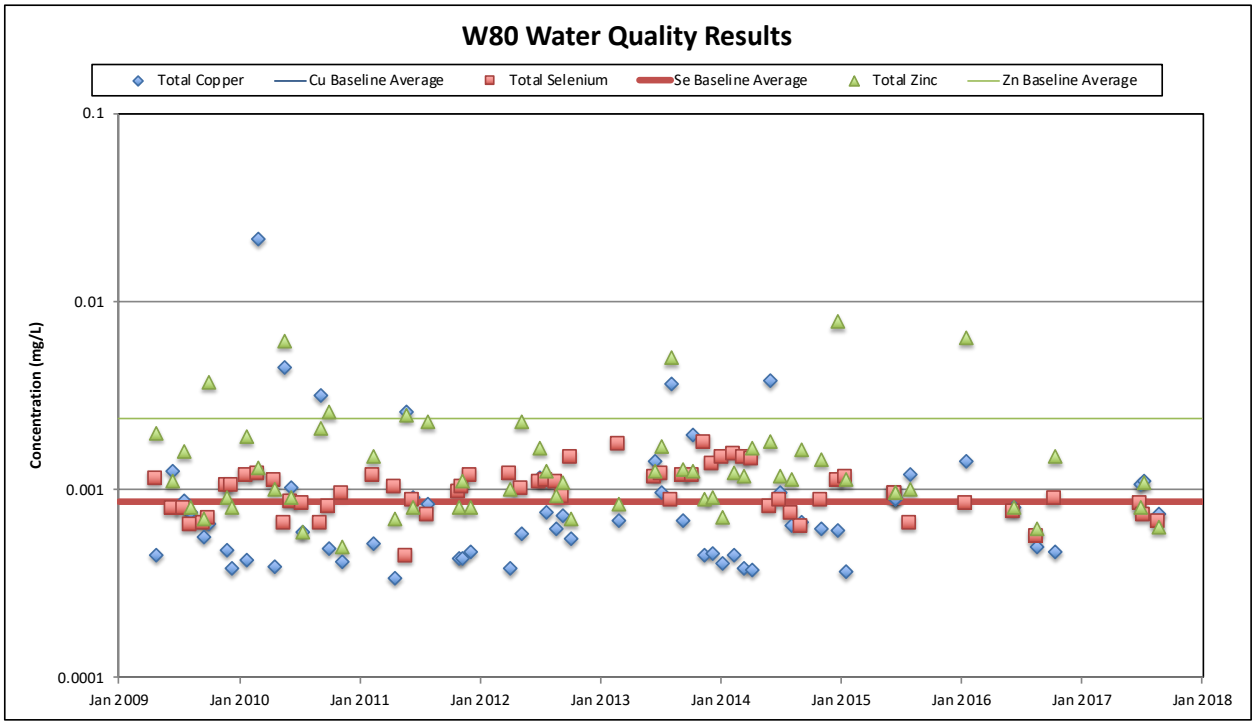


Figure 6-16: Cu, Se and Zn Concentrations Compared to Baseline in Lower Go Creek 2009-2017 (Station W80)

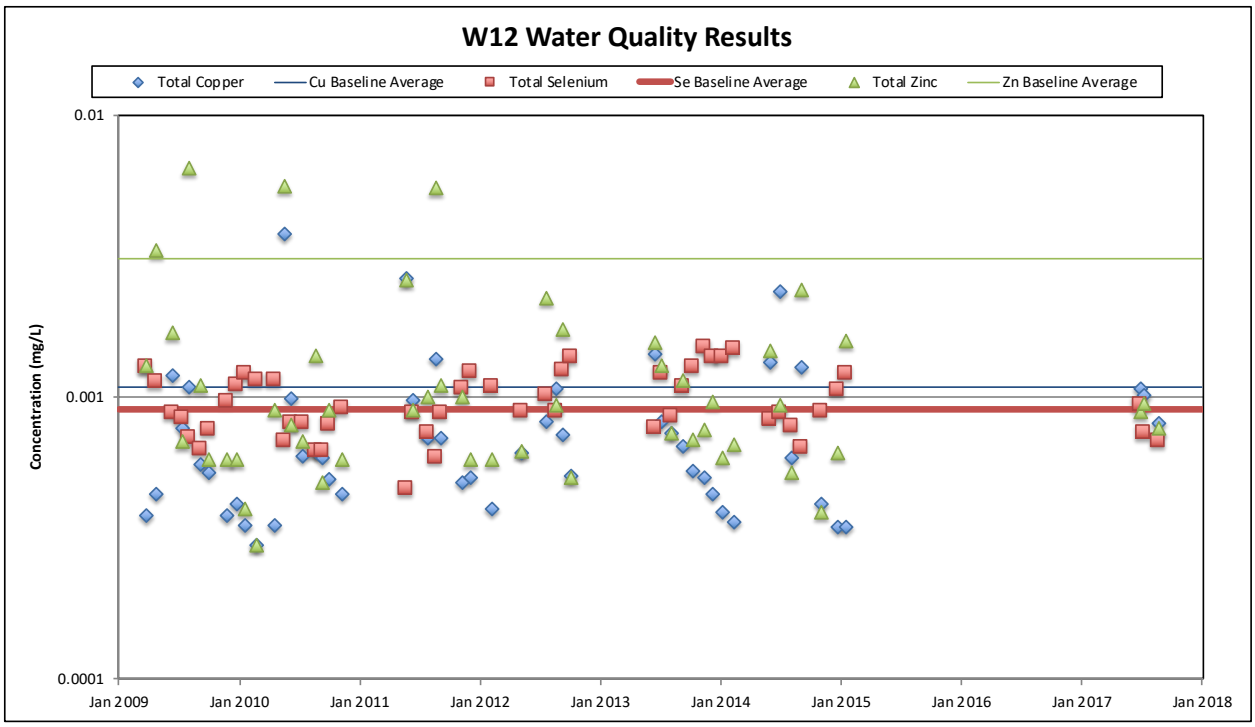


Figure 6-17: Cu, Se and Zn Concentrations Compared to Baseline in Lower Go Creek 2009-2017 (Station W12)

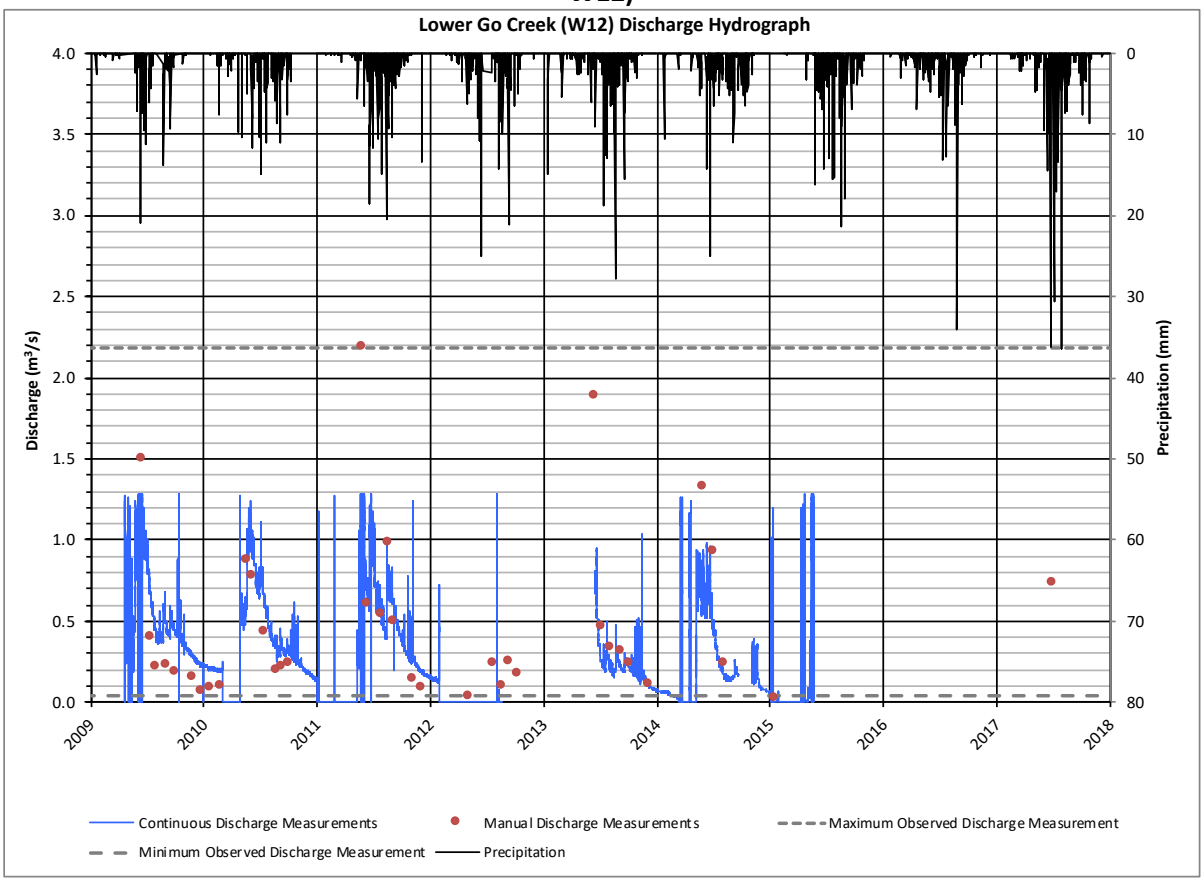


Figure 6-18: Hydrological Monitoring Results in Lower Go Creek 2009-2017 (Station W12)

6.1.1.4 Money Creek Watershed

Water quality and hydrology in the Money Creek watershed was measured at its confluence with Go Creek (W14), at the intersection of Money Creek with the Robert Campbell highway (W22), and on the upstream side of the road, just before its confluence with Frances Lake (W40) (Figure 6-1). Water chemistry has been consistent over the operational period (i.e., 2009-2014) and has remained consistent throughout the Temporary Closure period (Figure 6-20 through Figure 6-21). Hydrology was not monitored in 2017.

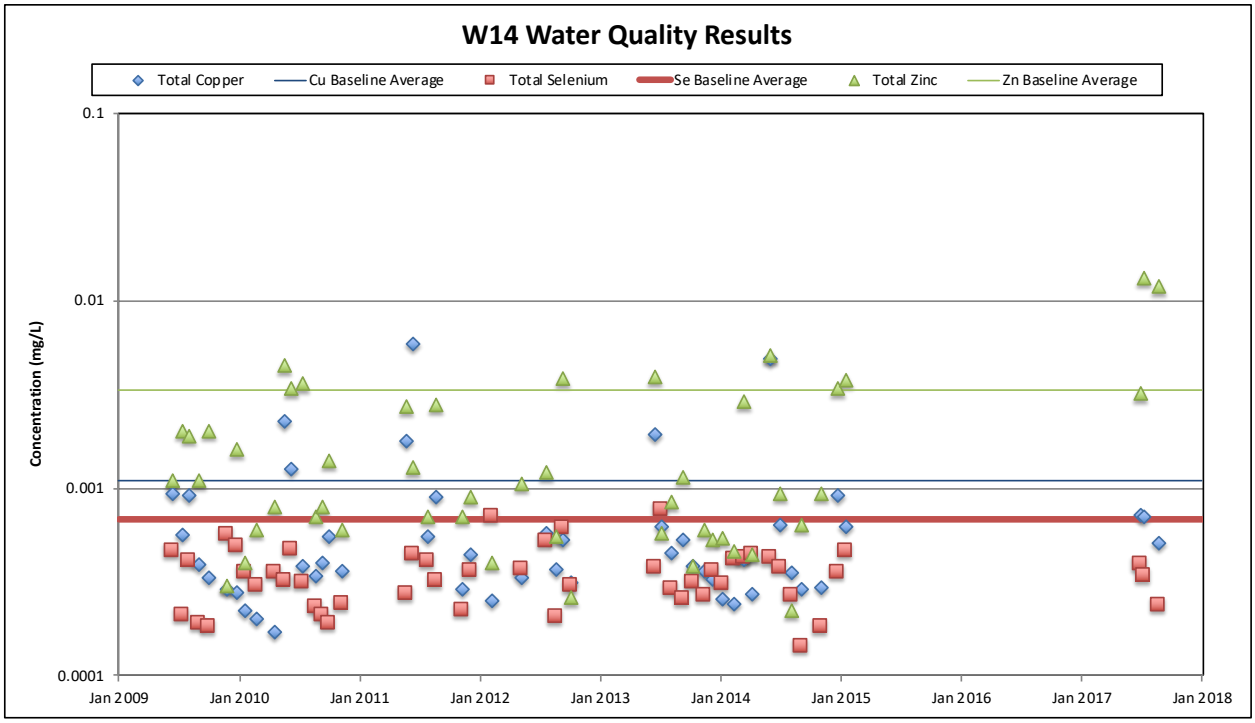


Figure 6-19: Cu, Se and Zn Concentrations Compared to Baseline in Upper Money Creek 2009-2017 (Station W14)

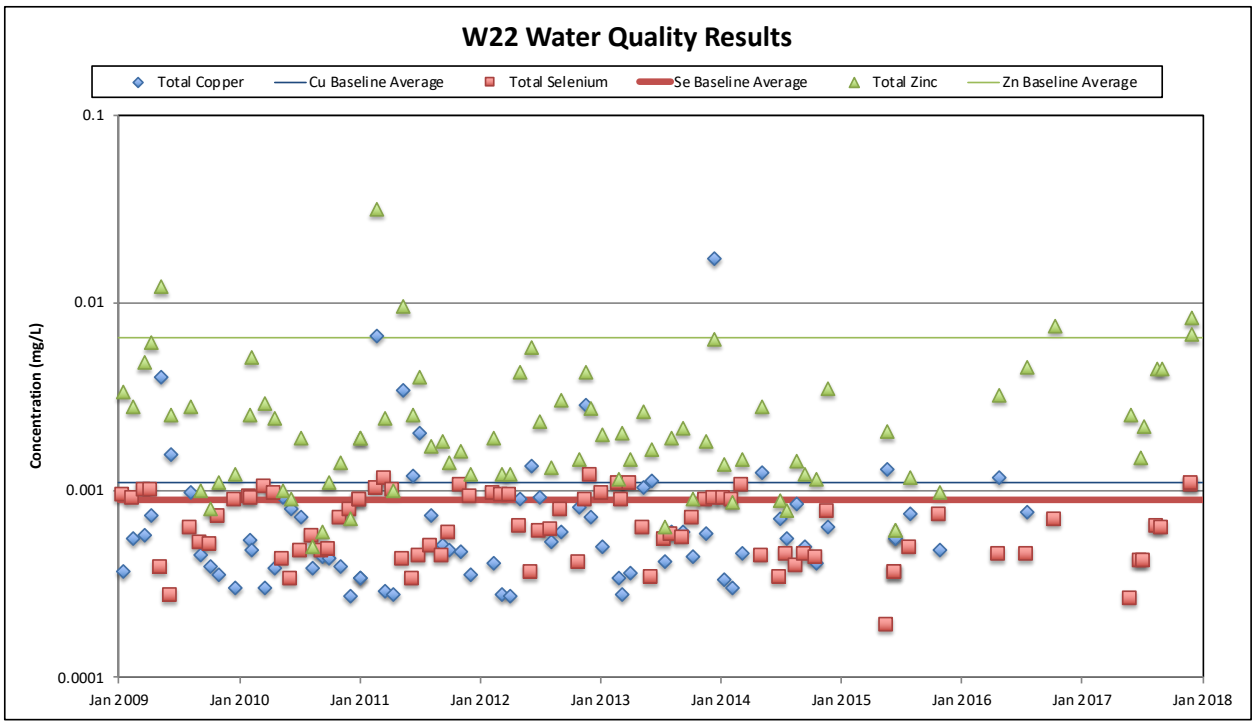


Figure 6-20: Cu, Se and Zn Concentrations Compared to Baseline in Lower Money Creek 2009-2017 (Station W22)

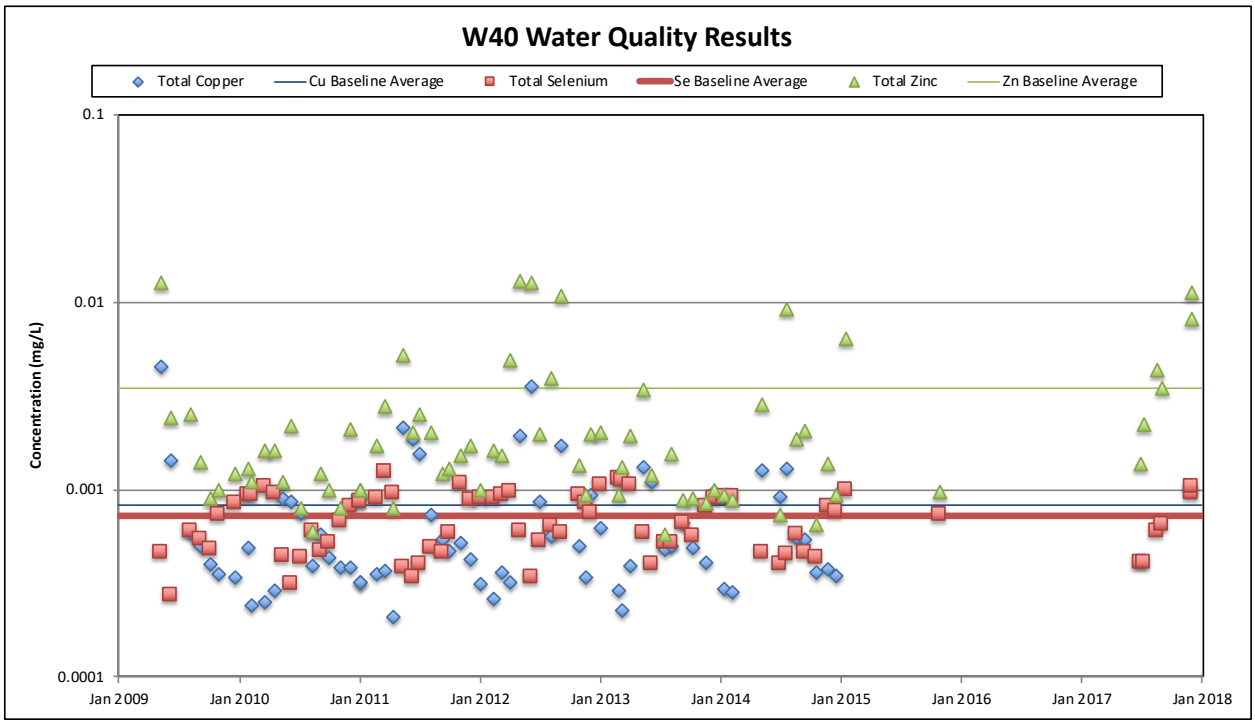


Figure 6-21: Cu, Se and Zn Concentrations Compared to Baseline in Lower Money Creek 2009-2017 (Station W40)

6.1.1.5 Access Road Route

Water quality monitoring is conducted at Pitch, Putt and Bunker Creeks that intersect with the Access Road. Water chemistry at Pitch and Putt Creeks (Figure 6-22 and Figure 6-23) have been extremely consistent, with relatively little variability. Water chemistry at Bunker Creek is more variable (Figure 6-24) but has remained within the range of baseline chemistry over the operational period, and throughout the Temporary Closure period. Hydrology was measured at station W72 on October 31, 2017 and the stream discharge was 0.133 m^3/s.

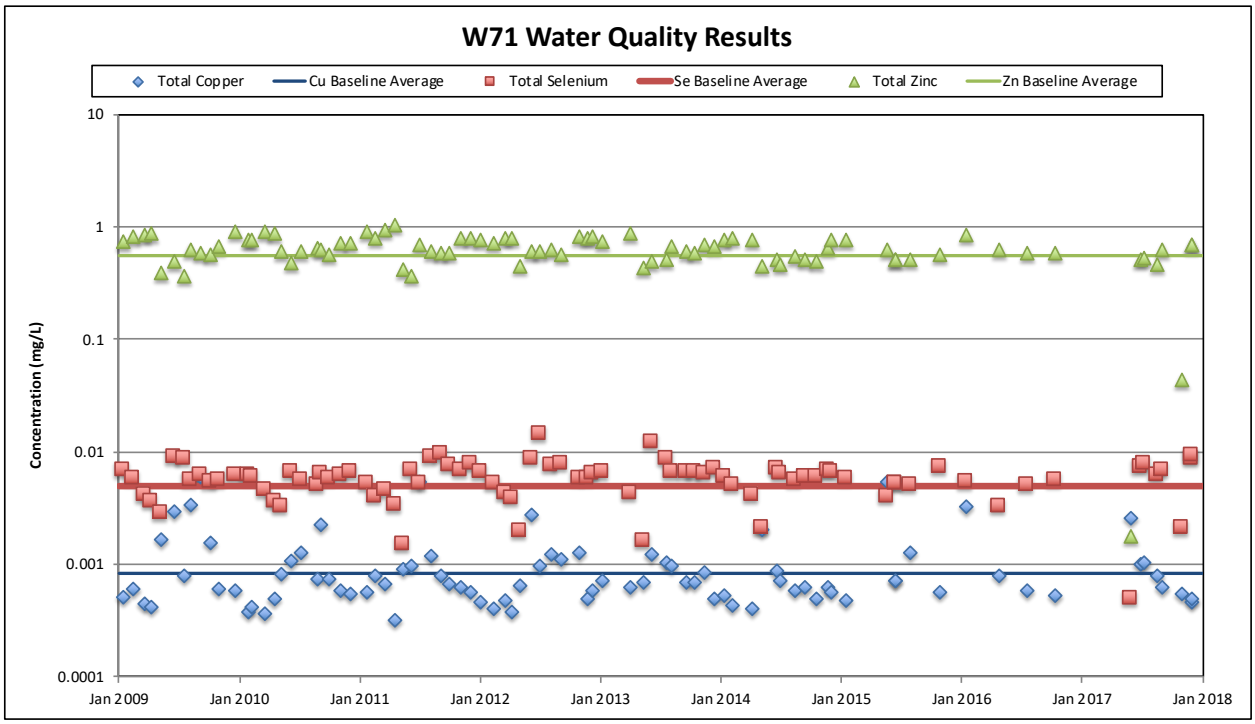


Figure 6-22: Cu, Se and Zn Concentrations Compared to Baseline in Pitch Creek 2009-2017 (Station W71)

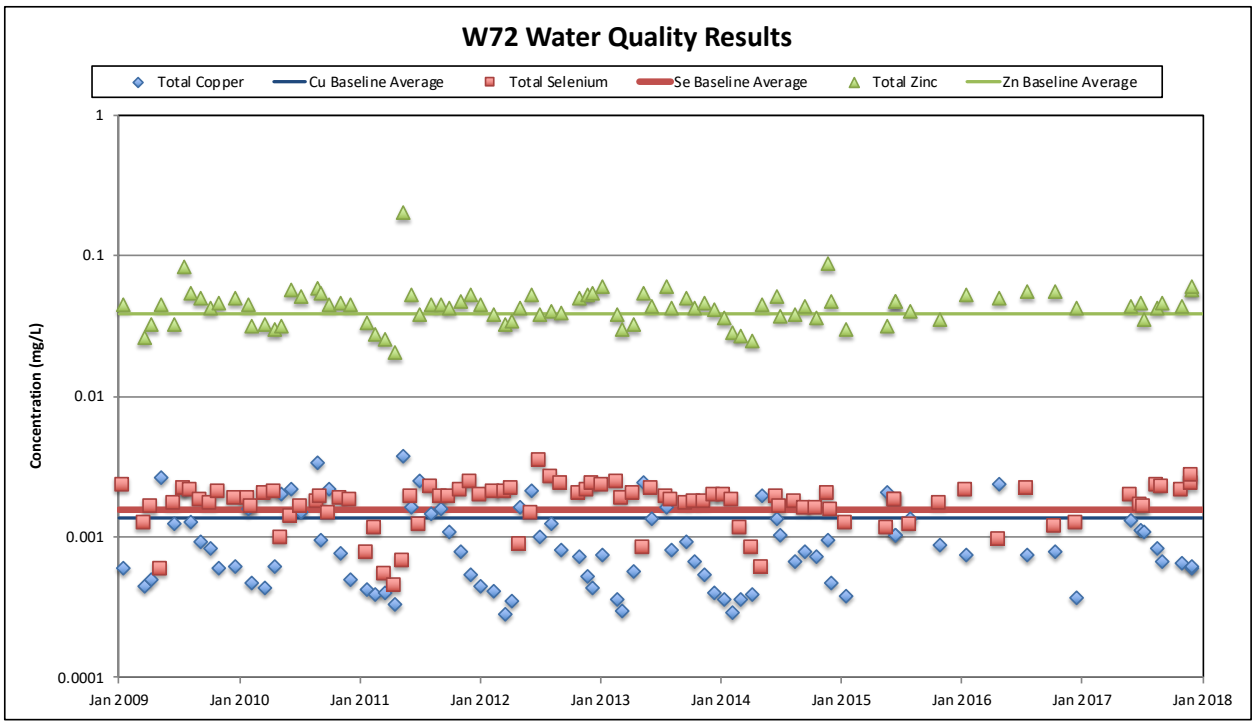


Figure 6-23: Cu, Se and Zn Concentrations Compared to Baseline in Putt Creek 2009-2017 (Station W72)

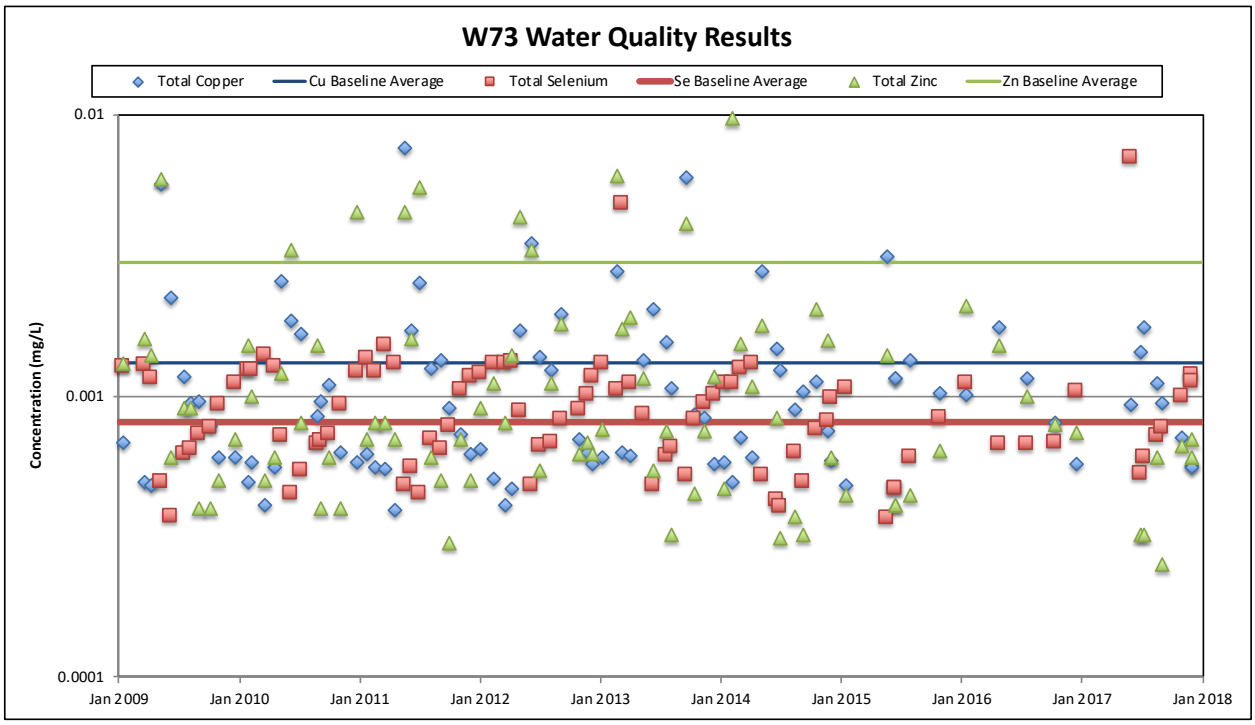


Figure 6-24: Cu, Se and Zn Concentrations Compared to Baseline in Bunker Creek 2009-2017 (Station W73)

6.1.2 Groundwater Sampling Program

The groundwater monitoring program for the Wolverine Mine includes: the monitoring of water levels, temperature and water quality at 24 locations at the Wolverine Mine site in alluvial, shallow and deep bedrock in the Wolverine Lake and Go Creek watersheds (Figure 6-25). The results of the groundwater quality and water level monitoring at the TSF area, and the Wolverine Creek and Go Creek watersheds are summarized below. Full water quality monitoring results are provided in Appendix D, and the full third-party laboratory reports are provided in Appendix E. Additionally, to enhance confidence in the stability and robustness of the water quality results at groundwater monitoring stations, results are provided graphically below for key water quality parameters (e.g., copper, selenium and zinc). The 2017 water quality in the groundwater monitoring sites is generally consistent with baseline water chemistry (1998 – 2008).

Water levels are also consistent with past measurements, although changes in data loggers and the lack of calibration has resulted in some noticeable changes in results, which don't necessarily correlate to actual changes in water levels. The short-lived spike lines in the graphs correspond to sampling periods, when the water levels decrease drastically and the temperatures increase. In general, the water levels increase each year around May/June, and decrease to the lowest seasonal levels in March/April. The water temperatures are highest around July/August, and lowest around December/January. Annual water levels in the various monitoring wells have remained relatively consistant over the monitoring period.


Wolverine Mine Groundwater Monitoring Stations
MW05-6
MW08-14
MW05-3
MW05-04 A/B
MW06-12S
MW05-05A/B
MW06-11S
MW05-1A/B
MW05-7B
MW08-13
MW05-2A/B
Google Earth
Image Landsat / Copernicus
1 km

6.1.2.1 Tailings Storage Facility

There are four groundwater monitoring wells downslope of the TSF: MW05-2A (shallow bedrock), MW05-2B, MW05-7B and MW08-13 (alluvial). Well MW05-2 is upslope of the TSF in the Go Creek valley, and MW05-7 and MW08-13 are downslope of the TSF in Go Creek (Figure 6-25). Well MW05-7 is under water in the TSF seepage pond and was not monitored in 2017.

Water quality sampling is focussed on the ice-free months as wells MW05-2A and -2B are artesian, and frozen in the winter months. Water chemistry in upslope wells has generally been consistent over the monitoring period (Figure 6-26). Selenium concentrations at these wells are generally less than the method detection limit, expressed as values representing ½ the detection limit in Figure 6-26.

At downslope well MW08-13, copper and zinc concentrations have remained comparable over the operational period, but selenium concentrations had been steadily increasing since 2012 through to early 2015. However, during the Temporary Closure period (> 2015), selenium concentrations have decreased back to the upper range of the < 2013 period. This yields a trend that is similar to the trend in selenium concentrations measured at station W81 (Figure 6-15).

Water levels and temperatures are measured in groundwater well MW08-13 (Figure 6-28), which has not been downloaded since June 2015. Water level and temperature loggers are not installed in wells MW05-2 and MW05-7 as they are artesian, and consistently have a 0 m water level.

Table 6-4: Water Levels in Groundwater Monitoring Wells in the TSF Area

Monitoring Well	Jul-17	Aug-17	Oct-17
	Water Depth (m)		
05-2A	0.15	0.258	0.66
05-2B	0.557	0.635	0.708
06-13	1.5	1.583	1.815

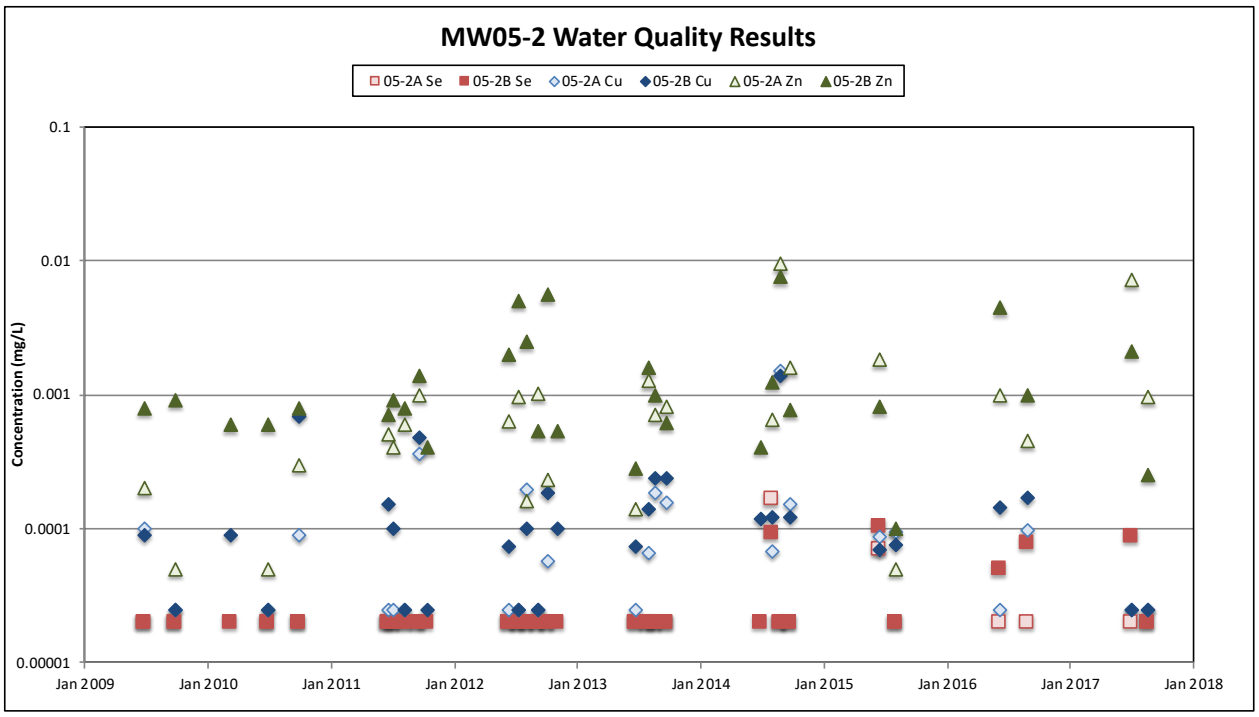


Figure 6-26:Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-2A and MW05-2B 2009-2017

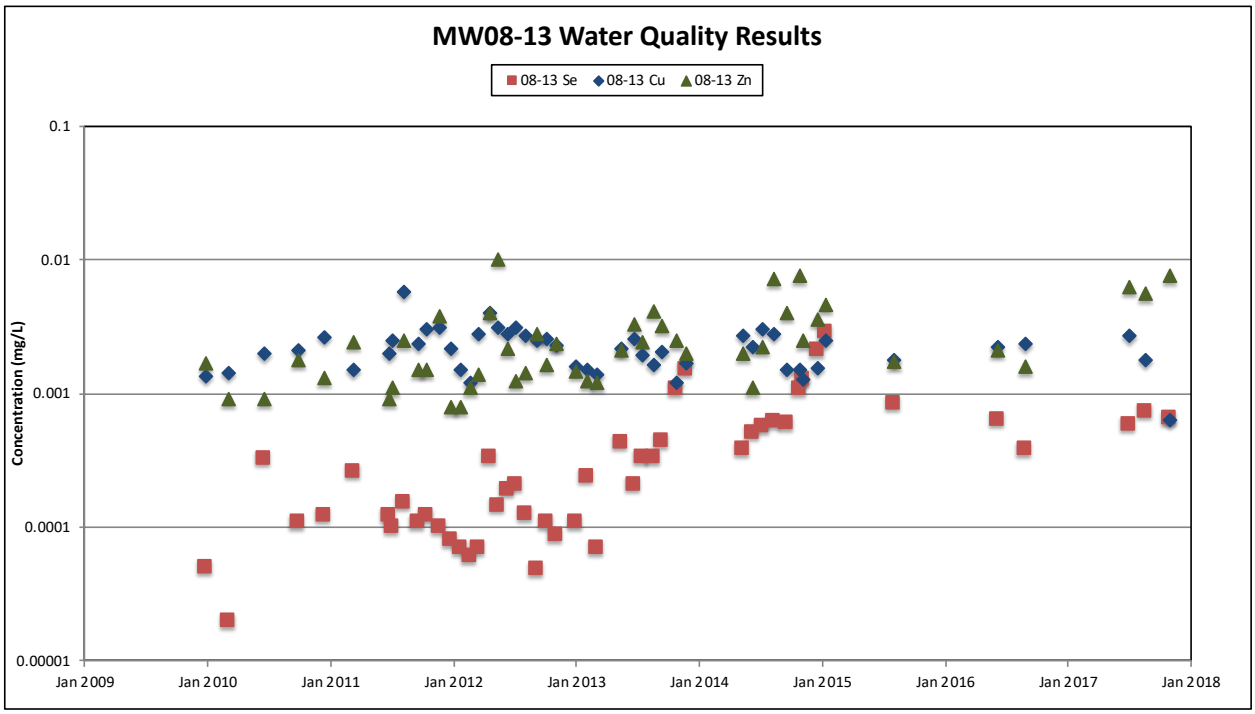


Figure 6-27: Cu, Se and Zn Concentrations in Groundwater Monitoring Well MW08-13 2010-2017

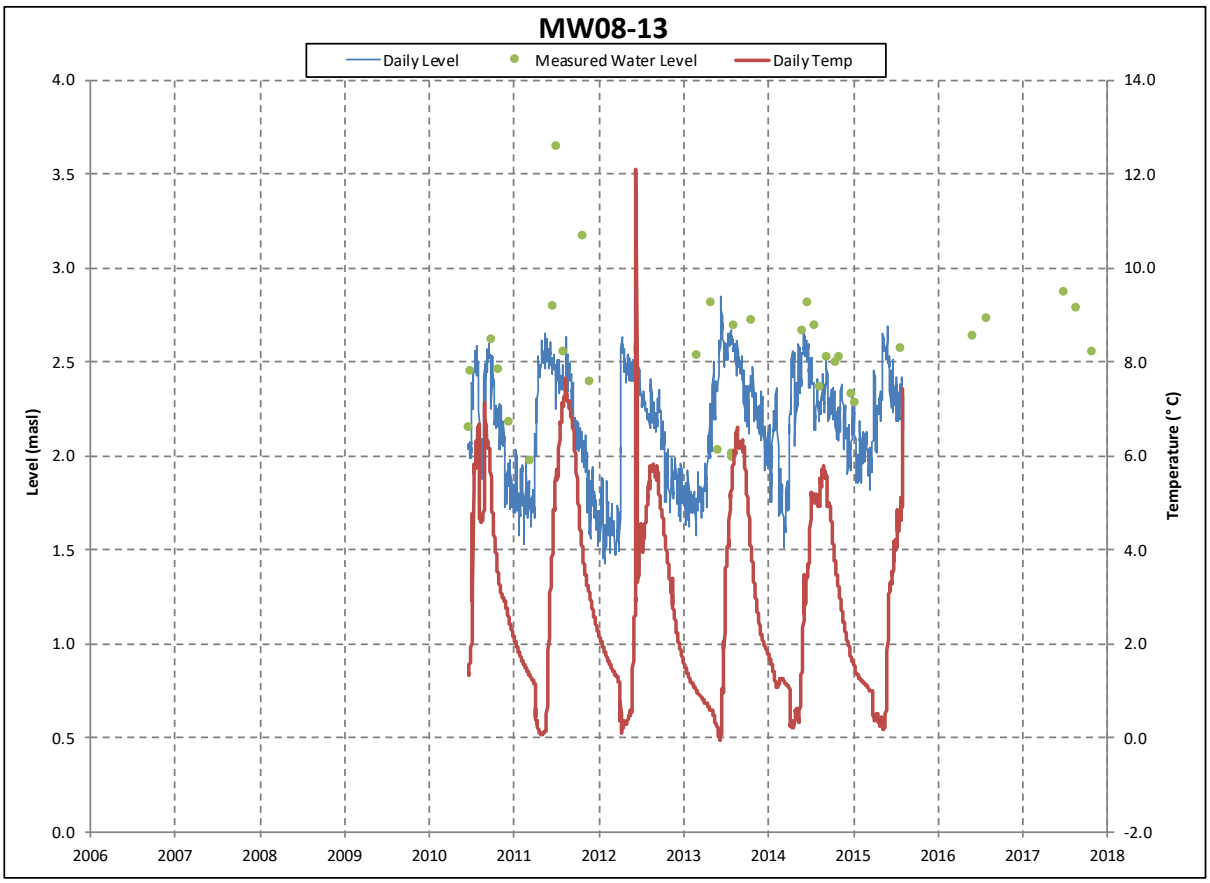


Figure 6-28: Water Levels and Temperature in Groundwater Monitoring Well MW08-13 2010-2017

6.1.2.2 Wolverine Creek

Alluvial groundwater wells in the Wolverine Creek drainage include wells MW05-3B, MW05-4B and MW05-5B. Shallow bedrock groundwater wells in the Wolverine Creek drainage include wells MW05-3A, MW05-4A, MW05-5A, MW06-8S, MW06-9S, MW06-10S, MW06-11S and MW06-12S. Deep bedrock groundwater wells in the Wolverine Creek drainage include wells MW06-8M, MW06-8D, MW06-9M, MW06-10M and MW06-10D.

Water quality results over the 2017 period have been generally comparable to past results for groundwater monitoring wells in the Wolverine Creek drainage (Figure 6-29, Figure 6-32, Figure 6-35, Figure 6-38, Figure 6-42, Figure 6-44, and Figure 6-48). Selenium concentrations are typically less than the method detection limit, expressed as values representing ½ the detection limit in the graphs below. There were some increases in selenium, copper and zinc concentrations evident for the 2016 concentrations in MW05-5 in early 2016 (Figure 6-35). Otherwise, though variable, the metals concentrations remain consistently within the range of historical measurements.

Water levels have also been consistent over the monitoring period (Figure 6-30, Figure 6-31, Figure 6-33, Figure 6-34, Figure 6-36, Figure 6-37, Figure 6-39, Figure 6-40, Figure 6-41, Figure 6-43, Figure 6-45, Figure 6-47, Figure 6-49, and Figure 6-50). The majority of the wells commenced logging in September 2006. Wells MW05-4A, MW05-4B, MW06-8S, MW06-9S, MW06-10M and MW06-12S have had data loggers

replaced. Changes in data loggers and the lack of calibration has resulted in some noticeable changes in results, which don't necessity correlate to actual changes in water levels. There is no data logger in well MW05-9M as it is an artesian well, and has a consistent water level of 0 m above ground level. Well MW06-8M was re-drilled in 2010; hence, there are no data recorded prior to 2010. Many data loggers were downloaded in early 2016; hence, there are only data provided for early January 2016 and not beyond that. The data logger at well MW06-10M was not downloaded in 2016.

The short-lived spike lines in the graphs correspond to sampling periods, when the water levels decrease drastically and the temperatures increase. In general, the water levels increase each year around May/June, and decrease to the lowest seasonal levels in March/April. Annual water levels in the various monitoring wells have remained relatively consistant over the monitoring period.

Temperatures in the wells have also remained generally consistent, with water temperatures highest around July/August, and lowest around December/January. Temperature in alluvial monitoring well MW05-5A has been steadily increasing over the monitoring period, from an annual low of ~1.7°C in late 2006 to an annual low of ~2.1°C in 2014 (Figure 6-36). The temperature in the shallow bedrock well (MW05-5B) has remained consistent over the 2006 – 2016 monitoring period (Figure 6-37). In shallow bedrock well MW06-8M, the temperature gradually decreased from ~2.11°C in 2010 to 2.09°C in 2016 (Figure 6-40), whereas in the other nested wells at that location, the temperature has remained constant (Figure 6-39 and Figure 6-41).

Table 6-5: Water Levels in Groundwater Monitoring Wells along Wolverine Creek, 2017

Monitoring Well	May-17	Jul-17	Aug-17	Oct-17
	Water Depth (m)			
05-3B		1.446	0.84	1.48
05-4A		1.044	0.61	0.961
05-4B		Artesian	0.96	1.11
05-5A	0.34	2.897	2.96	3.13
05-5B	1.38	3.535	3.20	3.33
06-8S		7.533	7.57	8.64
06-8M		22.069	22.14	22.86
06-8D		7.545	6.82	8.084
06-9S		2.282	3.01	
06-9M		Artesian	Artesian	3.96
06-10S		6.242	6.339	3.453
06-10M		5.132	5.522	6.266
06-10D		2.367	2.545	6.527
06-11S	1.27	1.015	1.11	1.32
06-12S		1.491	1.635	4.106

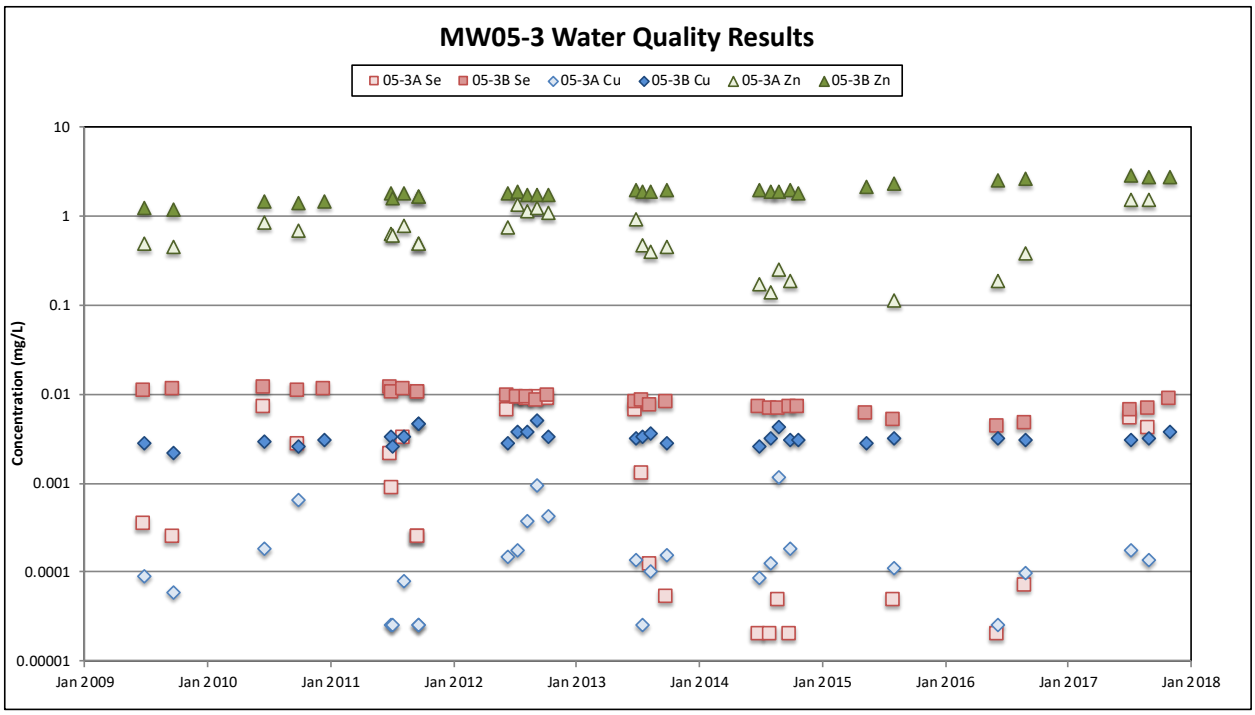


Figure 6-29: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-3A and MW05-3B 2009-2017

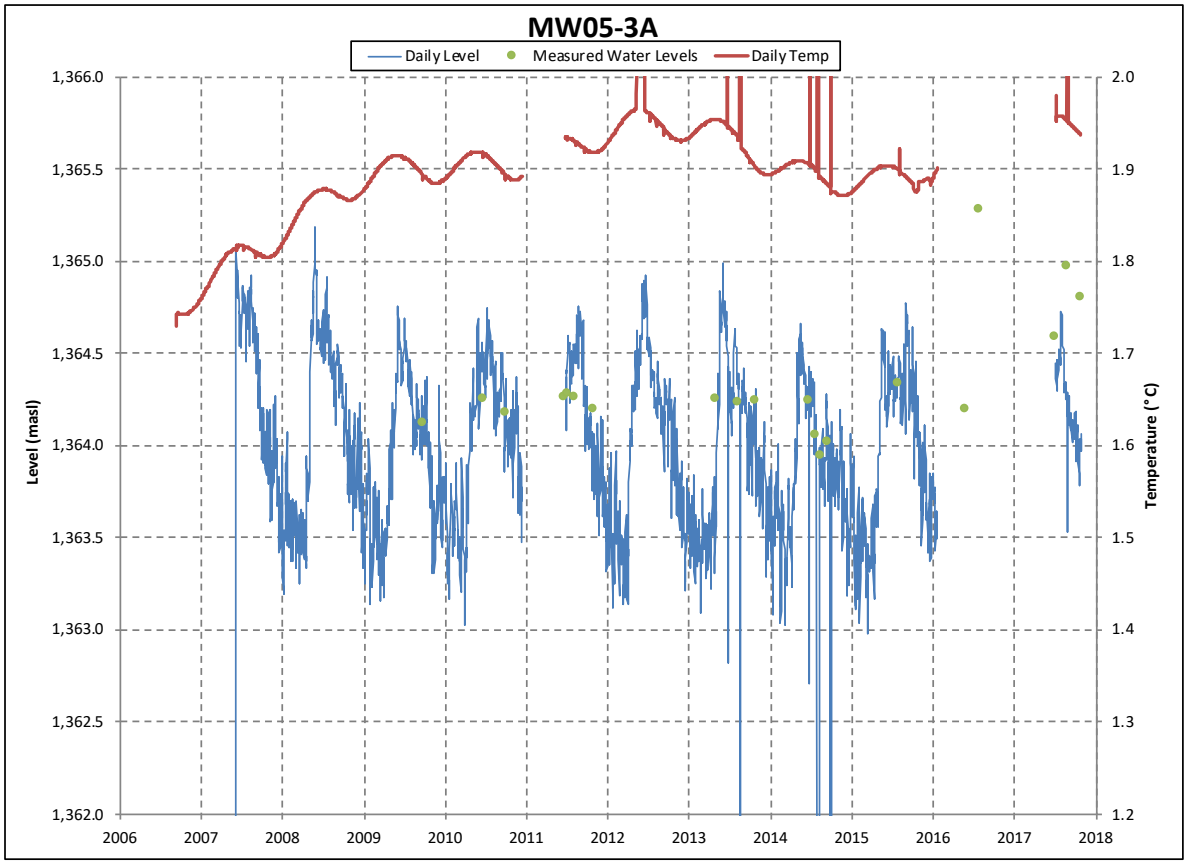


Figure 6-30: Water Levels and Temperature in Groundwater Monitoring Well MW05-3A 2006-2017

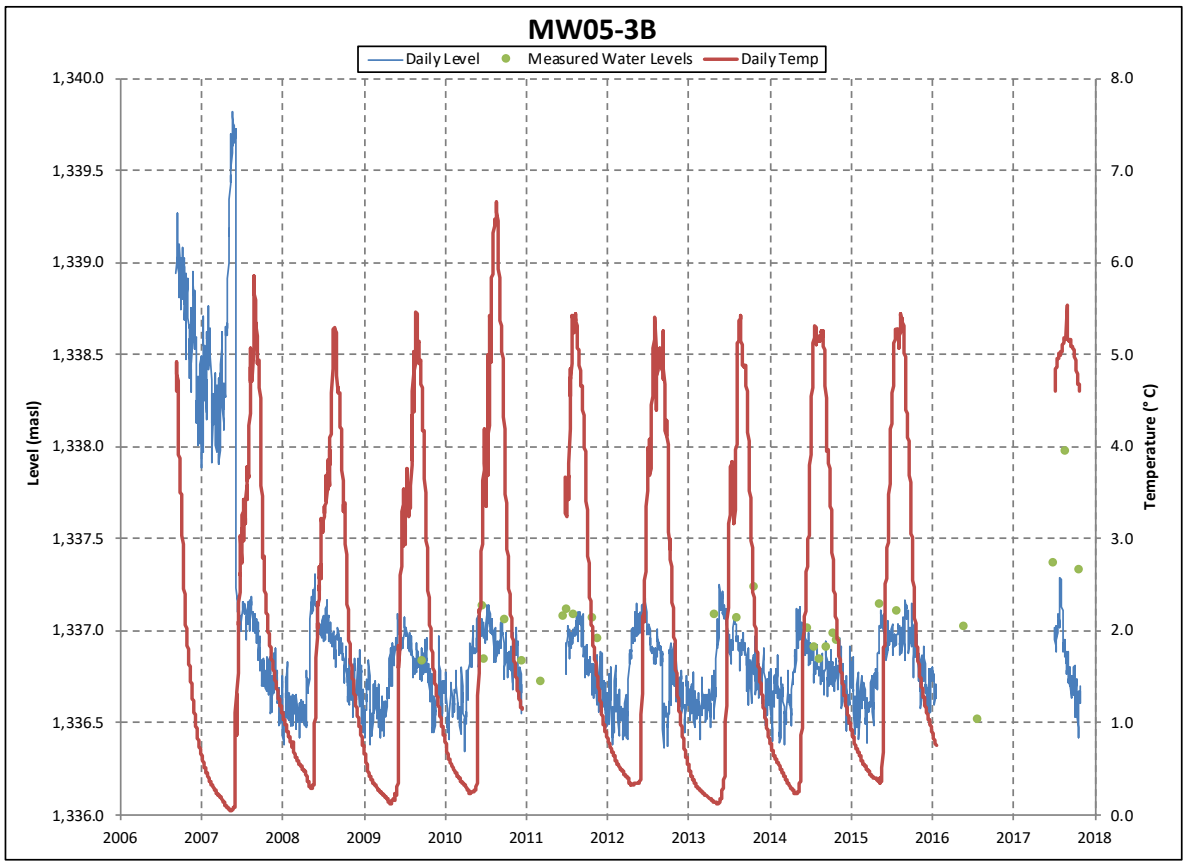


Figure 6-31: Water Levels and Temperature in Groundwater Monitoring Well MW05-3B 2006-2017

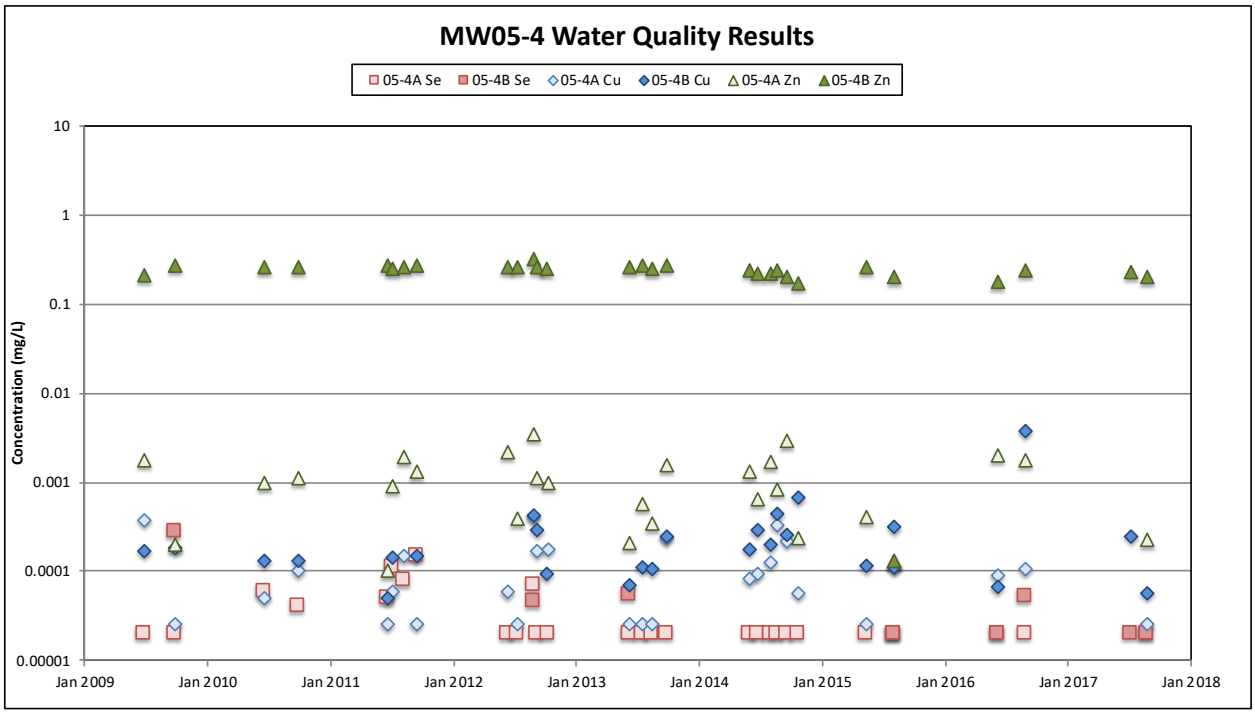


Figure 6-32: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-4A and MW05-4B 2009-2017

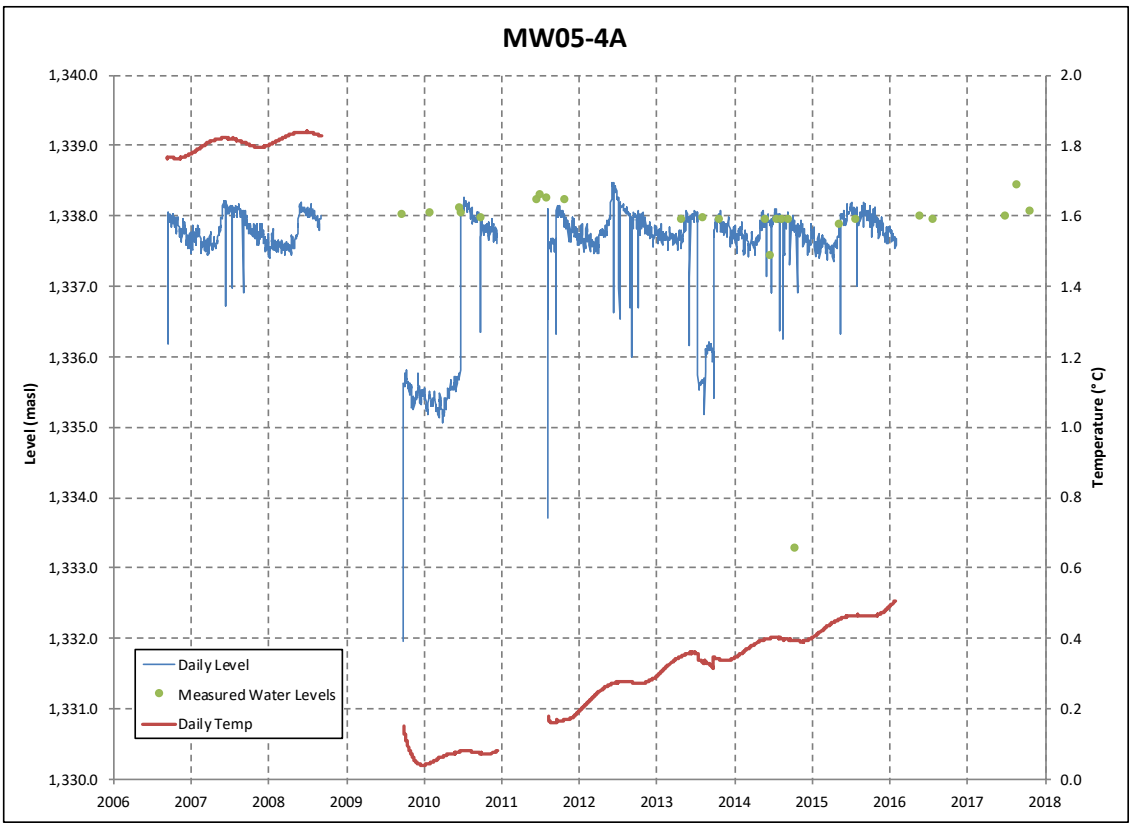


Figure 6-33: Water Levels and Temperature in Groundwater Monitoring Well MW05-4A 2006-2017

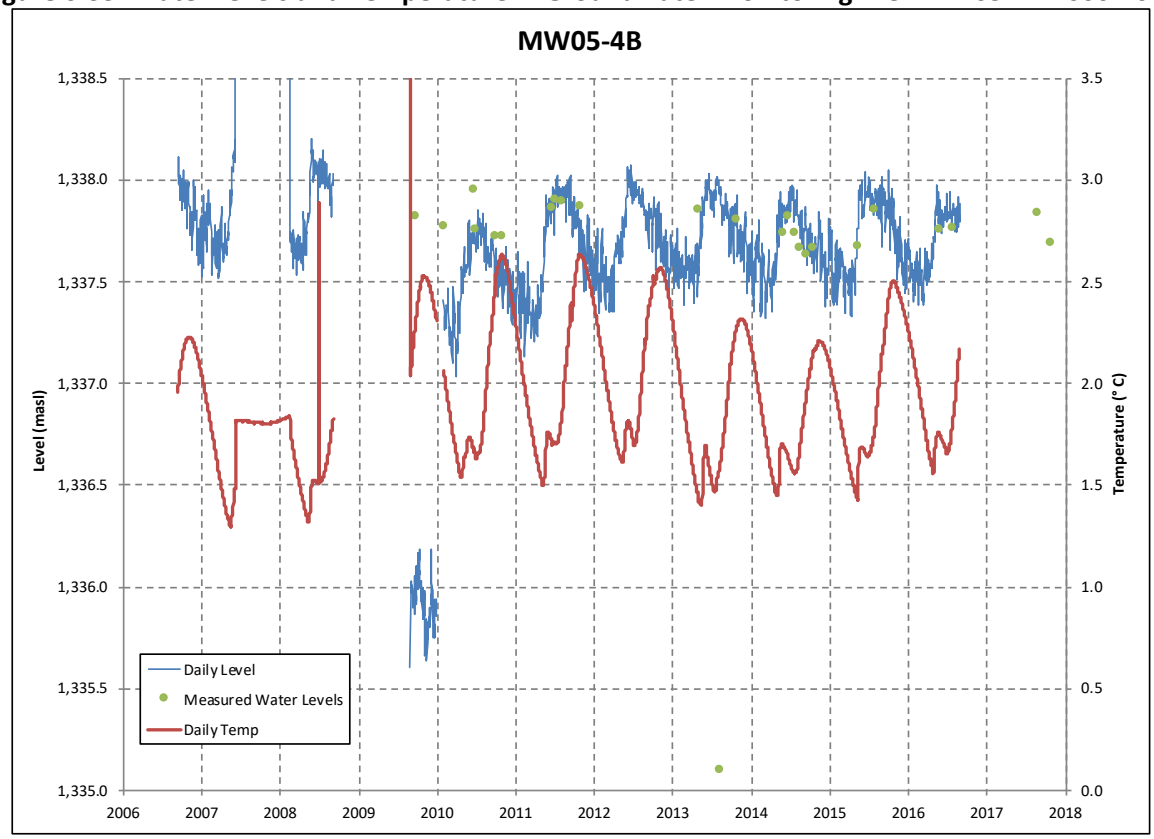


Figure 6-34: Water Levels and Temperature in Groundwater Monitoring Well MW05-4B 2006-2017

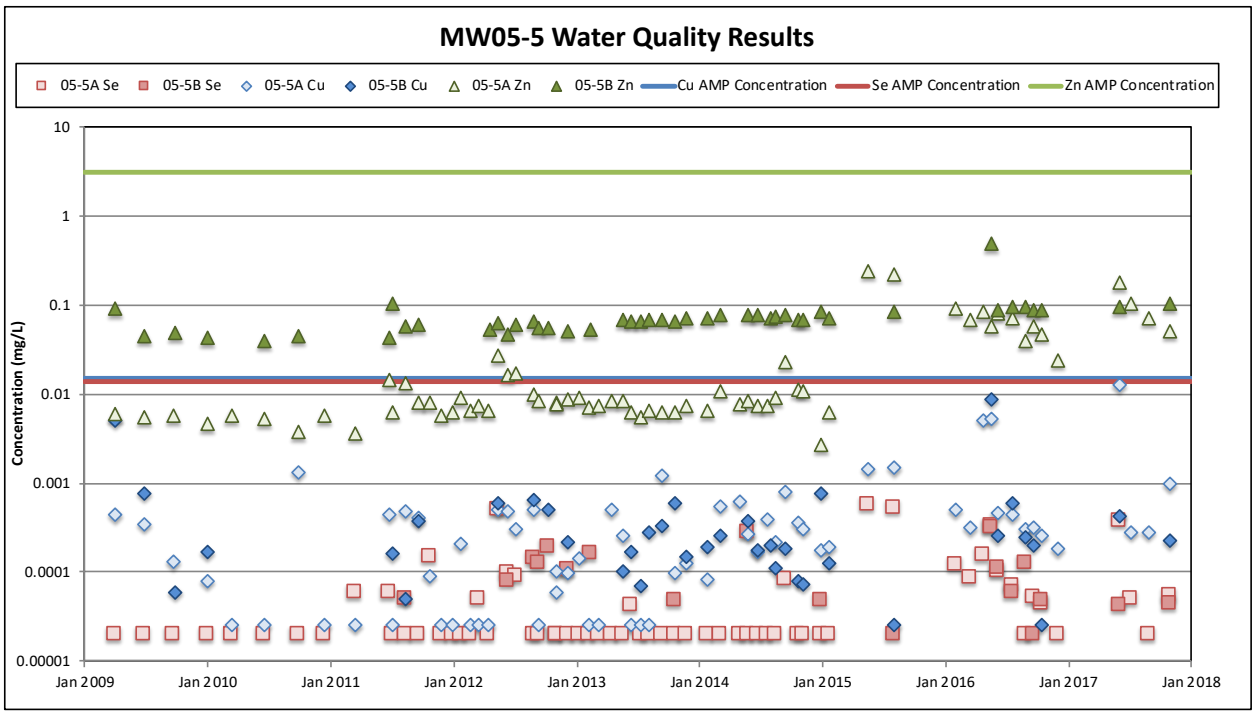


Figure 6-35: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-5A and MW05-5B 2009-2017

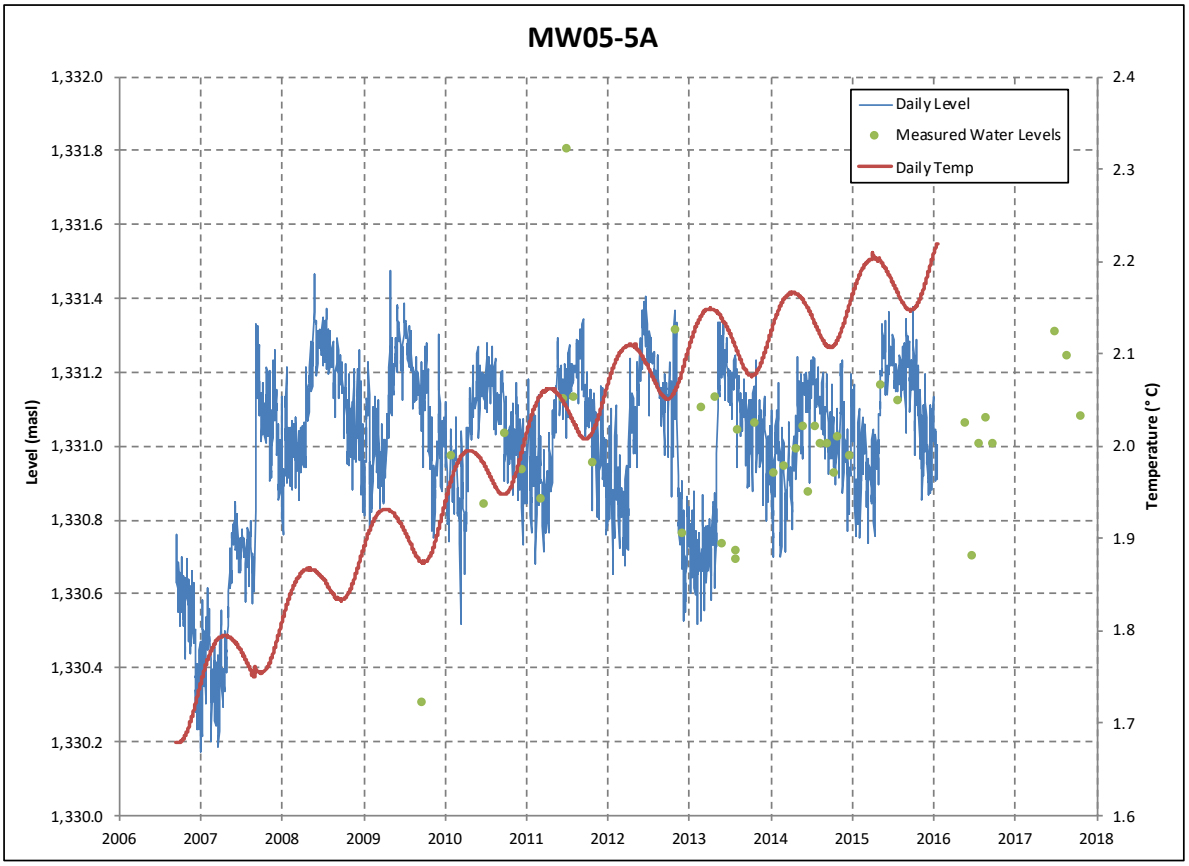


Figure 6-36: Water Levels and Temperature in Groundwater Monitoring Well MW05-5A 2006-2017

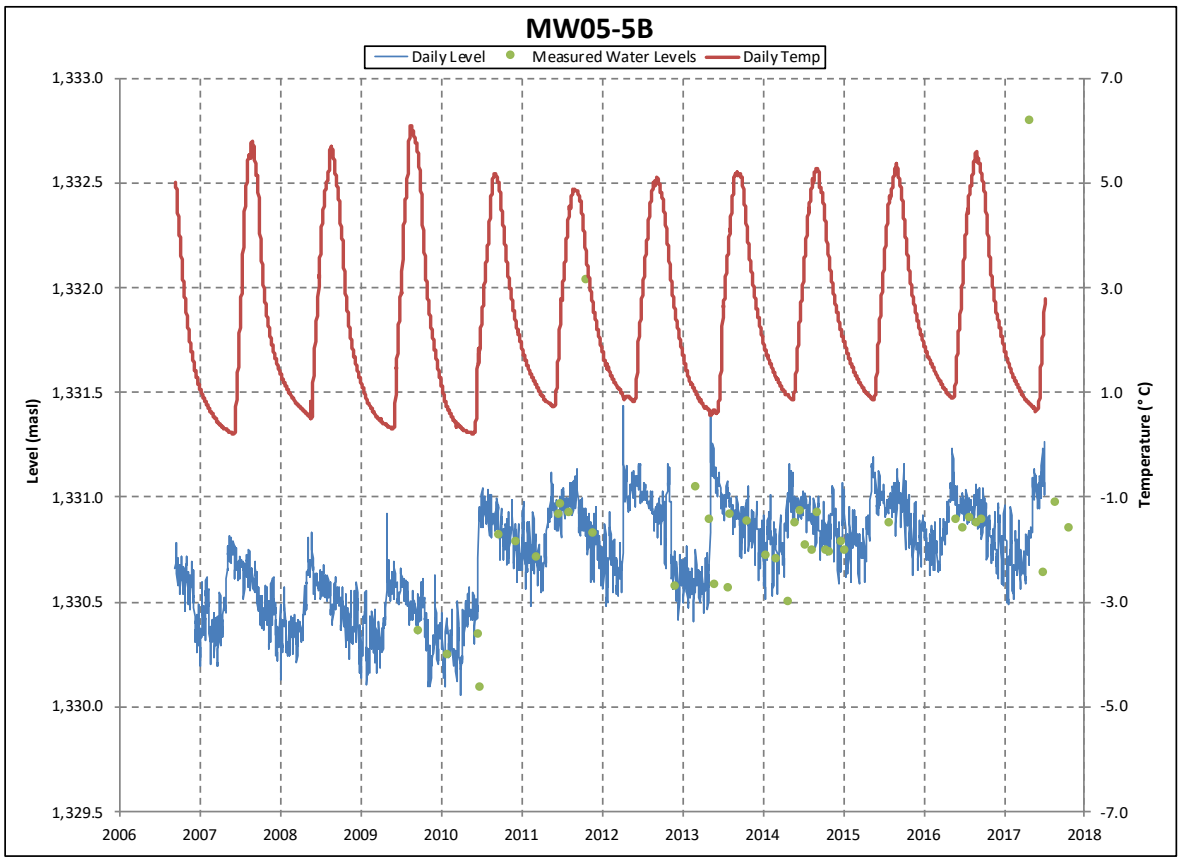


Figure 6-37: Water Levels and Temperature in Groundwater Monitoring Well MW05-5B 2006 2017

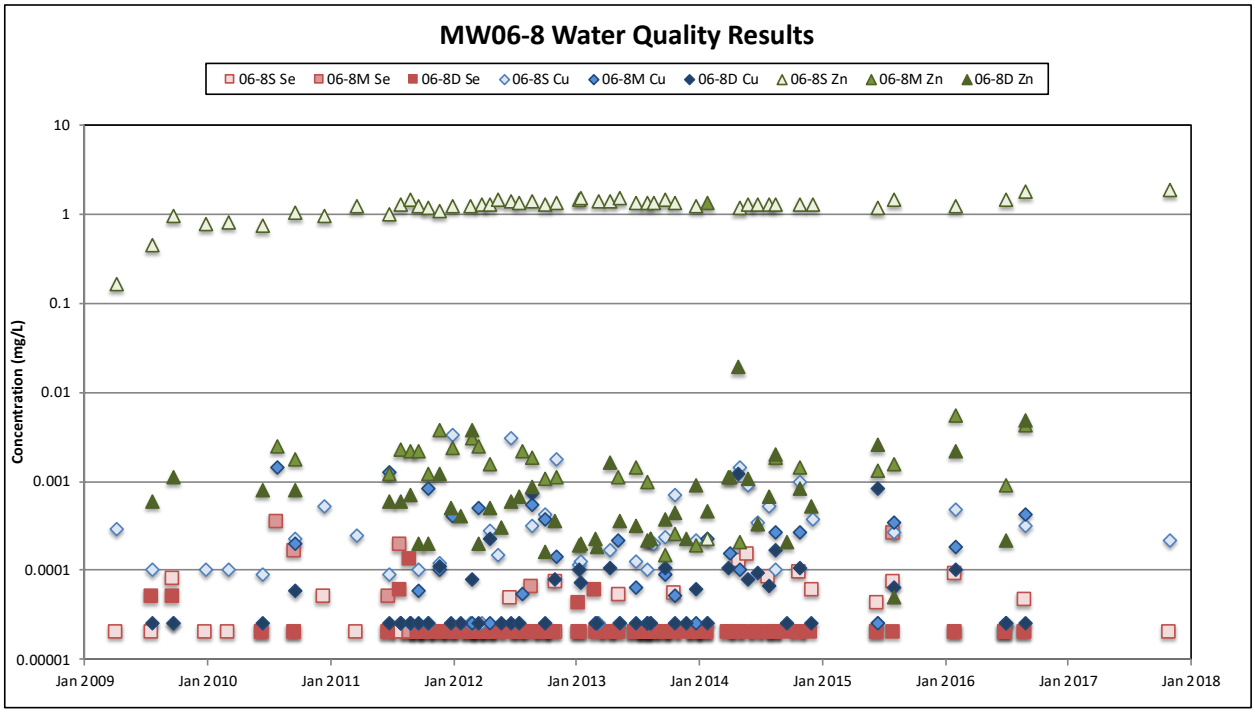


Figure 6-38: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW06-8S, MW06-8M and MW06-8D 2009-2017

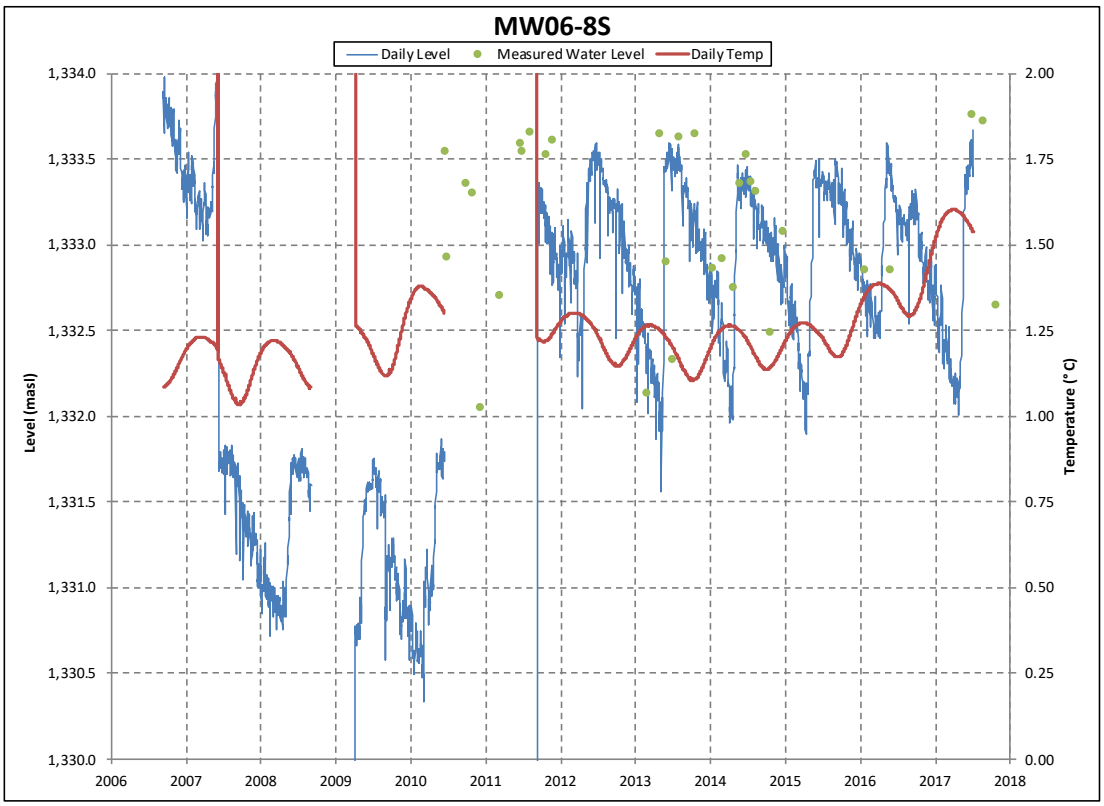


Figure 6-39: Water Levels and Temperature in Groundwater Monitoring Well MW06-8S 2006-2017

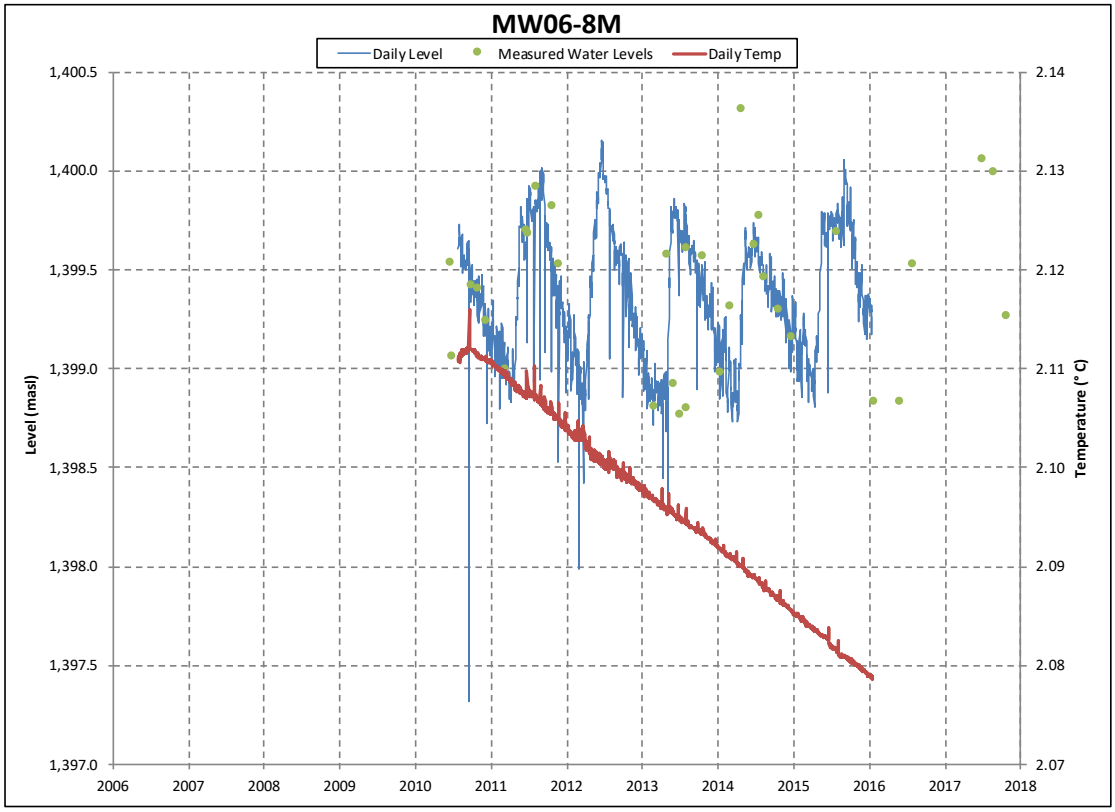


Figure 6-40: Water Levels and Temperature in Groundwater Monitoring Well MW06-8M 2010-2017

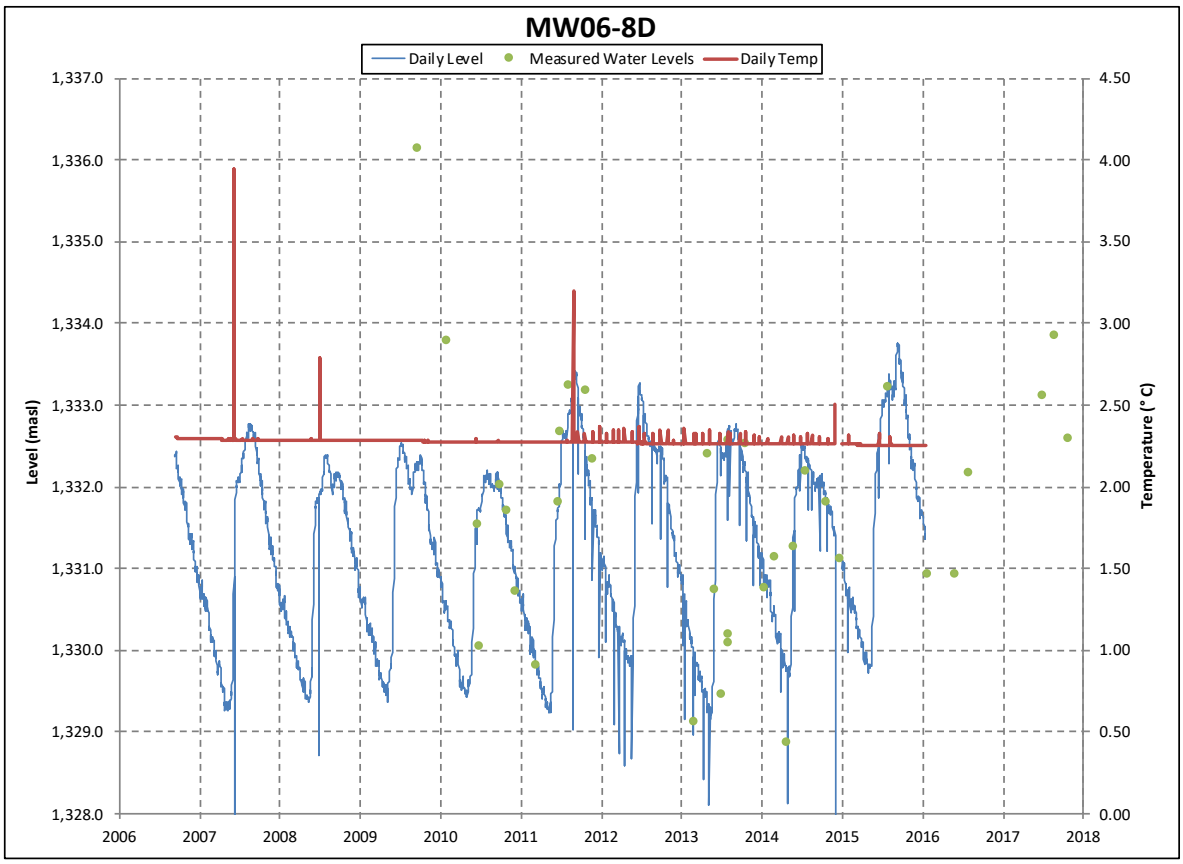


Figure 6-41: Water Levels and Temperature in Groundwater Monitoring Well MW06-8D 2006-2017

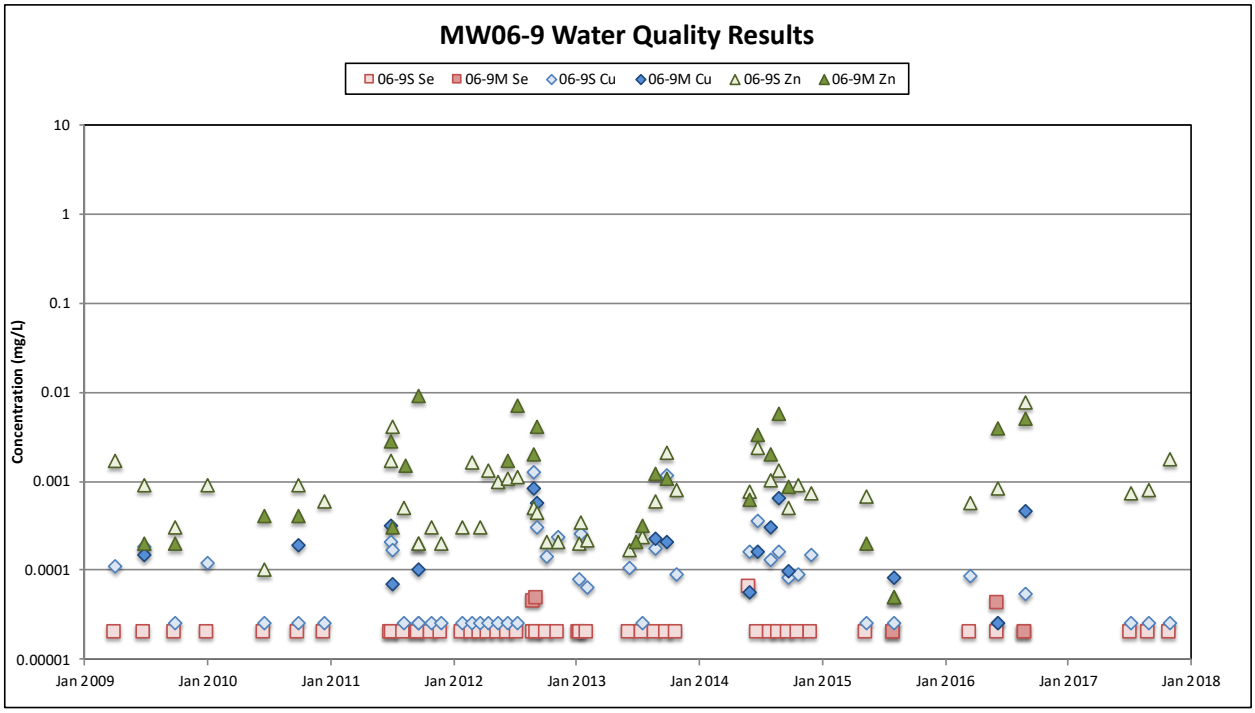


Figure 6-42: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW06-9S and MW06-9M 2009-2017

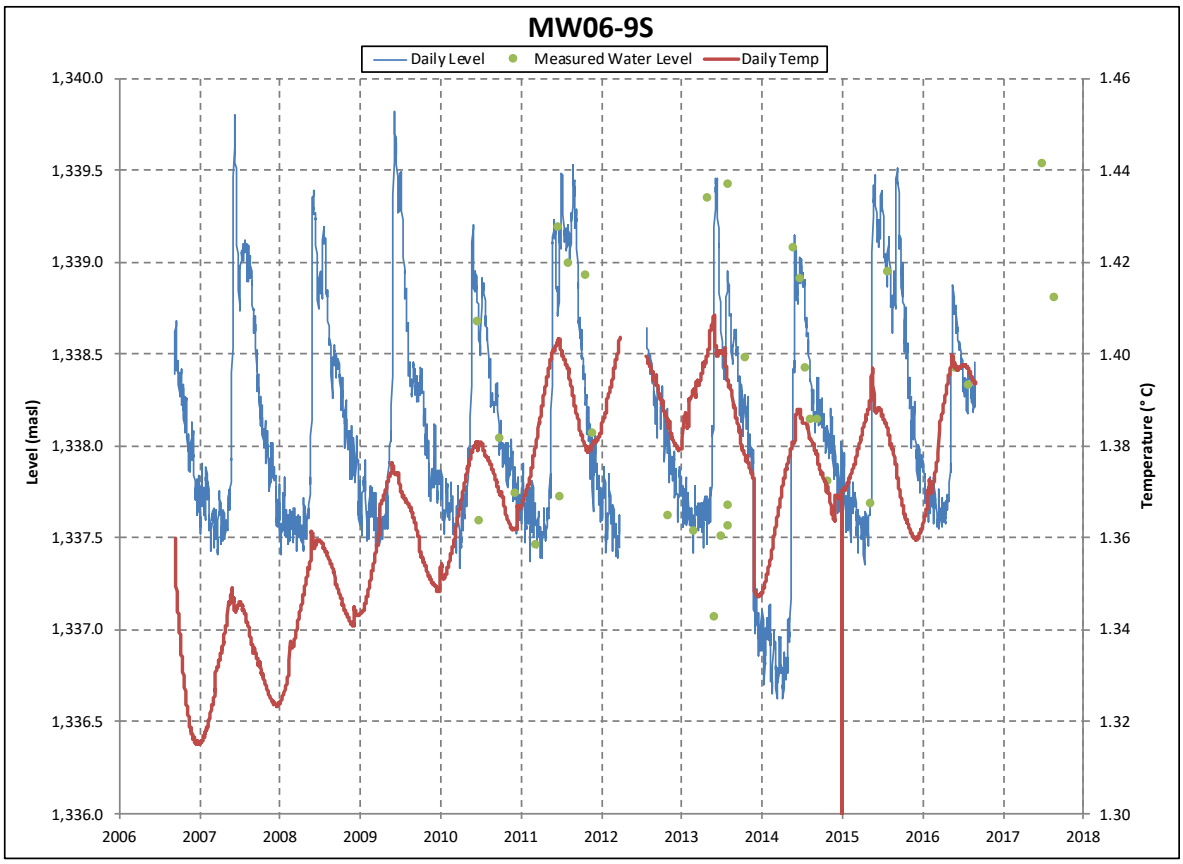


Figure 6-43: Water Levels and Temperature in Groundwater Monitoring Well MW06-9S 2006-2017

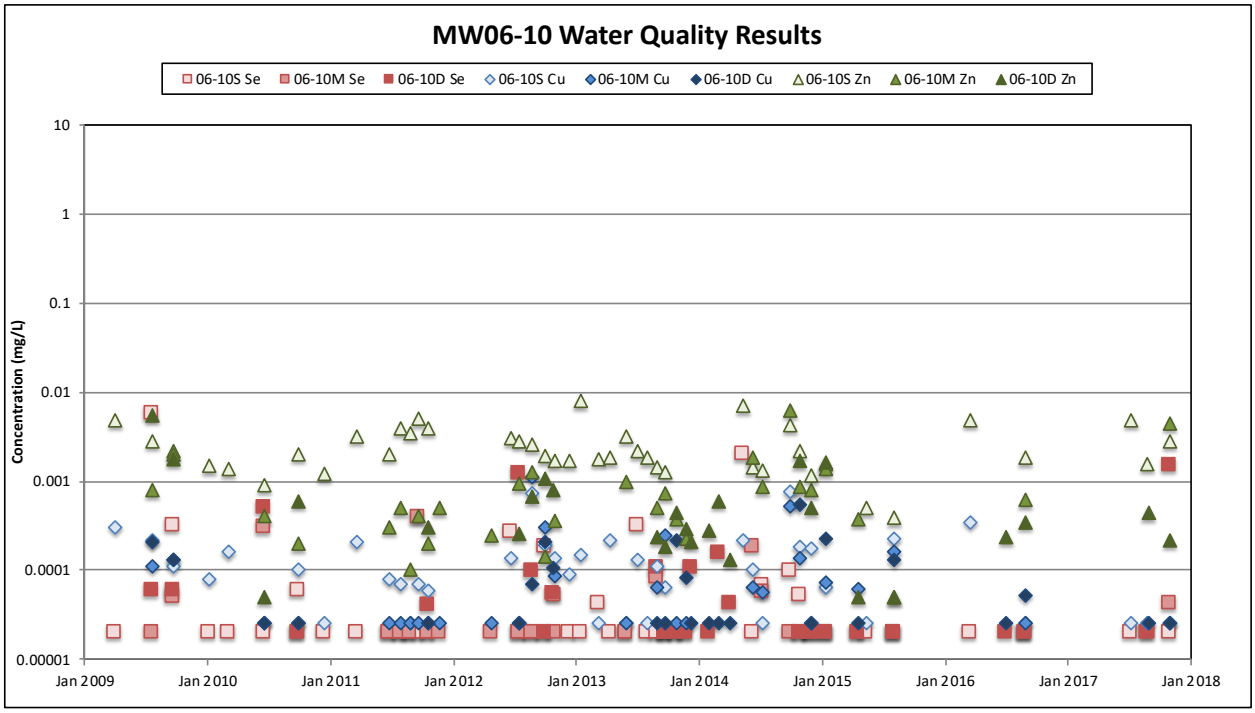


Figure 6-44: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW06-10S, MW06-10M and MW06-10D 2009-2017

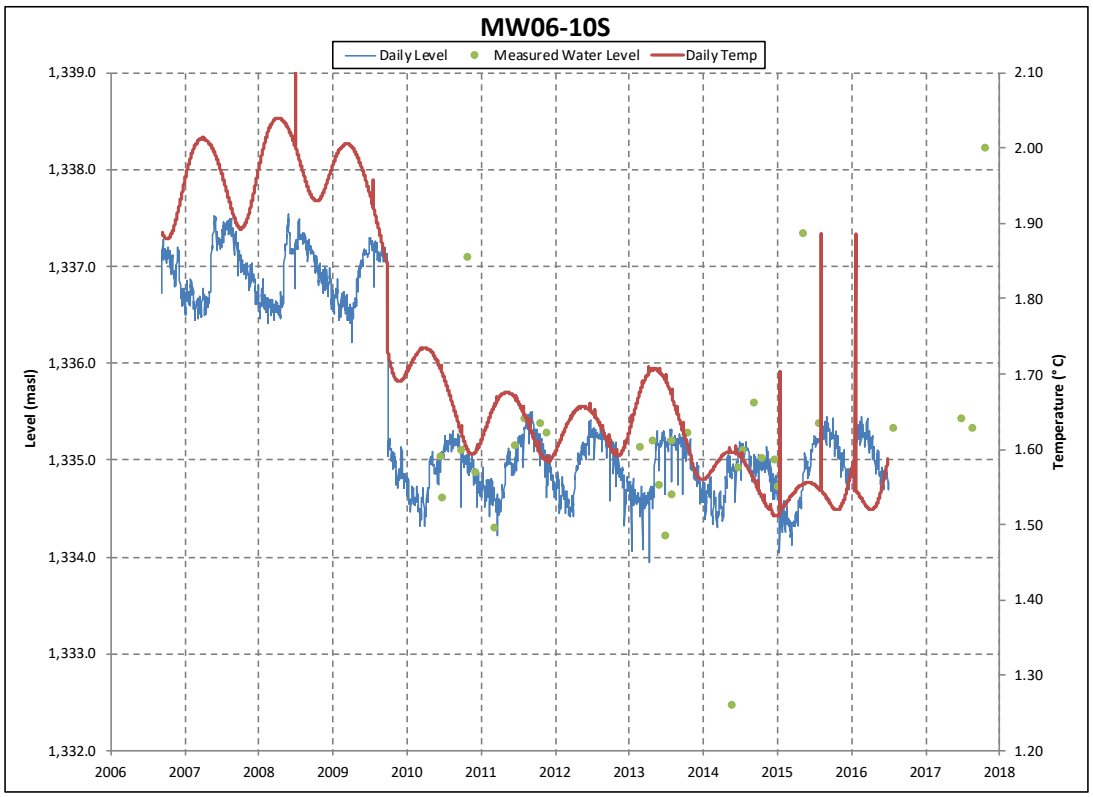


Figure 6-45: Water Levels and Temperature in Groundwater Monitoring Well MW06-10S 2006-2017

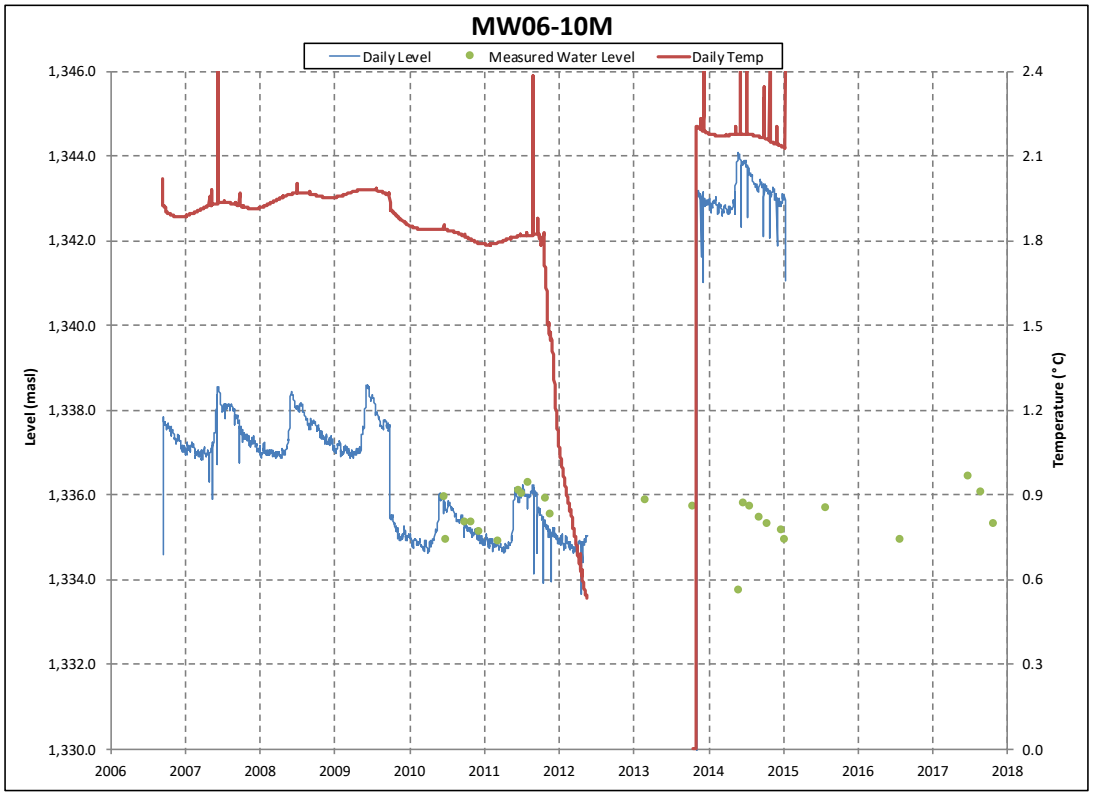


Figure 6-46: Water Levels and Temperature in Groundwater Monitoring Well MW06-10M 2006-2017

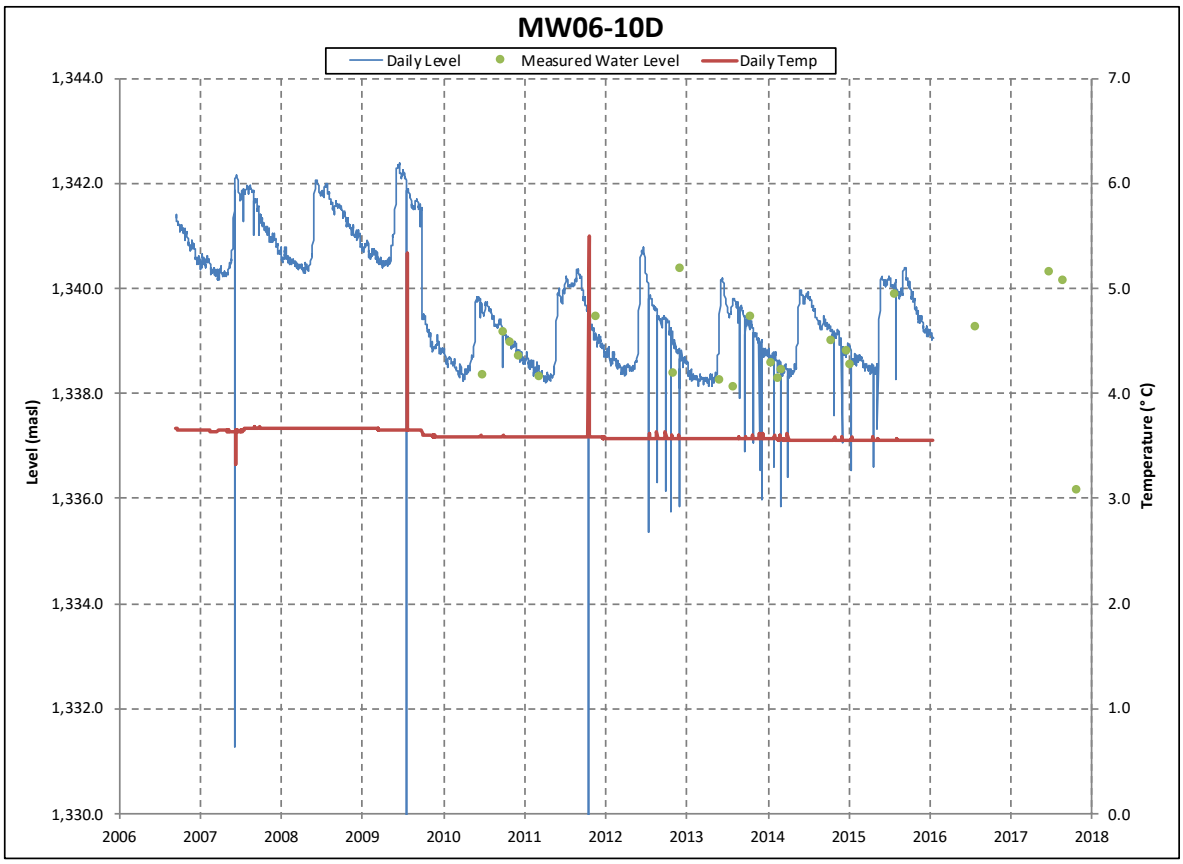


Figure 6-47: Water Levels and Temperature in Groundwater Monitoring Well MW06-10D 2006-2017

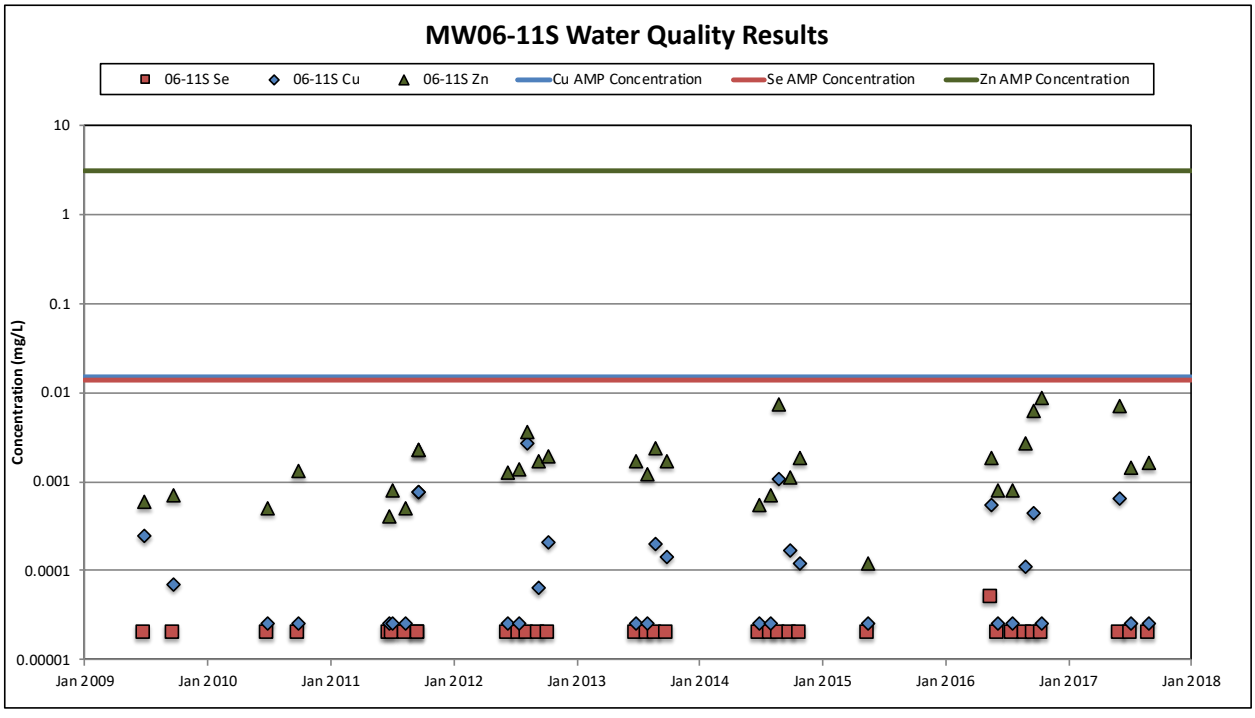


Figure 6-48: Cu, Se and Zn Concentrations in Groundwater Monitoring Well MW06-11S 2009-2017

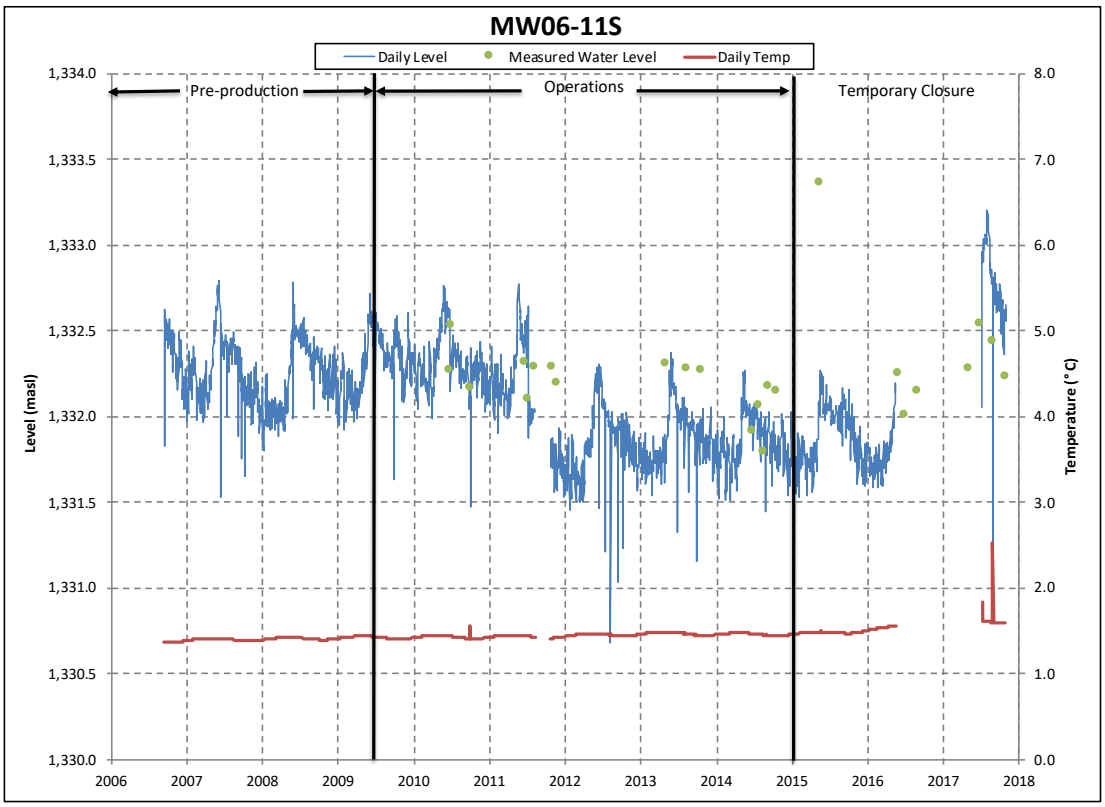


Figure 6-49: Water Levels and Temperature in Groundwater Monitoring Well MW06-11S 2006-2017

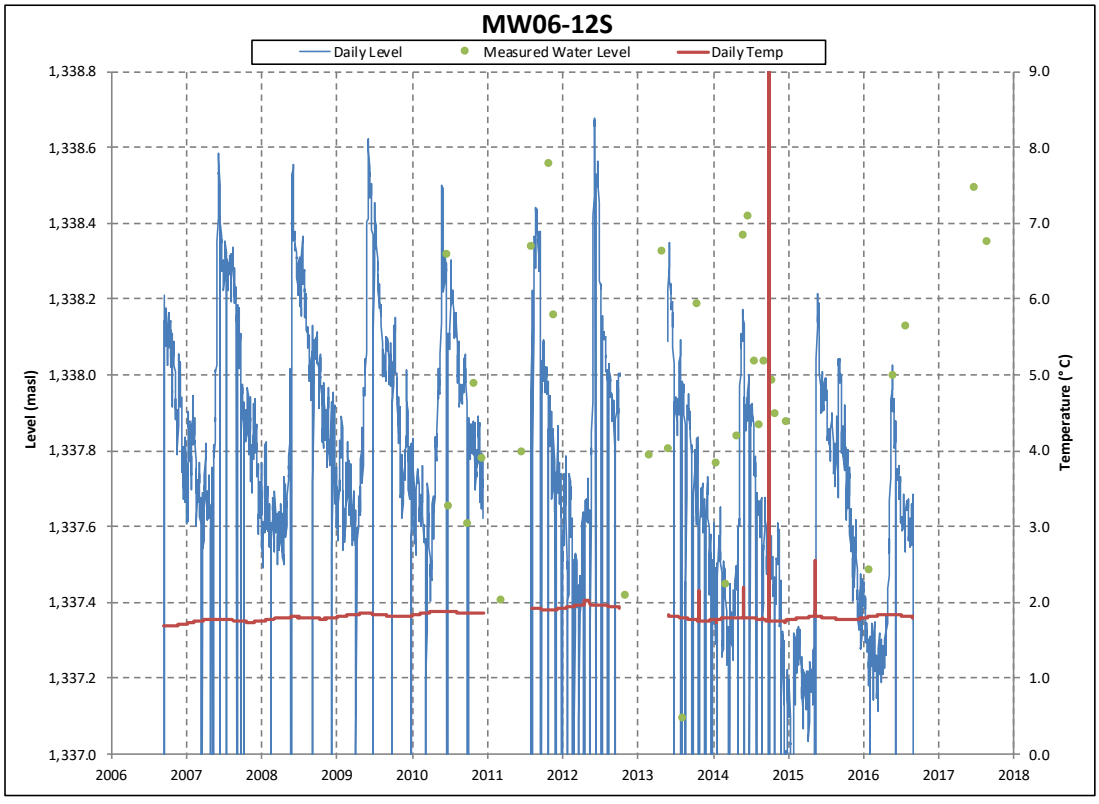


Figure 6-50: Water Levels and Temperature in Groundwater Monitoring Well MW06-12S 2006-2017

6.1.2.3 Go Creek

Groundwater monitoring is conducted in the Go Creek watershed in the headwaters of Go Creek (MW05-1) and upstream of the TSF on the north side of the access road (MW05-6). Water quality and water levels are measured from the shallow bedrock (MW05-1A and MW05-6A) and alluvial (MW05-1B and MW05-6B) groundwater systems. Data loggers are not installed in monitoring wells MW05-1A, MW05-6A, of MW05-6B as they are artesian, and have consistent water levels of 0 m above ground level. The data logger in well MW05-1B was corrupted in 2016, and data were unrecoverable, and therefore is not provided below.

Although variable, water quality in wells MW05-1 and MW05-6 are comparable over the 2009 – 2016 monitoring period. Selenium concentrations in the shallow bedrock systems are typically less than the reportable method detection limit, and expressed as ½ the detection limit in Figure 6-51 and Figure 6-53.

Table 6-6: Water Levels in Groundwater Monitoring Wells along Go Creek

Monitoring Well	May-17	Jul-17	Aug-17	Oct-17
	Water Depth (m)			
05-1A		Artesian	Artesian	Artesian
05-1B		0.682	0.788	2.159
05-6A		2.969	4.30	9.383
05-6B		3.801	5.07	9.799

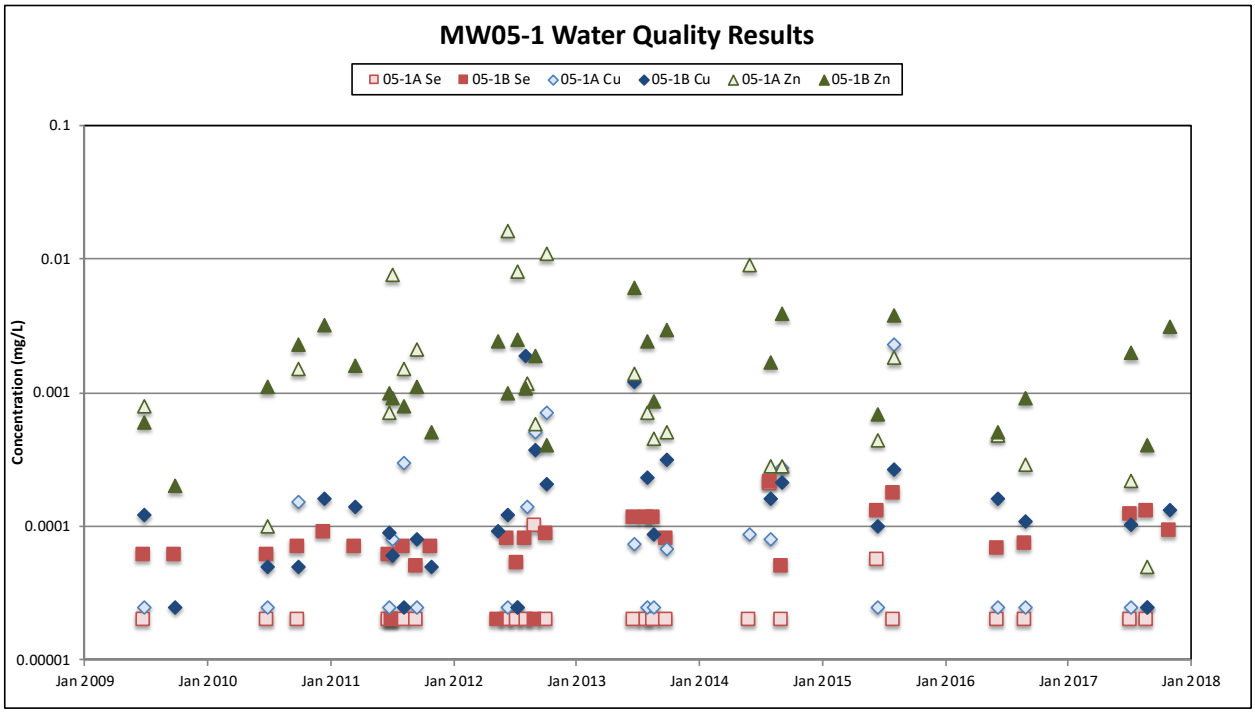


Figure 6-51: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-1A and MW05-1B 2009-2017

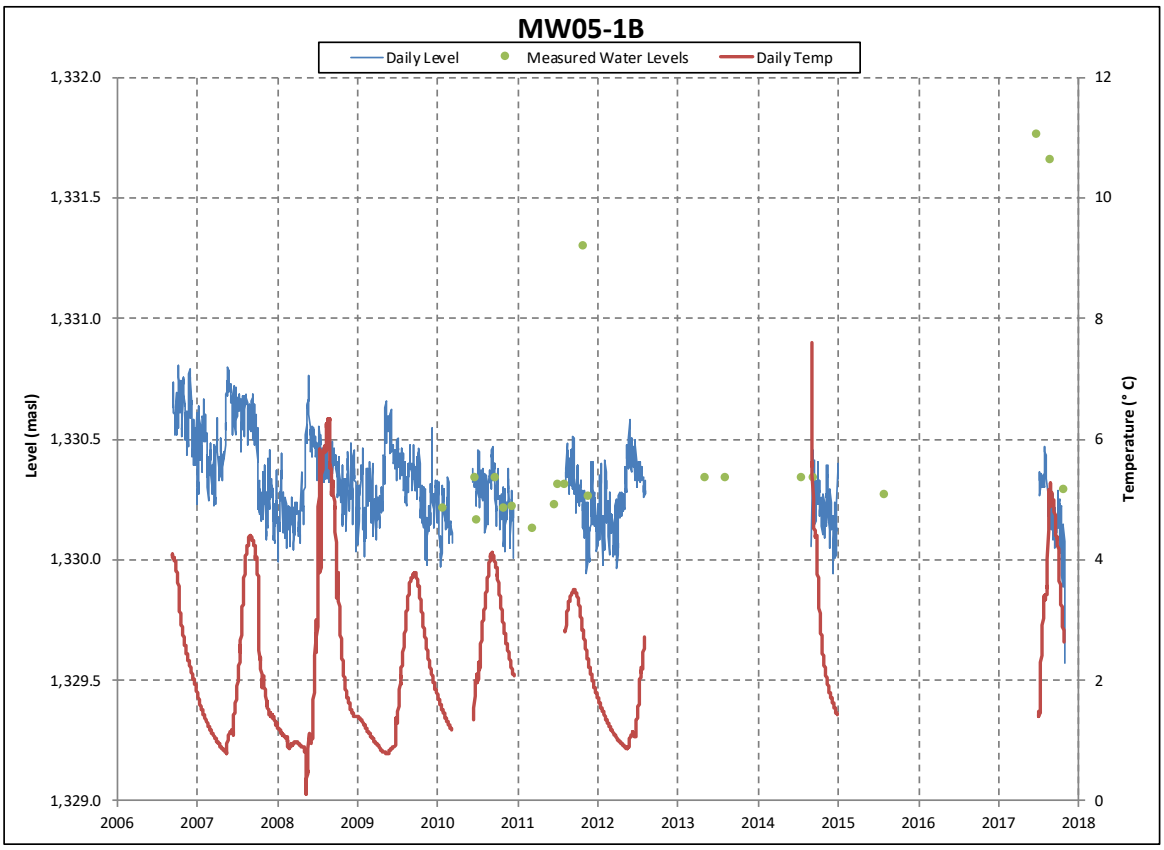


Figure 6-52: Water Levels and Temperature in Groundwater Monitoring Well MW05-1B 2006-2017

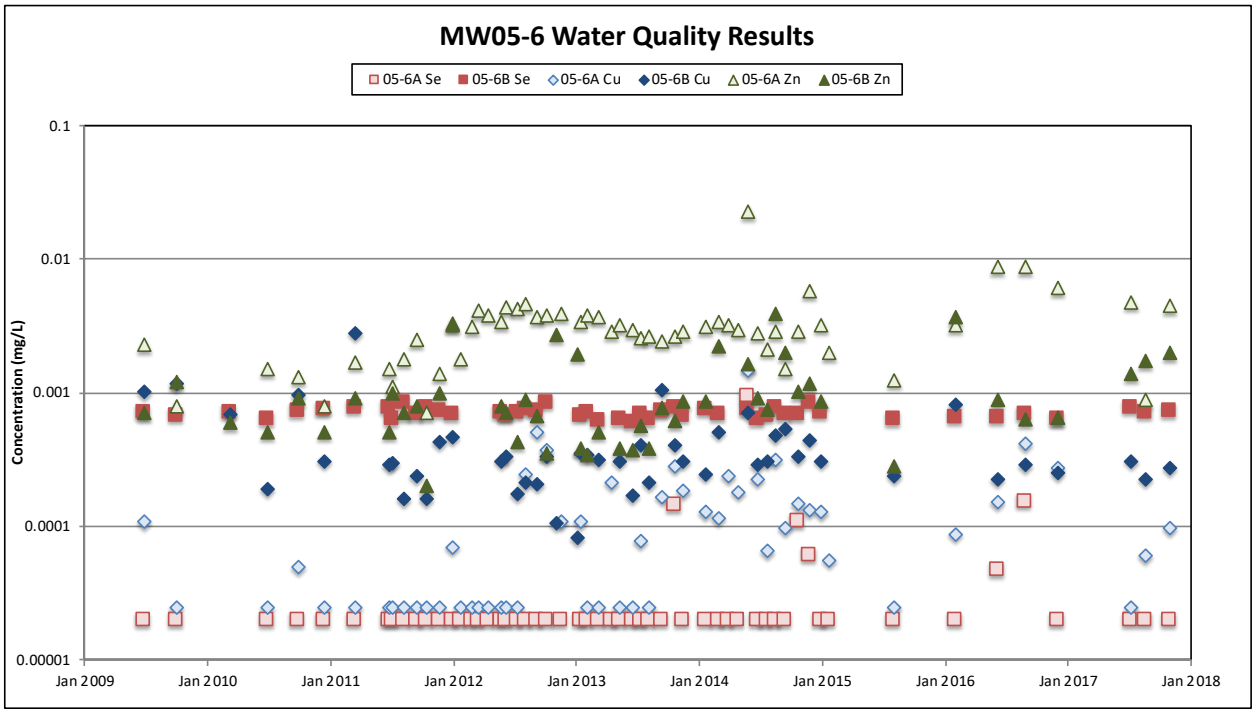


Figure 6-53: Cu, Se and Zn Concentrations in Groundwater Monitoring Wells MW05-6A and MW05-6B 2009-2017

6.2 Piezometer Monitoring

Four vibrating wire piezometers are installed at two locations (PZA and PZB) above the underground mine. The piezometers measure the water table above the mine and results reveal the effect of underground mining on the water table. Both locations have one shallow and one deep piezometer, and the results for the period between 2005 to 2017 are provided in Figure 3-7. Battery failure of the piezometers in 2009 resulted in gaps in the data. A malfunction was discovered with the PZA Deep and the PZA Shallow sensors and data are corrupted after June 26th and December 13, 2014, respectively, therefore data are not presented for PZA past December 2014.

The PZB deep piezometer was the most affected by underground mining activities, with a steady decrease visible from 2009 to 2015. During Temporary Closure, as the mine has filled with groundwater, a steady recharge is visible in both the PZB deep and shallow wells, most significantly since fall 2016. Levels in well PZA shallow has not changed significantly over the mining period, therefore does not appear to be connected to the underground mining system.

The shallow wells are also affected by summer rain events, with spikes in the water levels in PZA shallow and PZB shallow directly correlated to high precipitation values.

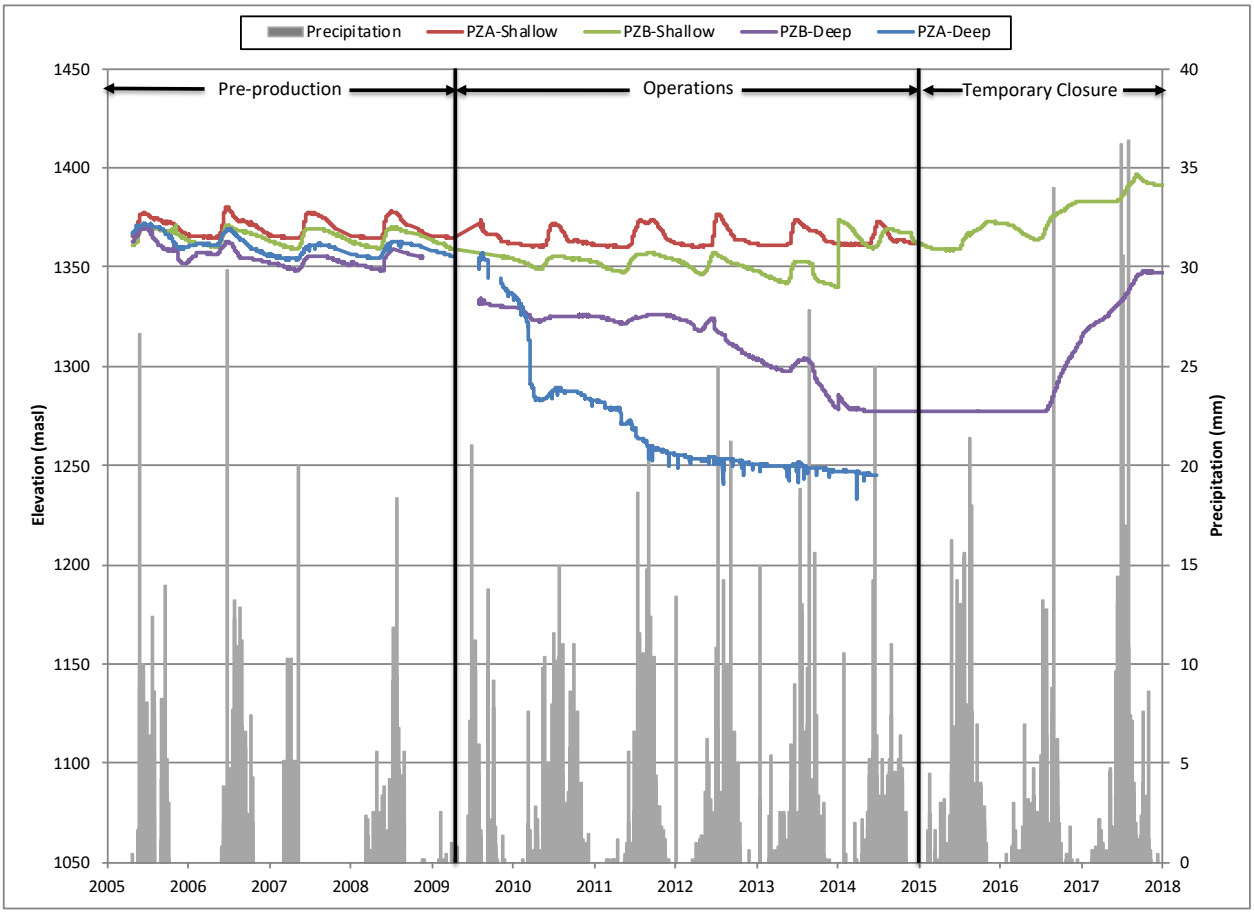


Figure 6-54: 2005-2015 Pieziometric Precipitation Data

6.3 Aquatic Life and Sediment

The Wolverine Mine triggered Environmental Effects Monitoring under the *Metal Mine Effluent Regulations* (*MMER*) in 2009. The *MMER* requires iterative cycles of EEM for the life of a mine project, with a particular focus on fish population and fish health studies, and water and sediment quality and benthic invertebrates. YZC submitted the First Interpretive Report in 2011 and a Second Interpretive Report in 2014.

Wolverine's Cycle 3 EEM program was conducted in August 2017, and comprised a benthic invertebrate community survey, supporting environmental variables and water quality monitoring. The benthic invertebrate communities of Go Creek, Bunker Creek and Pup Creek were sampled per the study design following a Multiple Control Impact design (MCI). Organisms were collected using a quantitative method at the same sampling locations, similar seasonal timing and methodology implemented in Cycles 1 and 2 and described in the Cycle 3 Study Design document. At each benthic invertebrate sampling station, substrate and habitat characteristics, water velocity and sampling depth was recorded where possible. *In situ* water quality measures and water samples for chemical analysis were also collected from each study area. The results of the Cycle 3 EEM study are provided in Appendix F in the report provided to Environment and Climate Change Canada (ECCC) on November 29, 2017.

The next (Cycle 4) EEM Study Design will be submitted to ECCC by February 2020, and the Cycle 4 EEM Biological Study Interpretive Report will be submitted to ECCC by December 3rd, 2020.

6.4 Climate Monitoring Program

Climate monitoring at the Wolverine Mine consists of weather data, collected from an on-site weather station. Weather station data are collected from a HOBO Weather Station installed at the south end of the airstrip. The parameters collected from the weather station include:

- Temperature;
- Pressure;
- Precipitation;
- Radiation in and out;
- Wind speed and direction; and
- Relative humidity.

Overall, as illustrated in Figure 6-55, temperature and precipitation have been fairly similar at the Wolverine Mine since consistent recording started in 2007, although 2017 was a significantly wetter year, with a total rainfall of 407 mm, compared to the average for the period 2007 – 2016 of 257 mm (Table 6-7).

The mean monthly temperature for 2017 was -3°C. Mean monthly temperatures were below freezing from January through April and October through December, and above freezing May through September. The minimum recorded temperature was -31°C and the maximum recorded temperature was 17°C.

The daily precipitation as rain for 2017 is illustrated in Figure 6-55. The HOBO weather station does not record precipitation that falls as snow, consequently only precipitation as rain is provided in Figure 6-55. In 2017, July was the wettest month with 174 mm of precipitation falling as rain.

Table 6-7: Annual Total Precipitation and Average, Minimum and Maximum Temperatures, 2007 - 2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	AVERAGE
Annual Precipitation (mm)	64	171	180	290	346	229	284	250	357	253	407	**257**
Annual Average Temp (°C)	-8	-6	-11	-2	-4	-6	-3	-3	0	-2	-3	**-4**
Min Annual Temp (°C)	-32	-38	-36	-30	-35	-33	-36	-28	-23	-26	-31	**-32**
Max Annual Temp (°C)	18	14	16	17	15	17	18	16	17	16	17	**16**

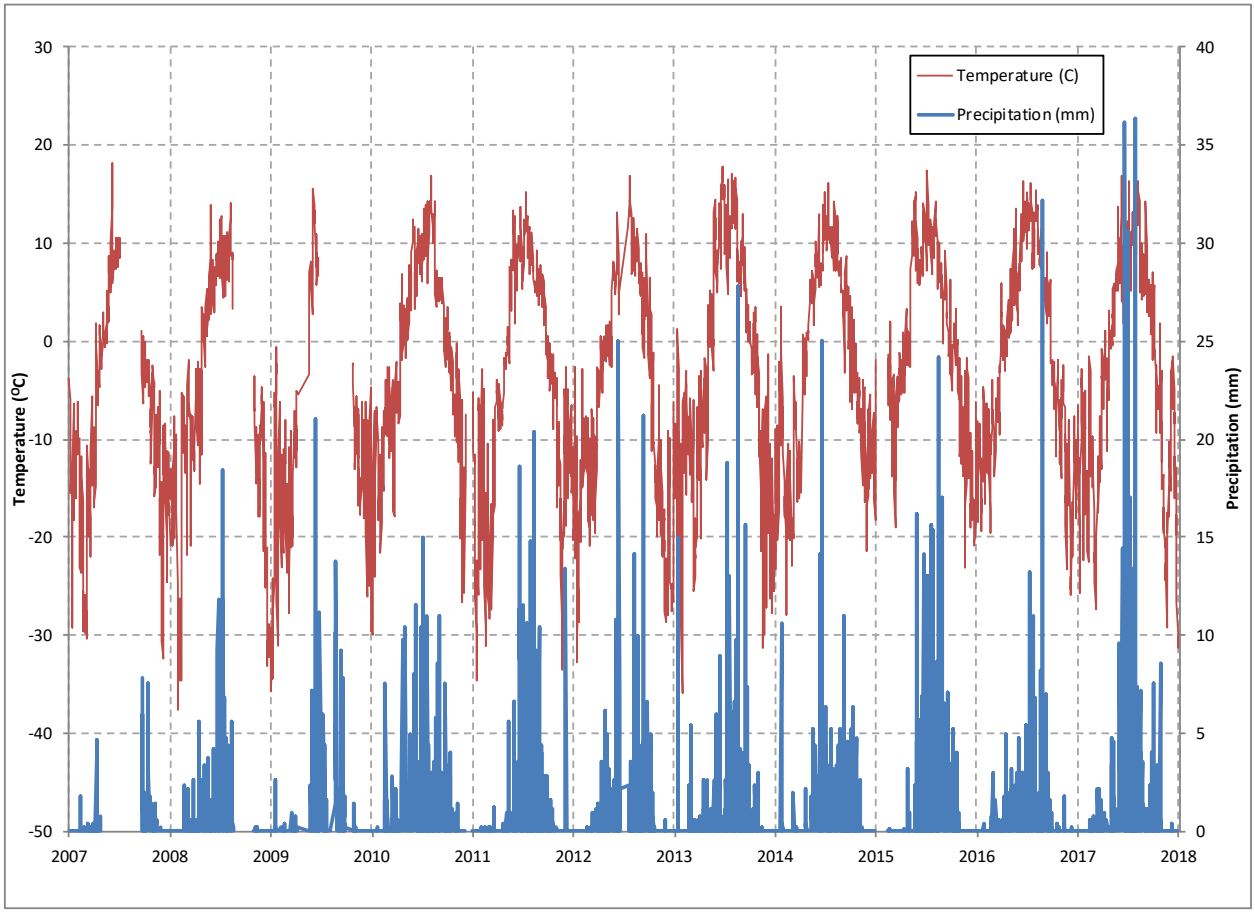


Figure 6-55: Wolverine Mine Daily Precipitation and Average Daily Temperature 2007-2017

6.5 Wildlife Monitoring

Wildlife monitoring conducted during 2017 consisted of on-site recording of incidental wildlife observations, and documentation of any wildlife-related incidents.

Incidental wildlife observations indicate 8 species of large mammals most prevalant in the area:

- Black bear (3);
- Caribou (51);
- Fox (1);
- Grizzly bear (7);
- Lynx (2);
- Moose (48);
- Wolverine (2); and
- Wolf (3).

Arctic hare, squirrels and marten are also commonly found in the project area.

In 2017, there was a single incident: three dead porcupines were found in the TSF pond on June 27. This was reported to the Conservation Officer in Ross River on June 28. He advised to continue monitoring the TSF pond, and if incidents continue to occur, remedial actions such as fencing may be required. No further incidents occurred in 2017.

7 Progressive Reclamation Effectiveness Monitoring Program

No progressive reclamation effectiveness monitoring was conducted in 2017. Site activities were focused on minimizing liability under Temporary Closure conditions.

8 Biopass System

In late May 2016, YZC commenced construction of a field-scale bioreactor to test the effectiveness of treating runoff from waste rock and ore stockpiles. The bioreactor was constructed between Waste Pad #2 and the north end of the TSF (Picture 8-1). Waste Pad #2 contains waste rock and ore previously stored near the mine portal. Runoff from Waste Pad #2 collects at the south end, and discharges via a pipe and hose to the north end of the TSF.

The bioreactor has been operating continuously since July 2016. The system freezes over the winter, beginning in about mid-October. Water quality and flow rates are measured in the inlet and outlet totes located at either end of the bioreactor. Flow rates are measured at a v-notch weir in the totes. Flows measured in August and September ranged from 7 L/hour to 20 L/hour. Samples are taken monthly to evaluate the effectiveness of the treatment.



Picture 8-1: Bioreactor System (September 14, 2017)

The water quality results from the bioreactor system are provided in Table 8-1 and compared to the Type A Water Use Licence QZ04-065 ADL concentrations. The full water quality results are provided in Appendix E. The samples were not analyzed for cyanide, BOD_5 or faecal coliforms. Red text in Table 8-1 indicates that the data for the specific parameter exceeded the Type A WUL discharge limit for discharge to Go Creek. The results are also presented graphically in Figure 8-1 through Figure 8-4 for cadmium, copper, selenium and zinc, respectively.

The bioreactor was initially very effective at removing metals to orders of magnitude below the inlet concentrations, with all parameters in the outlet below the Type A WUL ADL, except for concentrations of iron and TSS, in the 2016 and June 2017 samples. Reductions in sulphate, cadmium, and zinc indicate that sulphate-reducing conditions have been achieved in the bioreactor (Table 8-1). Selenium concentrations decreased by 98% to below the ADL. Iron, manganese and aluminum concentrations also increased, which is typical for reducing, anoxic systems. These increases can be mitigated by allowing the water to be aerated prior to discharge, typically by allowing the effluent to flow over rocky channels, or through the use of limestone channels, if required. TSS concentration increases are also likely just a relic of solids settling, which will likely decrease as the bioreactor system reaches steady state.

Increases in metal concentrations in the July samples were due to the pumping of Sump #2 sludge to Waste Pad #2 in early July, which resulted in sedimentation of the discharge pipe into the bioreactor, and

water from Waste Pad #2 no longer discharging to the bioreactor. The pipe screen was cleaned out in late August, and the results indicate that chemistry was improved and again met discharge limits.

In late May of 2016, YZC commenced construction of a field-scale bioreactor to test the effectiveness of that bioreactor in treating runoff from waste rock and ore stockpiles. The bioreactor was constructed in between Waste Pad #2 and the north end of the TSF.

Water quality samples were collected in August, September, and October from the influent and effluent of the bioreactor. The results indicate that the effluent from the bioreactor is below the Type A WUL ADLs for all limited parameters, except for iron and TSS, which is typical of reducing, anoxic systems. TSS concentration increases are also likely just a relic of solids settling, which will likely decrease as the bioreactor system reaches steady state.

The results are also presented graphically in Figure 8-1 through Figure 8-4 for cadmium, copper, selenium and zinc, respectively. The concentrations of metals in the effluent is consistently below the ADLs for those metals, and in the case of cadmium and zinc, by orders of magnitude.

From September 2017 through January 2018, the bioreactor was frozen, and as a result, no water quality samples were collected. However, the results for samples collected on August 31, 2017 were received late, and as they were not able to be included in the September 2017 report, are included below. The graphs showing the cadmium, copper, selenium and zinc concentrations in the influent and effluent of the bioreactor have also been updated to present the August 31, 2017 results.

The water quality results from the bioreactor system are provided in Table 8-1 and compared to the Type A Water Use Licence QZ04-065 ADL concentrations. The samples were not analyzed for cyanide, BOD5 or faecal coliforms. Red text in Table 8-1 indicates that the parameter exceeded the Type A WUL ADL for discharge to Go Creek. The results are also presented graphically in Figure 8-1 through Figure 8-4 for cadmium, copper, selenium and zinc, respectively.

Generally, the bioreactor has been very effective at reducing metal concentrations in the water that passes through it. The bioreactor will continue to run throughout the Temporary Closure period of the Wolverine Mine. The results will inform the design of bioreactors proposed for the permanent closure of the mine.

Table 8-1: Pilot System Water Quality Results

Parameters (mg/L)	Type A WUL Limit	2016						2017								
		30-Aug		21-Sep		09-Oct		27-Jun		06-Jul		11-Jul		17-Aug	31-Aug	
		IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	OUT	IN	OUT
pH	6 – 9 units	7.68	7.87	7.5	8	7.72	7.96	7.73	8.05	7.69	8.26	7.82	8.04	7.96	7.82	7.99
Aluminum	0.8	0.0043	0.0164	0.0052	0.00334	0.0049	0.0076	0.0875	0.0055	0.0756	0.0093	0.193	0.0168	0.00501	92.5	0.00376
Antimony	0.08	0.0137	0.000117	0.0156	0.000066	0.014	<0.00010	0.0127	<0.00010	0.00879	0.00021	0.00968	0.00126	0.000155	0.329	0.000456
Arsenic	0.05	0.00142	0.00377	0.0011	0.00201	0.00082	0.00234	0.00261	0.00191	0.00132	0.00182	0.00433	0.00156	0.00203	2.25	0.00129
Cadmium	0.002	0.133	0.000074	0.212	0.000005	0.141	0.000054	0.204	0.000495	0.22	0.00345	0.12	0.0189	0.00175	1.84	0.00791
Copper	0.015	0.0102	0.00099	0.0199	0.000069	0.0125	0.00049	0.0246	<0.00025	0.0278	<0.00025	0.026	0.00112	0.000165	15.2	0.000437
Total Cyanide	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WAD Cyanide	0.02	-	-	-	-	-	-	845	872	917	781	560	654	825	0.0075	0.0018
Iron	0.5	<0.0050	9.23	0.007	4.26	0.0663	13.5	0.279	9.08	0.199	6.66	0.543	5.47	10.9	401	6.61
Lead	0.02	0.0184	0.000738	0.0565	0.000006	0.0844	0.000065	0.0633	0.000053	0.0315	0.000043	0.111	0.00297	0.000115	23.6	0.000176
Mercury	0.0001	-	-	-	-	-	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.000012	0.000005
Molybdenum	0.73	0.00219	0.00458	0.00338	0.00331	0.00443	0.0024	0.00288	0.00169	0.00303	0.00178	0.0021	0.00174	0.00153	0.0327	0.00123
Total Radium 226	0.37 Bq/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	0.5	0.0479	0.0124	0.0806	0.00964	0.0496	0.0123	0.0657	0.00671	0.0694	0.00817	0.0385	0.0119	0.0032	0.503	0.00935
Selenium	0.02	0.0815	0.00165	0.0963	0.00174	0.0382	0.00265	0.0978	0.00194	0.101	0.00212	0.0724	0.0092	0.00284	0.958	0.00532
Silver	0.001	<0.000025	<0.00001	<0.000025	<0.000005	0.000034	<0.000025	0.000247	<0.000025	<0.000025	<0.000025	0.000387	<0.000025	0.000005	0.391	0.000006
Zinc	0.5	18.4	0.0153	29.4	0.00774	17.8	0.0195	24.6	0.113	26.6	0.944	15.3	2.62	0.375	227	1.76
Ammonia Nitrogen	5	0.26	0.059	0.49	0.088	0.82	0.14	0.25	0.31	0.23	0.27	0.6	0.19	0.13	0.59	0.061
Sulphate	1800	880	630	1300	690	1200	1100	903	840	947	687	592	654	790	1430	822
Nitrate Nitrogen	10	0.76	<0.20	1.28	0.26	0.66	<0.20	0.37	0.24	0.315	0.014	2.05	<0.20	<0.20	<0.20	<0.20
Nitrite Nitrogen	0.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.0068	<0.0020	<0.20	<0.20	<0.20	<0.20	<0.20
Total Suspended Solids	15	5.5	24.4	<4.0	23	<4.0	31	5.8	18.3	<4.0	16.3	10.5	14.5	24.8	3320	16.8
BOD_5	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Faecal Coliforms	20,000 counts per 100 mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

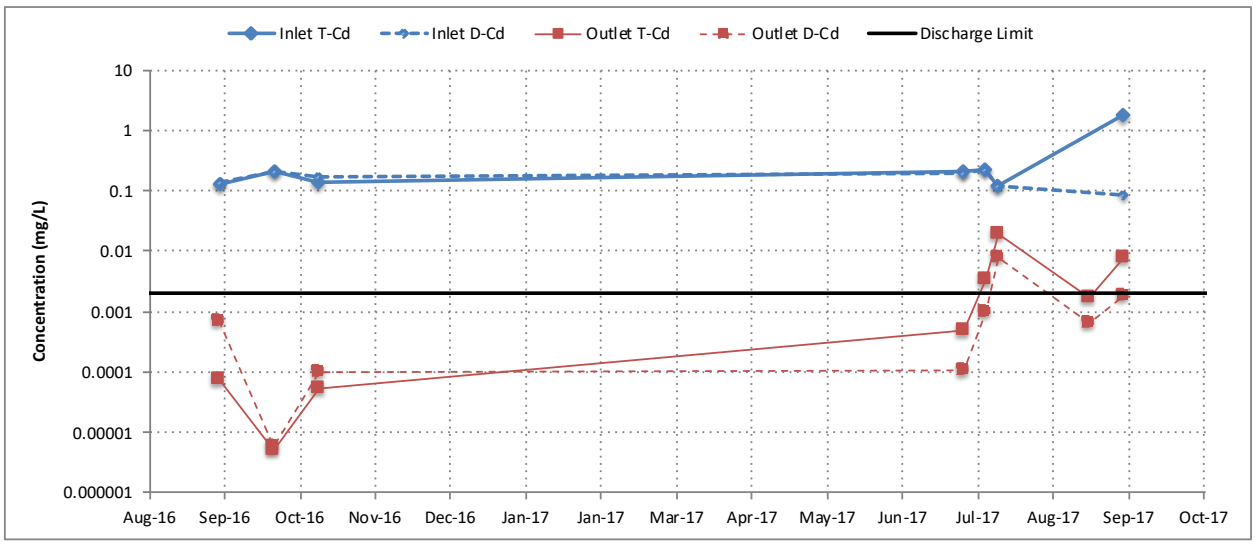


Figure 8-1: Pad 2 Bioreactor Inlet and Outlet Cadmium Concentrations (logarithmic) 2016-2017

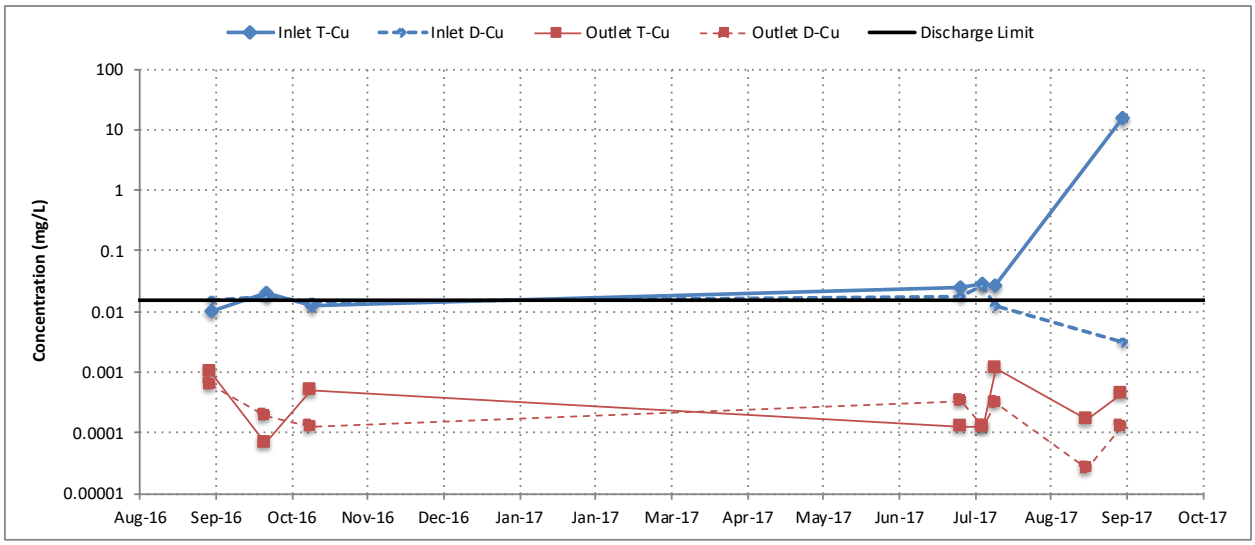


Figure 8-2: Pad 2 Bioreactor Inlet and Outlet Copper Concentrations (logarithmic) 2016-2017

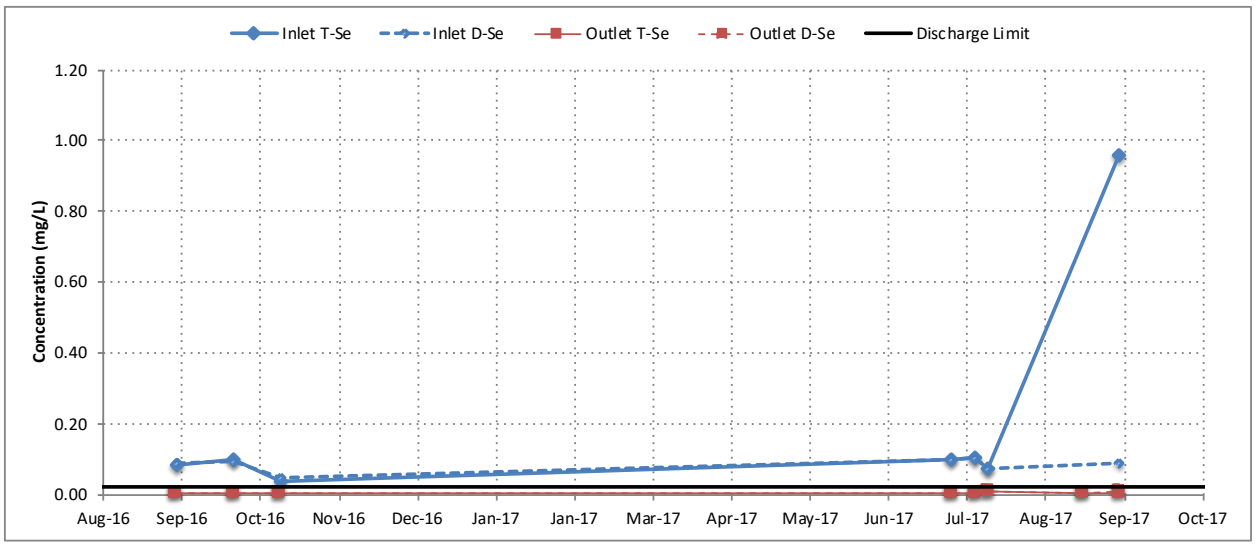


Figure 8-3: Pad 2 Bioreactor Inlet and Outlet Selenium Concentrations 2016-2017

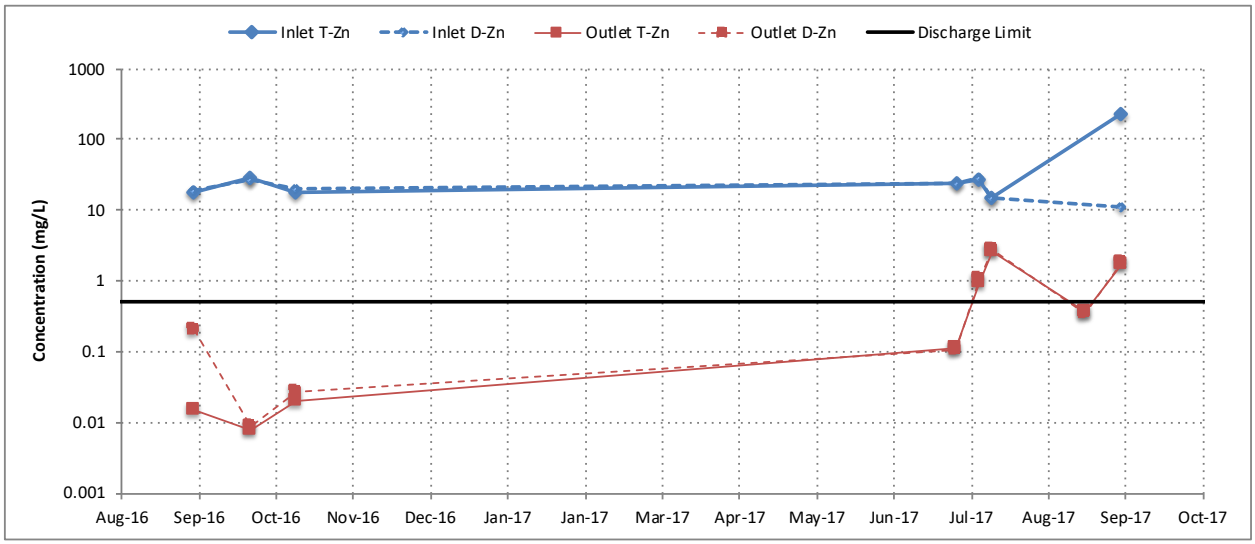


Figure 8-4: Pad 2 Bioreactor Inlet and Outlet Zinc Concentrations (logarithmic) 2016-2017

9 Geochemical Testwork

Geochemical testwork at the Wolverine Mine was limited to humidity cell tests, conducted during construction. There were no construction activities in 2017, and therefore, no geochemical characterization samples were taken. The humidity cells have since been decommissioned. Humidity cells OA and OD were decommissioned on February 3, 2012, and in April 2012, a request was sent to the EMR for approval to shut down the remaining seven operating cells. Approval to shut down the cells was received on May 11, 2012, and the cells were shut down in June 2012.

10 Environmental Incidents

There was one unauthorized discharge that occurred on May 25, 2017, when spring thaw unfroze the ground around a lined sump at the mill complex, and water held in the sump leaked through a hole in the liner to the ground. A spill report was prepared and submitted to Ross River Dena Council, Liard First Nation and Yukon Government Department of Energy, Mines and Resources on June 27, 2017.

11 Socio-Economic Assessment

The EA Screening Report required that YZC report annually on the following information:

- The number of Yukoners and non-Yukoners employed at the mine; and
- The value of goods and services procured from, and payments made to, Ross River, Watson Lake, and the Yukon as a whole.

Over the course of the year, 6 Yukoners and 5 non-Yukoners were employed at the Wolverine Mine by YZC.

The value of goods and services procured from, and payments made to, vendors in the Yukon as a whole in 2017 is approximately $1,037,125. This does not include payments via cash on delivery (COD) or via credit cards. No payments were made to Ross River or Watson Lake service providers in 2017 and the remaining suppliers were almost exclusively in support of C&M operations, including such major items as spare parts and supplies for site maintenance, fuel and food. The majority of costs were distributed over 5 major vendors in the Yukon.

12 Project Development and Production for 2018

Depending on the acquisition of project financing, the re-start of the Mine is currently contemplated for 2018. Should financing be secured, the required approvals from the Yukon Water Board and Yukon Government will be sought prior to the commencement of any mining or milling at the Wolverine Mine.

Other non-project re-start activities to be completed in 2018, include treatment and discharge of the underground mine water and the TSF pond water, on-going maintenance of site infrastructure and on-going environmental monitoring. Hydrogeological studies will also be conducted in 2018 as required in the RCP 2016-07.V.3 approval (see Section 2.4 for details). The proposed mine water treatment and TSF water treatment programs are detailed below.

12.1 2018 Underground Mine Water Treatment Program

Direct treatment of underground mine water is proposed to prevent unnecessary discharge to the TSF. Underground mine water may be treated directly in 2018 for direct discharge to Go Creek. All water discharged to Go Creek will meet ADLs outlined in the WUL, and will only be discharged during times permitted under the WUL.

Testwork was conducted in October 2017 to evaluate whether the underground mine water is amenable to direct treatment using ferric sulphate, similar to the system that was used in 2006-2009, but with an additional lime treatment step (Figure 12-1). Initial results indicate that because dissolved concentrations of cadmium, copper, lead, selenium and zinc concentrations were already below ADLs in the feed water, the ferric sulphate treatment had no visible effect on metals removal. However, lime treatment was very effective at further reducing cadmium, iron and zinc, and was very effective at lowering total metals concentrations well below ADLs (Figure 12-2).

YZC is currently evaluating proposals to install and implement the underground mine water treatment in spring 2018.

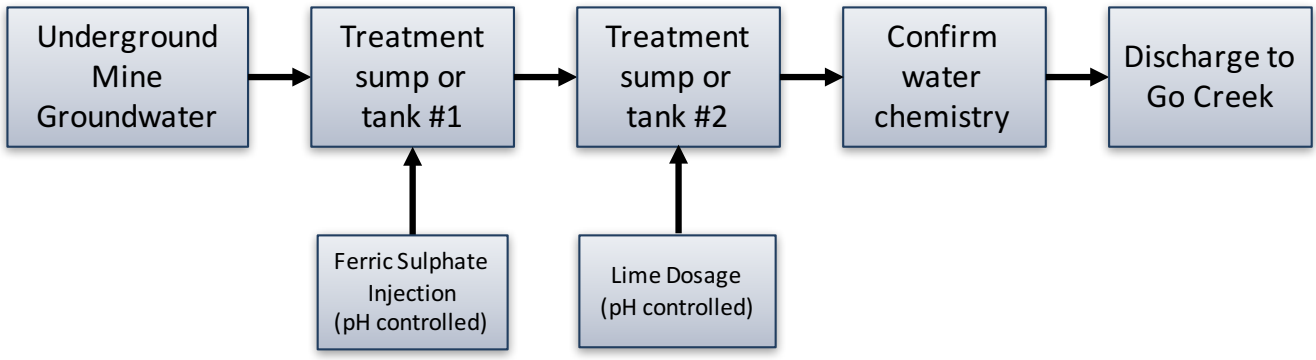


Figure 12-1: Underground Mine Treatment Flowchart

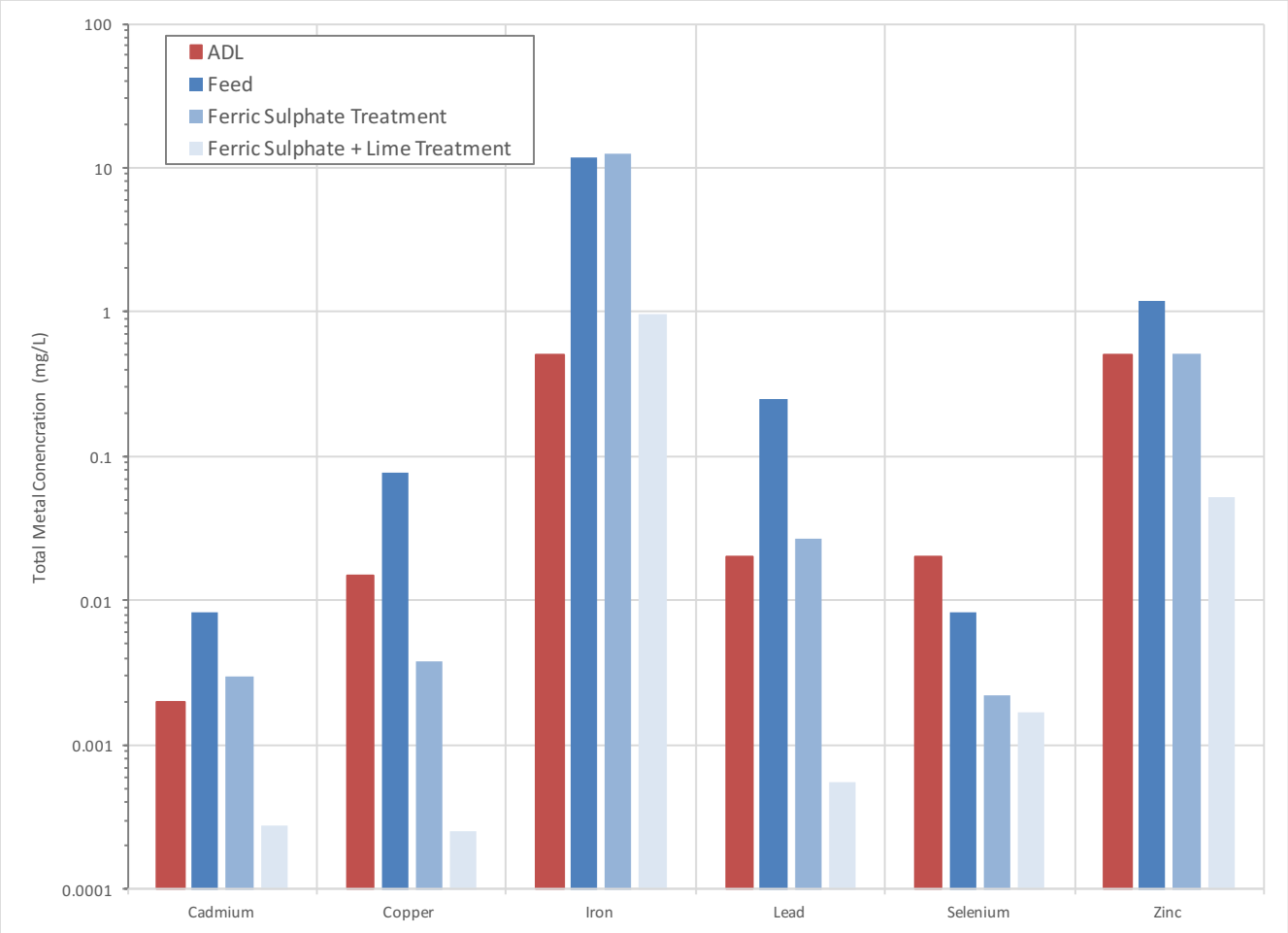


Figure 12-2: Preliminary Results of Underground Mine Water Treatment Tests

12.2 2018 Tailings Storage Facility Water Treatment Program

YZC will implement two treatment programs for the TSF pond water in 2018:

1) Once the ice has melted off the pond in spring 2018, assess the impacts of the October 2017 lime-dosing program (Section 6.1.1.1). If required, dose the TSF again with 40 tonnes of lime; and
2) Install an active WTP in the summer of 2018, as described below.

BQE Water (BQE) was engaged by YZC in 2017 to assess treatment options and provide recommendations for treatment of the water stored in the TSF. BQE completed an assessment of: different treatment options for removing all constituents of concern; a selection of the most appropriate methods for lab-scale testing; treatability testing of the selected treatment options to demonstrate the level of contaminant removal achievable; and, development of the overall process flowsheet based on the results of tests along with scoping-level cost estimates for possible implementation of the recommended treatment at the Wolverine Mine.

The key constituents of concern (dissolved species) to be removed from the water, their concentration in feed, in comparison with the treatment target, are summarized in Table 12-1.

Table 12-1: TSF Contaminants of Concern for Treatment

Dissolved Species	Concentration in Feed, mg/L	Treatment Target, mg/L
Cu	0.429	0.015
Pb	0.11	0.02
Cd	0.0103	0.002
Zn	1.5	0.5
Ag	0.00370	0.001
Se	1.73	0.02
WAD CN	0.0513	0.025

The chemical assays of Wolverine Mine TSF pond water revealed the following:

- Three different classes of contaminants are present in the current TSF pond water that require removal to ultra-low levels for discharge: metals, selenium (a metalloid), and WAD cyanide;
- A significant portion of the total selenium present in the water is selenocyanate and "unknown" organo-selenium species that are not normally present in mine-impacted waters. A significant level of removal of these species is required to meet the ADL, yet little is known about the removal efficiency of these species by treatment systems typically considered by the mining industry; and
- The water composition is indicative of highly-reducing conditions in the tailings pond with elevated organic carbon and thiosulphate levels, low dissolved oxygen level, and reduced selenium species dominating in the water column.

Based on BQE's assessment, there is no single-stage treatment that would be able to remove all three classes of contaminants at the same time to the required ADLs while producing stable residue suitable for long-term disposal in the TSF. Instead, several treatment steps will be required to comprehensively address the contamination in the pond. Recognizing this, BQE evaluated a wide range of treatment options and narrowed these down using a set of selection criteria that take into account technical ability, residue management, risks, and costs.

The options advanced to bench-scale testing included: sulphidization with ferric addition for metals removal, ion exchange (IX) and electrocell treatment (ERC) for selenium removal, and activated carbon adsorption and IX for polishing WAD cyanide removal. In addition, Reverse Osmosis (RO) passed through the screening criteria with the caveat that it would have to be combined with other treatment steps to ensure that all contaminants end up reporting into stable, compact solid residue.

The full-scale treatment is summarized in Figure 12-3. During Temporary Closure, when no new tailings are being deposited, an additional desaturation of RO retentate will need to be added to the flowsheet and recycled to the TSF pond. The design, construction, and installation of the WTP will be completed in 2018.

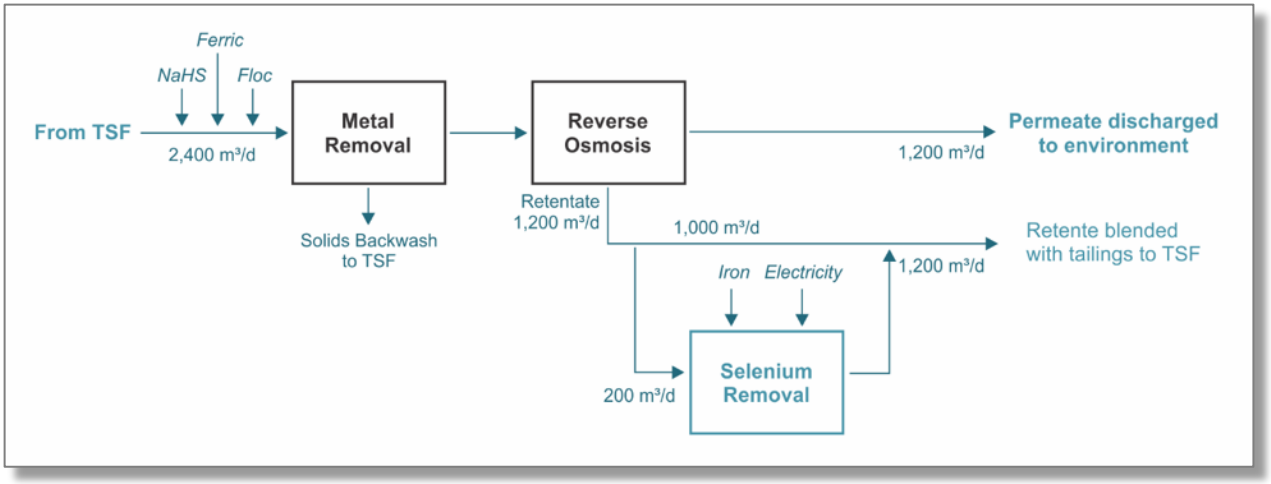


Figure 12-3: Water Treatment Plant Flowsheet

Appendix A: 2017 Wolverine Annual Physical Inspection Evaluation of Earth Structures, Works and Installations, CAP Engineering, August 24, 2017

C-01

#105, 2131 2nd Ave
Whitehorse, Yukon, Y1A 1C3
Tel: 867.668.6599
Fax: 867.668.7599

Aug 24th, 2017 Our File: ES00078

Yukon Zinc Corporation
Suite 705 – 1030 W Georgia St
Vancouver BC Canada
V6E 2Y3

Attn: Mr. Alex Wu, Manager Corporate Communications & Administration

Re: 2017 Wolverine Annual Physical Inspection
Evaluation of earth structures, works and installations

Dear Mr. Wu,

CAP Engineering (CAP) is pleased to provide Yukon Zinc Corporation (YZ) with the 2017 Annual Physical Inspection of the earth structures, works, and installations of the Wolverine Mine site. A site inspection of the Mine and Industrial complex was conducted by Mr. Cory Redmond, E.I.T. and Paul Knysh P.Eng on Aug 15th to 16th, 2017. The inspection included a site tour with Mr. Preston Vowk Site Supervisor from Wolverine Mine to review existing conditions, past and current site problems, and on-going repair and maintenance work. Mr. Paul Knysh, P.Eng completed an engineering review of inspection findings and photographs. The following is a summary of CAP's findings and recommendations.

1. Introduction

CAP was retained by YZ to travel to the Wolverine mine site to conduct the 2017 annual physical inspection report as required by the Quartz Mining License (QML-0006). The Wolverine Mine is an underground lead-zinc-silver mine located in southeastern Yukon approximately 280 km east of Whitehorse. The mine ceased operations in January of 2015 and is currently under Care and Maintenance operations. Since 2015 there have been no mining or milling operations that could have influenced the on-site infrastructure. The Wolverine mine site contains numerous, ditches, culverts and cut and fill earth structures that require regular inspections and maintenance throughout the year. The Wolverine Mine has seen large levels of rainfall totaling 151 mm of precipitation from January to June during 2017 which exceeds the same period for 2016 which saw a total of 76 mm of precipitation, see Appendix B. Rainfall data was obtained from Shuksan Environmental Solutions. The following areas of inspection were identified by YZ for review:

- Industrial Complex – the mill building pad;
- Industrial Complex – the MSE wall;
- Industrial Complex – fuel tanks and generator pad;
- Sumps (1,2 & 5) – includes liners and slopes;

- Diversion Ditch 1 – Includes cut and fill slopes;
- Collection Ditches (2,3,4 & 5) – includes liners and cut and fill slopes;
- Mine Camp Pad & Area – includes upper generator, potable water pad, sewage treatment plant, sewage effluent pond- liner, cut and fill slopes;
- Waste Rock & Ore Pad – includes seepage pond, liners, cut and fill slopes;
- Land Treatment Facility- runoff collection sump;
- Vent Raise – slopes; and
- Truck Shop Pad – slopes.

2. Analysis of On-site Earth Structures

CAP was responsible for providing YZ the following services:

- Site visit and visual observation of the earth structures associated with the above mentioned structures and areas;
- Compile a report that includes: a statement about the status and conditions of each area, photos exhibiting current conditions; and
- Remedial recommendations if required.

Field inspections and observations were completed by Mr. Paul Knysh and Mr. Cory Redmond of CAP. The following is a summary detailing what was observed while conducting the investigation. Photos for each area and structure can be observed in Appendix A.

a. Mill Building Pad

The slope downstream of the mill building appeared to be in good condition. The following is a list of observations observed in the Mill Building Pad area:

- Erosion at the crest of the mill pad slope above the crusher pad which had undermined piping infrastructure was observed at the North West corner of the mill pad next to fire hydrant #10;
- The culvert at the crest of the mechanical stabilized earth (MSE) wall was covered with fines due to the year's precipitation events;
- Erosion down slope of the Mill Pad was observed and appeared to be associated with pipes running along crest of the embankment. Past repairs using rip rap and non-woven geotextile have been instituted;
- A constant flow of water was observed to be flowing from the ground water collect culvert buried under the south west portion of the mill pad; and
- Water was observed seeping out of the toe of the fuel/generator pad access road and running

into Ditch 5.

b. MSE Wall

The MSE wall located around the south western area of the industrial complex appeared to be in good condition and exhibit no signs of deformation or bulging. The following observations were made while conducting the inspection:

- At the South West corner of the crusher building, the telepost below the walkway was noted to be offset from vertical; and
- The culvert located at the bottom of the wall connected to Ditch #5's manhole was partially submerged by fines due to the yearly precipitation events.

c. Fuel Tank and Generator Pad

The fuel tank and generator pad were observed to be in good condition. The following observations were made:

- Small rill erosion present on the old exploration roadway embankment behind the fuel tank and generator pad;
- The two erosion gullies that had been previously repaired with rip rap were still in good condition and have withstood the annual melt and precipitation events; and
- A small erosion gully at the North West portion of the fuel pad has begun to undermine a concrete support block.

d. Sumps – 1, 2 & 5

The foundation, liners and slopes of sumps 1, 2 & 5 were observed to be in good working condition. At the time of the inspection report Sump 1 remains decommissioned, Sump 5 was observed to be a third full and both the slopes and exposed geomembrane appeared to be in good condition. During the site investigation it was noted that Sump 2 was in the process of being emptied, hydro vacuumed, and installing a new geomembrane. A temporary sump north of Sump #2 was constructed to control flow during the relining of Sump #2. The Care and Maintenance team noted that an underground pump was being utilized to lower the groundwater and diminish the influence of groundwater upon the sump liner that had been noted in previous year's inspection reports. No bulges were observed in the liner of Sump 2 with the removal of water.

e. Diversion Ditch 1

Diversion Ditch 1 located above the Fuel and Generator Pad access road and east of the Mill Pad was observed to be in good condition. As reported in the previous year's inspection reports the large approximately 20 m long tension or settlement crack was observed on the crest of the downstream berm of Ditch 1. There were no signs of distress or movement during the site investigation. The culvert located at the end of Ditch 1 running under the Mill Pad was observed to be damaged.

f. Collection Ditches 2, 3, 4 & 5

Ditch 2

Collection Ditch 2 and the entrance to the culvert leading to the Ditch 3 located east of the Mill pad and below the fuel/generator access road appeared to be in good condition.

Ditch 3

Collection Ditch 3, liner, and embankment berm located at the South West side of the Mill Pad appeared to be in good condition. Ditch 3's culvert leading to Sump 2 is partially filled with fines and sediment due to the annual precipitation events.

Ditch 4

Collection Ditch 4, liner and embankment berm appeared to be in good condition. The downslope embankment has withstood the yearly melt and precipitation events.

Ditch 5

Collection Ditch 5 and outlet culvert appeared to be in good working condition. The Ditch 5 appears to be working properly as water was seen to be flowing and diverting correctly during the inspection. As mentioned above the outlet culvert at the bottom of the MSE has had some sediment and fine materials accumulated over the year, and the manhole was covered with fines and sediment as well.

g. Mine Camp Area

The overall condition of the Mine Camp Area including the potable water pad, and core shack appeared to be in good condition. The following observations were made:

- Due to the recent high precipitation a small section of berm had been washed away in the North West corner of the Camp Area which caused an erosion gully leading down to the mill pad and Ditch #1. Upon inspection the berm had been repaired; and
- Erosion repair on past erosion areas have withstood the yearly precipitation.

h. Sewage Treatment Plant

The cut and fill slopes around the sewage treatment plant were observed to be in good condition. A remnant of an erosion control blanket (geotextile, etc.) was observed between the Mine Camp Pad and sewage treatment facility.

i. Sewage Effluent Pond

As mentioned in previous year's reports the sewage effluent pond has been decommissioned and is no longer in use. The embankment, fill and liner were observed to be in good condition. The water elevation was observed to be at an acceptable level.

j. Waste Rock Pad #1

Waste Rock Pad #1, sumps, and liner located south of the Mine Camp Area were observed to be in good condition. Minor surface erosion on the steep portion of the access South East of Waste Rock Pad area was observed on approach. Additionally, a berm across the stockpile ramp appeared to be missing, this could potentially lead to portions of runoff flows to the nearby culvert, see Figure 26.

k. Waste Rock & Ore Pad #2

Waste Rock & Ore Pad #2, exposed liner and berm located north of the TSF was observed to be in good condition.

l. Tailings Storage Facility Seepage Pond

The TSF Seepage Pond located south of the TSF appeared to be in good condition. The Mine Access Roadway serves as the Seepage Pond dam and the embankment slope has settled which has caused over steepening of the slope as well as tension cracks which were visible along the shoulder of the road.

m. Land Treatment Facility (LTF) Pad

The LTF Pad located North East of the airstrip was observed to be in good condition. The non-woven geotextile covering the impermeable liner has been lifted by winds and will need to be mitigated before the LTF is put into operation.

n. Truck Shop

The cut slope into bedrock located behind the truck shop appeared to be in good condition. During the inspection and after the year's rain events there was no indication of erosion in the slope.

o. Vent Raise and Mine Office

The cut slope into bedrock located behind the Mine Office and Vent Raise appeared to be in good condition. Minor rill erosion was noted in the slope behind the Mine Office and Vent Raise. No signs of distress were noted at the crest of the cut.

p. Mine Portal

The cut slope and supported ground around the Mine Portal appeared to be in okay condition with minor defects. It was observed that sections of shotcrete have come loose and fallen from the slope around the portal. The exposed bedrock appears to be relatively stable, although it may become erodible under flow and/or weathering.

3. Conclusion

Overall the conditions of the earth structures at the Wolverine Mine site were in good working condition. The majority of the structures, sumps, and liners had withstood the years higher than normal rainfall events and exhibited no signs of recent instabilities. Most notably the Care and Maintenance crew have done an excellent job of maintaining, monitoring and repairing the on-site earth structures throughout the year. The photographs taken during this year's site investigation are included as a comparison and reference to previous and future year's inspection reports.

4. Recommendations

The main recommendations from the 2017 annual inspection are summarized below. All recommended repairs should be completed before winter and ready for next spring's melt runoff.

- **Site Culverts** – It is recommended that all culverts on site should be cleaned of all fines and sediment. Additionally, if culverts are damaged repairs should also be completed;
- **Site Erosion and Cracks** – Continue monitoring and repairing erosion rills and gullies as they appear throughout the year. Tension and settlement cracks can be visually monitored by backfilling the crack with soil and spray painting over the filled soil.
- **Mill Pad** – Figure 2, erosion at the North West corner of the Mill Pad around hydrant #10 should be repaired with rip rap as reasonably as possible;
- **Fuel Pad** – Figure 9, erosion undermining the concrete anchor should be repaired as best as possible;
- **Waste Rock Pad #1** – Figure 26, construct a berm between the waste rock pad access ramp. This will fully enclose the waste rock pad and help contain runoff water; and
- **Mine Portal –** Figure 38, monitor the shotcrete at the mine portal for additional peeling and bedrock erosion.

Prepared by:

Reviewed by:

PROFESSIONAL YUKON PAUL J. KNYSH TERRITORY ENGINEER 2017/08/24

Cory Redmond, E.I.T.
CAP Engineering
Direct: 867.334.5362

credmond@capms.ca

Paul Knysh, P.Eng.
CAP Management Services Ltd.
Direct: 780.297.6193

pknysh@capms.ca

cc: Robert Brown, P.Eng. – CAP Management Services Ltd

PERMIT TO PRACTICE
Signature
Date 2017/08/24
PERMIT NUMBER: PP189
Association of Professional Engineers of Yukon

APPENDIX A

SITE INVESTIGATION PICTURES



Figure 1 – Erosion down slope of mill pad. Repairs from previous years using rip rap and non-woven geotextile can be observed in the background.



Figure 2 - Base of erosion from North West corner of Mill Pad.



Figure 3 – Outlet of culverts draining to the environment and Ditch #3. Culvert outlet at the right with running water connected to groundwater collection and was observed with significant flows.



Figure 4 – Embankment seepage from North West corner of the Mill Pad. Toe of the embankment paralleling Diversion Ditch #1, water flows to Ditch #5, shed at centre of photo contains vertical sump pump.

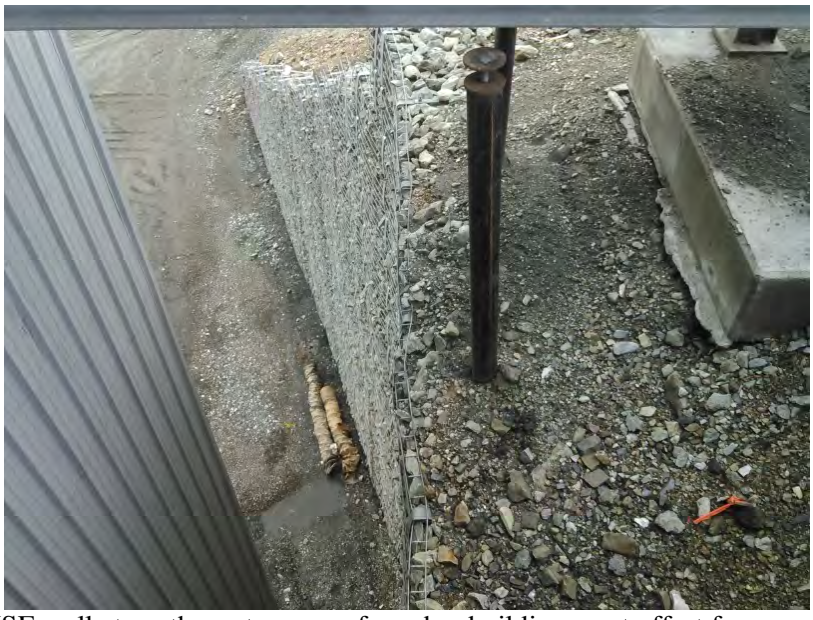


Figure 5 – MSE wall at south west corner of crusher building, post offset from vertical, possible indication of movement.



Figure 6 – MSE wall facing North West towards the crusher and conveyor belts. Culvert from Ditch #5 can be seen in the lower right section of the photo.



Figure 7 – MSE wall behind crusher.



Figure 8 – Culverts and rip rap leading from Generator Pad to Ditch #5.



Figure 9 – Erosion undermining concrete anchor at the North West side of the Fuel Pad.



Figure 10 – Embankment slope below Generator Pad, small rill erosion can be observed.



Figure 11 – Sump #2 being drained for replacement of liner, drainage from Ditch #3 visible at the right of the photo.



Figure 12 – Recently constructed sump excavated upstream of Sump #2 in order to control flow during the relining of Sump #2.



Figure 13 –Sump #5 as seen above from the Mill Pad.



Figure 14 – Settlement/tension cracks observed in berm adjacent to Ditch #1. Area has been noted in previous reports and no new indication of soil distress was noted.



Figure 15 - Ditch #1 culvert at the south end of the Mill Pad. Buildup of sediments and damage to the culvert can be seen.



Figure 16 – Ditch #3 looking west towards Sump #2.



Figure 17 – Ditch #4 at the edge of site storage pad looking east.



Figure 18 – Outfall of Ditch #5 at base of MSE wall.



Figure 19 – Ditch #5 manhole located at the top of the MSE wall on the west side of the Mill Pad.



Figure 20 – Previously repaired erosion along the Camp Pad as seen from the Sewage Pond.



Figure 21 - Mine Camp Slope looking south towards the airstrip.



Figure 22 – Recently repaired erosion rill due to heavy rainfalls located in the North West corner of the Camp Pad facing north.



Figure 23 – Sewage Treatment Facility looking west.



Figure 24 – Decommissioned Sewage Effluent pond.



Figure 25 – Waste Rock Pad #1 sump and liner located in the South West corner of the pad. Sump level is controlled by a float and pump system.



Figure 26 – Waste Rock Pad #1 berm isn't continued past the waste pad access ramp.



Figure 27 – Waste Rock Pad #2 on the North East side looking south along the containment berm.



Figure 28 – Waste Rock Pad #2 settling pond located at the south end of the pad. Settling pond is discharged through the Bio Reactor.



Figure 29 - Seepage Pond downstream of the TSF. Wolverine access roadway serves as dam. Embankment slope has settled causing over steepening of slope as well as tension cracks.



Figure 30 – Seepage Pond as seen from the TSF facing south.



Figure 31 – Diversion Ditch B facing north and located above and on the east side of the TSF.



Figure 32 – Diversion Ditch A head waters parallels bio-reactor channel and drainage from Waste Rock Pad #2.



Figure 33 - Diversion Ditch A, beginning of lined portion of drainage ditch which flows along the southern edge of the tailings pond.



Figure 34 – Land Treatment Facility (LTF) Pad and sump looking east.



Figure 35 – Cut slope behind Truck Shop looking north.

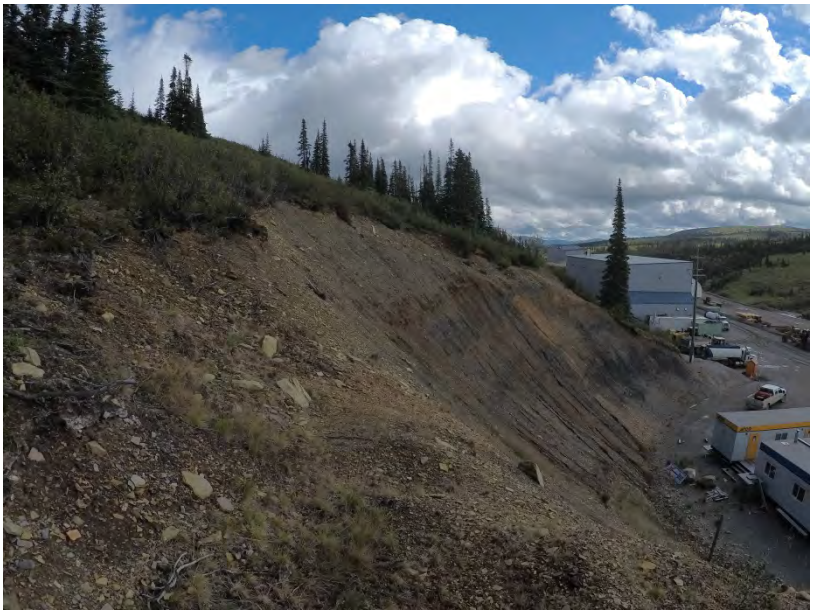


Figure 36 – Mine Office cut slope looking south.



Figure 37 – Cut slope above the Vent Raise looking North East.



Figure 38 – Mine Portal, some shotcrete has come loose and fallen from the slope. Exposed bedrock appears relatively stable, but could be erodible under flow and/or weathering.

APPENDIX B

PRECIPITATION EVENTS

Cumulative Monthly Precipitation (as rain)												
	January	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
2015								102.8	28	22.8	0	0
2016	0.4	3.8	4.4	17.2	24	26.2	72.8	63.6	37	0.8	2	0.2
2017	0	2.4	8.6	2.2	21.2	116.41						

Average Monthly Temperature												
	January	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
2015								7.2	2.0	-2.0	-9.9	-15.2
2016	-11.7	-10.8	-6.3	0.1	5.7	10.4	11.4	9.6	3.6	-6.1	-10.5	-16.2
2017	-12.0	-13.0	-15.9	-3.0	4.6	8.7						

APPENDIX C

SITE MAPS

YukonZinc CORP

Figure 4-4
Wolverine Mine: Industrial Complex General Arrangement

N

Mining Office Complex
Truck Shop
Portal
Fuel Storage
Genset Pad
Boiler House
Ditch 5
Concentrate Loadout Building
Ditch 1
Mill Building
Assay Lab
Ditch 2
Site Services Maintenance Shed
Fire Water Storage Tank
Potable Water Treatment Plant
Potable Water Well #2
Mine Camp
Environmental and Safety Offices
Administration Office
First Aid and Mine Rescue Station
Miner's Dry
Potable Water Well #1
Waste Rock Pad #1
Tuck Lift
Storage Pond
Sewage Treatment Plant
Cold Storage Building
Mine Heater Building
Vent Intake
Ditch #4
Storage
Wet Shotcrete Plant
Wolverine Creek
Crusher
Conveyor System
Sump 2
Ditch #3
Dry Storage Building

439750
6811500
439500
6811250
439250
6811000
439000

439000
6810750
439250
6810500
439500
6810250
439750
6810000
440000

0 20 40 80 120 160 Meters

- Ditch
- Existing Road
- Mine Access Road
- Infrastructure
- Organic Stockpile
- Waste Rock Pad

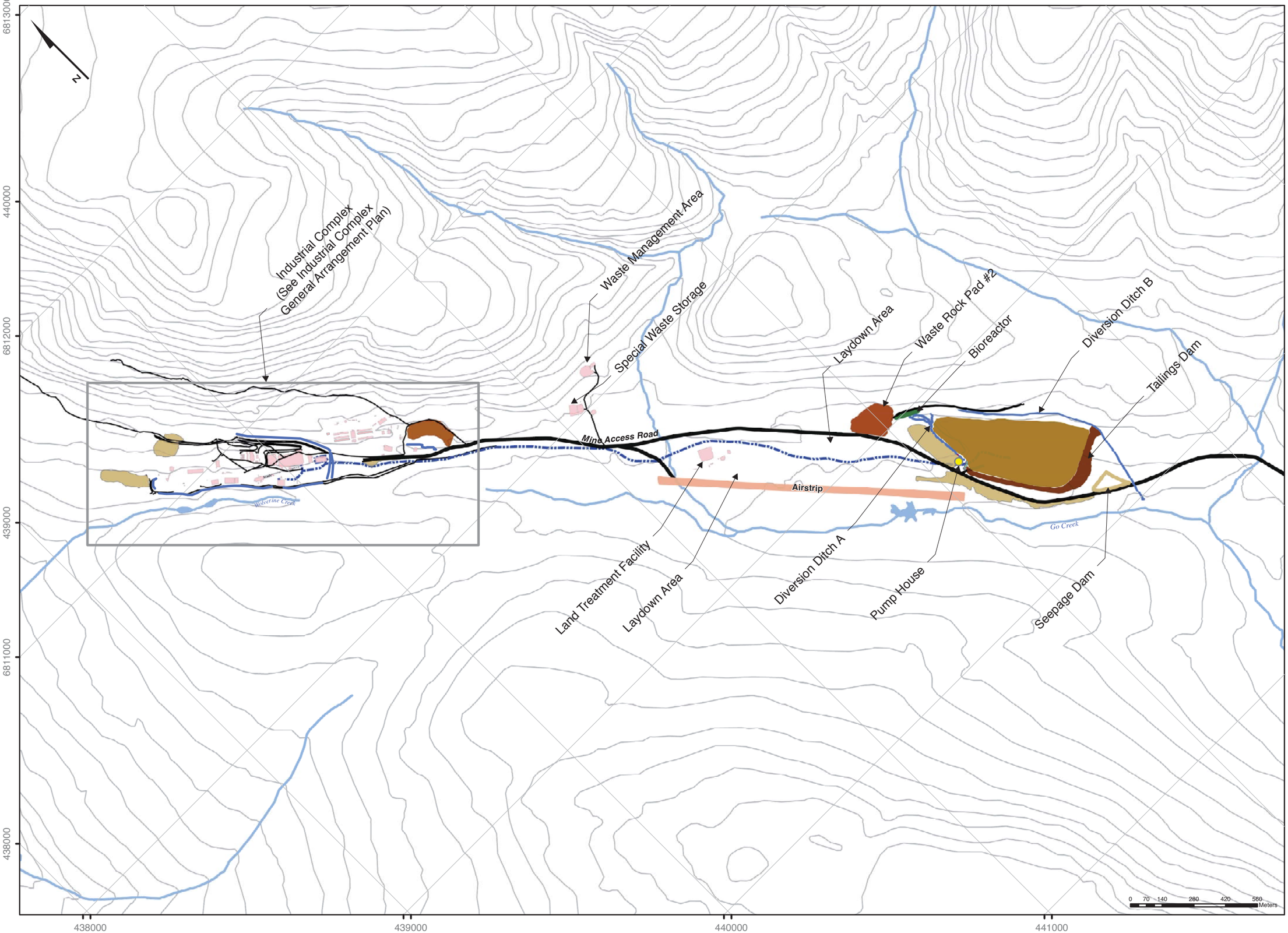
Topography

- Contour
- Watercourse
- Waterbody

CAP

Date: 22/12/2016
Author: H.Seeley, P.Geo, Wolfbear Geological Consulting

Coordinate System: NAD 1983 UTM Zone 9N
Projection: Transverse Mercator
Datum: North American 1983



YukonZinc CORP

Figure 4-3

Wolverine Mine:
Site Location
General Arrangement

CAP

Date: 22/12/2016
Author: H.Seeley, P.Geo, Wolfbear Geological Consulting

Coordinate System: NAD 1983 UTM Zone 9N
Projection: Transverse Mercator
Datum: North American 1983

Appendix B: Wolverine Mine Dam Safety Review Tailing Storage Facility and Earth Structures, Klohn Crippen Berger, August 2017

Klohn Crippen Berger

Yukon Zinc Corp.

Wolverine Mine

Dam Safety Review

Tailing Storage Facility and Earth Structures

CANADA'S BEST MANAGED COMPANIES Platinum member

ISO 9001
ISO 14001
OHSAS 18001

A05092A01

August 2017

August 10, 2017

Yukon Zinc Corporation
Suite 705 – 1030 West Georgia Street
Vancouver, British Columbia
V6E 2Y3

Peter Mah
Interim Chief Operating Officer

Dear Mr. Mah:

Wolverine Mine - Dam Safety Review
Tailing Storage Facility and Earth Structures

Please find attached the Dam Safety Review (DSR) of the tailings storage facility at the Wolverine Mine. The DSR is a requirement of the Yukon Energy, Mines and Resources, under the Quartz Mining Act per the Quartz Mining License QML-0006 and follows the guidance of the Canadian Dam Association.

Yours truly,

KLOHN CRIPPEN BERGER LTD.

Pamela Fines, M.A.Sc., P.Eng.
Associate / Manager

PF:kc

170810R Wolverine DSR.docx
A05092A01

CANADA'S BEST MANAGED COMPANIES Platinum member

Yukon Zinc Corp.

Wolverine Mine

Dam Safety Review

Tailing Storage Facility and Earth Structures

EXECUTIVE SUMMARY

This report presents the results of a Dam Safety Review (DSR) that was performed by Klohn Crippen Berger Ltd. (KCB) for the Tailing Storage facility (TSF) and Earth Structures. Yukon Zinc Corporation (YZC), the owner of Wolverine Mine, is currently required to submit a DSR on the TSF every 7 years. The DSR included a site visit by the Dam Safety Review Engineer, Mr. Brett Stephens, P.Eng., and Ms. Pamela Fines, M.A.Sc., P.Eng. The Dam Safety Review report has been carried out using the guidelines provided by the Canadian Dam Association (2007).

The Wolverine Mine is a zinc-silver-copper-lead-gold underground mine, located in the southeast Yukon, within Kaska Traditional Territory, approximately 280 km east of Whitehorse and 170 km northwest of Watson lake. The mine had a production capacity of 1,700 tonnes per a day. YZC placed the mine under temporary closure for care and maintenance January 21, 2015 which has continued to the date of tis DSR. As a result, there has been no mining, milling operation, and tailing discharge in the TSF since January 2015.

The TSF is located south of the mill facility and stores tailing discharged as slurry. The TSF embankment was designed using homogenous earth fill material and constructed as a dam in two stages with a current height of 26 m. In 2009, the first construction stage consisted of a 19 m high dam and the second stage was a 7 m downstream raise in 2012. The TSF continues to accumulate water and has a full water cover on top of the tailings. Water is not being discharged from the TSF as the planned water treatment plant has not been constructed.

The 2013 Canadian Dam Association (CDA) Safety guidelines were adopted to determine the classification of the dam. The consequence classification based on CDA guidelines of the dam is currently reported as “High” to “Very High”. We recommend adopting a classification of “Very High” for the Wolverine Tailings Dam.

The conclusion of the DSR assessment is that the dam is “reasonably safe”. The dam safety review identified deficiencies and non-conformances as summarized in the tables below, which should be addressed to ensure ongoing dam safety.

With a change in classification to Very High, Dam Safety Reviews should now be completed at least every 5 years as per the CDA guidelines. The next DSR for Wolverine Mine should be completed in 2022 or earlier if the dam classification is revised upward in the future.

Table X.1 Recommendations for Dam Safety Aspects

Deficiency or Non-Conformance	No. (Report Section)	Recommended Action	Schedule
Deficient Flood Event Values and Assessment	4.6.1	The hydrology assessment appears to be comprehensive: ▪ However, the specific rainfall total used to calculate the IDF should be presented (not just the design event duration). ▪ PMF volume inflow volume should also be provided.	December 2017.
North End Slump Repair	4.5.3	The slumped section under the liner at the north end should be repaired prior to placement of additional 1 m of water (2020) or additional tailings in the TSF.	Repair by Dec 2019 or prior to restart of mining activities (whichever is first).
Out of date inundation study.	4.2.2	The inundation study was conducted based on published tables and does not meet the current state of practice for inundation studies. This should be updated and used to update the Emergency Preparedness Plan.	C&M – Dec. 2018 Active Mining – Dec. 2018 Closure – part of closure plan development

Table X.2 Recommendations for Surveillance and Maintenance Aspects

Deficiency or Non-Conformance	No. (Report Section)	Recommended Action	Schedule
Lack of consolidated site records	2.1	Site records need to be consolidated into a centralized file, including: ▪ site investigation data and laboratory test data (historic and recent); ▪ as-constructed records, including site visit notes and foundation preparation assessments; and ▪ design basis with assumptions to key design parameters and criteria.	Closure – August 2019 Prior to restart of mining activities (whichever is sooner)
OMS document not updated	4.10.2	The OMS manual should be updated as summarized in Table 4.3 of this document	December 2017
EPP update	4.10.3	Emergency preparedness plan should be updated to reflect current operating staff and communications. The plan should be reviewed/revised again once the new inundation study is available. This can also be used for communication with local stakeholders on potential impacts of a dam safety incident.	December 2017

TABLE OF CONTENTS

EXECUTIVE SUMMARY I

1 INTRODUCTION 1

2 BACKGROUND INFORMATION AND SITE VISIT 3
2.1 Document Review 3
2.2 Organization and Responsibilities 4
2.2.1 Management 4
2.3 Regulatory 6
2.3.1 Yukon Energy Mines and Resources 6
2.3.2 Yukon Water Board 7
2.4 Current Operational Status 7
2.5 Incident Reporting 8
2.6 Instrumentation 8
2.7 Site Visit Dam Inspection 8
2.8 Interviews 9
2.8.1 Engineer of Record 9

3 FACILITY DESCRIPTION 10
3.1 General 10
3.2 Site Conditions 10
3.2.1 Hydrology and Floods 10
3.2.2 Surficial Geology 10
3.2.3 Tailings Properties 11
3.2.4 Seismicity 11
3.2.5 Hydrogeology 11
3.3 Tailings Storage Facility Design 11
3.3.1 General 11
3.3.2 Dam Design 14
3.3.3 Foundation Conditions 14
3.4 Water Management and Seepage 17
3.4.1 Water Management 17
3.4.2 Water Balance and Seepage 17

4 DAM SAFETY ASSESSMENT 18
4.1 General 18
4.1.1 Current Dam Classification and Status of Dam Safety Reviews 18
4.1.2 Dam Design and Life of Mine Planning 18
4.1.3 Credible Failure Modes and Relevant Hazards 18

TABLE OF CONTENTS
(continued)

4.2 Consequence Classification Review 19
4.2.1 Consequence Classification 19
4.2.2 Review of Inundation Assessment 20
4.3 Regulatory Compliance 21
4.4 Instrumentation Review 21
4.5 Geotechnical Assessment 21
4.5.1 General 21
4.5.2 Stability Analysis 21
4.5.3 North End Slump 22
4.6 Hydrotechnical Assessment 25
4.6.1 Inflow Design Flood 25
4.6.2 Water Balance and Seepage 25
4.7 Structural/Hydro-mechanical Assessment 26
4.8 Mining Dam Considerations 26
4.8.1 Closure 26
4.8.2 Water Quality 26
4.9 Public Safety Management 26
4.10 Dam Safety Management Program Assessment 27
4.10.1 Organization and Reporting 27
4.10.2 Operations, Maintenance and Surveillance (OMS) Manual 27
4.10.3 Emergency Preparedness Plan 28
4.11 CDA Principles Assessment 28
5 RECOMMENDATIONS 30
6 CLOSING 31

List of Tables

Table 2.1 Tailing Storage Facility – Permitting, Design and Construction Records 3
Table 3.1 Summary of Typical Tailings Properties 11
Table 4.1 Dam Classification 20
Table 4.2 Results of Limit Equilibrium Stability Analysis 22
Table 4.3 Summary of Review of the OMS Document 28
Table 5.1 Recommendations for Dam Safety Aspects 30
Table 5.2 Recommendations for Surveillance and Maintenance Aspects 30

TABLE OF CONTENTS

(continued)

List of Figures

Figure 1.1 General Location Plan 2
Figure 2.1 Wolverine Mine – Operations Organization Chart (outdated) – Main Reporting Links 5
Figure 3.1 Facility Overview and Site Visit GPS Tracks 12
Figure 3.2 Plan View 13
Figure 3.3 Typical Cross Sections 15
Figure 3.4 Instrumentation Plan 16
Figure 4.1 Stability Analysis 24

List of Appendices

Appendix I Site Visit Photographs
Appendix II Selected Design and Construction Drawings
Appendix III Instrumentation Data
Appendix IV CDA Principles Assessment

1 INTRODUCTION

This report presents the results of a Dam Safety Review (DSR) that was performed by Klohn Crippen Berger Ltd. (KCB) for the Tailing Storage facility (TSF). The Wolverine Mine is located in the southeast Yukon, within Kaska Traditional Territory, approximately 280 km east of Whitehorse and 170 km northwest of Watson lake, as shown on Figure 1.1.

The DSR included a site visit by the Dam Safety Review Engineer, Mr. Brett Stephens, P.Eng., and Ms. Pamela Fines, M.A.Sc., P.Eng.

The CDA Dam Safety Guidelines (CDA, 2013) define a DSR as "a systematic review and evaluation of all aspects of design, construction, maintenance, operation, processes, and systems affecting a dam's safety, including the dam safety management system." The guidelines provide a suggested frequency of DSRs based on consequence classification. The tailings dam at Wolverine is classified as "High to Very High" consequence structures and the agreed DSR frequency was 7 years during operation, consistent with a "High" consequence dam, prior to decommissioning and following closure. This is the first DSR for this facility. The comprehensive review is to provide verification of:

- safety and environmental performance of the facility;
- adequacy of the surveillance program;
- adequacy of delivery of OMS requirements;
- design basis with respect to current standards and possible failure modes; and
- compliance with engineering standards.

The DSR presented herein is classified as a "comprehensive *dam safety review*", which has been carried out by a "*Qualified Professional".* The Qualified Professional is Mr. Brett Stephens, P.Eng., who is a geotechnical engineer with 25 years of experience with tailings dams design, construction and operation worldwide.

Given that the Wolverine Mine is currently under care and maintenance, our recommendations have been provided considering either continued care and maintenance, re-activation of mining or closure of the structure.

Figure 1.1 General Location Plan



2 BACKGROUND INFORMATION AND SITE VISIT

2.1 Document Review

A review of available documentation was carried out and the available references are summarized in Table 2.1.

Table 2.1 Tailing Storage Facility – Permitting, Design and Construction Records

Date	Prepared By	Title	Permitting (P), Inspection (I) Design (D) or Construction (C)	Key Items of Interest
February 2015	Yukon Energy, Mines and Resources	Inspections Direction- Subsection 146(1) Quart Mining Act and Subsection 35(1) Waters Act	P	Inspection Report (Ministry Order-Yukon Government). Direction from the Yukon Government based on mine inspection.
December 2015	Yukon Energy, Mines and Resources	Response to EMR Wolverine Project Reclamation and Closure Plan Approval	P	Terms and Conditions outlined by the Yukon Government to be met in order to approve the reclamation and closure plan.
December 2006	Yukon Energy, Mines and Resources	Yukon Office of the Minister	P	Quartz Mining License outlines development and production with underground mining. Expires December 2021.
October 2007	Yukon Water Board	Yukon Water board	P	Water License outlines conditions for the use and release of site water. Expires December 31, 2027
August 2015	Klohn Crippen Berger	Annual Physical inspection of TSF and on-site earth structures	I	Dam Safety Inspection Report to inspect tailing storage and earth structures
December 2016	Knight Piesold Consulting	Tailings Storage Facility and On-site Earth Structures 2016 Inspection	I	Dam Safety Inspection Report to inspect tailing storage and earth structures
August 2013	Klohn Crippen Berger	Wolverine Mine Tailing Facility 2013 Annual Tailings Facility Physical Inspection	I	Annual Inspection Report to inspect tailing storage and earth structures
2007	Klohn Crippen Berger	Feasibility Study Update	D	Feasibility level design of the tailings storage facility (TSF) and related infrastructure.
March 2009	Klohn Crippen Berger	Tailings and Infrastructure Design and Construction Plan	D	Detailed design of the tailings storage facility (TSF) and related infrastructure.
March 2012	Klohn Crippen Berger	Design Overview for Stage 2 Dam Construction	D	Outlines the design and construction plan for the stage 2 dam raise for Wolverine Mine.
May 2015	Yukon Zinc Corp	Cross-section drawing of the Tailings Pond	D	Bathymetry cross-section of the tailings pond. Volumes and elevations are on the drawing.
May 2011	Klohn Crippen Berger	Addendum to Starter Tailings Storage Facility - 2009 Civil Works	C	Includes information on outstanding construction items following substantial completion of TSF. This includes construction of starter dam spillway, seepage construction dam, install of reclaim pump barge system, and instrumentation install.
November 2012	Klohn Crippen Berger	Wolverine Stage 2 Expansion Construction Record Report	C	Includes information on: construction observation, QA testing, design changes, photos, technical specifications, earthworks QA, liner QA/QC, instrument plan drawing, and design drawings.
May 2010	Klohn Crippen Berger	Starter Tailings Storage Facility - 2009 Civil Works	C	Includes information on: scope of work, construction schedule, weather, material, design changes, construction observations, QA, photos, technical specifications, earthworks QA, liner QA/QC, Instrument plan drawing, and design drawings.
2007-2015		Temperature and Precipitation Data		Temperature-Year-Precipitation Plot.
2009-2016		Ground Water Quality and Water Level Data		Water quality test result and plots and water level reading and plots.
2009-2015		Surface Water Quality and Hydrogeology		Stream discharge, flow rate, surface water quality, water level, precipitation data, precipitation-year-discharge plot.
August 2016	ALS Environmental	Certificate of Analysis		Results for metal detection in surface water.
2015-2016		Wolverine TSF Elevation and Storage Volume		Pond elevation, dam crest elevation, surveyed tailings volume, and plot.
2010-2016		TSF Water Quality Test Results		Water quality test results.
2006-2013		Underground Mine Water Quality Results		Underground dewatering, production development, and mine water quality test results and plot
2011 to 2015	Yukon Zinc Corp	Tailing Facility Monitoring Monthly Impoundment Reports	I	Mill data, site measurements, sketch, photos
2011-2015	Yukon Zinc Corp	Tailing Facility Monitoring Weekly Visual Inspection Report	I	Tailing facility inspection of the dam, discharge, reclaim infrastructure, spillway, and ditches.
2011-2015		Tailing Volume Information		Tailings volume, ditch flow, under drain flow rate, precipitation and temperature, seepage collection flow, and mill tailing solids volume.
2010-2016		Piezometer Data Spreadsheet		Vibrating wire table and plots
2011-2016		Tailing Inclinometer Data Summary		Digital inclinometer data and plots.
July 2010	Yukon Zinc Corp	Operation, Maintenance, Surveillance Manual	C	Project overview, regulatory requirements, tailing facility operation, facility maintenance, surveillance, and emergency response plan.
December 2014	Yukon Zinc Corp	Emergency Response Plan	C	Facility emergency response, preventative measure for dam breach, training and testing.
July 2015	Klohn Crippen Berger	Wolverine Mine Tailings Storage Facility Preliminary Study of TSF Closure Options -Rev 2	C	Mine observations and closure options.
August 2015	Klohn Crippen Berger	Short Term Remediation for Slump along TSF North Wall	I	North wall slump remedial plan
August 2014	Klohn Crippen Berger	2014 Annual Tailings Facility Physical Inspection	I	Annual inspection for tailing storage, earth structures and instrumentation review.

2.2 Organization and Responsibilities

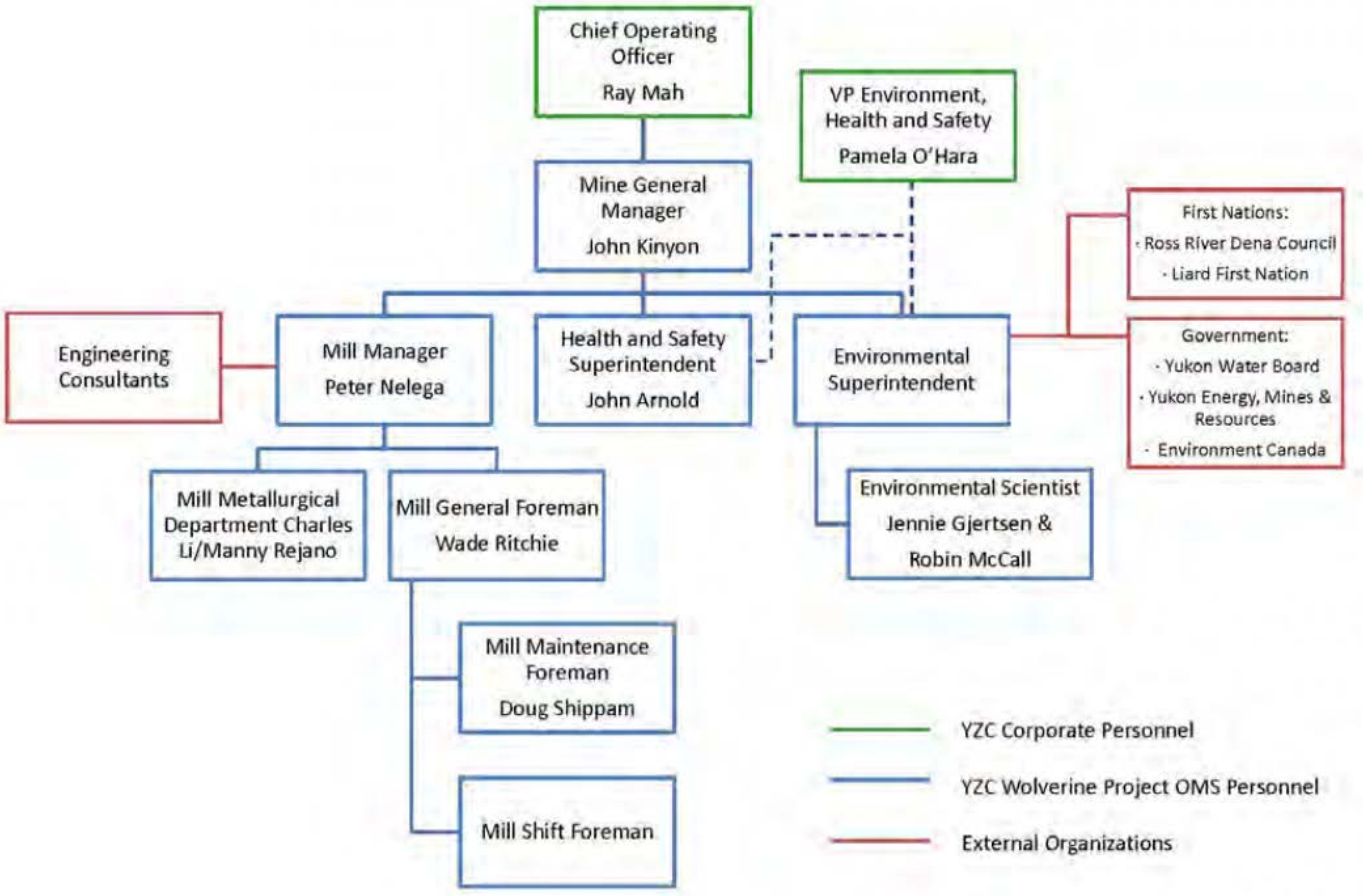
An OMS manual is intended to be a living document that is updated to reflect the changing nature of the life cycle of the facility. The current OMS manual was last updated in 2010 and was not revised when the mine entered care and maintenance. The OMS manual is out of date and needs to be revised to reflect the current roles and responsibilities, surveillance and maintenance activities, and emergency response procedures.

2.2.1 Management

A description of the organization and roles and responsibilities when the mine was in operation is presented in the Operations, Maintenance and Surveillance (OMS) Manual and is summarized in the following sections. The general organization chart shows reporting links are shown on Figure 2.1.

The overall set up and content of the OMS manual is relevant and meets the general requriements of the CDA recommendations. However, the OMS manual is out of date as most of the people referenced in the document no longer work for Yukon Zinc. The mine is currently in care and maintenance and the OMS manual represents how the facility was managed while in operation. The OMS manual needs to be updated to the current status of the facility under care and maintenance. If the mine transitions to to either restart of operations or full closure then the OMS manual should again be revised to represent these new conditions.

Figure 2.1 Wolverine Mine – Operations Organization Chart (outdated) – Main Reporting Links



Currently, the TSF is managed by the care and maintenance crews and they report to Peter Mah who responsible for the site operations. Given the small teams on site and in Vancouver the reporting structure is very lean and should be indicated in the OMS manual.

2.2.2 Management Review and Reporting

Current reporting and review activities are shown below:

- routine surveillance is being conducted by the care and maintenance crew but recording of observations is on paper only in the daily log book;
- engineer inspection report on the condition of the tailing facility; and
- comprehensive dam safety reporting every 7 years.

The OMS manual indicates that more reporting activities should be conducted. Reporting requirements in the OMS were not revised when the mine entered care and maintenance.

Currently there is a small team on site (typically 3 people) and recordings of observations are made and recorded. YZC is also in contact with the Yukon Government regarding their permit requirements.

Formal weekly and monthly observation reports are not being collected at this time. Reporting and management review need to be updated if the mine goes back into production or goes to full closure.

2.2.3 Design

The EoR for the TSF dams is Klohn Crippen Berger Ltd. Mr. Harvey McLeod, P.Eng. has been leading the recent design and associated studies, and construction monitoring works. The EoR is responsible for the design and performance of the mining dam (CDA, 2014). These responsibilities include such items as: 1) dam safety inspections; 2) Construction monitoring; 3) instrumentation planning, design and review; and 4) design modifications.

2.3 Regulatory

The Wolverine Mine falls under The Yukon Territorial Government jurisdiction and the following section present key details of their current permits.

2.3.1 Yukon Energy Mines and Resources

The tailings impoundments at Wolverine are regulated under the Yukon Quartz Mining Act and is to comply with a Quartz Mining License (QML-0006) issued by Yukon Energy Mines and Resources (expires December 31, 2027). The mining license was approved by the territorial minister and stipulates the following:

- process for approval of operations plans and environmental protection plans:
  - the Operation, Maintenance and Surveillance (OMS) manual must be revised regularly during operations; and
  - the Emergency Response Plan (ERP) is required for any dam with a consequence classification of “High” or “Very High”. The ERP will be tested and updated or amendments made as necessary.
- conditions for temporary closure;
- inspection and reporting requirements:
  - annual physical inspection by an engineer to completed before July 1st to review structure, works, and installations to be submitted to Director, Mineral, and Resources (10.1); and
  - annually, on or before March 31st, submit a report that includes information on yearly mining activities (10.5).
- financial security.

There have been communications between the government and YZC regarding the temporary closure plan which was not accepted by the government and the DSR should have been completed in 2016. KCB is not aware of any other contraventions of the conditions of their permits.

2.3.2 Yukon Water Board

The Yukon Water Board issued a water license QZ04-065 to Yukon Zinc Corporation (expires December 31, 2027) per the Waters Act and Regulation to obtain water, divert water, store water, alter the flow of water, deposit a waste, and modify the bed and bank of a Watercourse for quartz mining and milling.

Annual reports are submitted to the Yukon Water Board per the water licence QZ04-065 on or before February 28 of the following year. The annual reports are to include:

- A summary of data generated through the monitoring requirements of this license, including analysis and interpretation by a qualified company and outline variations from baseline conditions; and
- Record of any major maintenance work that may impact water.

Monthly reports were submitted to the Yukon Water Board per the water licence QZ04-065 capturing monthly monitoring results no more than 30 days following the end of the month the data was collected in. It is not clear if the same reporting is being done now that the mine is in care and maintenance.

2.4 Current Operational Status

Operation of the tailing facility commenced in 2009 and increased to an approximate production rate of 1,700 tonnes per day (tpd). The mine entered care and maintenance in January, 2015 but is considering restarting mining activities. The original facility was designed with approximately 8 years of tailings storage with an assumption that 50% of the tailings would be used to produce paste backfill to be placed in the underground workings. The current capacity in the TSF is approximately 1.1 Mt which correlates to approximately 4 years of storage, assuming the original plan of 50% of the tailings being used for paste backfill is achieved at the planned restart tonnage of 1,500 tpd.

The 19 m high starter dam was constructed in 2009 and the 7 m downstream raise was constructed in 2012. The crest elevation is 1,313.5 m and currently stores approximately 853,700 tonnes of tailings and supernant pond volume of 560,000 m^3. Currently no water is being released from the TSF.
A detailed bathymetry should be conducted and reconciled with the original liner survey to calculate the volume of tailings and confirm the settled density of the tailings. The bathymetric survey completed in 2016 is suspect due to the very small reported volume occupied by the tailings. A new survey is recommended to confirm the available space remaining in the TSF and what additional dam raise may be required to meet future storage requirements. If the mine goes back into production an annual reconciliation of the tailings density should be completed to compare the tailings rate of rise to the filling plan.

Site activities are currently limited to instrument monitoring and routine maintenance.

2.5 Incident Reporting

There have been no incidents reported for the TSF involving discharge of either water or tailings from the TSF or erosion of the infrastructure.

The only issue is the current temporary closure plan has not been approved by the Yukon Government. YZC are working with the Water Board and the Ministry and Mines to finalize a closure plan. The delay is understood to be associated with the control of water in the underground workings, and unrelated to the TSF.

2.6 Instrumentation

Instrumentation includes survey prisms on the dam crest and four vibrating wire piezometers. Three of the original 7 piezometers installed are no longer functional. Inclinometers were installed but are no longer readable.

The location of instrumentation is shown in plan on Figure 3.4.

The piezometers are attached to data loggers and collect readings twice daily. Survey data is collected annually now that the facility is in care and maintenance.

2.7 Site Visit Dam Inspection

A site visit dam inspection was made over the period of May 5 to May 7, 2010. The site visit was made by Mr. Brett Stephens, P.Eng. and Ms. Pamela Fines, P.Eng.. Mr. Preston Volk provided a tour and inspection of the site and facilitated meetings and information acquisition. Appendix I provides a photographic record from the site visit.

Some of the key observations made during the site visit dam inspection included:

- The weather was sunny with temperatures ranging from 1°C to 10°C, with some brief periods of rain.
- The dam appears stable with no visual evidence of cracking, piping or instability, with the exception of a previously identified slump at the north end of the TSF which is discussed in Section 4.5.3.
- Seepage was noted near the toe of the dam based on the observance presence of wet ground at the toe of the dam near the seepage pond.
- The downstream slope of the dam has presence of minor erosion gullies. This is not a dam safety concern, but rather a reclamation/surveillance/maintenance issue.
- Site contact water is being pumped to the TSF as there is no water treatment plant. The TSF is currently a temporary holding pond for all site surplus water.

2.8 Interviews

Interviews were held with site staff during the DSR site visit of June 24 to 25, 2017 and a brief summary of the interviews are as follows:

Preston Volk

Preston was the prime contact for the site visit and provided a tour of facilities, helped arrange meetings, and provided supporting documentation. Preston is one of seven staff on rotation that maintain the site during the current Care and Maintenance period.

Peter Mah

Peter Mah is the acting Chief Operating Officer and is tasked with the planning for a potential mining restart in 2018. He is responsible for maintenance and management of the TSF. Some of the main observations of the interview included:

- The current site focus is getting permits and activities in line with mining and environmental permits.
- Health and safety is a focus for site activities due to previous incidents on site.
- We discussed several options for restart of mining activities. Restart will also address maintenance and engineering requirements for the TSF, water treatment and potential tailings storage facility expansion.

2.8.1 Engineer of Record

The DSR team has had conversations with KCB design team (Harvey McLeod, P.Eng. and David Willms, P.Eng.) and discussions included clarification of the groundwater assessment and stability review of the slump area. Flows towards the north end of the TSF appear to be affecting the stability of the embankment and the underdrain system was observed to be flowing full during the DSR site visit.

3 FACILITY DESCRIPTION

3.1 General

The tailings facility is an earthfill structure in an elongated natural depression in the Go Creek watershed. The facility has constructed embankment on two sides and ties into rising natural ground on the north and east side of the impoundment. The facility is completely lined with an LLDPE liner to limit seepage from the tailings reaching the environment. The embankment is constructed of a homogeneous glacial till. The embankment was constructed in 2 stages to its current height.
A spillway has been constructed on the western side of the impoundment. A floating reclaim barge which is currently anchored on the south side of the impoundment.

Figure 3.1 shows an aerial photo of the site overlaid with the GPS tracks from the DSR site inspection. Appendix II contains selected design and construction record drawings for the facility.

3.2 Site Conditions

3.2.1 Hydrology and Floods

3.2.1.1 Hydrology and IDF

Average annual precipitation at the site is 570 mm which includes 175 mm equivalent snowpack (KBC, 2009). Monthly rainfall is highest in July. The catchment area of the TSF is approximately 100 ha and during operation most of the catchment is diverted through the surface water ditches. The catchment is largely forested mountainous slopes.

Based on the permits the facility was required to be designed to manage the PMF. The spillway is designed to pass the 1:10,000-year flood and assumes that the clean water diversions are decommissioned or failed. The analysis was based on a peak inflow from a 30-day storm of 9.5 m^3/s. The IDF recommended for “Very High” consequence structures by CDA (2013) is 2/3 between the 1:1000 and the PMF. The inflow from both a 30 minute and a 30-day storm event was assessed. Also, the rational method was used assuming a runoff factor of 1, which will provide a very conservative estimate of inflow. Consideration of rain on snow events was also assessed.

3.2.2 Surficial Geology

The tailings pond is constructed in the Go Creek catchment. Generally, the site is underlain by up to 20 m of interbedded sands, gravels and cobbles, overlying layered volcanoclastic and carbonaceous sediments. These deposits contain springs which were observed during the site investigation and construction. The assessed inflows from these springs were estimated to be of the order of 15 l/s during design of the TSF.

A thin organic layer was removed from the entire foundation area to expose the underlying granular soils (KCB, 2010).

3.2.3 Tailings Properties

A summary of the typical tailings properties (KCB, 2009) is presented in Table 3.1.

Table 3.1 Summary of Typical Tailings Properties

Parameter	Unit	Range
Density	t/m^3	.8 – 1.1
% solids by weight	%	80
Specific Gravity		3.7 – 3.9
Shear Strength	Friction angle	34
Permeability	m/s	$7x10^{-8}$ m/s
% fines[1]	%	83-92

Note: [1] Non plastic fines

3.2.4 Seismicity

CDA Dam Safety Guidelines (2013) state that the 1 in 5000-year event should be used as the design earthquake for a "Very High" consequence dam. However, regulatory requirements state that the facility must be designed to withstand a 1: 10,000 event. A site specific hazard assessment was conducted for the site coordinates of 61.41°N and 130.09°W, giving a peak ground acceleration of 0.22 g for the 1 in 10,000-year event. The acceleration typically used for pseudo-static stability analysis is 50% of the peak ground acceleration.

3.2.5 Hydrogeology

A detailed assessment of the hydrogeology of the site was not conducted. The surficial soils were tested and found to be very permeable. To control seepage, the facility was designed with a liner and a regional groundwater assessment was not necessary. Observations of artesian groundwater levels and seeps during construction were considered when sizing the underdrain system for the liner.

3.3 Tailings Storage Facility Design

3.3.1 General

The dam was constructed along the south and west sides, while the higher topography on the north and east side contain the pond without the need for a dam. Construction of the dam began in 2009 and was raised in 2012. The dam has a maximum height of 16.5 m and is approximately 800 m long, as shown on Figure 3.2. Tailings have not been placed since 2015 as the facility is in care and maintenance.

Figure 3.1 Facility Overview and Site Visit GPS Tracks

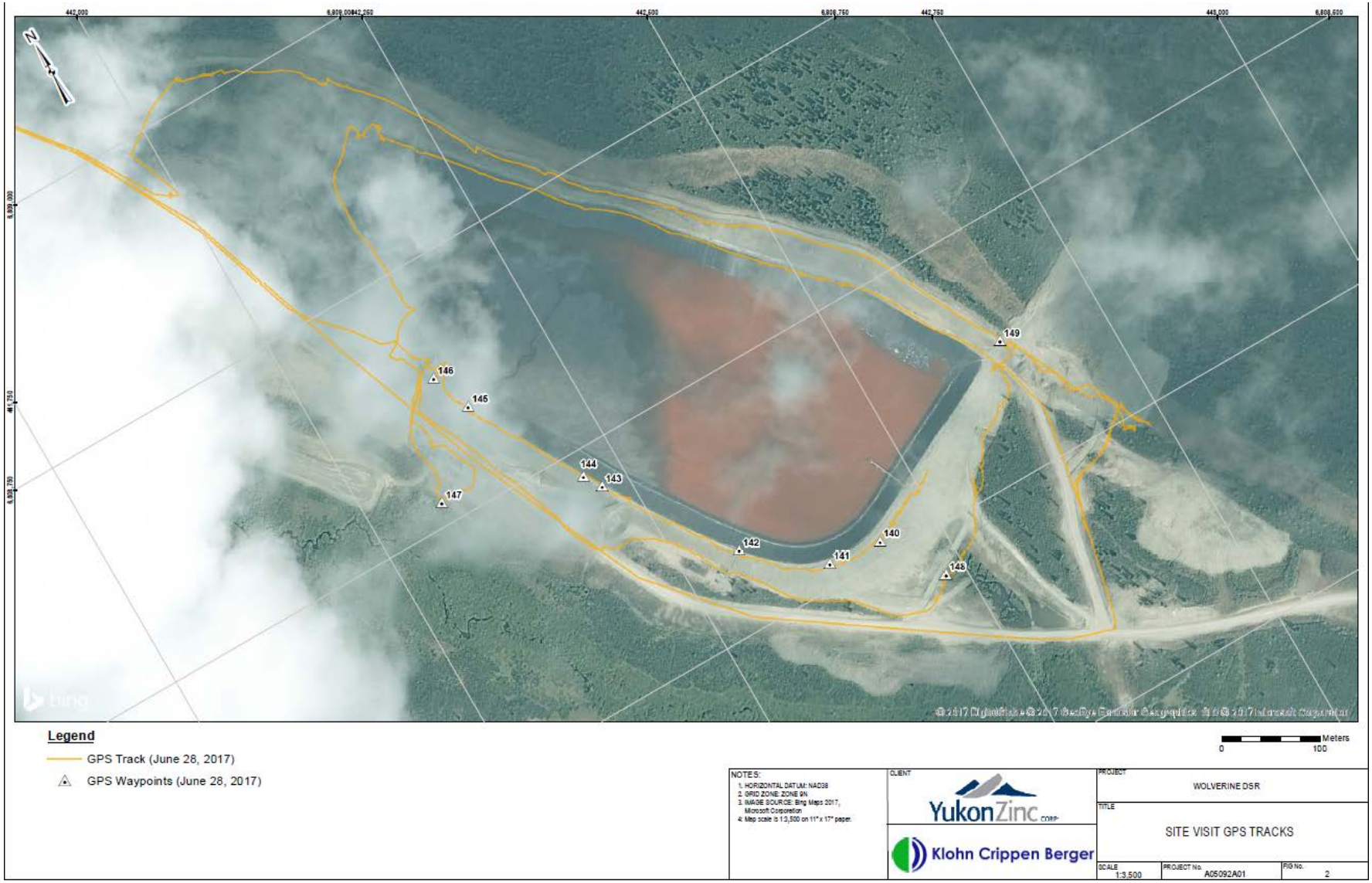
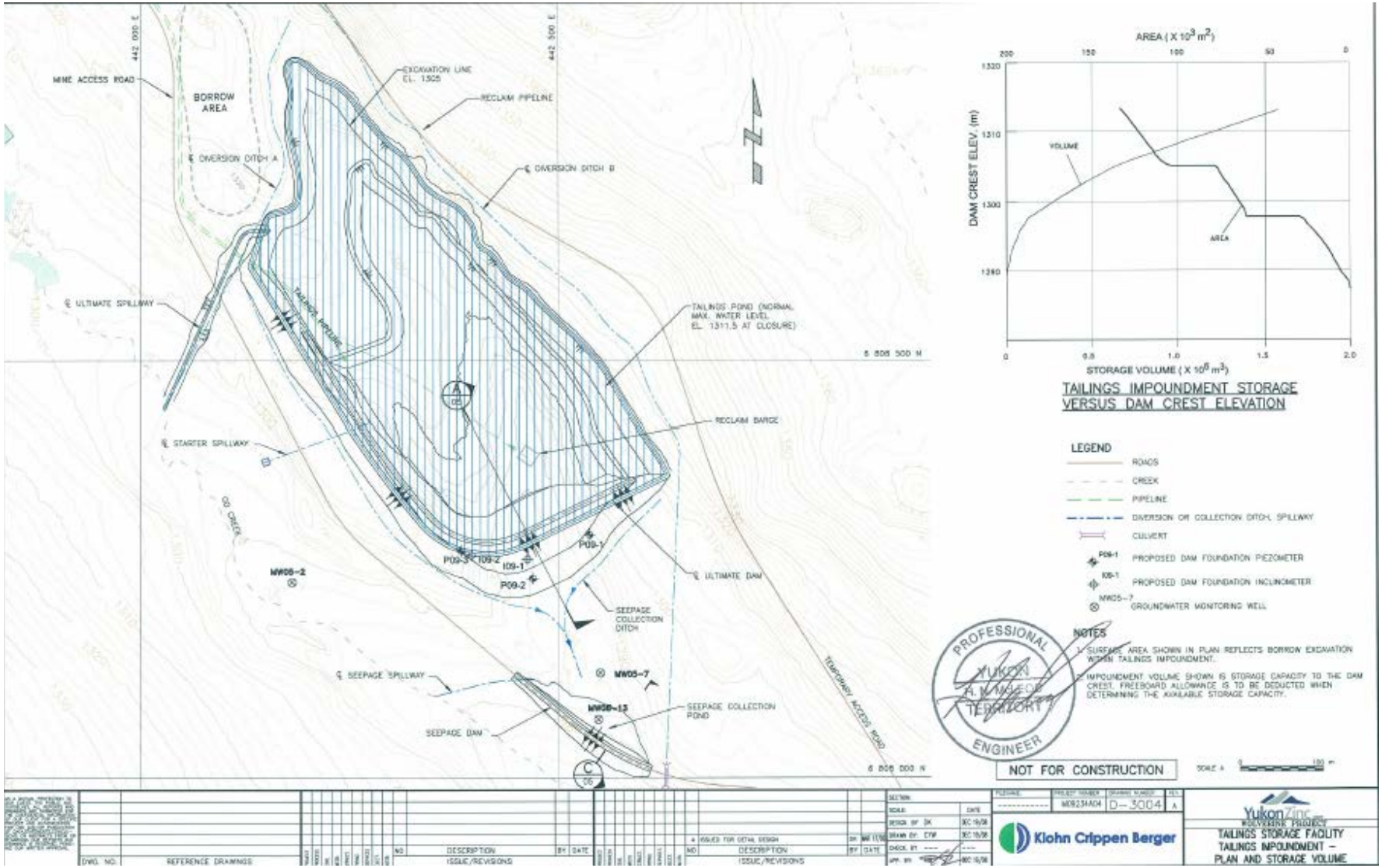


Figure 3.2 Plan View



3.3.2 Dam Design

The dam was constructed as a homogenous earthfill dam using locally borrowed glacial soils for the embankment and screened till for the liner bedding layer. The glacial till was largely borrowed from near the tailings facility or within the footprint. A typical section is shown on Figure 3.3. The dam was raised downstream to allow for the liner to be extended. The upstream and downstream slopes are 2H:1V based on the design slopes and observations on site. The glacial till is a heterogeneous mix of sand, gravel and cobbles. Triaxial tests on the glacial till gave a friction angle of 37° (KCB, 2007). Construction records for the compaction of the glacial till exceeded the specified density of 95% Standard Proctor Density.

The downstream slope of the dam has volunteer grasses that are becoming established but no topsoil or erosion protection has been placed on the slope.

3.3.3 Foundation Conditions

The foundation stratigraphy is up to 20 m of glacial sand, gravel and cobbles over bedrock. The glacial materials were covered with a thin organic layer that was removed prior to construction.

Figure 3.3 Typical Cross Sections

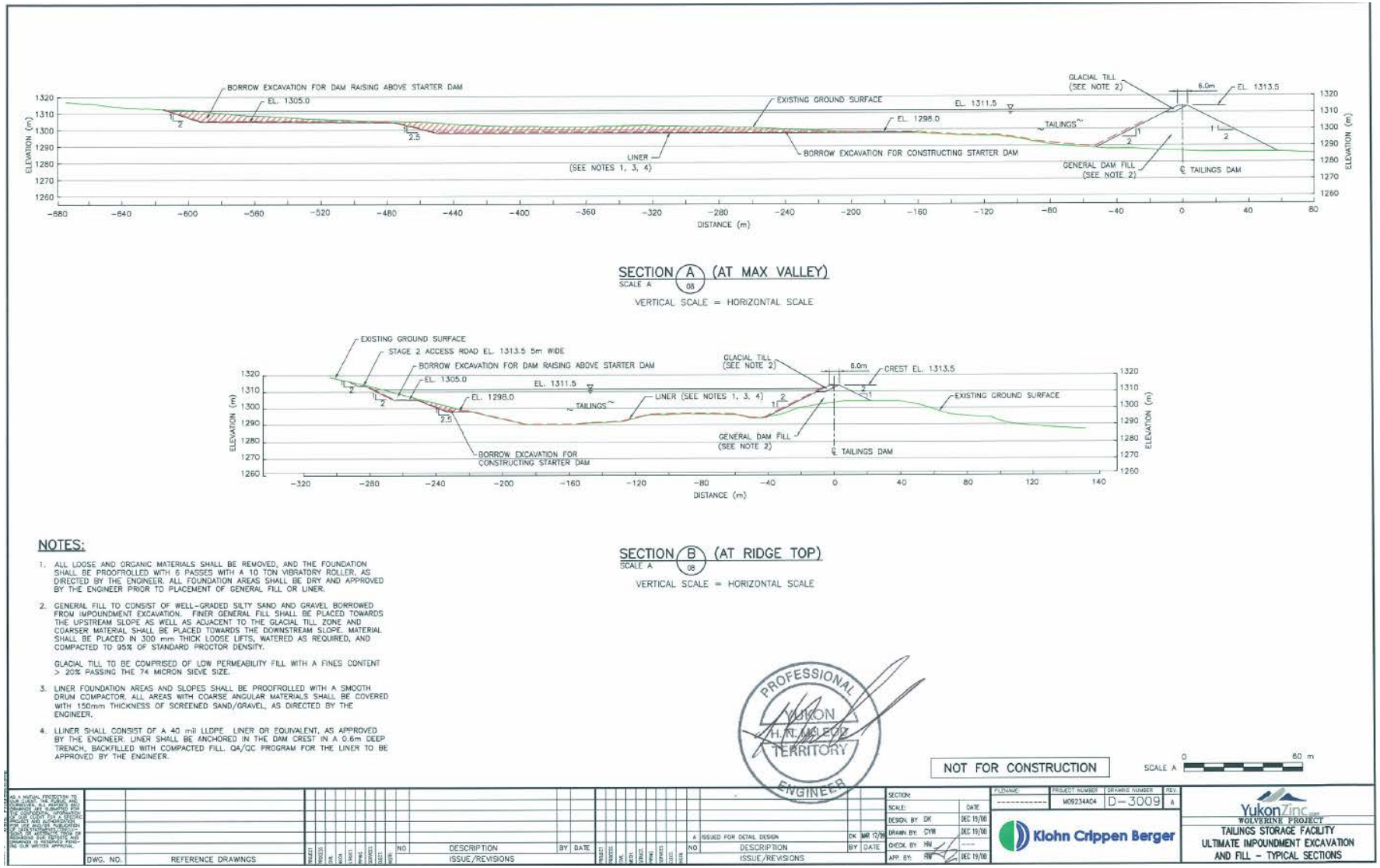
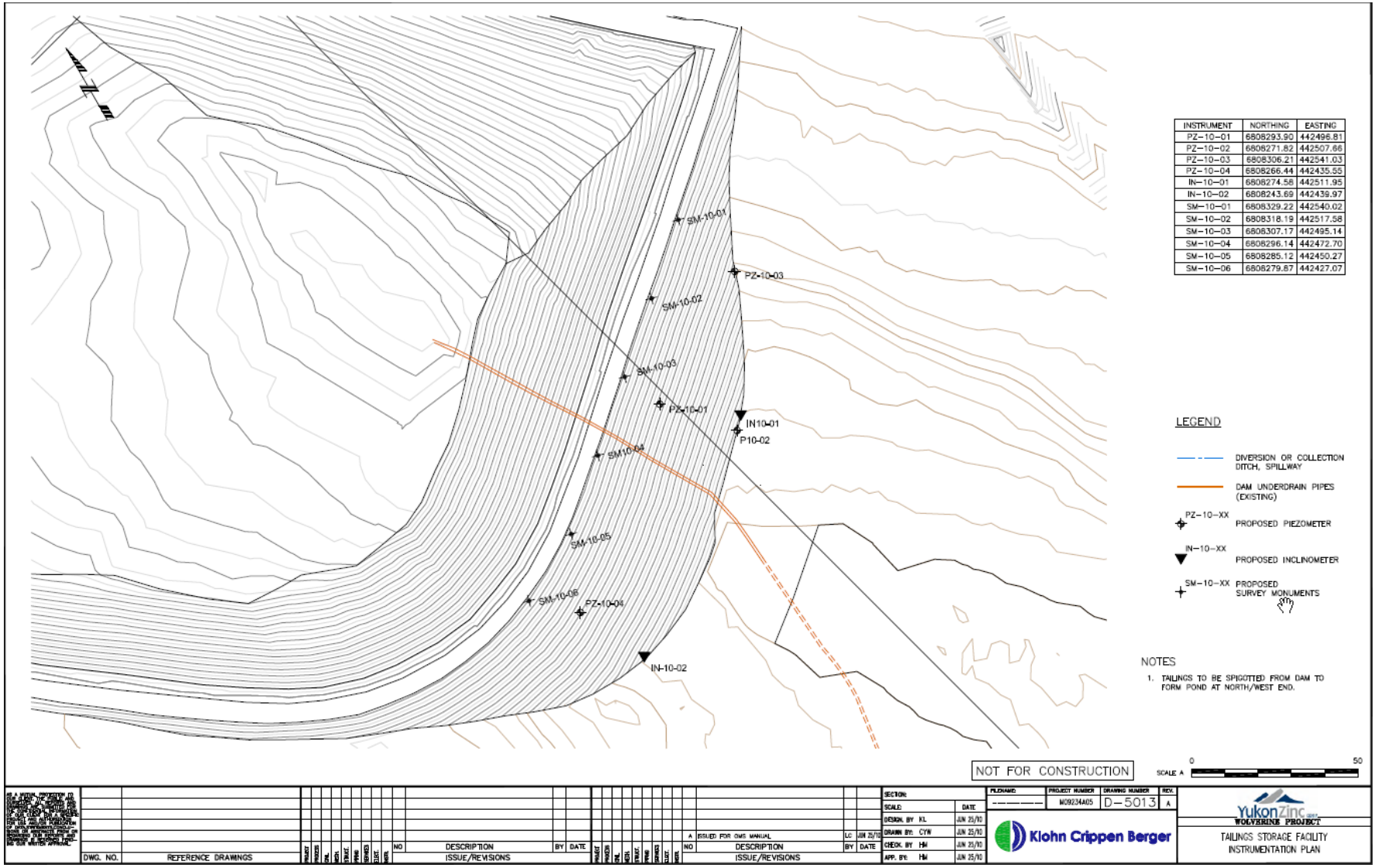


Figure 3.4 Instrumentation Plan



3.4 Water Management and Seepage

3.4.1 Water Management

The tailings pond has two fresh water diversions that direct surface water to the environment before it can flow into the tailings facility. An underdrain has been constructed under the liner to manage groundwater flows under the tailings facility. The underdrains pass under the dam and seepage pond and discharge to the environment.

Currently all contact water is discharged into the TSF. The eventual plan is to construct a water treatment plant so that water can be discharged to the environment.

3.4.2 Water Balance and Seepage

YZC have a water balance for the Wolverine Tailings facility that is maintained along with water quality readings. This has been updated in 2017 and should be reviewed again as part of start-up operations, if the mine goes back into construction.

The facility is lined so there is very low seepage from the tailings expected. The seepage collection dam appears to collect mostly local runoff and foundation seepage. Seepage observed at the toe of the dam is likely natural groundwater seepage.

Visual observations of seepage during the 2017 DSR along the South leg of the toe were observed were limited to damp soil but not actual flowing water.

4 DAM SAFETY ASSESSMENT

4.1 General

4.1.1 Current Dam Classification and Status of Dam Safety Reviews

The reported CDA dam classification for the facility is in the detailed design report is “High to Very High”. The dam classification registered with the Yukon Government is “High”. We recommend that the TSF be considered a “Very High” consequence structure which could be reduced to “High” if a more detailed environmental assessment is conducted. The change to a Very High consequence structure means that the dam safety reviews should be completed every 5 years, rather than 7 years.

This is the first DSR for the facility however, there have been annual inspections conducted since 2014.

4.1.2 Dam Design and Life of Mine Planning

The dam designs, construction and operations spanned from 2007 through 2017. The facilities the design basis and supporting documentation (e.g. borehole logs, laboratory test data, climate analysis, etc.) is available but has not been compiled either into a single comprehensive document or into a complete design/data base for easy access. As a result, this DSR is based on an assessment of the data and design reports, construction documentation and data that were available. Based on our review we consider that we have reviewed all of the key relevant documents. It is recommended that all records for the TSF be consolidated for the facility.

The potential mine restart may also lead to a desire to increase the tailings storage capacity. If that is the case, consolidated investigation, design and instrumentation details will be valuable.

4.1.3 Credible Failure Modes and Relevant Hazards

The most relevant failure mode is related to geotechnical stability, with respect high phreatic levels in the embankments. The risk of this is considered to be low, but the slump that has occurred at the north end of the impoundment shows that there is some potential for instability in the cut slope under the liner.

The environmental consequence of seepage is low due to the presence of the liner.

The current monitoring program is sufficient for monitoring of the potential for instability due to increased pore pressures however there is no active monitoring for deformations under static loading conditions.

4.2 Consequence Classification Review

4.2.1 Consequence Classification

The Canadian Dam Association Dam Safety Guidelines (2007, revised in 2013) provide a classification of dams based on the consequences of failure, as shown in Table 4.1. The dam consequence classification should be selected based on the criteria shown in each category of incremental losses, and supported by relevant quantitative or qualitative evidence.

The classification was reviewed with respect to these categories as follows, based on review of available information:

- Loss of life: The nearest permanent residents downstream of the dams are more than 40 km away, and are not at risk from a dam breach (KCB 2009). Recreational activities (hunting, fishing, etc.) in the inundation zone are infrequent. The guidelines clarify that the population at risk can be counted as "None" if "There is no identifiable population at risk, so there is no possibility of loss of life other than through unforeseeable misadventure" (CDA, 2007). Since people may be present in the inundation zone, it is foreseeable that there is a possibility for loss of life. Therefore, the consequence classification for loss of life should be considered "Significant."
- Environmental and cultural values: Go Creek is a fish-bearing river immediately downstream of the dams, and the flood plain area is inhabited by moose, deer and other wildlife species (KCB 2007). The consequences of a dam breach would most likely include "significant loss or deterioration" of fish habitat, high costs and socioeconomic impacts of a failure suggest a consequence classification of "Very High"
- Infrastructure and economics: The inundation zone includes limited infrastructure and no industry downstream of the dam. The economic costs of a failure could be high, but repair is highly possible which results in a consequence classification of "High".

On the basis of the environmental impacts, the dam consequence classification can be considered either "High" or "Very High" but a detailed environmental assessment would be needed to confirm which classification is appropriate. However, the current design meets criteria for an "Extreme" consequence structure. If the dam is classified as "Very High" then only change required is that Dam Safety Reviews should be conducted every 5 years rather than every 7 which is the current approved DSR interval.

Table 4.1 Dam Classification

Dam class	Population at Risk	Incremental Losses		
		Loss of Life	Environmental and Cultural Values	Infrastructure and Economics
Low	None	0	Minimal short-term No long term loss	Low economic losses; area contains limited infrastructure or services
Significant	Temporary Only	Unspecified	No significant loss or deterioration of fish or wildlife habitat Loss of marginal habitat only Restoration or compensation in kind highly possible	Losses to recreational facilities, seasonal workplaces, and infrequently used transportation routes
High	Permanent	10 or fewer	Significant loss or deterioration of important fish or wildlife habitat Restoration or compensation in kind is highly possible	High economic losses affecting infrastructure, public transportation, and commercial facilities
Very high	Permanent	100 or fewer	Significant loss or deterioration of critical fish or wildlife habitat Restoration or compensation in kind possible but impractical	Very high economic losses affecting important infrastructure or services (e.g., highway, industrial facility, storage facilities, for dangerous substances)
Extreme	Permanent	More than 100	Major loss of critical fish or wildlife habitat Restoration or compensation in kind impossible	Extreme losses affecting critical infrastructure or services, (e.g., hospital, major industrial complex, major storage facilities for dangerous substances

See Table 2-1 in the CDA 2007 Guidelines for notes related to population at risk and implications of loss of life.

4.2.2 Review of Inundation Assessment

The potential downstream influence of a dam breach was assessed by KCB as part of the feasibility study (KCB, 2007) using dam break charts.

Additional observations related to the dam break assessment include:

- The dam breach assumed that only 30% of the tailings would be mobilized and would be deposited near to the dam. Due to the high specific gravity of the tailings this may be the case but this is based on previous case studies and not on site specific assessment of the tailings breach.
- The study does not quantify if it was a “rainy day” or “sunny day” failure mode.
  A water/slimes depth of approximately 5 m was assumed and the maximum instantaneous flow estimate was 1,850 m^3/s.

A more detailed dam break assessment should be completed to meet the new state of practice for dam break assessments. The results of the assessment should be used to quantify the dam classification and to support Emergency Preparedness Plans and Emergency Response Procedures.

4.3 Regulatory Compliance

The Wolverine Mine is regulated under the Quartz Mining Lease and Yukon Water Board. YZC reports annually to meet the regulatory requirements outlined in Section 2.3 of this DSR report.

4.4 Instrumentation Review

Survey has been conducted annually since the mine entered care and maintenance. However, no specific survey monuments have been surveyed. The slope inclinometers that were installed after the Stage 1 construction have all failed. From the data it appears that they were damaged due to construction of Stage 2 rather than significant movement. However, with the loss of these instruments and no specific survey monuments on the dam means there is no way to evaluate potential movements in the subsurface.

The four remaining vibrating wire piezometers are installed in the dam fill and in the foundation. They show seasonal fluctuations but have largely stabilized in a range. The piezometers had been slowly increasing but since 2015 have largely stabilized. The phreatic surface remains low within the dam fill and is currently below the Yellow or Red alert levels. If the dam is raised in the future, then number of piezometers should be reviewed. The piezometer plots are presented in Appendix III.

4.5 Geotechnical Assessment

4.5.1 General

The dam has performed satisfactorily to date based on the instrumentation data and the annual inspections. Localized minor erosion gullies on the dam slopes were noted during the site visit. This superficial erosion does not present an immediate concern to stability, and the risk can be mitigated through regular repairs. In the long term, a plan for erosion protection should be developed. This plan may include re-grading to a shallower slope angle in some locations to improve vegetation growth. Additional berms and erosion protection may be required for closure.

4.5.2 Stability Analysis

The stability of the dams was confirmed by a limit equilibrium stability analysis using the computer program Slope/W. The model geometry, material properties and analysis results are presented in Figure 4.1 and the factors of safety are summarized in Table 4.2. The analysis was carried out to check the stability and to review the sensitivity groundwater elevation.

The analyses were performed for the highest dam section. Only failure geometries that include at least half the width of the dam crest were considered in the analysis. The material properties were taken from the most recent design update report (KCB, 2010). The pore pressures assumed are based on the vibrating wire piezometer data collected in 2017.

The pseudo-static analysis considered the typical PGA reduction of 50% (Hynes-Griffin and Franklin, 1984).

Table 4.2 Results of Limit Equilibrium Stability Analysis

Loading Case	Calculated Factor of Safety	Minimum Required FoS from CDA (2013) Guidelines
Static	1.5	1.5
Pseudo static, 0.12g	1.2	1.0

The results indicate that the static factors of safety meet CDA guidelines. The dam fill is still largely undrained, due to the presence of the liner and under drain system. Even pore pressures 2 m above the base of the dam fill met the required Factor of Safety of 1.5. Given the lack of evidence of seepage on the downstream face of the dam the stability assessment is adequate.

4.5.3 North End Slump

The north end of the impoundment has slumped under the liner. This section of the impoundment is excavated into natural ground and there is no constructed embankment at this location. This area is adjacent to the upstream end of the liner under drain system. The slope failure is likely a combination of high groundwater levels from region sources, seepage from Ditch A before it was lined and potentially high water levels from the liner under drain. This instability does not presently pose a dam safety hazard. But as the liner is damaged there is potential for seepage of contaminated tailings water into the environment if it is not repaired in a timely manner. A short term remediation (recommended by the EOR) of the slump area was implemented but the movement continues and a long term solution is required.

At this time, there is no evidence of a significant rupture in the liner. The pond level is continuing to rise slowly from inflows from other sources on site. If there was a tear in the liner the water would be flowing into the under drain system and unlikely to rise at the rate it has shown. If the mine remains in care and maintenance and there is no water treatment plant available, the pond level will continue to rise. If the mine goes back into operations, then tailings will again be deposited in the tailings facility. If the mine goes to full closure, then the pond will be pumped out and the tailings covered. We recommend that the liner area be repaired before the pond level rises another 1 to 2 meters or additional tailings are placed in the area. However, if the pond level will be managed through water treatment or the move to full closure then there is no reason to repair the area.

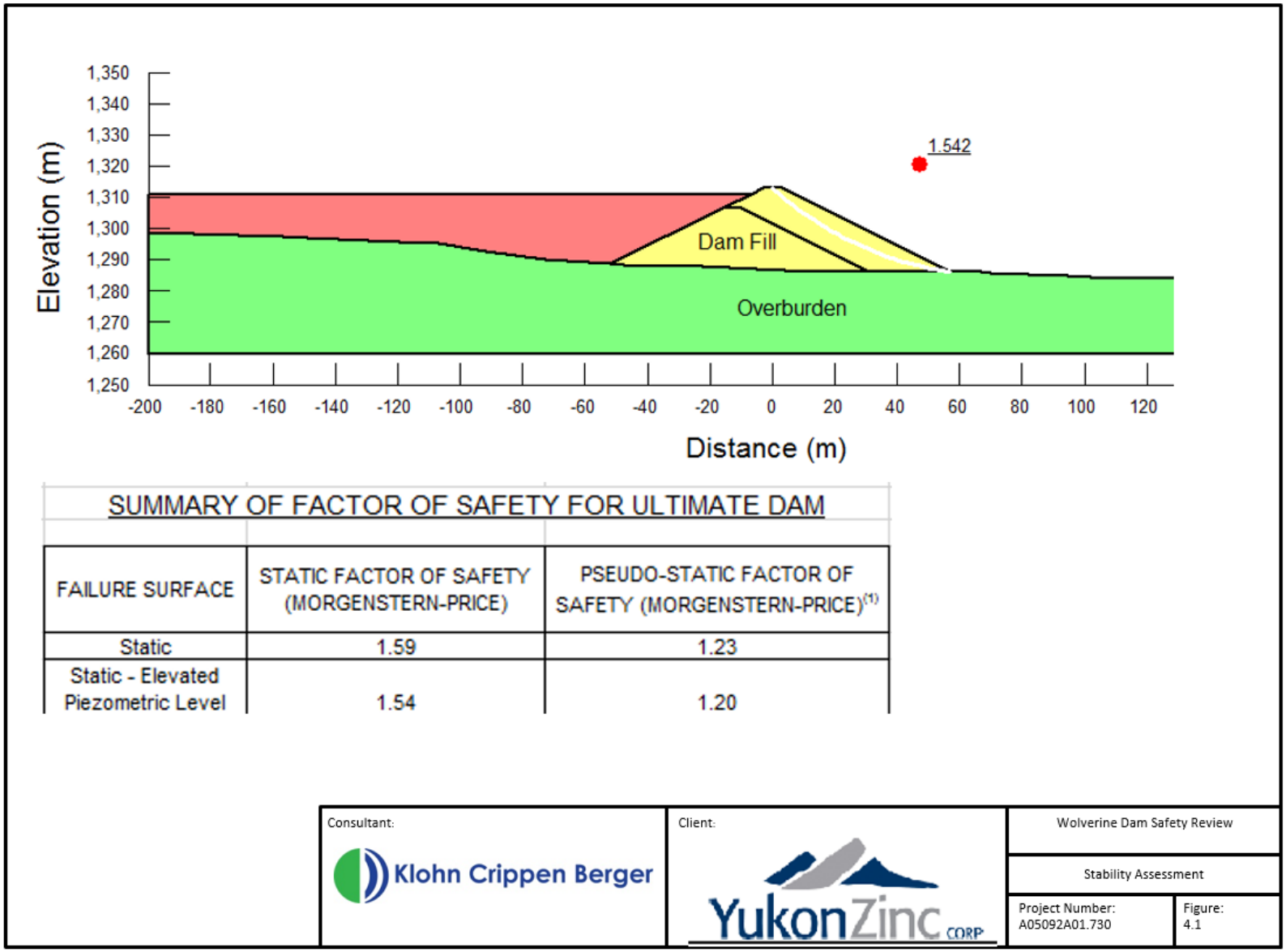
The area can be repaired now fairly easily, as there is less than 1 m of tailings in the area. The area will have to be isolated keep the tailings and water away from the area. An aquadam (inflatable dam) could be used as an isolation structure and water pumped over into the main pond. The liner could then be pulled back and the soft, failed materials removed and replaced with compacted granular fill. A new lined area could be installed and work completed to ensure long term stability of the area.

The repair will also provide an opportunity to inspect the upper section of the underdrains and make sure they are not blocked and adding to ponding at the upstream end of the impoundment.

The repair should be fully documented. This information will be required for future management of the TSF in both operation and closure.

If the tailings facility is expanded this area will be contained within a constructed embankment and consideration will need to be given to foundation conditions and surface water drainage. Ditch A will be constructed over by a tailings dam raise and this will require rerouting of the surface water ditches.

Figure 4.1 Stability Analysis



SUMMARY OF FACTOR OF SAFETY FOR ULTIMATE DAM

FAILURE SURFACE	STATIC FACTOR OF SAFETY (MORGENSTERN-PRICE)	PSEUDO-STATIC FACTOR OF SAFETY (MORGENSTERN-PRICE)[1]
Static	1.59	1.23
Static - Elevated Piezometric Level	1.54	1.20

Consultant: Klohn Crippen Berger
Client: Yukon Zinc Corp
Wolverine Dam Safety Review
Stability Assessment
Project Number: A05092A01.730
Figure: 4.1

4.6 Hydrotechnical Assessment

4.6.1 Inflow Design Flood

The inflow design flood protection is managed by providing storage for the 30 day IDF. This is achieved with a freeboard requirement, which is maintained at all times KCB (2009). The basis for the IDF includes:

- a peak runoff estimate based on a 30-minute storm added to the total runoff volume predicted from a long duration storm event; and
- runoff coefficients of 1.0 for the entire catchment.

The above IDF assessment was used to confirm a minimum freeboard of 1.0 m for the impoundment.

The main KCB observations on the IDF include:

- The specific rainfall event for the design storm is not listed. It would be recommended to have the total rainfall that was the basis for the IDF.
- Wave run-up has not been included in the freeboard assessment and this should be determined.

Based on the above discussion, the IDF documentation should be revised to state a specific rainfall event and wave run-up calculations should be completed to confirm that the freeboard is sufficient to manage waves.

The facility has been designed with a spillway that can safety pass the 1:10,000-year flood event. Currently the spillway not adjacent to the deepest part of the pond but future tailings planning will move the pond closer to the inlet of the spillway.

4.6.2 Water Balance and Seepage

The tailings impoundment is operated on a “no-discharge” basis with water currently being stored in the TSF. Once the water treatment plant is constructed then water will be able to be discharged from the TSF to the environment. If the mine restarts, then water will also be recycled back to the mill via the reclaim barge system. KCB review of the water balance indicates that the loss of water to the tailings voids is included. Routine updates of the water balance are completed by YZC and these should continue and potential updates made as part of the restart plan.

Seepage rates out of the impoundment are very low due to the LLDPE liner. Minor seepage is observed at the toe of the south leg of the dam but this is likely due to regional groundwater and not leakage from the TSF based on the water quality results to date.

4.7 Structural/Hydro-mechanical Assessment

The reclaim system is not operational at this time as the facility is in care and maintenance. Prior to restart of mining operations the reclaim system should be tested and regular maintenance should resume at that time.

From a dam safety perspective, the reclaim system could be shut down for a period of time as long as the dam safety freeboard is maintained. The reclaim system could assist in dewatering the pond during an extreme precipitation event. However, it would not have the capacity, for example, to handle the current IDF volume which flows in at an average rate of approximately 10 m^3/sec.

4.8 Mining Dam Considerations

4.8.1 Closure

The CDA technical bulletin for Mining Dams (2014) introduce requirements for consideration of closure and environmental objectives of the dams. A closure plan for the facility has been developed. The closure plan includes a plan to remove the pond and transition the facility to a dry landform. The CDA technical bulletin for Mining Dams (2014) also recommends higher design criteria for closure-passive care. The design for the facility is suitable for an “Extreme” consequence dam and therefore meets the recommendation for a consequence classification that is higher at passive closure.

4.8.2 Water Quality

The facility is currently operating without direct discharge of surface water to the environment. Seepage from the impoundment is discussed in Section 3.4.2 of this report. Water quality data were available for review up to 2016. The main observations regarding seepage water quality include:

- currently groundwater monitoring outside of the TSF shows minimal change from background readings; and
- surface water sample collection has restarted in 2017 but there have been no reported exceedances of water quality.

We understand that YZC reports water quality data from 4 groundwater wells and a number of surface water sampling points. These reports are issued to the Yukon Government. The only concern at the time of the DSR was that sampling frequency had not been maintained during the care and maintenance period. However, sampling intervals were being re-established in accordance with the permit requirements.

4.9 Public Safety Management

YZC have an Emergency Response Procedure (ERP) in place which is the framework for identifying and responding to emergencies. The ERP is out of date as it references contacts for staff that no longer work of YZC. This document needs to be revised to reflect current site staff and potential

responses to an emergency. A test of the emergency response system tested to evaluate the system using the current operations staff.

If the mine goes back into operation or to full closure the plans should also be revised to reflect these new conditions. Similar to the OMS manual the ERP should be a living document that is tested, reviewed and revised to reflect the current stage of the facilities life cycle.

4.10 Dam Safety Management Program Assessment

4.10.1 Organization and Reporting

4.10.1.1 Management and Reporting

The organization structure for management of the tailings facilities is presented on Figure 2.1, but is out of date. This should be updated to reflect the current status of the operation. The OMS manual needs to be revised to reflect the current status of the mine in care and maintenance. It should also be updated again once decisions are made on whether the mine transitions back to operation or to closure.

The framework that is presented in the OMS manual can be used as a basis for future updates to the OMS.

4.10.1.2 Inspections and Engineer of Record Engagement

Current reporting is managed on by care and maintenance site staff and with an environment consultant as needed. Annual reporting to the government is also completed. The dam freeboard requirement is met as the pond level is well below the crest of the dam. The piezometers are on a datalogger so regular readings are collected but the data is only processed annually at this time. reporting processes should be refreshed as part of the OMS review.

The EoR has been actively involved with the tailings facilities and annual inspection reports, construction reports and design update reports have been produced. The reporting quality and documentation of the work is good. The only exception to this is the 2016 annual inspection was conducted by another firm.

4.10.2 Operations, Maintenance and Surveillance (OMS) Manual

The framework of the OMS document is complete and covers the required components. However, there are improvements that should be made to the document to reflect ongoing changes and the results of this DSR. The main observations for improvement are summarized in Table 4.3

Table 4.3 Summary of Review of the OMS Document

Section No.	Description	DSR Observations
2	Roles and Responsibilities	▪ The organization chart and responsibilities of key staff need to be updated to reflect the change in organization and responsibility. ▪ Primary responsibility should rest with an Engineer registered to practice in the Yukon.
3	Facility Description	▪ Site conditions should include 24 hr precipitation rates for various return periods. ▪ Site conditions should show a plan of all drill holes and reference the supporting data (logs, laboratory tests, etc) and their storage location. ▪ Basis of design should document IDF flood volumes for design return period. ▪ Construction history should include current volumes of stored tailings and water.
7	Reporting Responsibilities and Documentation	▪ Update with the new management structure. ▪ Clearly identify Engineer responsible for the TSF. ▪ Report database should be updated to include all reports, with clear reference location for retrieval. Site investigation and laboratory data, etc. should be included. Specify location of Central File.
8	Emergency Planning & Response	▪ Update Emergency Preparedness Plan (EPP) when results of Inundation Study are available. ▪ All contacts should be reviewed and updated as necessary.

4.10.3 Emergency Preparedness Plan

The Emergency Preparedness Plan (EPP) in included in Section 8 of the OMS manual, and as summarized in Table 4.3.

The EPP will need to be updated to reflect the current mine status. This should also include the revised Inundation Study.

The Emergency Response Procedure provides the framework for response to emergencies, with reference to specific emergency response procedures, of with the OMS manual for the tailings facility is referenced.

A specific procedure for evacuation should be developed in the case of a dam breach. The evacuation procedures would require notification of potentially affected communities downstream of Wolverine.

4.11 CDA Principles Assessment

There are 19 CDA Dam Safety Principles presented in the CDA Guidelines (CDA, 2007) and are divided into five categories:

- Principle 1: Dam Safety Management System;
- Principle 2: Operations, Maintenance, and Surveillance;
- Principle 3: Emergency Preparedness;
- Principle 4: Dam Safety Review; and
- Principle 5: Analysis and Assessment.

The results of the CDA Principles Assessment are presented in Appendix IV. A summary of the findings of this assessment are presented as follows:

- 9 Conformance;
- 4 Non-Conformances in Information;
- 2 Non-Conformances in Surveillance; and
- 4 Non-Conformances in Other Procedures.

The majority of the non-conformances relate to the outdated nature of the OMS manual and can be remedied by updating the OMS manual and formalized documentation of existing information. Other non-conformances can be addressed by revising schedules for maintenance and surveillance, commencing these activities, and by documenting the findings.

A full list of recommendations arising from this report is summarized in Section 5.

5 RECOMMENDATIONS

This 2017 Dam Safety Review report has been carried out using the guidelines provided by the Canadian Dam Association (2013).

The conclusion of the assessment is that the dam is reasonably safe but the dam safety review did reveal deficiencies and non-conformances as summarized in Table 5.1 and Table 5.2.

Table 5.1 Recommendations for Dam Safety Aspects

Deficiency or Non-Conformance	No. (Report Section)	Recommended Action	Schedule
Deficient Flood Event Values and Assessment	4.6.1	The hydrology assessment appears to be comprehensive: ▪ However, the specific rainfall total used to calculate the IDF should be presented (not just the design event duration). ▪ PMF volume inflow volume should also be provided.	December 2017.
North End Slump Repair	4.5.3	The slumped section under the liner at the north end should be repaired prior to placement of additional 1 m of water or additional tailings in the TSF.	Repair by Dec 2019 or prior to restart of mining activities (whichever is first).
Out of date inundation study.	4.2.2	The inundation study was conducted based on published tables and does not meet the current state of practice for inundation studies. This should be updated and used to update the Emergency Preparedness Plan.	C&M – Dec. 2018 Active Mining – Dec. 2018 Closure – part of closure plan development

Table 5.2 Recommendations for Surveillance and Maintenance Aspects

Deficiency or Non-Conformance	No. (Report Section)	Recommended Action	Schedule
Lack of consolidated site records	2.1	Site records need to be consolidated into a centralized file, including: ▪ site investigation data and laboratory test data (historic and recent); ▪ as-constructed records, including site visit notes and foundation preparation assessments; and ▪ design basis with assumptions to key design parameters and criteria.	Closure – August 2019 Prior to restart of mining activities (whichever is sooner)
OMS document not updated	4.10.2	The OMS manual should be updated as summarized in Table 4.3 of this document	December 2017
EPP update	4.10.3	Emergency preparedness plan should be updated to reflect current operating staff and communications. The plan should be reviewed/revised again once the new inundation study is available. This can also be used for communication with local stakeholders on potential impacts of a dam safety incident.	December 2017

6 CLOSING

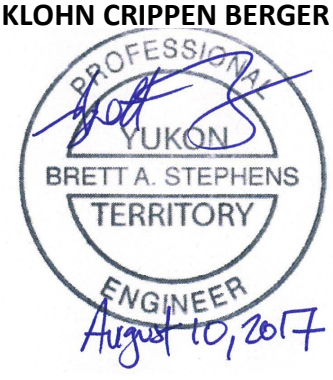
This report is an instrument of service of Klohn Crippen Berger Ltd. The report has been prepared for the exclusive use of Yukon Zinc Corporation. (Client) for the specific application to the Wolverine DSR.

In the preparation of this DSR Report, KCB has endeavored to observe the degree of care and skill generally exercised by other consultants undertaking similar DSRs at the same time, under similar circumstances and conditions, and in the same geographical area. KCB makes no other warranty, expressed or implied.

Use of or reliance upon this instrument of service by the Client is subject to the following conditions:

- The report is intended for the sole and exclusive use of the Client and it may not be used or relied upon in any manner or for any purpose whatsoever by any other party, without the express written permission of KCB.
- The report is based on information provided to KCB by the Client or by others on behalf of the Client. KCB has not verified the accuracy or validity of this information and further, makes no representation regarding its accuracy and validity. KCB shall not be liable for any loss, cost, expense, or damage arising from or as a result of the incorrectness or inaccuracy of such information.
- The report is read as a whole, with sections or parts of the report read or relied upon in the context of and subject to the terms of the Contract Agreement between KCB and the Client.
- The executive summary is a selection of key elements of our instrument of service. It does not include crucial details needed for the proper application of our findings and recommendations, which are best evaluated with the active participation of the professionals who developed them.
- The observations, findings, and conclusions in this report are based on conditions that existed at the time of the work described herein and should not be relied upon to precisely represent conditions at any other time.

KLOHN CRIPPEN BERGER LTD.



Brett Stephens, P.Eng.
Dam Safety Review Engineer

Pamela Fines, P.Eng.
Project Engineer

REFERENCES

Refer to Table 2.1 for a list of references reviewed for this report. The tables also provide a brief summary description of main subjects covered by the reports. Additional references used are as follows:

Canadian Dam Association, 2013. “Dam Safety Guidelines”, January. (with Revised Section 6, issued in 2013)

Canadian Dam Association, 2014. “Technical Bulletin: Application of Dam Safety Guidelines to mining Dams”, not yet issued to public.

Hynes-Griffin, M.E. and Franklin, A.G. 1984. “Rationalizing the Seismic Coefficient Method”. Misc Paper GL-84-13, US Army Corps of Engineers, Washington, DC. Natural Resources Canada (2010). 2010 National Building Code of Canada seismic hazard calculator, http://www.earthquakescanada.nrcan.gc.ca/hazard -alea/interpolat/index_2010-eng.php (accessed on June 23, 2014).

APPENDIX I

Site Visit Photographs

Appendix I
Site Visit Photographs

Photo 1 Overview of Pond Looking South



Photo 2 Overview of Pond looking north



Photo 3 Minor rutting on dam crest near left abutment



Photo 4 Left abutment looking north



Photo 5 Debris and dead animals in pond



Photo 6 Reclaim barge



Photo 7 Overview of seepage pond looking back toward tailings dam



Photo 8 Seepage Pond Embankment Crest – Road



Photo 9 D/S slope, seepage at toe leading into seepage pond



Photo 10 Discharge from under drain pipes downstream of seepage pond



Photo 11 Discharge pipes running near full from recent rains



Photo 12 Upstream end of under drains



Photo 13 D/S Slope looking towards left abutment



Photo 14 Downstream slope looking west



Photo 15 Downstream toe near seepage pond



Photo 16 West Leg of Embankment Looking South



Photo 17 Erosion gully near d/s toe of dam



Photo 18 Minor erosion gullies on downstream slope



Photo 19 Dam crest, anchor post, minor veg on d/s slope



Photo 20 D/s slope looking towards spillway

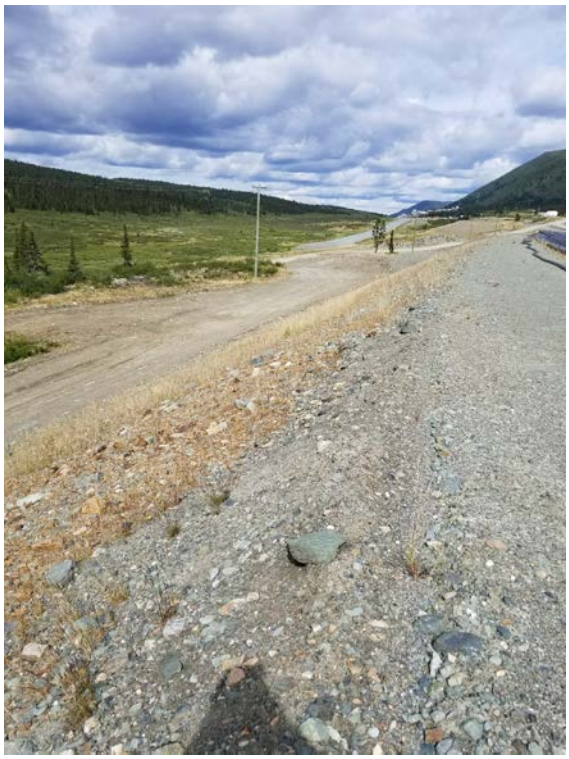


Photo 21 Decommissioned starter spillway]

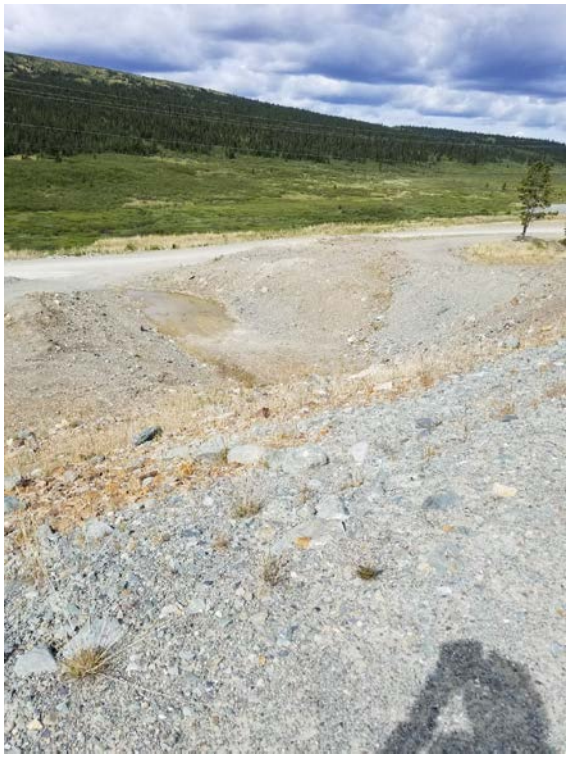


Photo 22 Minor ponded water from recent rainfall



Photo 23 Pipe discharging water from other on site facilities



Photo 24 Cracking in dam crest near north end slump





Photo 25 Temporary cover over slump area



Photo 26 Debris from monitoring set up



Photo 27 Slump at north end



Photo 28 Animal burrow into liner



Photo 29 Ditch B



Photo 30 Ditch B Some Ponding Water



Photo 31 Ditch B Inlet to culvert section pipe to discharge pad



Photo 32 Outlet of Ditch B



Photo 33 Discharge Pad at Bottom of Ditch B



Photo 34 Ditch B Discharge Pad



Photo 35 Reclaim barge anchor – minor damage in tailings pipeline



Photo 36 Spillway channel looking upstream towards pond

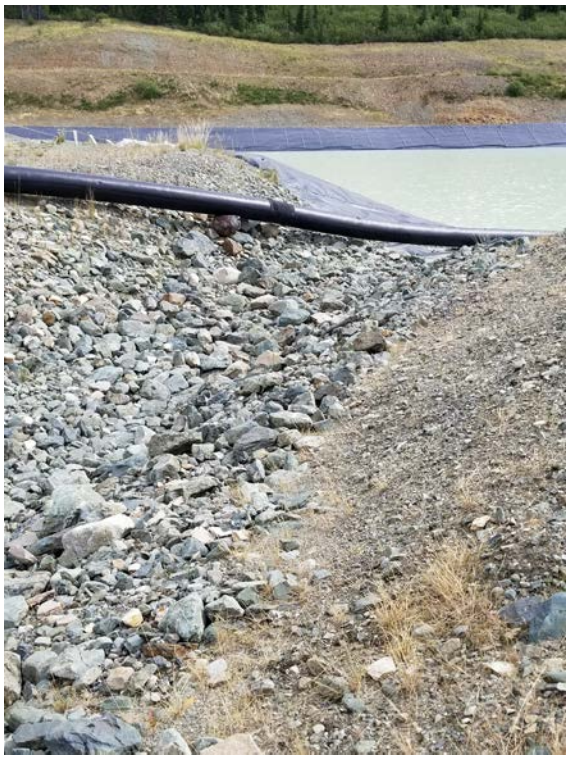


Photo 37 Pipe bridge over spillway channel



Photo 38 Spillway channel looking downstream



Photo 39 Pipe bridge over spillway channel looking downstream



Photo 40 Discharge pad for vacuum trucks



Photo 41 Upstream face and lined section of Ditch A



Photo 42 Ditch A Culvert leading to discharge point



Photo 43 Discharge pad from Ditch A



Photo 44 Lined section of Ditch A



Photo 45 Debris collecting in ditch from surface erosion



Photo 46 North End of Ditch A

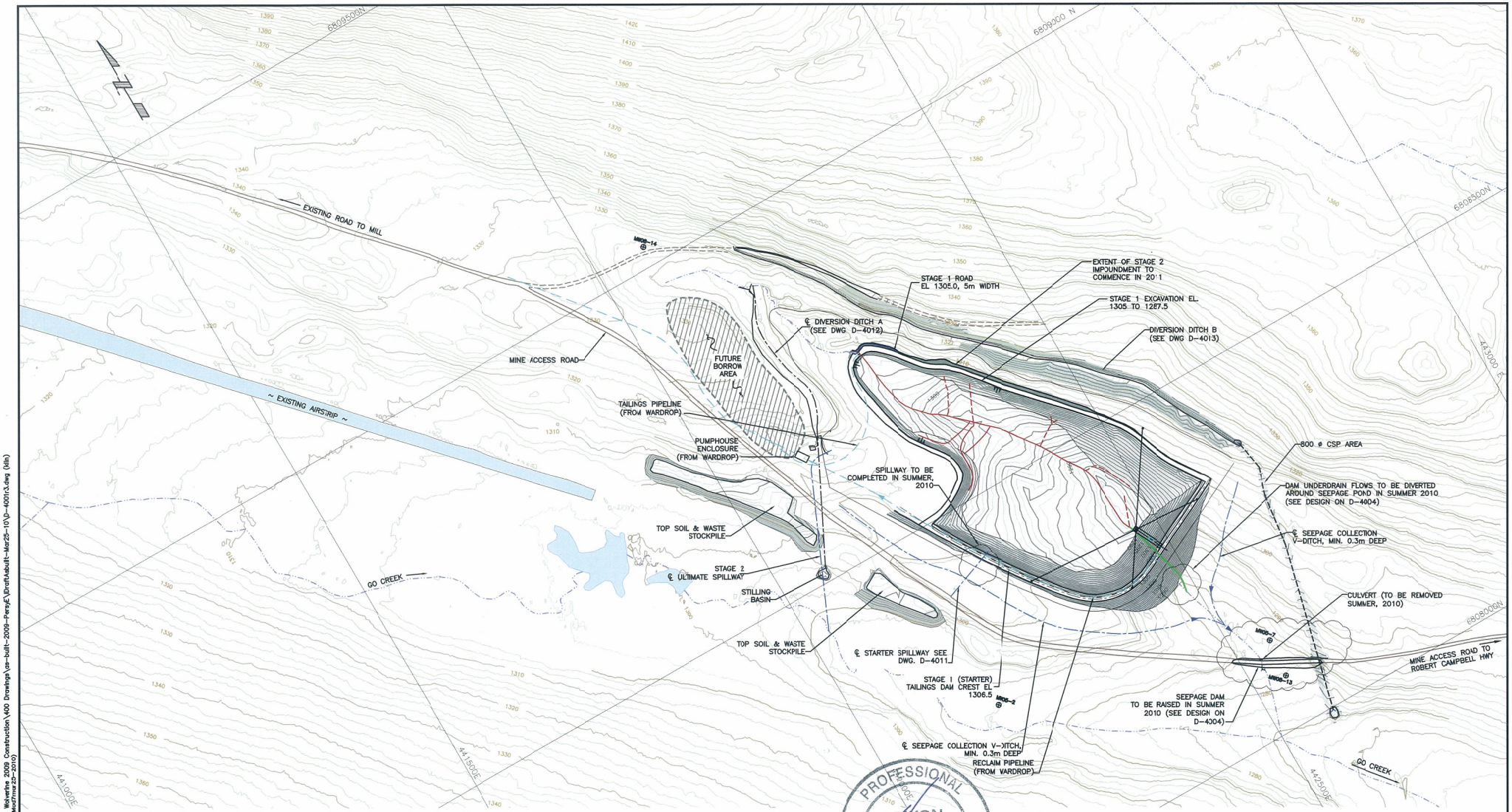


Photo 47 Ditch A Adjacent to Biopass



APPENDIX II

Selected Design and Construction Drawings



NOTES

1. NOT ALL CULVERTS HAVE BEEN SHOWN.
2. ALL ELEVATIONS IN METRES.
3. DRAFT CONSTRUCTION RECORD DRAWING IS BASED ON LIMITED "AS BUILT" DATA PROVIDED BY YZC, THE DRAWING MAY NOT REFLECT ALL FIELD CHANGES.

CONSTRUCTION RECORD

SCALE: 0 200 m

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	ISSUE/REVISIONS		

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	ISSUE/REVISIONS		

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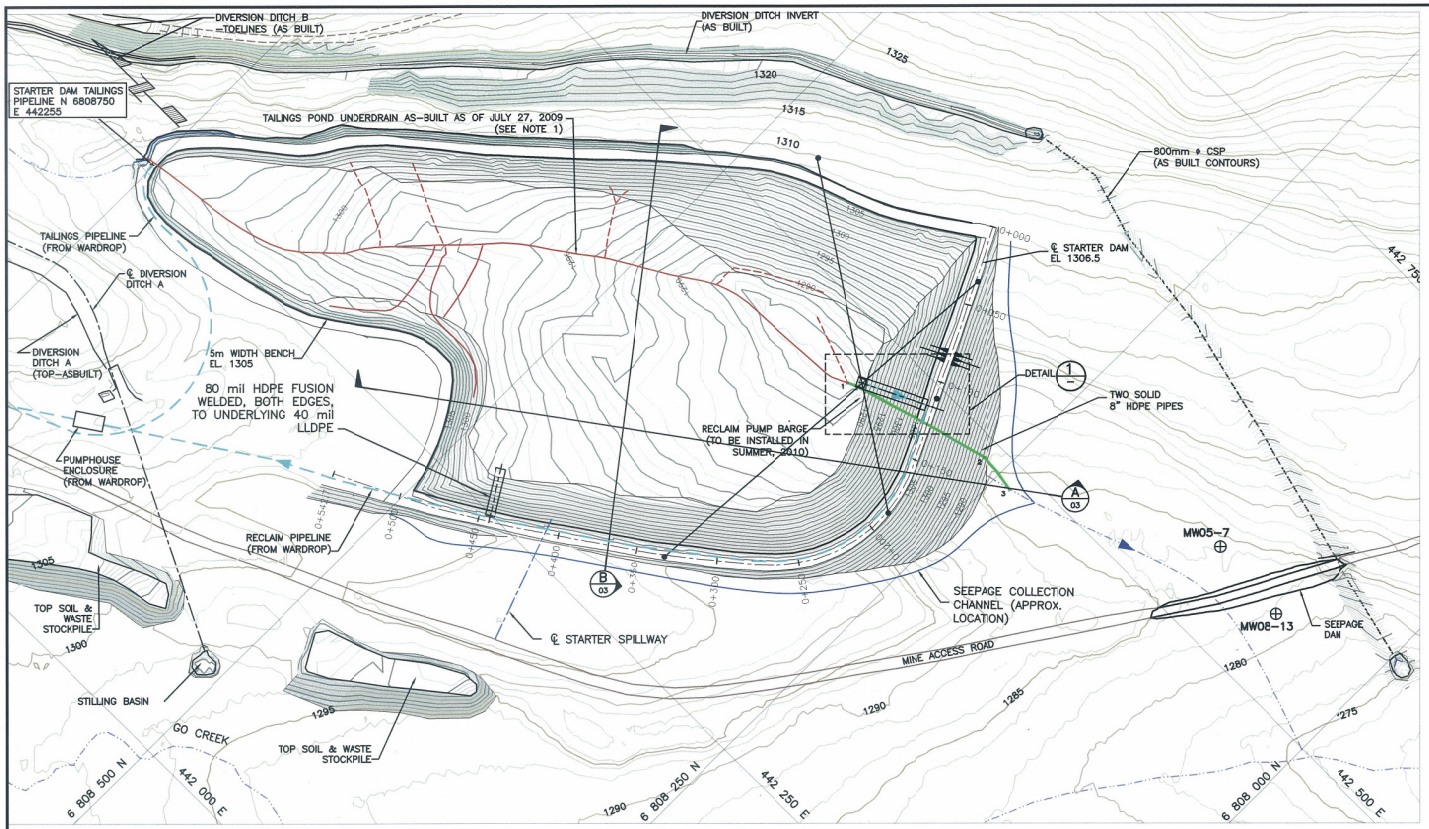
Klohn Crippen Berger

YukonZinc CORP
WOLVERINE PROJECT

TAILINGS STORAGE FACILITY
GENERAL SITE ARRANGEMENT

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3154765(D).DWG



DAM – TWO SOLID UNDERDRAIN PIPES

WEST PIPE				EAST PIPE			
SURVEY POINTS	NORTHING (m)	EASTING (m)	ELEVATION (m)	SURVEY POINTS	NORTHING (m)	EASTING (m)	ELEVATION (m)
1	6808355.00	442461.90	0.00	1	6808356.00	442462.20	0.00
2	6808264.06	442488.27	1284.45	2	6808263.98	442489.13	1284.44
3	6808236.83	442485.41	1284.02	3	6808239.14	442486.04	1284.08

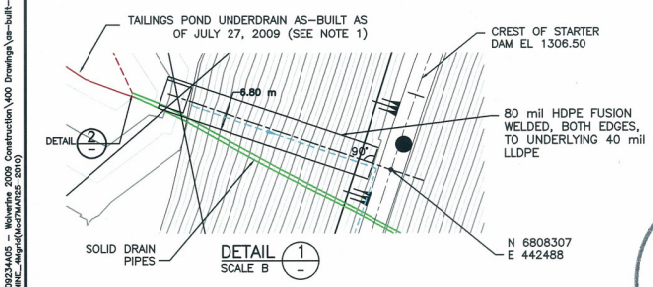
LEGEND

- ROADS
- CREEK
- DIVERSION OR COLLECTION DITCH, SPILLWAY
- LINER UNDERDRAIN (240 mm ø PERFORATED PIPE INSTALLED)
- LINER UNDERDRAIN (NO PIPE INSTALLED)
- LINER AREA
- ⊕MW05-7 GROUNDWATER MONITORING WELL
- SOLID DAM UNDERDRAIN PIPE
- ANCHOR BLOCKS (FROM WARDROP)

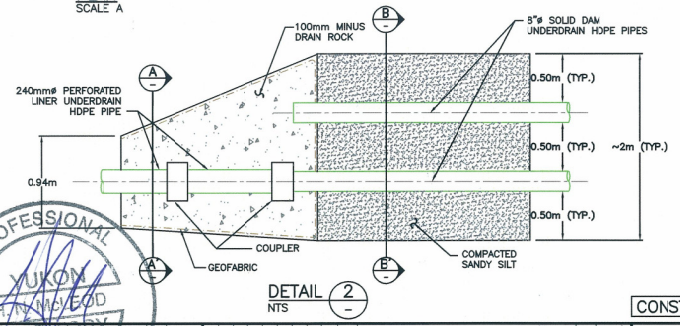
NOTES

1. LOCATION AND EXTENT OF LINER UNDERDRAIN WAS DETERMINED IN THE FIELD BY SITE ENGINEER, FOLLOWING THE LOWEST EXISTING DRAINAGE COURSE. THE UNDERDRAIN REPORTS TO AN OPEN DITCH D/S OF THE DAM VIA 2-SOLID PIPES.
2. LINER FOUNDATION CONTOURS SURVEYED JULY 26, 2009. BY ACL
3. RECORD ISSUE DRAWING IS BASED ON LIMITED "AS BUILT" DATA PROVIDED BY YZC, THE DRAWING MAY NOT REFLECT ALL FIELD CHANGES.
4. BASIN VOLUME BELOW EL. 1304.5 = 665,127 m³
5. ELEVATIONS ARE GIVEN IN METRES UNLESS OTHERWISE STATED.

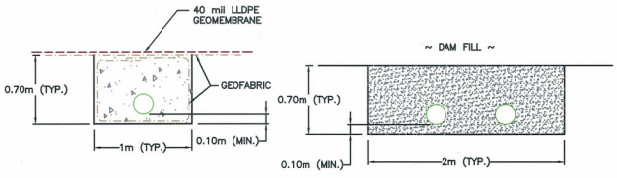
PLAN
SCALE A



DETAIL 1
SCALE B



DETAIL 2
NTS



SECTION A
NTS

SECTION B
NTS

SCALE A 0 100 m

SCALE B 0 50 m

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2	ADDED CURVE TABLE	JL	MAY 26/09
1	ISSUED FOR CONSTRUCTION	DK	MAR 13/09
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ISSUE/REVISIONS

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DRAWING NUMBER D-4002
REV. 6

Klohn Crippen Berger

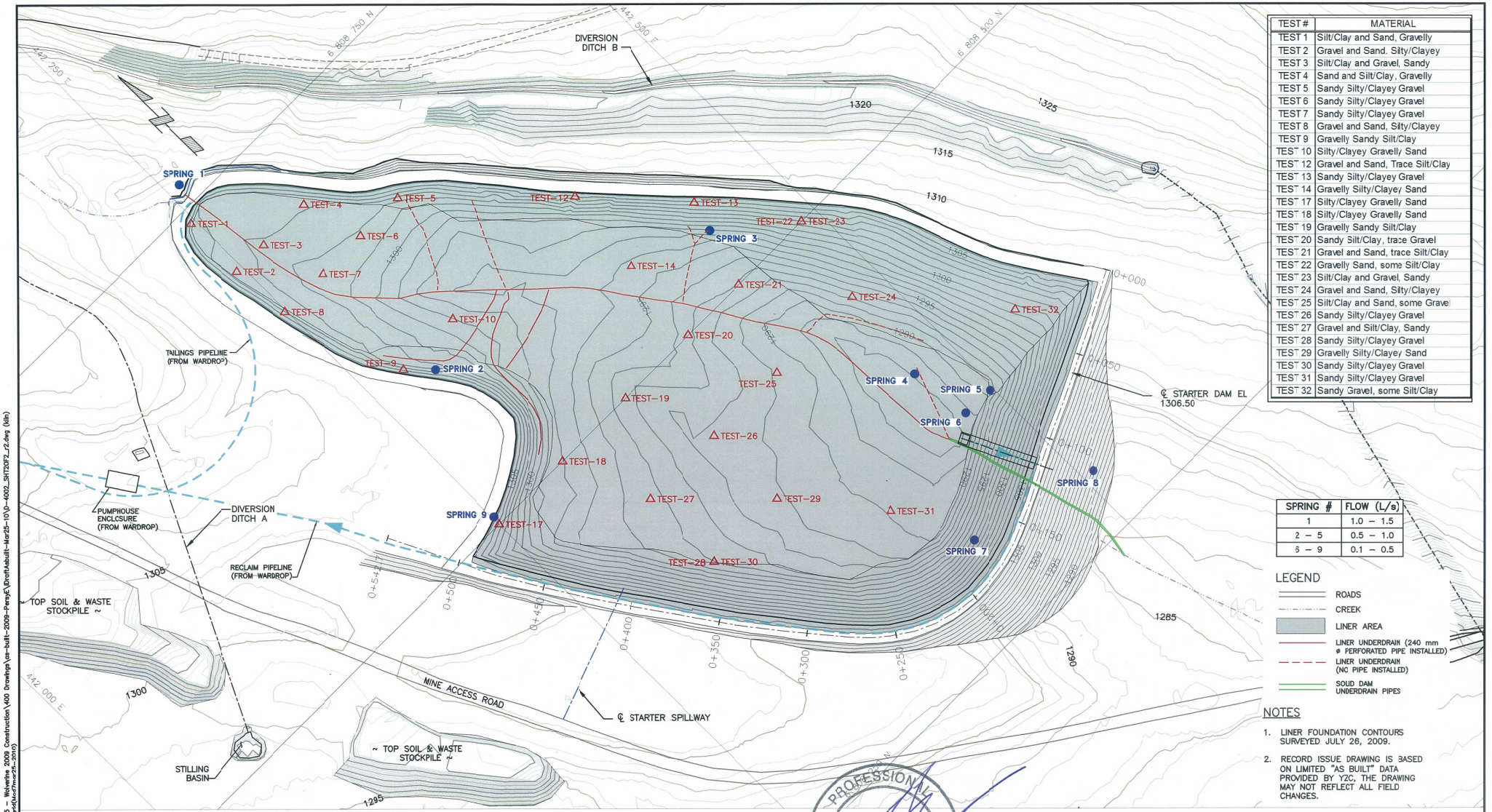
Yukon Zinc corp
WOLVERINE PROJECT

TAILINGS STORAGE FACILITY
STARTER IMPOUNDMENT
SHEET 1 OF 2

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS SUBMITTED ARE FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

PROFESSIONAL ENGINEER YUKON TERRITORY

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TEST #	MATERIAL
TEST 1	Silt/Clay and Sand, Gravelly
TEST 2	Gravel and Sand. Silty/Clayey
TEST 3	Silt/Clay and Gravel, Sandy
TEST 4	Sand and Silt/Clay, Gravelly
TEST 5	Sandy Silty/Clayey Gravel
TEST 6	Sandy Silty/Clayey Gravel
TEST 7	Sandy Silty/Clayey Gravel
TEST 8	Gravel and Sand, Silty/Clayey
TEST 9	Gravelly Sandy Silt/Clay
TEST 10	Silty/Clayey Gravelly Sand
TEST 12	Gravel and Sand, Trace Silt/Clay
TEST 13	Sandy Silty/Clayey Gravel
TEST 14	Gravelly Silty/Clayey Sand
TEST 17	Silty/Clayey Gravelly Sand
TEST 18	Silty/Clayey Gravelly Sand
TEST 19	Gravelly Sandy Silt/Clay
TEST 20	Sandy Silt/Clay, trace Gravel
TEST 21	Gravel and Sand, trace Silt/Clay
TEST 22	Gravelly Sand, some Silt/Clay
TEST 23	Silt/Clay and Gravel, Sandy
TEST 24	Gravel and Sand, Silty/Clayey
TEST 25	Silt/Clay and Sand, some Gravel
TEST 26	Sandy Silty/Clayey Gravel
TEST 27	Gravel and Silt/Clay, Sandy
TEST 28	Sandy Silty/Clayey Gravel
TEST 29	Gravelly Silty/Clayey Sand
TEST 30	Sandy Silty/Clayey Gravel
TEST 31	Sandy Silty/Clayey Gravel
TEST 32	Sandy Gravel, some Silt/Clay

SPRING #	FLOW (L/s)
1	1.0 – 1.5
2 – 5	0.5 – 1.0
6 – 9	0.1 – 0.5

LEGEND

- ROADS
- CREEK
- LINER AREA
- LINER UNDERDRAIN (240 mm ø PERFORATED PIPE INSTALLED)
- LINER UNDERDRAIN (NO PIPE INSTALLED)
- SOLID DAM UNDERDRAIN PIPES

NOTES

1. LINER FOUNDATION CONTOURS SURVEYED JULY 26, 2009.
2. RECORD ISSUE DRAWING IS BASED ON LIMITED "AS BUILT" DATA PROVIDED BY YZC, THE DRAWING MAY NOT REFLECT ALL FIELD CHANGES.

SCALE: 0 100 m

CONSTRUCTION RECORD

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1	DRAFT CONSTRUCTION RECORD	JL	MAR 5/10
	ISSUE/REVISIONS		

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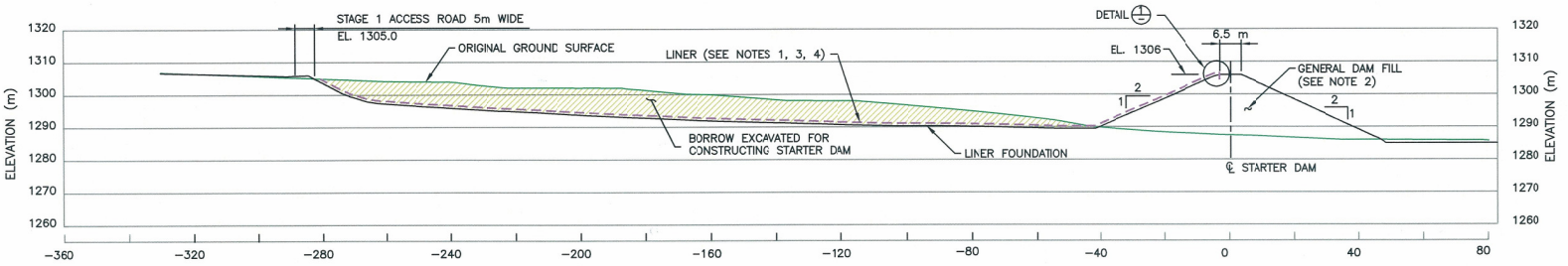
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Klohn Crippen Berger

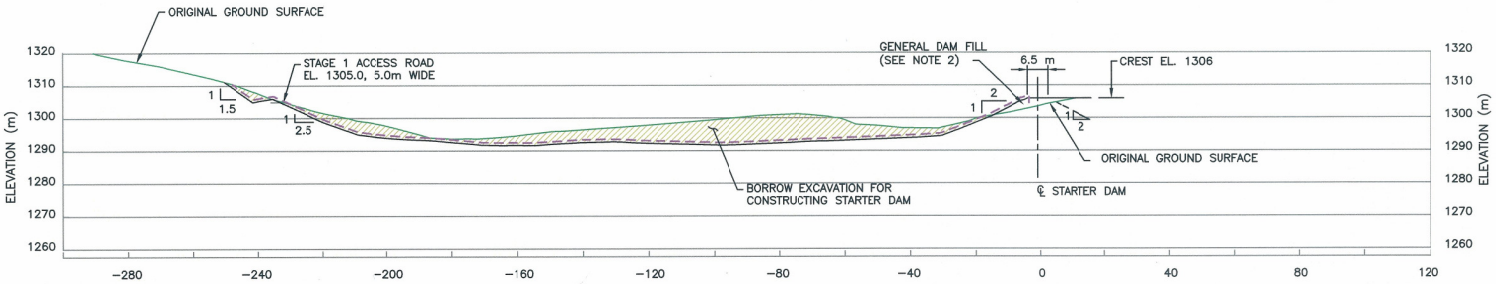
YukonZinc corp
WOLVERINE PROJECT

TAILINGS STORAGE FACILITY STARTER IMPOUNDMENT FOUNDATION GEOLOGY SHEET 2 OF 2

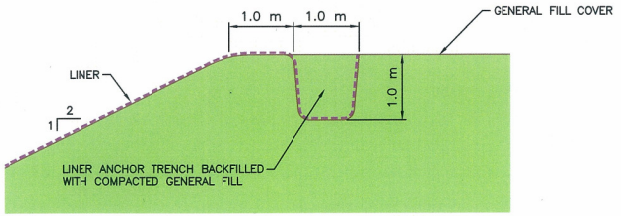
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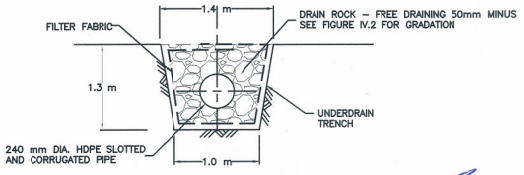
SECTION A
SCALE A 02



SECTION B
SCALE A 02



DETAIL 1 LINER ANCHOR TRENCH
NTS



DETAIL 2 LINER UNDERDRAIN
NTS

NOTES

1. LOOSE AND ORGANIC MATERIALS WERE REMOVED, AND THE FOUNDATION PROOFROLLED WITH 6 PASSES WITH A 10 TON VIBRATORY ROLLER, AS DIRECTED BY THE ENGINEER. FOUNDATION AREAS WERE DRY AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF GENERAL FILL OR LINER.
2. GENERAL FILL CONSISTED OF WELL-GRADED SILTY SAND AND GRAVEL BORROWED FROM IMPOUNDMENT EXCAVATION. FINER GENERAL FILL PLACED TOWARDS THE UPSTREAM SLOPE AS WELL AS ADJACENT TO THE GLACIAL TILL ZONE (STAGE 2 CONSTRUCTION) AND COARSER MATERIAL PLACED TOWARDS THE DOWNSTREAM SLOPE. MATERIAL PLACED IN 300 mm THICK LOOSE LIFTS, WATERED AS REQUIRED, AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.
3. LINER FOUNDATION AREAS AND SLOPES WERE PROOFROLLED WITH A SMOOTH DRUM COMPACTOR. AREAS WITH COARSE ANGULAR MATERIALS WERE COVERED WITH LINER BEDDING AS DIRECTED BY THE ENGINEER.
4. A 40 mil LLDPE LINER WAS USED. THE LINER WAS ANCHORED IN THE DAM CREST AND ACCESS ROAD IN A 1.0 m DEEP TRENCH, AND BACKFILLED WITH COMPACTED FILL.
5. RECORD ISSUE DRAWING IS BASED ON LIMITED "AS BUILT" DATA PROVIDED BY YZC, THE DRAWING MAY NOT REFLECT ALL FIELD CHANGES.

SCALE A 0 100 m

CONSTRUCTION RECORD

H. N. McLEOD
PROFESSIONAL ENGINEER
YUKON TERRITORY

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0	ISSUED FOR TENDER	DK	FEB 04/09

ISSUE/REVISIONS

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APP. BY:	HM	MAY 12/10

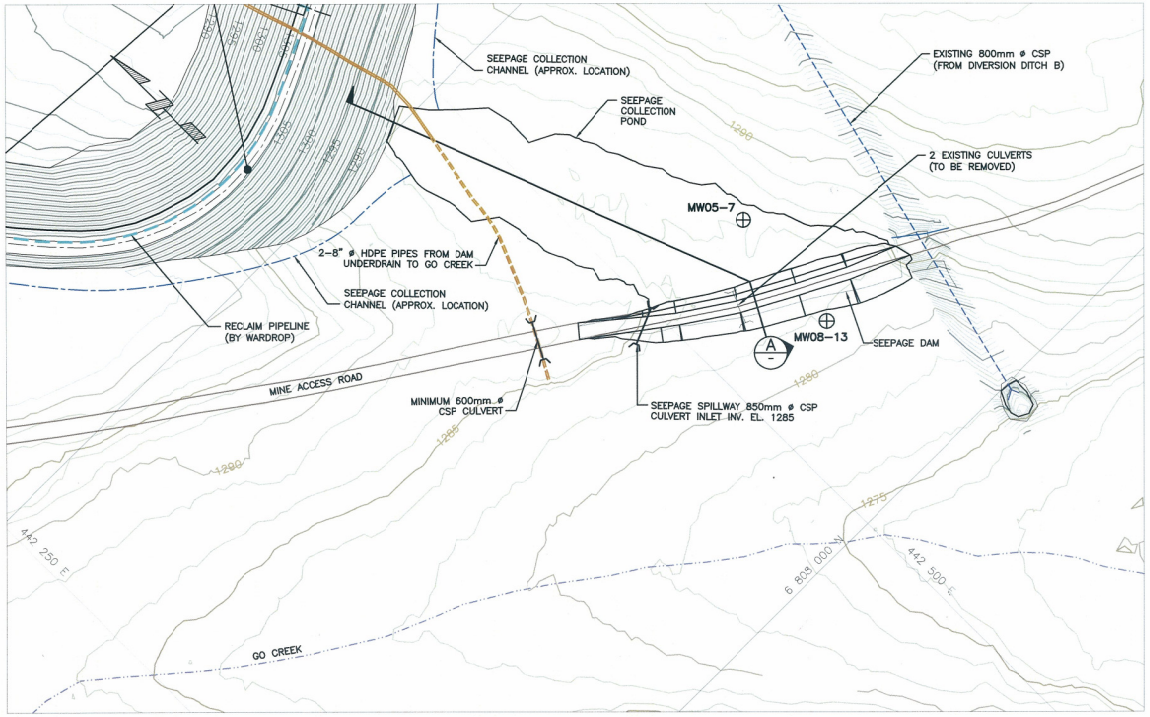
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Klohn Crippen Berger

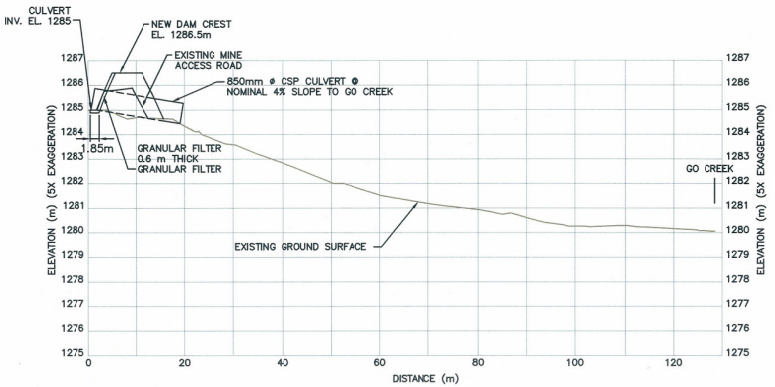
YukonZinc.com
WOLVERINE PROJECT

TAILINGS STORAGE FACILITY
STARTER IMPOUNDMENT
EXCAVATION AND FILL TYPICAL SECTIONS

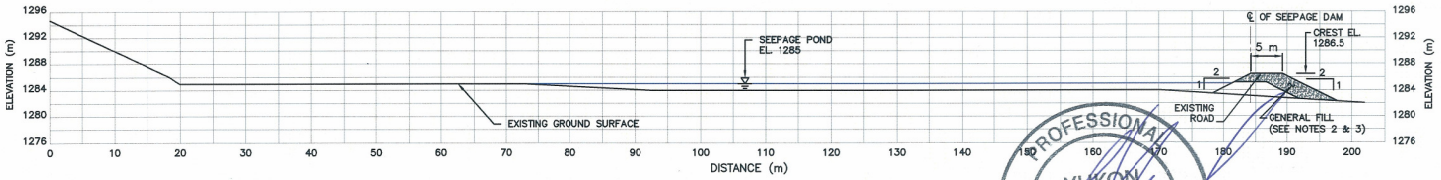
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315-FRS01.DWG
DWG NO. D-4003



PLAN
SCALE A



PROFILE OF SEEPAGE SPILLWAY
SCALE C



SECTION A
SCALE B

LEGEND

- ROADS
- CREEK
- DIVERSION OR COLLECTION DITCH, SPILLWAY
- DAM UNDERDRAIN PIPES (EXISTING)
- MW05-7 ⊕ GROUNDWATER MONITORING WELL (MW08-13) TO BE RELOCATED DOWNSTREAM

NOTES

1. RECORD ISSUE DRAWING IS BASED ON LIMITED "AS BUILT" DATA PROVIDED BY YZC, THE DRAWING MAY NOT REFLECT ALL FIELD CHANGES.
2. ALL LOOSE AND ORGANIC MATERIALS SHALL BE REMOVED, AND THE FOUNDATION SHALL BE PROOFROLLED WITH 6 PASSES WITH A 10 TON VIBRATORY ROLLER, AS DIRECTED BY THE ENGINEER. ALL FOUNDATION AREAS SHALL BE DRY AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF GENERAL FILL OR LINER.
3. GENERAL FILL TO CONSIST OF WELL-GRADED SILTY SAND AND GRAVEL BORROWED FROM IMPOUNDMENT EXCAVATION. FINER GENERAL FILL SHALL BE PLACED TOWARDS THE UPSTREAM SLOPE AS WELL AS ADJACENT TO THE GLACIAL TILL ZONE (STAGE 2 CONSTRUCTION) AND COARSER MATERIAL SHALL BE PLACED TOWARDS THE DOWNSTREAM SLOPE. MATERIAL SHALL BE PLACED IN 300 mm THICK LOOSE LIFTS, WATERED AS REQUIRED, AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.

SCALE A 0 100 m
SCALE B 0 50 m
SCALE C 0 50 m

PROFESSIONAL ENGINEER YUKON H.N. McLEOD TERRITORY

ISSUED FOR CONSTRUCTION

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED AND RECEIVED IN CONFIDENCE AND THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS WILL NOT BE MADE PENDING OUR WRITTEN APPROVAL.

DWG. NO.	REFERENCE DRAWINGS

NO	DESCRIPTION	BY	DATE
3	ISSUED FOR CONSTRUCTION	LC	APR 06/10
2	DRAFT CONSTRUCTION RECORD	JL	FEB /10
1	ISSUED FOR CONSTRUCTION	DK	MAR 13/09
0	ISSUED FOR TENDER	DK	FEB 04/09

ISSUE/REVISIONS

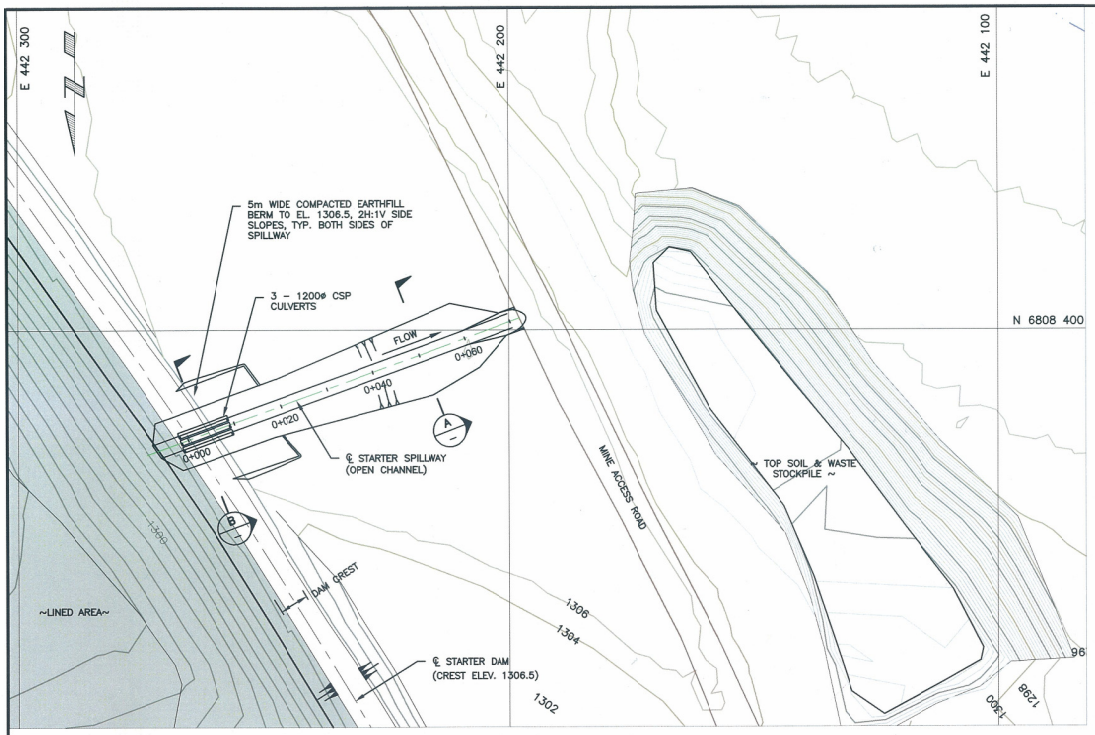
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DRAWN BY:	KL	MAY 12/10
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APP. BY:	HM	MAY 12/10

FILENAME:	PROJECT NUMBER	DRAWING NUMBER	REV.
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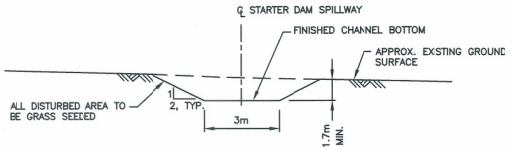
Klohn Crippen Berger

YukonZinc corp
WOLVERINE PROJECT
TAILINGS STORAGE FACILITY
SEEPAGE DAM
PLAN AND SECTION

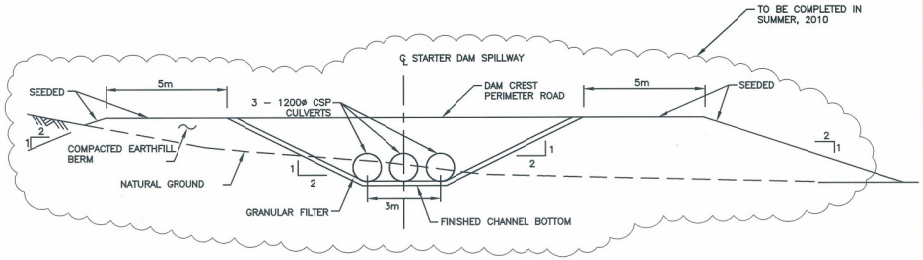
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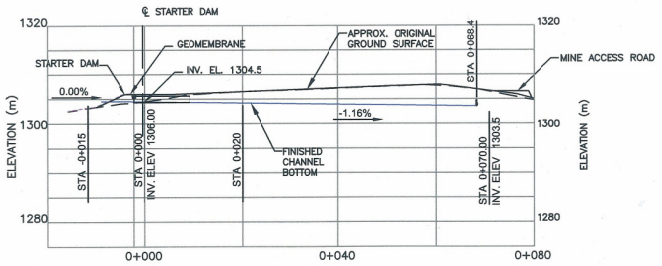
PLAN
SCALE A



TYPICAL GRASS LINED SECTION (A)
NOT TO SCALE



TYPICAL CULVERT SECTION (B)
NOT TO SCALE



PROFILE – STARTER SPILLWAY
SCALE A

NOTES

1. FOR GENERAL SITE ARRANGEMENT, SEE DWG. D–4001.
2. INVERT ELEVATIONS SHOWN ARE TO FINISHED CHANNEL BOTTOM.
3. CULVERT BEDDING/BACKFILL SHALL BE WELL GRADED 100 mm MINUS MATERIAL WITH LESS THAN 20% PASSING THE #200 SIEVE.
4. SPACING BETWEEN CULVERTS WIDTH OF COMPACTOR.
5. RECORD ISSUE DRAWING IS BASED ON LIMTED "AS BUILT" DATA PROVIDED BY YZC, THE DRAWING MAY NOT REFLECT ALL FIELD CHANGES.

PROFESSIONAL ENGINEER YUKON TERRITORY R.M. MCLEOD

CONSTRUCTION RECORD

SCALE A 0 50 m

Time: 13:21:37
Date: 6/7/2010
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AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR THE USE OF INFORMATION OR DATA STATEMENTS, OPINIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

DWG. NO.	REFERENCE DRAWINGS

NO	DESCRIPTION	BY	DATE
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3	CONSTRUCTION RECORD	LC	MAY 12/10
2	DRAFT CONSTRUCTION RECORD	JL	MAR 5/10
1	ISSUED FOR CONSTRUCTON	MD	MAR 13/09
0	ISSUED FOR TENDER	MD	FEB 04/09

ISSUE/REVISIONS

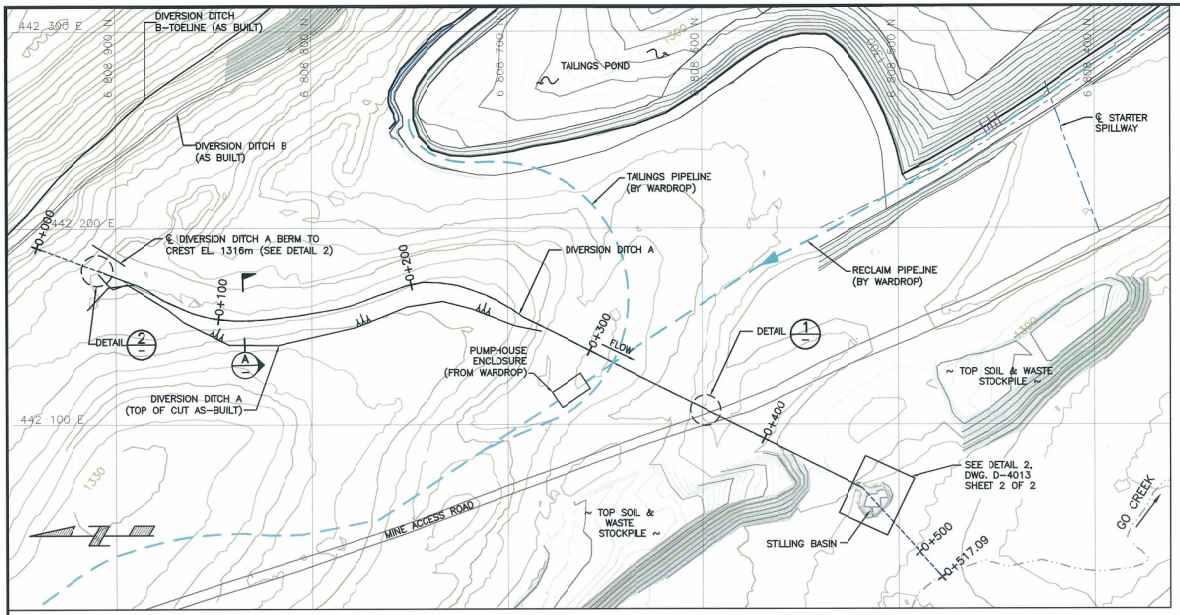
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DRAWN BY: KL	MAY 12/10
CHECK. BY HM	---
APP. BY: HM	MAY 12/10

FILENAME:	PROJECT NUMBER	DRAWING NUMBER	REV.
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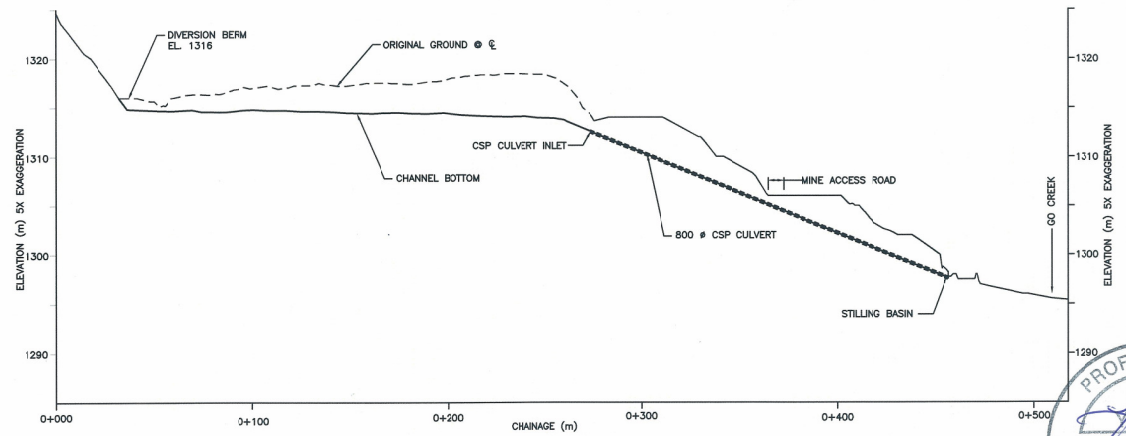
Klohn Crippen Berger

YukonZinc corp
WOLVERINE PROJECT

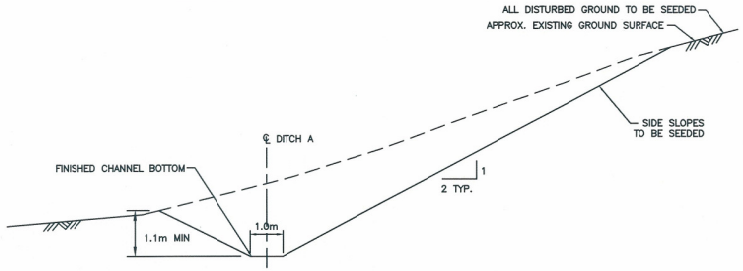
TAILINGS STORAGE FACILITY STARTER SPILLWAY PLAN, PROFILE AND SECTIONS



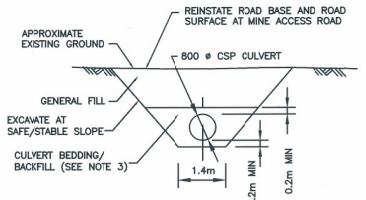
PLAN
SCALE A



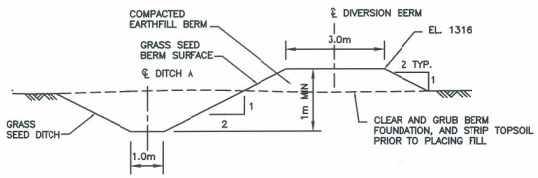
PROFILE DIVERSION DITCH A VERTICAL SCALE = 5X HORIZONTAL SCALE
SCALE A



SECTION A TYPICAL OPEN CHANNEL SECTION
SCALE B (NO SURVEY DATA)



DETAIL 1 TYPICAL CULVERT SECTION
NTS (NO SURVEY DATA)



DETAIL 2 DIVERSION DITCH A BERM
NTS (NO SURVEY DATA)

NOTES

1. FOR GENERAL SITE ARRANGEMENT SEE DWG. D–4001.
2. INVERT ELEVATIONS SHOWN ARE TO FINISHED CHANNEL BOTTOM.
3. CULVERT BEDDING/BACKFILL WELL GRADED 100 mm MINUS MATERIAL WITH LESS THAN 20% PASSING THE #200 SIEVE.
4. FOR RIPRAP AND GRANULAR FILTER GRADATION AND LAYER THICKNESS, SEE DWG. D–4013 SHEET 2 OF 2.
5. RECORD ISSUE DRAWING IS BASED ON LIMITED "AS BUILT" DATA PROVIDED BY YZC, THE DRAWING MAY NOT REFLECT ALL FIELD CHANGES.

SCALE A 0 100 m
SCALE B 0 6 m

CONSTRUCTION RECORD

PROFESSIONAL ENGINEER YUKON TERRITORY H.N. McLEOD

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS, DESIGNS, DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

DWG. NO.	REFERENCE DRAWINGS

NO	DESCRIPTION	BY	DATE
3	CONSTRUCTION RECORD	LC	MAY 12/10
2	DRAFT CONSTRUCTION RECORD	JL	MAR 5/10
1	ISSUED FOR CONSTRUCTION	MD	MAR 13/09
0	ISSUED FOR TENDER	MD	FEB 04/09

ISSUE/REVISIONS

SECTION:		
SCALE:		DATE
DESIGN. BY	LC	MAY 12/10
DRAWN BY:	KL	MAY 12/10
CHECK. BY	HM	
APP. BY:	HM	MAY 12/10

Klohn Crippen Berger

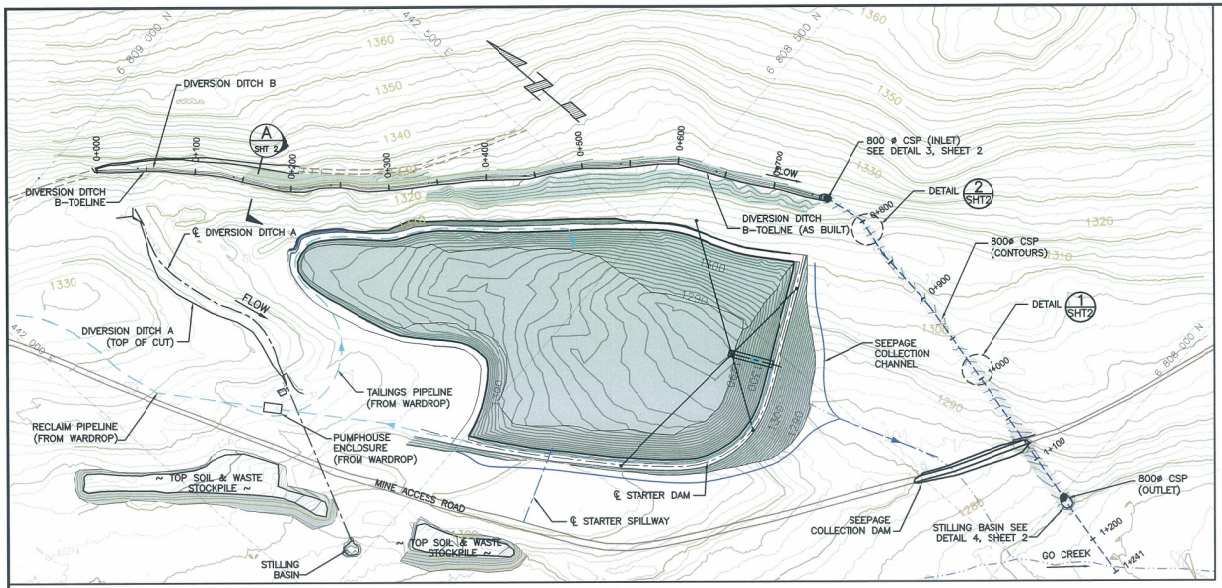
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YukonZinc.com
WOLVERINE PROJECT

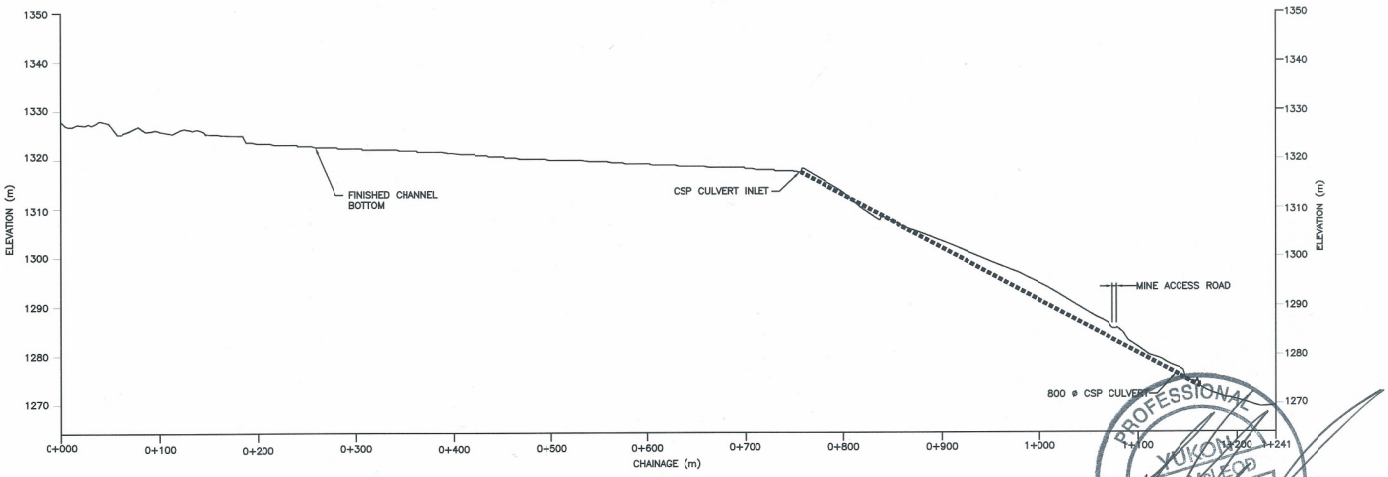
TAILINGS STORAGE FACILITY DIVERSION DITCH A PLAN AND PROFILE AND SECTIONS

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3154760TD.DWG



PLAN



PROFILE DIVERSION DITCH B

VERTICAL SCALE = 5X HORIZONTAL SCALE

LEGEND

APPROX. LOCATION OF 800 ø CSP.

NOTES:

1. FOR GENERAL SITE ARRANGEMENT SEE DWG. D-4001.
2. INVERT ELEVATIONS SHOWN ARE TO FINISHED CHANNEL BOTTOM.
3. CULVERT BEDDING/BACKFILL WELL GRADED 100 mm MINUS NATERIAL WITH LESS THAN 20% PASSING THE #200 SIEVE.
4. RECORD ISSUE DRAWING IS BASED ON LIMITED "AS BUILT" DATA PROVIDED BY YZC, THE DRAWING MAY NOT REFLECT ALL FIELD CHANGES.

SCALE 0 250 m

PROFESSIONAL ENGINEER YUKON TERRITORY H. N. MOLEOD

CONSTRUCTION RECORD

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR THE USE OF INFORMATION OF DATA STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

DWG. NO.	REFERENCE DRAWINGS

NO	DESCRIPTION	BY	DATE
	ISSUE/REVISIONS		

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3	CONSTRUCTION RECORD	LC	MAY 12/10
2	DRAFT CONSTRUCTION RECORD	JL	MAR 5/10
1	ISSUED FOR CONSTRUCTION	MD	MAR 13/09
0	ISSUED FOR TENDER	MD	FEB 04/09
	ISSUE/REVISIONS		

SECTION:	
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DRAWN BY: KL	MAY 12/10
CHECK. BY: HM	
APP. BY: HM	MAY 12/10

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PROJECT NUMBER	DRAWING NUMBER	REV.
M09234A05	D-4013	4

Klohn Crippen Berger

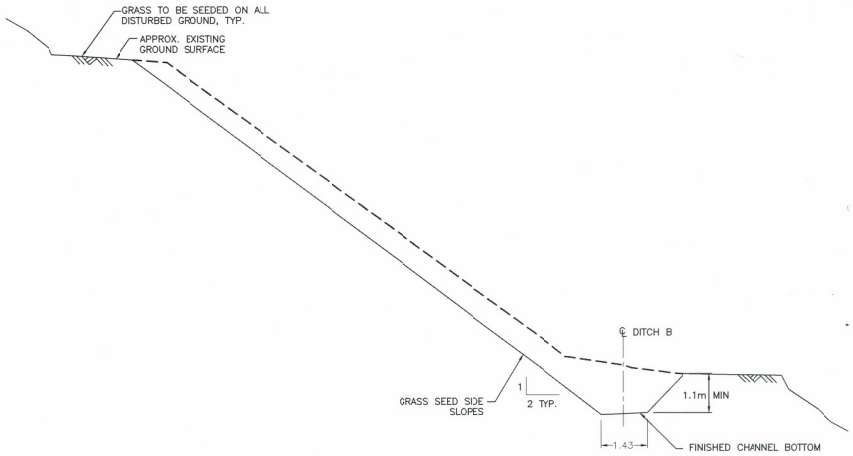
YukonZinc.com

WOLVERINE PROJECT

TAILINGS STORAGE FACILITY DIVERSION DITCH B PLAN AND PROFILE – SHEET 1 OF 2

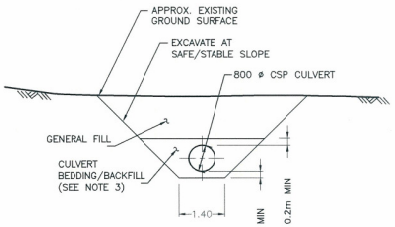
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3154/NOTELOAD



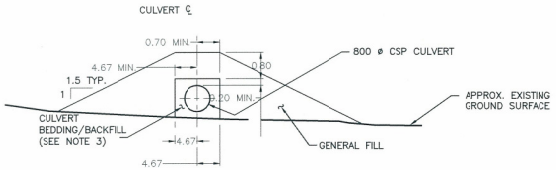
SECTION A
SCALE A
SHT 1

TYPICAL OPEN CHANNEL SECTION



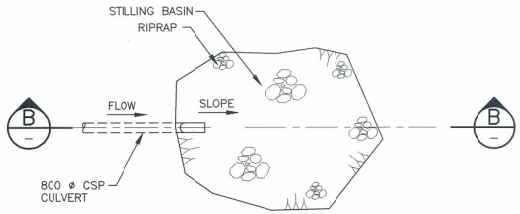
DETAIL 1
NTS
SHT 1

TYPICAL CSP CULVERT SECTION IN CUT



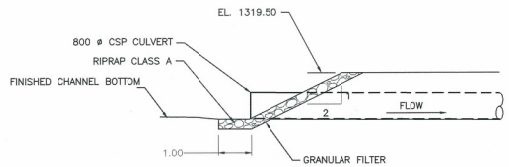
DETAIL 2
NTS
SHT 1

CSP CULVERT SECTION IN FILL



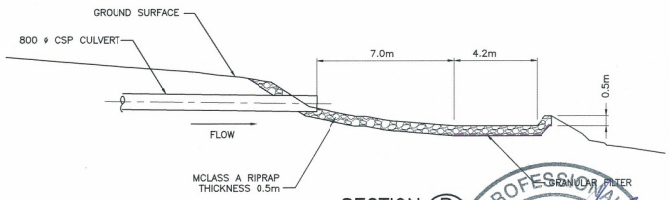
DETAIL 4
NTS
SHT 1

STILLING BASIN PLAN



DETAIL 3
NTS
SHT 1

CSP CULVERT INLET



SECTION B
SCALE B

RIPRAP AND GRANULAR FILTER GRADATION AND LAYER THICKNESS

(SEE NOTE 4)

Gradation and Layer Thickness

Material	Particle Size (mm)				Layer Thickness (mm)	
	D_{100}	D_{85}	D_{50}	D_{15}	Riprap	Filter
Riprap A	300	260	200	120	400	200 Filter 1
Riprap B	450	390	300	180	600	200 Filter 1
Riprap C	525	455	350	210	700	300 Filter 1
Riprap D	675	585	450	270	900	300 Filter 1
Riprap E	1200	1040	800	480	1600	300 Filter 1 + 400 Filter 2
Riprap F	1500	1300	1,000	600	2000	400 Filter 1 + 400 Filter 2
Filter 1	75	60 to 70	35 to 50	23 to 28	–	–
Filter 2	300	260	200	120	–	–

- Riprap gradation shall be within −5% to +10% of the specified D_{15}, D_{50}, AND D_{85} sizes
- Filter 1 shall be well graded between the 75 mm and 19 mm screen sizes.
- Filter 2 shall be the same gradation as Riprap A.
- Filter 1 grading is based on the subsoil being a silty sand and gravel

NOTES:

1. FOR GENERAL SITE ARRANGEMENT SEE DWG. D–4001.
2. INVERT ELEVATIONS SHOWN ARE TO FINISHED CHANNEL BOTTOM.
3. CULVERT BEDDING/BACKFILL SHALL BE WELL GRADED 100 mm MINUS MATERIAL WITH LESS THAN 20% PASSING THE #200 SIEVE.
4. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, GRANULAR FILTER IS TO BE PLACED UNDER ALL RIPRAP.
5. RECORD ISSUE DRAWING IS BASED ON LIMITED "AS BUILT" DATA PROVIDED BY YZC. THE DRAWING MAY NOT REFLECT ALL FIELD CHANGES.

SCALE A 0 6 m

SCALE B 0 10 m

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DWG. NO.	REFERENCE DRAWINGS

NO	DESCRIPTION	BY	DATE

ISSUE/REVISIONS

NO	DESCRIPTION	BY	DATE
3	CONSTRUCTION RECORD	LC	MAY 12/10
2	DRAFT CONSTRUCTION RECORD	JL	MAR 5/10
1	ISSUED FOR CONSTRUCTION	MD	MAR 13/09
0	ISSUED FOR TENDER	MD	FEB 04/09

ISSUE/REVISIONS

CONSTRUCTION RECORD

SECTION:		
SCALE:		DATE
DESIGN. BY	LC	MAY 12/10
DRAWN BY:	KL	MAY 12/10
CHECK. BY	HM	
APP. BY:	HM	MAY 12/10

FILENAME:	PROJECT NUMBER	DRAWING NUMBER	REV.
----------	M09234A05	D–4013	3

Klohn Crippen Berger

YukonZinc corp

WOLVERINE PROJECT

TAILINGS STORAGE FACILITY
DIVERSION DITCH B
SECTIONS AND DETAILS – SHEET 2 OF 2

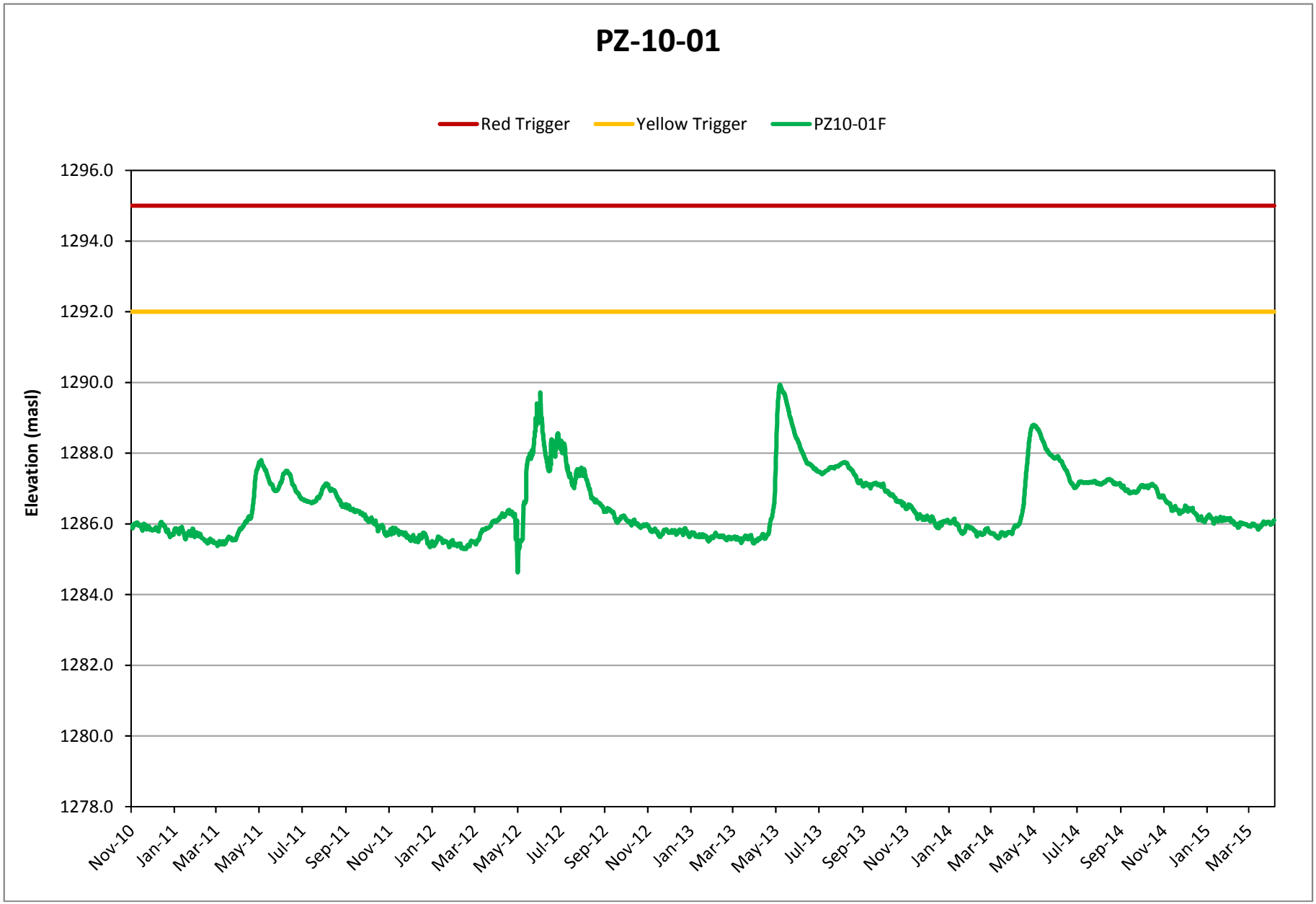
PROFESSIONAL ENGINEER YUKON TERRITORY H. N. McLEOD

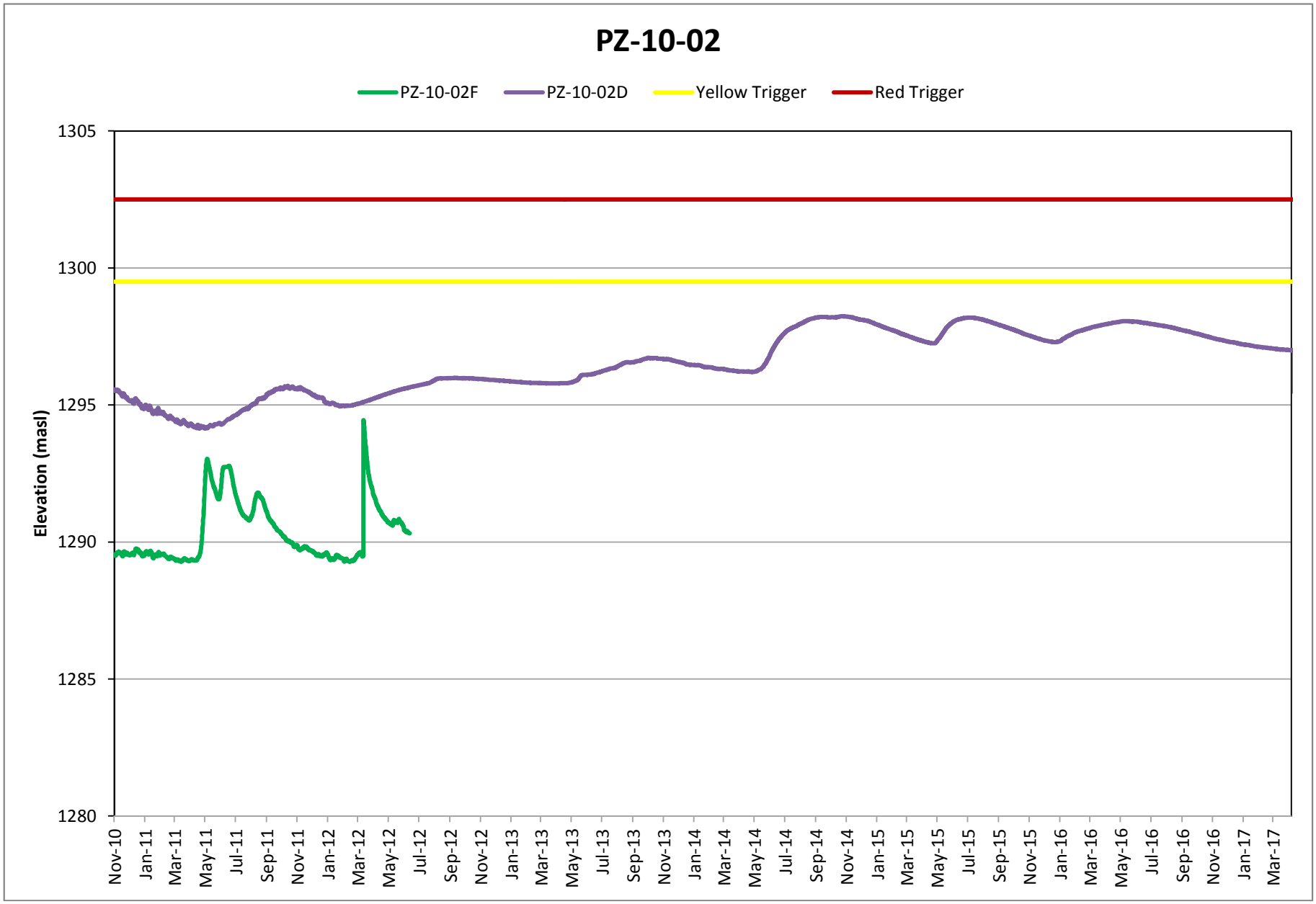
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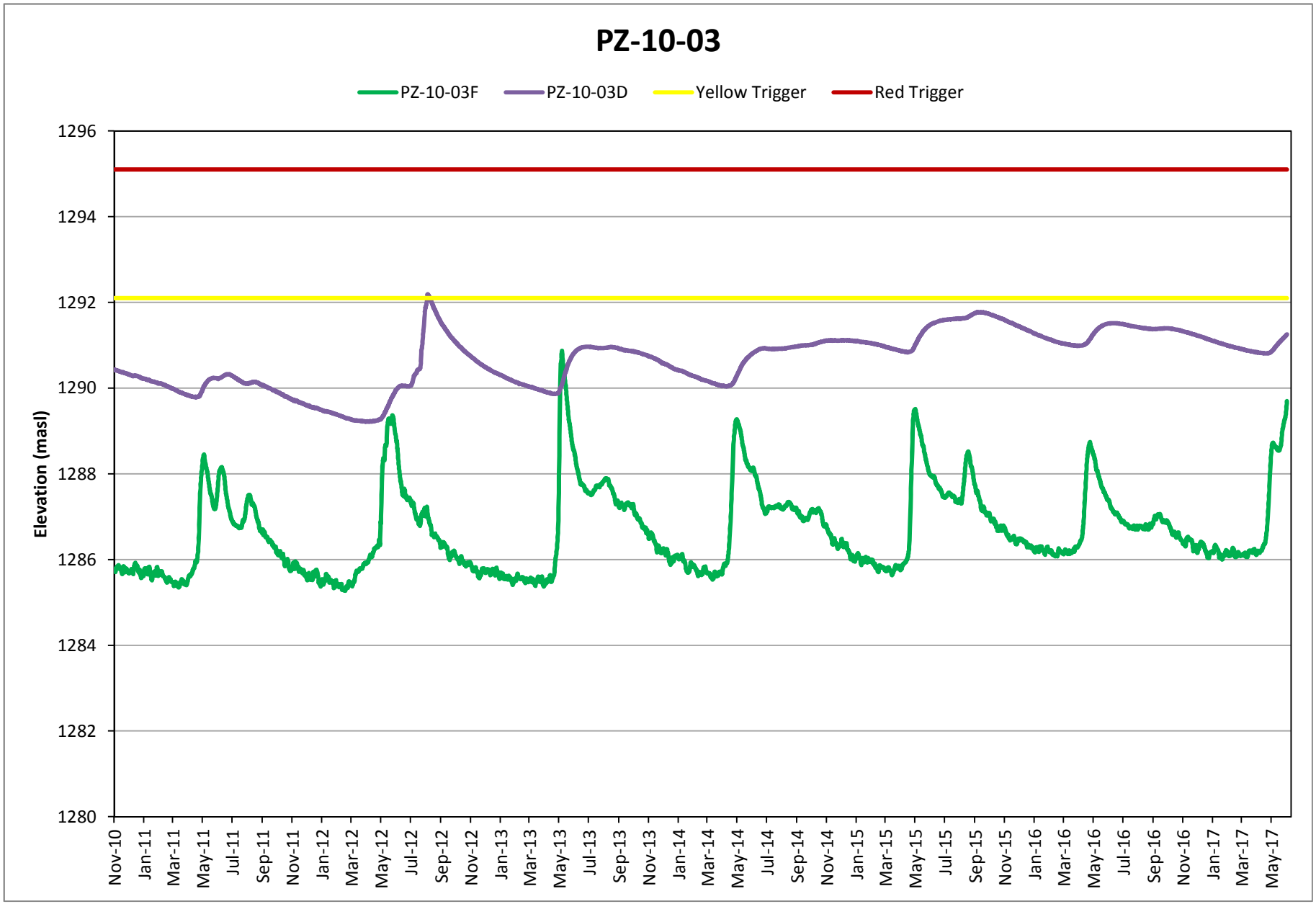
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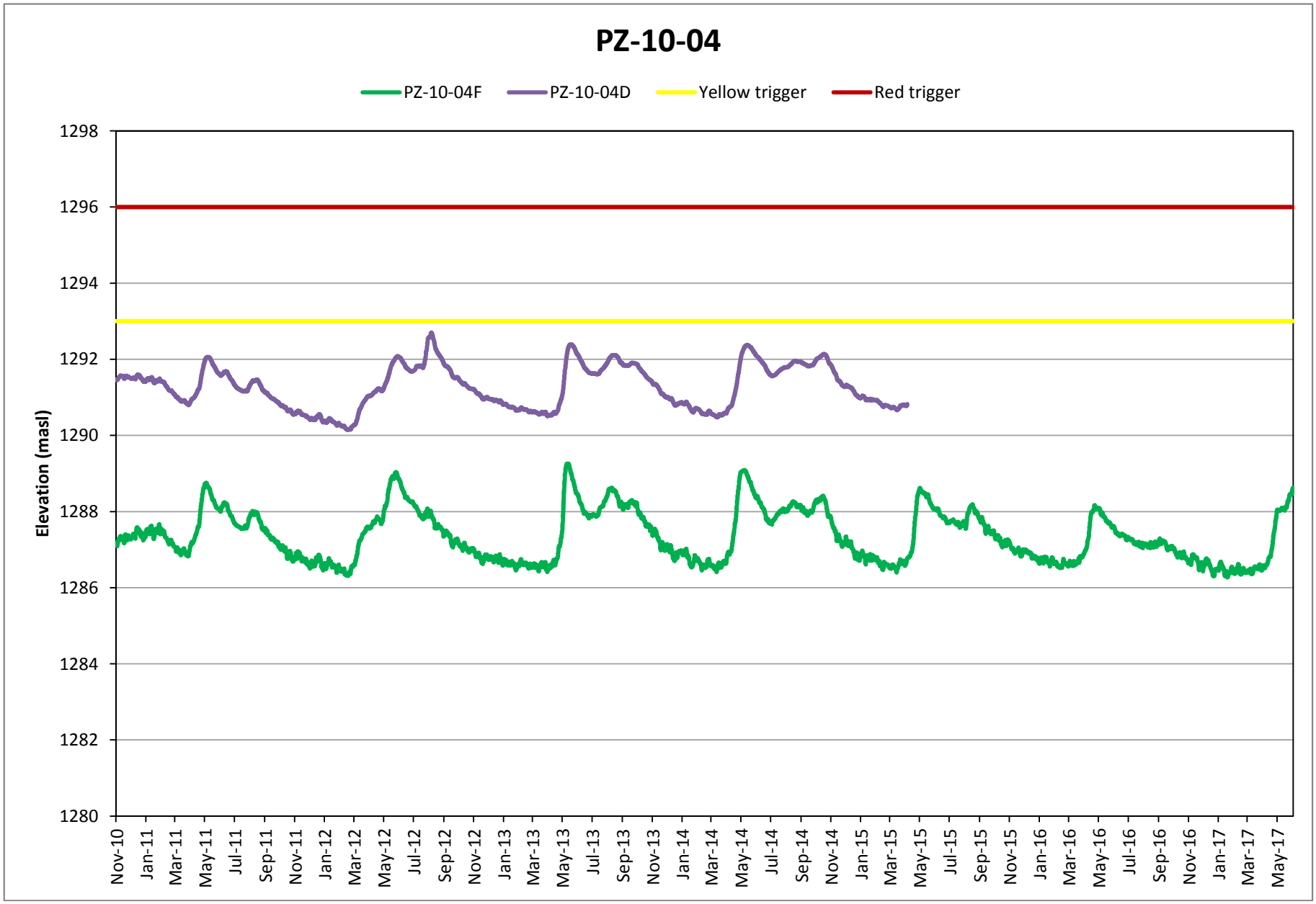
Instrumentation Data

Piezometer Data


PZ-10-01
Red Trigger
Yellow Trigger
PZ10-01F
Elevation (masl)
1296.0
1294.0
1292.0
1290.0
1288.0
1286.0
1284.0
1282.0
1280.0
1278.0
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
May-12
Jul-12
Sep-12
Nov-12
Jan-13
Mar-13
May-13
Jul-13
Sep-13
Nov-13
Jan-14
Mar-14
May-14
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15


PZ-10-02
PZ-10-02F
PZ-10-02D
Yellow Trigger
Red Trigger
Elevation (masl)
1305
1300
1295
1290
1285
1280
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
May-12
Jul-12
Sep-12
Nov-12
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May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Mar-17


PZ-10-03
PZ-10-03F
PZ-10-03D
Yellow Trigger
Red Trigger
Elevation (masl)
1296
1294
1292
1290
1288
1286
1284
1282
1280
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
May-12
Jul-12
Sep-12
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Nov-14
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Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Mar-17
May-17


PZ-10-04
PZ-10-04F
PZ-10-04D
Yellow trigger
Red trigger
Elevation (masl)
1298
1296
1294
1292
1290
1288
1286
1284
1282
1280
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
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Nov-15
Jan-16
Mar-16
May-16
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Nov-16
Jan-17
Mar-17
May-17

APPENDIX IV

CDA Principles Assessment

Appendix IV
CDA Principles Assessment

There are 19 CDA Dam Safety Principles presented in the CDA Guidelines (CDA, 2007) and are divided into five categories:

- Principle 1: Dam Safety Management System
- Principle 2: Operations, Maintenance, and Surveillance
- Principle 3: Emergency Preparedness
- Principle 4: Dam Safety Review
- Principle 5: Analysis and Assessment

Conformance / Non-Conformance Types

The types of conformance or non-conformance referred to in each of the CDA sub-principles are listed in the table below.

Label	Type	Description
An	Actual Deficiency	Deficient under normal loads
Au	Actual Deficiency	Deficient under unlikely loads
Cnf	Conformance	Conforms
NCi	Non-Conformance	Information
NCm	Non-Conformance	Maintenance
NCo	Non-Conformance	Operations
NCp	Non-Conformance	Other Procedures
NCs	Non-Conformance	Surveillance
Pq	Potential Deficiency	Expected not to be deficient, quickly demonstrated
Pd	Potential Deficiency	Expected not to be deficient, difficult to demonstrate
Pn	Potential Deficiency	Expected to be deficient under normal loads
Pu	Potential Deficiency	Expected to be deficient under unlikely loads

Principle 1 – Dam Safety Management System

Principle 1A: The public and the environment shall be protected from the effects of dam failure, as well as release of any or all of the retained fluids behind a dam, such that the risks are as low as reasonably practicable (ALARP).

Type:	Conforms (Cnf)
Description:	The design meets or exceeds CDA guidelines for a “Very High” consequence strucutre.
Recommendations:	No recommendation

Principle 1B: The standard of care to be exercised in the management of dam safety shall be commensurate with the consequences of dam failure.

Type:	Conformance (Cnf)
Description:	The dam consequence classification is currently ‘Very High’ but key design features are desiged to “Extreme” consequence classification based on permit requirements.
Recommendations:	

Principle 1C: Due diligence shall be exercised at all stages of a dam’s life cycle.

Type:	Non-Conformance: Other Procedures (NCp)
Description:	OMS requirements for routine inspections are not being documented in accordance with the OMS manual. The OMS manual was never revised to reflect the care and maintenance status of the operation. Inspections are being completed but inspection sheets in the OMS are not being used and the surveillence schedule was never reviewed for care and maintenance.
Recommendations:	Revise OMS surveillance schedule and requirements for mining restart or for closure, depding on decision made on restart of operation..

Principle 1D: A dam safety management system, incorporating policies, responsibilities, plans and procedures, documentation, training, and review and correction of deficiencies and non-conformances, shall be in place.

Type:	Non-Conformance: Information/Other Procedures (NCi/NCp)
Description:	YZC has a dam safety management system for the TSF, which includes annual dam safety inspections, an Operation, Maintenance and Surveillance (OMS) Manual and DSR. In addition to the site based team management system also includes input from experienced individuals within Yukon Zinc. With the potential restart of mining activities an update to the OMS manual is required.. An additional area of improvement for the dam management system is in specifying and documenting training requirements and completion records.
Recommendations:	Refer to recommendations for Principle 1A, 1B and 1C. i. Document staff training in all areas related to dam safety management. Training should include an overview of the TSF facilities and how their work fits into the safe operation of the facilities.

Principle 2 – Operation, Maintenance, and Surveillance

Principle 2A: Requirements for the safe operation, maintenance, and surveillance of the dam shall be developed and documented with sufficient information in accordance with the impacts of operation and the consequences of dam failure.

Type:	Non-Conformance: Information (NCi)
Description:	The OMS document is complete and covers the required components. However, there are improvements that should be made to the document to reflect ongoing changes and the results of this DSR. The main observations for improvement are documented in Table 4.4 in the DSR and include the following: ▪ Revising roles and responsibilities based on new site team ▪ Facility description updated to include design rainfall events and consolidation of site records. ▪ Reporting responsibilities and documentation to be revised based on restart plan ▪ Emergency Planning and Response to be updated based on revised inundation study
Recommendations:	Update the OMS document based on the above recommendations.

Principle 2B: Documented operating procedures for the dam and flow control equipment under normal, unusual, and emergency conditions shall be followed.

Type:	Conformance: (Cfn)
Description:	Operating procedures for components of the tailings facilities are specified in the OMS..
Recommendations:	

Principle 2C: Documented maintenance procedures shall be followed to ensure that the dam remains in a safe and operational condition.

Type:	Conforms (Cnf)
Description:	Maintenance procedures for components of the TSF are docuemented in the OMS
Recommendations:	No recommendation

Principle 2D: Documented surveillance procedures shall be followed to provide early identification and to allow for timely mitigation of conditions that might affect dam safety.

Type:	Non-Conformance: Surveillance (NCs)
Description:	Surveillance records are maintained in a book on site, but not formally logged using the inspection sheets in the OMS. Where appropriate, reference is made in the OMS to the location of the surveillance records. Threshold values for monitoring equipment (piezometers,) and the appropriate response is included in the OMS.
Recommendations:	Formal inspection records should be developed and saved in a central location on site if the mine goes back into production. If the mine is going to closure then surveillance activities should be revised to reflect the operating condition.

Principle 2E: Flow control equipment shall be tested and be capable of operating as required.

Type:	Non-Conformance: Other Procedures (NCp)
Description:	The barge needs to be tested prior to restart of mining activities. Current operations do not require the barge to be in operating condition but will need to be evaluated for restart.
Recommendations:	Test reclaim system prior to restart and re-establish maintenance protocols for the reclaim barge.

Principle 3 – Emergency Preparedness

According to the CDA (2007), Emergency Response Plans (ERPs) and Emergency Preparedness Plans (EPPs) "should be in place for all dams where lives are at risk or if implementation of emergency procedures could significantly reduce the consequences of failure." These documents should establish a clear emergency response structure that is issued to and understood by all internal and external emergency responders.

Principle 3A: An effective emergency management process shall be in place for the dam.

Type:	Conformance (Cnf):
Description:	There is an ERP in place for the facility. It can be revised once the updated inundation study is complete.
Recommendations:	Refer to Principle 3B.

Principle 3B: The emergency management process shall include emergency response procedures to guide the dam operator and site staff through the process of responding to an emergency at a dam.

Type:	Non-Conformance (NCi)
Description:	The emergency management process is well documented but various site contacts are out of date and government contacts may also be out of date. This should be updated. The inudation study should be revised to provide more detail on potential impacted areas to communicate with external stakeholders.
Recommendations:	Review and update all relevant reporting structures and contact details. The ERP should also be updated once the revised inundation study is available.

Principle 3C: The emergency management process shall ensure that effective emergency preparedness procedures are in place for use by external response agencies with responsibilities for public safety within the floodplain.

Type:	Non-Conformance: Information (NCi)
Description:	Refer to discussion in Principle 3B regarding innundation maps and off site contacts.
Recommendations:	See Principle 3B

Principle 3D: The emergency management process shall ensure that adequate staff training, plan testing, and plan updating are carried out.

Type:	Non-Conformance: Other Procedures (NCp)
Description:	There is no evidence of training of staff or testing of the ERP. This should be included as part of ongoing training and system improvement and implemented as part of the mining restart process or transition to closure.
Recommendations:	i. Define ERP drills for the tailings facilities in the OMS and confirm that drills include that all members of the dam management team participate.

Principle 4 – Dam Safety Review

Dam Safety Reviews (DSRs) should be conducted regularly to ensure that the dam is safe based on current knowledge and standards, which may have been updated since a previous DSR. A qualified registered professional engineer should conduct the review and should evaluate all aspects that may affect the dam's safety, including design, construction, maintenance, operation, processes, and dam safety management systems.

Principle 4A: A safety review of the dam ("Dam Safety Review") shall be carried out periodically.

Type:	Non-Conformance (NCs)
Description:	The CDA (2007) guidelines call for a Dam Safety Review to be conducted every 7 years for a dam with a "High" consequence rating. The first DSR was conducted in 2017 and should have been conducted in 2016..Dam classification should be revised to "Very High" and DSRs conducted in 5 year intervals
Recommendations:	DSR schedule to be set and observed in future.

Principle 4B: A qualified registered professional engineer shall be responsible for the technical content, findings, and recommendations of the Dam Safety Review and report.

Type:	Conforms (Cnf)
Description:	This review has been conducted by a qualified registered professional engineer.
Recommendations:	No recommendation.

Principle 5 – Analysis and Assessment

According to Principle 5, the purpose of dam safety analysis is to determine the capacity of the dam system to retain the stored volume under all conditions and to pass flows around and through the dam in a safe, controlled manner.

Principle 5A: The dam system and components under analysis shall be defined.

Type:	Conforms (Cnf)
Description:	The Engineer or Record appears to be responsible for all components of the facility. It is important that the OMS manual is revised either for closure or mine restart and that updated roles and responsibilities are identified.
Recommendations:	Update OMS manual

Principle 5B: Hazards external and internal to the dam shall be defined.

Type:	Potential Deficiency: Unlikely to be deficient, difficult to prove (Pd)
Description:	The amount of groundwater that reports to the liner underdrain system has never been comprehensively assessed. The slump at the north end of the TSF may indicate that the liner under drain and French drains constructed to manage water are undersized and more groundwater management is required.
Recommendations:	An assessment of the North Slump area should be conducted to determine what caused the movement and what mitigations are required to prevent further slope movements in the future.

Principle 5C: Failure modes, sequences, and combinations shall be identified for the dam.

Type:	Conforms (Cnf)
Description:	The ERP descirbes various failure modes and consequences of failure and responses that can be implemented to mitigate damage to the facility.
Recommendations:	No recommendation

Principle 5D: The dam shall safely retain the reservoirs and any stored solids, and it shall pass flows as required for all applicable loading conditions.

Type:	Conformance (Cnf)
Description:	The records for the design and construction suggest that the facility was designed and constructed to standards that exceed CDA requirements.
Recommendations:	No recommendation

Appendix C: Summary of Wolverine Mine Tailings Storage Facility Lime Dosing, SRK Consulting, December 22, 2017

srk consulting

SRK Consulting (Canada) Inc.
2200–1066 West Hastings Street
Vancouver, BC V6E 3X2

T: +1.604.681.4196
F: +1.604.687.5532
vancouver@srk.com
www.srk.com

Memo

To:	Mary Mioska, Peter Mah	**Client:**	Yukon Zinc Corporation
From:	Jennifer Foster, SRK	**Project No:**	1CY004.001
Cc:	Soren Jensen, SRK	**Date:**	December 22, 2017
Subject:	Summary of Wolverine Mine Tailings Storage Facility Lime Dosing		

1 Introduction

On October 31 and November 1, 2017 SRK witnessed efforts to add powdered lime (calcium oxide) to the tailings storage facility (TSF) pond at the Wolverine Mine. The addition of lime was intended to mitigate increasing acidity concentrations in the TSF pond. The work was planned and carried out by Yukon Zinc Corporation (YZC) personnel and contractors. SRK was present during the dosing campaign as an observer and did not partake in the design, planning or execution of the work. This report summarizing SRK's observations is organized into the following sections:

- Description of lime dosing system
- Summary of lime quantities dosed to the TSF
- Field observations and water quality sampling results

2 Description of Lime Dosing

YZC retained Northern Environmental Services (NES) to perform the lime dosing of the TSF. The lime dosing system was constructed on the northwestern end of the TSF, opposite of the reclaim barge (Photo 1).

The system used a Multiquip MQ600HTP 6 inch diesel pump with a flow rate of approximately 1,600 usgpm to recirculate water from the TSF (Photo 2). The pump suction was lowered into the pond through a hole in the ice and the discharge was directed into a corrugated metal culvert section laid on top of the pond liner pointed toward the TSF pond (Photo 3).

Lime was transported from the mill to the TSF in 2-tonne super sacks using a forklift. The sacks were suspended over top of the channel using the forklift. Lime was dosed into the corrugated culvert section through a hole cut in the bottom of the bag. The lime was mixed by and flushed into the TSF by the cascading recirculating water (Photo 4).

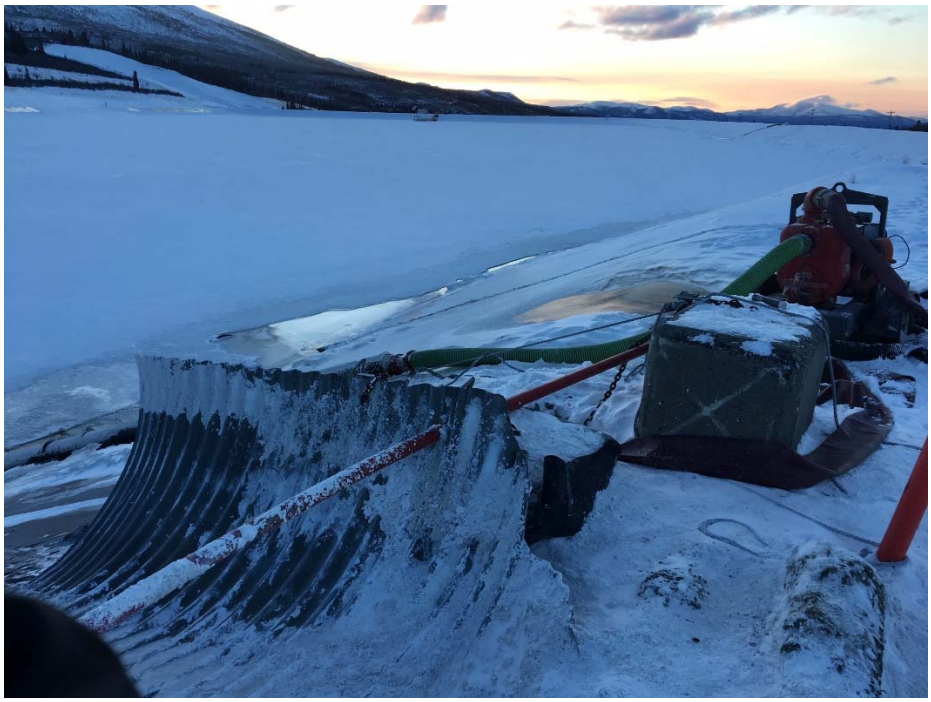


Photo 1: Lime Dosing Equipment near Northeast Bank of TSF



Photo 2: Lime Dosing Recirculation Pump (Multiquip MQ600HTP 6 inch Diesel Pump)

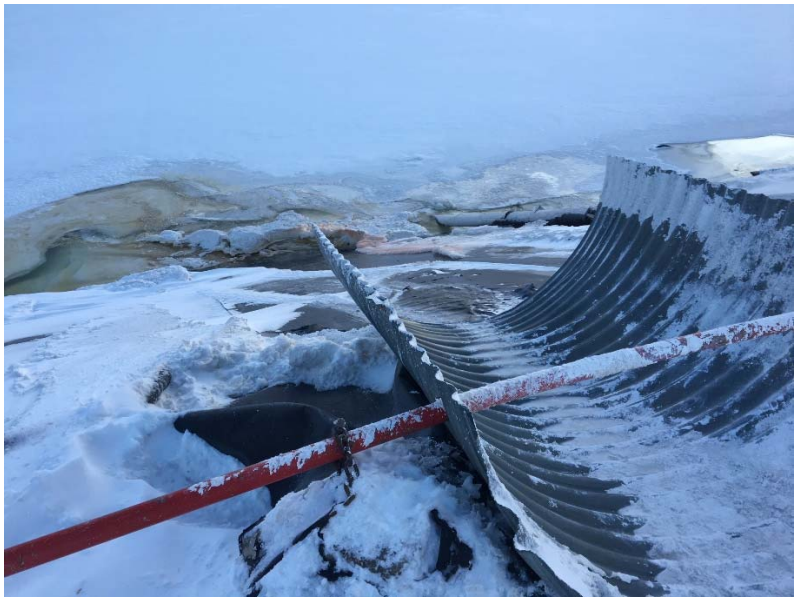


Photo 3: Culvert Section used for Lime Mixing



Photo 4: Lime Addition to Culvert Section

3 Summary of Lime Quantities Dosed to TSF

Table 1 summarizes the quantities of lime that were dosed into the TSF between October 31 and November 1, 2017, as reported by YZC and NES.

Table 1: Lime Dosed to TSF

Date	Number of Bags Dosed to TSF (2 tonnes/bag)	Total Mass of Lime Dosed
October 31, 2017	20	40 tonnes
November 1, 2017	15	30 tonnes
Total	35	70 tonnes

4 Field Observations and Sampling

The following section summarizes SRK's field observations during the TSF lime slaking, including visual observations and water sampling field measurements.

4.1 TSF Ice Melt

Following lime slaking on October 31, some of the ice around the perimeter of the TSF showed signs of melting (Photos 5, 6 & 7). The ice melt likely occurred because of mixing by the pump.



Photo 5: Ice Melt at Lime Mixing Discharge into TSF



Photo 6: Ice Melt at Lime Mixing Discharge into TSF



Photo 7: Ice Melt at TSF Reclaim Barge Location

4.2 TSF Water Chemistry

Field pH measurements were conducted by SRK prior to, and during the TSF lime dosing. Table 2 summarizes the field pH measurements that were collected during the lime dosing activities. Field pH measurements were taken at the recirculation pump drain, as well as the reclaim barge.

Table 2: Summary of TSF Water pH throughout Lime Dosing

Date/Time	Location	Field pH	Notes
October 31, 7:30 am	TSF at recirculation pump drain	3.43	Measurement taken prior to lime addition
November 1, 7:00 am	TSF at recirculation pump drain	12.1	Measurement taken following one day of lime addition
November 1, 10:00 am	TSF at reclaim barge	3.7	Measurement taken following one day of lime addition
November 2, 7:00 am	TSF at reclaim barge	2.9	Measurement taken following two days of lime addition

As expected, the pH increased in the immediate area of the lime slaking system discharge and suction. No increase in pH was observed at the reclaim barge.

SRK elected to defer collection of an analytical water quality sample at the barge location because of the lack of an observed pH response within the timeframe of the dosing campaign. In SRK's opinion, the routine monthly sampling of the TSF pond water is sufficient to evaluate the effects of the lime addition on the pond water quality.

SRK Consulting (Canada) Inc.



Jennifer Foster, PEng
Senior Consultant

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The opinions expressed in this report have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

Appendix D: Summary of Water Quality Results

Sample Location	T1							W1				L1			
Sampling Date	**2017-06-29**	**2017-07-11**	**2017-08-17**	**2017-08-31**	**2017-10-30**	**2017-11-30**	**2017-12-01**	**2017-06-28**	**2017-07-09**	**2017-08-18**	**2017-08-31**	**2017-06-28**	**2017-07-09**	**2017-08-18**	**2017-09-01**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B753882**	**B757212**	**B770851**	**B775568**	**B753882**	**B757212**	**B770851**	**B775568**
Field Parameters															
Temperature (°C)	13.41	12.04	13.1	10.1	6.3	-6.3		11.66	13.86	13.4	-	13.4	13.77	12.3	9.6
pH	1694	1676	1591	1481	1.26	-		118	128	111.1	-	89	82	82.6	84
Specific Conductivity (µS/cm^3)	2176	2228	2059	2070	305.6	305.6		158	163	142.5	-	114	104	108.9	119
Conductivity (µS/cm)	4.01	3.73	3.24	3.22	5.54	5.54		8.18	8.21	8.18	-	7.98	7.84	7.84	7.79
Physical Parameters															
Temperature (°C)	0.1	0.4	0.6	1.1	1.2	0.3	1.9	0.1	0.4	0.6	1.1	0.1	0.4	0.6	1.1
Conductivity (µS/cm)	2150	2200	2160	2200	2290	2410	2400	160	161	154	167	115	106	117	126
Hardness (mg/L)	903	896	931	886	1060	1120	1080	80.7	79	72.9	79.9	56.2	47.1	54.6	60.3
Total Suspended Solids (mg/L)	<4.0	5.8	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Total Dissolved Solids (mg/L)	1790	1840	1630	1790	1850	2060	2060	92	90	86	100	68	82	62	80
pH	4.07	3.78	3.49	3.54	3.62	4.07	4	8.1	8.12	7.99	8.01	7.92	7.92	7.86	7.88
Turbidity (NTU)	55.8	68.9	35.5	38.6	3.05	2.13	1.97	1.88	1.09	0.96	0.81	0.91	0.62	0.58	0.89
Major Anions (mg/L)															
Alkalinity-Total	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	68.1	72	64.7	72.2	46.1	43.9	47.7	52.6
Acidity-Total	13.5	23.3	36.2	36.3	30.5	21.5	21.2	<0.50	<0.50	<1.0	19.9	2.53	0.53	<1.0	26.3
Bromide	0.069	0.059	0.064	0.068	0.064	0.074	0.074	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	120	130	97	98	110	120	120	<0.50	0.54	<1.0	<1.0	<0.50	0.54	<1.0	<1.0
Fluoride	0.13	0.13	0.13	0.14	0.16	0.14	0.16	0.11	0.12	0.1	0.11	0.066	0.075	0.071	0.071
Sulphate	1110	1110	1100	1130	1270	1370	1330	12.2	12.3	27	14.8	10.3	10.6	12	12.3
Nutrient Parameters (mg/L)															
Ammonial Nitrogen	0.4	0.43	0.45	0.47	0.47	0.39	0.49	0.053	0.053	<0.020	0.056	0.061	0.12	<0.020	0.085
Nitrate Nitrogen	0.35	0.22	<0.20	0.25	<0.20	<0.20	<0.20	0.21	0.3	0.31	<0.20	<0.20	0.27	<0.20	<0.20
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Ortho-Phosphate	0.064	0.079	0.066	0.051	0.0069	0.0026	0.0027	0.026	0.032	0.011	0.02	0.0026	0.0045	0.0057	0.0072
Total Metals (mg/L)															
Aluminum (Al)	0.049	0.05	0.124	0.13	0.203	0.169	0.166	0.0178	0.0175	0.0182	0.0181	0.0224	0.0257	0.0219	0.0203
Antimony (Sb)	0.0253	0.0254	0.0282	0.027	0.0301	0.0307	0.0303	0.000069	0.00006	0.000057	0.000061	0.000047	0.000058	0.000051	0.000054
Arsenic (As)	0.00447	0.00472	0.00654	0.00689	0.00854	0.00865	0.0087	0.00295	0.00308	0.0019	0.00239	0.0011	0.000896	0.00123	0.00117
Cadmium (Cd)	0.0117	0.0121	0.0144	0.0141	0.014	0.0135	0.0133	0.0000116	0.000014	0.000018	0.000012	0.0000263	0.0000274	0.000032	0.000025
Calcium (Ca)	357	354	366	355	416	439	424	21	20.3	18.8	20.4	16.9	13.9	16.1	18.1
Chromium (Cr)	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	0.00073	0.00058	0.00012	<0.00010	0.0001	0.0001	<0.00010	0.00011	<0.00010	<0.00010
Cobalt (Co)	0.00139	0.00159	0.00182	0.00174	0.00215	0.00219	0.00207	0.0000286	0.000026	0.000022	0.000026	0.0000219	0.000025	0.000016	0.00002
Copper (Cu)	0.186	0.189	0.173	0.192	0.209	0.182	0.184	0.000642	0.000602	0.000627	0.000631	0.000688	0.00073	0.000556	0.000609
Iron (Fe)	0.807	1.03	1.92	2.16	2.74	2.64	2.53	0.078	0.0658	0.0711	0.0884	0.0585	0.0617	0.0817	0.0853
Lead (Pb)	0.0576	0.0685	0.128	0.131	0.18	0.166	0.163	0.0000213	0.000011	0.000007	0.000012	0.000014	0.000027	0.000016	0.000028
Magnesium (Mg)	2.5	2.8	4.4	<5.0	5.69	5.75	5.51	6.85	6.91	6.31	7.04	3.39	2.97	3.48	3.68
Manganese (Mn)	0.364	0.394	0.481	0.496	0.598	0.6	0.587	0.0185	0.0211	0.018	0.0161	0.0145	0.0173	0.0162	0.0134
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.0265	0.0255	0.024	0.0211	0.0222	0.0253	0.0239	0.0011	0.00117	0.00108	0.00115	0.000903	0.000864	0.000979	0.001
Nickel (Ni)	0.00686	0.0073	0.00961	0.0095	0.011	0.011	0.0106	0.00136	0.00132	0.00124	0.0013	0.000595	0.00057	0.000604	0.000607
Phosphorus (P)	0.076	0.083	0.068	<0.10	0.089	0.069	0.082	0.0503	0.0595	0.0271	0.033	0.0142	0.0343	0.0144	0.0169
Potassium (K)	26	25.8	29.6	26.4	33.7	34.3	33.1	1.06	1.02	0.989	1.04	0.622	0.53	0.598	0.68
Selenium (Se)	0.515	0.542	0.452	0.363	0.36	0.378	0.376	0.000425	0.0004	0.000431	0.000446	0.000494	0.000359	0.000507	0.000523
Silicon (Si)	1.31	1.43	1.68	1.8	2.23	2.24	2.19	2.59	2.27	2.5	2.35	2.54	2.25	2.73	2.36
Silver (Ag)	0.00262	0.00283	0.00149	0.00157	0.00104	0.000912	0.000881	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.000010	<0.0000050	<0.0000050
Sodium (Na)	103	105	102	99.7	125	122	120	1.22	1.22	1.12	1.17	0.939	0.86	0.919	1.01
Strontium (Sr)	1.33	1.36	1.58	1.31	1.55	1.78	1.74	0.0693	0.0736	0.066	0.0724	0.0414	0.0365	0.0439	0.0472
Thallium (Tl)	0.000746	0.000712	0.000899	0.000859	0.000951	0.00101	0.000932	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.000002	0.000002

Sample Location	T1							W1				L1			
Sampling Date	**2017-06-29**	**2017-07-11**	**2017-08-17**	**2017-08-31**	**2017-10-30**	**2017-11-30**	**2017-12-01**	**2017-06-28**	**2017-07-09**	**2017-08-18**	**2017-08-31**	**2017-06-28**	**2017-07-09**	**2017-08-18**	**2017-09-01**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B753882**	**B757212**	**B770851**	**B775568**	**B753882**	**B757212**	**B770851**	**B775568**
Vanadium (V)	<0.0010	<0.0020	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	0.00028	0.00025	<0.00020	0.00021	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	1.42	1.46	1.78	1.73	1.86	1.75	1.75	0.0012	0.00122	0.00144	0.00098	0.00309	0.0033	0.00425	0.00328
Dissolved Metals (mg/L)															
Aluminum (Al)	0.0357	0.048	0.103	0.13	0.177	0.156	0.151	0.00794	0.00939	0.0168	0.0092	0.016	0.0172	0.0127	0.00643
Antimony (Sb)	0.0259	0.0268	0.0269	0.0292	0.0297	0.0305	0.0304	0.000067	0.000074	0.000053	0.000066	0.000044	0.00004	0.000055	0.000059
Arsenic (As)	0.00439	0.0044	0.00618	0.00688	0.00855	0.00873	0.00851	0.00257	0.00297	0.00176	0.00228	0.000963	0.000913	0.00113	0.00109
Cadmium (Cd)	0.0118	0.0122	0.0137	0.0153	0.0142	0.0136	0.0134	0.000006	0.0000093	0.000014	0.000008	0.0000191	0.0000197	0.000026	0.000015
Calcium (Ca)	370	366	347	382	409	432	418	20.4	20.2	19.2	20.5	16.2	14.3	16.2	17.6
Chromium (Cr)	<0.00050	<0.0010	<0.00050	<0.0020	<0.00050	0.00064	0.00055	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cobalt (Co)	0.00138	0.00148	0.00166	0.00209	0.00218	0.00223	0.00212	0.0000147	0.0000197	0.000018	0.000015	0.0000121	0.0000145	0.000013	0.000011
Copper (Cu)	0.189	0.185	0.162	0.203	0.189	0.18	0.177	0.000547	0.000591	0.000639	0.000583	0.000667	0.000581	0.000515	0.000498
Iron (Fe)	0.803	1.020	1.790	2.280	2.690	2.620	2.500	0.026	0.023	0.036	0.039	0.027	0.028	0.046	0.035
Lead (Pb)	0.0576	0.0736	0.121	0.145	0.182	0.166	0.164	<0.0000050	<0.0000050	0.000005	<0.0000050	0.000009	<0.0000050	<0.0000050	0.000007
Magnesium (Mg)	2.65	2.83	4.06	4.8	5.65	5.44	5.38	6.65	6.84	6.19	7.01	3.18	3.07	3.27	3.73
Manganese (Mn)	0.376	0.409	0.446	0.53	0.603	0.602	0.595	0.0042	0.0043	0.0066	0.00717	0.00367	0.00591	0.00753	0.0042
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.0268	0.0254	0.0219	0.0224	0.0216	0.0244	0.0244	0.00109	0.00112	0.00106	0.00115	0.000858	0.00094	0.00098	0.000998
Nickel (Ni)	0.00706	0.00654	0.00865	0.0103	0.0114	0.0109	0.0108	0.00131	0.00135	0.00125	0.00121	0.000538	0.000564	0.000561	0.000552
Phosphorus (P)	0.061	0.063	0.057	0.053	0.065	0.057	0.062	0.0348	0.0422	0.0177	0.0218	0.0071	0.0091	0.0104	0.009
Potassium (K)	27.3	28	27.2	29	33.5	35.3	34.3	1.06	1.01	1.03	1.04	0.601	0.593	0.584	0.677
Selenium (Se)	0.522	0.501	0.425	0.38	0.359	0.357	0.358	0.000352	0.000449	0.000423	0.000435	0.000423	0.000438	0.000478	0.000518
Silicon (Si)	1.28	1.57	1.71	1.9	2.19	2.08	2.04	2.44	2.47	2.63	2.34	2.4	2.57	2.87	2.3
Silver (Ag)	0.000579	0.00105	0.000255	0.00024	0.000293	0.000604	0.000598	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	105	102	96.7	112	125	116	115	1.19	1.09	1.13	1.19	0.908	0.847	0.88	0.971
Strontium (Sr)	1.41	1.39	1.44	1.44	1.54	1.84	1.8	0.0684	0.0717	0.068	0.0719	0.0395	0.0372	0.0445	0.0454
Thallium (Tl)	0.000843	0.000842	0.000851	0.000943	0.00098	0.00098	0.000926	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)	<0.0010	<0.0020	<0.0010	<0.0040	<0.0010	<0.0010	<0.0010	0.00024	0.00026	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	1.42	1.47	1.65	1.87	1.89	1.77	1.75	0.0005	0.00068	0.00138	0.00068	0.00208	0.00279	0.00318	0.00218
SAD and WAD Cyanide															
Cyanide + Thiocyanate															
Weak Acid Dissoc. Cyanide (CN)	<0.00050	<0.00050	<0.00050	2.5	<0.00050	<0.00050	0.00086								

Sample Location	W8				W9				W12			W14		
Sampling Date	**2017-06-28**	**2017-07-09**	**2017-08-18**	**2017-09-01**	**2017-06-28**	**2017-07-09**	**2017-08-18**	**2017-09-01**	**2017-06-28**	**2017-07-10**	**2017-08-23**	**2017-06-28**	**2017-07-10**	**2017-08-23**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B753882**	**B757212**	**B770851**	**B775568**	**B753882**	**B757212**	**B772636**	**B753882**	**B757212**	**B772753**
Field Parameters														
Temperature (°C)	3.28	3.03	3.8	2.8	2.59	2.89	3.7	3	9.14	6.44	7.7	11.01	7.43	8.4
pH	89	92	107.9	112.9	167	157	152.6	158.2	99	87	102.4	85	76	81.2
Specific Conductivity (µS/cm^3)	167	159	181.3	196	291	271	256.8	273.2	143	135	152.9	115	113	119.2
Conductivity (µS/cm)	7.97	7.82	7.74	7.85	8	8.08	7.88	7.91	8.02	8.05	7.61	7.81	7.84	7.48
Physical Parameters														
Temperature (°C)	0.1	0.4	0.6	1.1	0.1	0.4	0.6	1.1	0.1	0.4	3.7	0.1	0.4	5
Conductivity (µS/cm)	168	160	193	205	289	269	273	287	143	143	164	116	118	128
Hardness (mg/L)	80.5	77.4	93.2	99.7	144	131	130	140	68.6	67.7	79	56.1	54.8	56.7
Total Suspended Solids (mg/L)	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Total Dissolved Solids (mg/L)	96	112	110	130	162	166	202	190	74	98	104	64	70	66
pH	8.07	8.13	8.07	8.01	8.23	8.21	8.15	8.13	8.03	8.03	8.06	7.87	7.92	7.88
Turbidity (NTU)	0.18	0.12	0.22	0.23	0.26	0.36	0.27	0.35	0.34	0.49	0.3	0.44	0.33	0.39
Major Anions (mg/L)														
Alkalinity-Total	66.9	66.7	78.2	82.9	104	96.4	96.7	106	57.9	60.1	69.4	42	43.4	48.9
Acidity-Total	<0.50	<0.50	<1.0	20.1	<0.50	0.62	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	<0.50	<0.50	<1.0	<1.0	0.55	0.6	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0
Fluoride	0.034	0.037	0.047	0.046	0.1	0.11	0.11	0.11	0.039	0.04	0.047	0.056	0.056	0.067
Sulphate	15.6	15.3	23	23	42	41.1	42.7	47.3	14.4	13.7	15.5	14.9	14	14.6
Nutrient Parameters (mg/L)														
Ammonial Nitrogen	0.067	0.32	<0.020	0.074	0.047	0.57	<0.020	<0.020	0.03	0.15	<0.020	0.046	0.058	<0.020
Nitrate Nitrogen	0.24	0.26	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.35	0.27	<0.20
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Ortho-Phosphate	<0.0010	0.0031	<0.0010	0.0026	0.0016	0.0033	0.0052	0.0056	<0.0010	0.0034	0.0024	<0.0010	0.0018	0.0026
Total Metals (mg/L)														
Aluminum (Al)	0.0145	0.0169	0.0135	0.00838	0.00783	0.0114	0.0068	0.00718	0.0305	0.0363	0.023	0.033	0.045	0.0279
Antimony (Sb)	0.000054	0.000042	0.000074	0.00007	0.000197	0.000197	0.000182	0.000172	0.000061	0.000044	0.000045	0.000029	0.000021	0.000024
Arsenic (As)	0.000116	0.000098	0.000139	0.000116	0.000222	0.000215	0.000198	0.000218	0.000217	0.000196	0.000229	0.000169	0.000138	0.000192
Cadmium (Cd)	0.0000232	0.000024	0.000054	0.000048	0.00142	0.00137	0.00148	0.00151	0.0000191	0.000021	0.00002	0.0000226	0.000068	0.000069
Calcium (Ca)	27.3	26.2	30.9	32.6	42.9	39.5	39.7	41.9	21.9	21.5	24.6	16.4	15.9	16
Chromium (Cr)	0.00012	0.00012	0.0001	0.00011	<0.00010	<0.00010	<0.00010	<0.00010	0.00013	0.00021	0.00011	0.00014	0.00012	0.00011
Cobalt (Co)	0.000029	0.000026	0.000049	0.000034	0.0000184	0.000024	0.000016	0.000017	0.0000583	0.000058	0.000055	0.0000343	0.000053	0.000031
Copper (Cu)	0.00122	0.00123	0.000899	0.000832	0.00139	0.0014	0.00113	0.00113	0.00107	0.00101	0.000806	0.00071	0.000707	0.000506
Iron (Fe)	0.0145	0.0167	0.0245	0.011	0.0131	0.0218	0.0105	0.0108	0.0849	0.0965	0.103	0.0755	0.105	0.0926
Lead (Pb)	0.0000125	0.000021	0.000016	<0.0000050	0.0000404	0.000054	0.000044	0.000042	0.0000401	0.000047	0.000034	0.0000212	0.000027	0.000025
Magnesium (Mg)	3	2.94	3.92	4.42	9.06	7.97	7.55	8.55	3.4	3.37	4.27	3.64	3.68	4.04
Manganese (Mn)	0.000775	0.000758	0.00295	0.0018	0.00108	0.00265	0.000928	0.0011	0.0113	0.0123	0.0206	0.00753	0.0103	0.0111
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.000445	0.000427	0.000527	0.000546	0.000725	0.00068	0.00066	0.000717	0.000372	0.000343	0.000371	0.000333	0.000311	0.00036
Nickel (Ni)	0.000562	0.00057	0.00115	0.00106	0.00422	0.00425	0.00397	0.00443	0.000408	0.000464	0.000362	0.000763	0.000943	0.000817
Phosphorus (P)	0.0043	0.0034	0.005	0.0023	0.0069	0.0078	0.0046	0.0061	0.0082	0.0095	0.0057	0.0056	0.0055	0.0038
Potassium (K)	0.287	0.255	0.357	0.397	0.894	0.829	0.934	1.03	0.427	0.385	0.562	0.617	0.559	0.713
Selenium (Se)	0.000602	0.000519	0.000869	0.000905	0.00322	0.00311	0.00297	0.0032	0.00093	0.000745	0.000693	0.000387	0.000338	0.000236
Silicon (Si)	2.58	2.78	3.16	2.68	3.31	3.18	3.33	3.32	2.74	2.93	3.32	3.25	3.18	3.95
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.000005	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	1.08	1.03	1.12	1.21	1.05	1.03	0.98	1.05	0.933	0.953	1.03	1.04	1.07	1.14
Strontium (Sr)	0.054	0.0556	0.0682	0.0762	0.123	0.123	0.125	0.13	0.0413	0.0425	0.0494	0.0398	0.0386	0.0426
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.000003	0.000003	0.000004	0.000004	<0.0000020	<0.0000020	<0.0000020	0.0000021	0.000002	0.000002

Sample Location	W8				W9				W12			W14		
Sampling Date	**2017-06-28**	**2017-07-09**	**2017-08-18**	**2017-09-01**	**2017-06-28**	**2017-07-09**	**2017-08-18**	**2017-09-01**	**2017-06-28**	**2017-07-10**	**2017-08-23**	**2017-06-28**	**2017-07-10**	**2017-08-23**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B753882**	**B757212**	**B770851**	**B775568**	**B753882**	**B757212**	**B772636**	**B753882**	**B757212**	**B772753**
Vanadium (V)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00025	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.00278	0.00276	0.00697	0.00657	0.147	0.147	0.144	0.15	0.00089	0.00095	0.00078	0.00319	0.0131	0.012
Dissolved Metals (mg/L)														
Aluminum (Al)	0.00951	0.0102	0.00663	0.00525	0.00432	0.00451	0.00386	0.00376	0.00702	0.0183	0.00501	0.0182	0.017	0.015
Antimony (Sb)	0.000045	0.000059	0.000073	0.000067	0.000195	0.000193	0.000186	0.00019	0.000062	0.000036	0.000046	0.000028	0.000031	0.000021
Arsenic (As)	0.000111	0.000115	0.000156	0.000113	0.000216	0.000213	0.000192	0.0002	0.000198	0.000197	0.000237	0.000143	0.000143	0.000172
Cadmium (Cd)	0.0000229	0.0000246	0.000057	0.000049	0.0014	0.00143	0.00146	0.00158	0.0000119	0.0000183	0.000013	0.0000213	0.0000587	0.000061
Calcium (Ca)	26.8	25.7	30.6	33.1	42.2	38.5	40.4	44.4	21.3	21.8	26	15.8	15.8	16.9
Chromium (Cr)	0.00011	0.00012	<0.00010	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0001	<0.00010	0.00011	0.00012	0.00011
Cobalt (Co)	0.00002	0.0000221	0.00005	0.000026	0.0000137	0.000015	0.000021	0.0000132	0.000025	0.0000419	0.00003	0.0000175	0.0000254	0.000022
Copper (Cu)	0.0012	0.00129	0.000847	0.000774	0.0013	0.00142	0.0011	0.000996	0.000855	0.000945	0.000669	0.00062	0.000639	0.000455
Iron (Fe)	0.007	0.008	0.013	0.007	0.003	0.004	0.003	0.002	0.029	0.050	0.050	0.035	0.037	0.054
Lead (Pb)	<0.0000050	0.0000419	<0.0000050	<0.0000050	0.0000214	0.0000134	0.000012	0.0000091	<0.0000050	0.0000248	<0.0000050	0.0000054	0.0000112	0.000007
Magnesium (Mg)	2.93	2.86	3.77	4.07	8.91	7.98	7.36	8.55	3.34	3.35	4.83	3.61	3.49	4.18
Manganese (Mn)	0.000441	0.000433	0.00278	0.00164	0.000095	0.000114	0.000229	0.000262	0.00577	0.00755	0.0141	0.00461	0.00532	0.00809
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.000444	0.000429	0.000528	0.000563	0.000695	0.000643	0.00066	0.000702	0.000352	0.000327	0.000375	0.000322	0.000296	0.000365
Nickel (Ni)	0.000607	0.000582	0.00107	0.000939	0.00404	0.00405	0.0039	0.00424	0.000292	0.000303	0.000318	0.000748	0.00087	0.000835
Phosphorus (P)	0.0034	0.0051	0.0081	<0.0020	0.0062	0.0071	0.0052	0.0062	0.0043	0.0069	0.0052	0.0033	0.0043	0.0047
Potassium (K)	0.276	0.257	0.351	0.367	0.87	0.807	0.981	1.04	0.41	0.405	0.629	0.601	0.543	0.744
Selenium (Se)	0.000527	0.000531	0.000959	0.000934	0.00334	0.00327	0.00305	0.0035	0.000846	0.000778	0.000707	0.000346	0.000363	0.000242
Silicon (Si)	2.61	2.89	3.27	2.99	3.23	3.47	3.47	3.54	2.65	3.06	3.35	3.11	3.58	3.64
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	1.04	0.966	1.07	1.11	1.01	0.918	1.03	1.11	0.916	0.88	1.16	1.04	0.969	1.27
Strontium (Sr)	0.0542	0.0548	0.0692	0.0708	0.12	0.116	0.128	0.124	0.041	0.0406	0.0528	0.0387	0.0388	0.0432
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000032	0.0000024	0.000003	0.000004	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.00255	0.00553	0.00681	0.00642	0.141	0.144	0.15	0.149	0.00031	0.00102	0.00043	0.00247	0.0117	0.0108
SAD and WAD Cyanide														
Cyanide + Thiocyanate														
Weak Acid Dissoc. Cyanide (CN)														

Sample Location	W15							W16						
Sampling Date	**2017-06-27**	**2017-07-10**	**2017-08-19**	**2017-09-01**	**2017-10-27**	**2017-11-30**	**2017-12-02**	**2017-06-27**	**2017-07-10**	**2017-08-23**	**2017-09-01**	**2017-10-27**	**2017-11-30**	**2017-12-02**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**
Field Parameters														
Temperature (°C)	4.91	4.32	3.2	5.4	1	0		8.14	6.8	6.8	6.5	2.1	0.4	
pH	66	63	68.1	75.5	0.068	-		98	84	101.3	101.5	0.087	-	
Specific Conductivity (µS/cm^3)	107	104	116.5	120.9	126.3	151.8		144	129	155.6	157	155.2	190.6	
Conductivity (µS/cm)	7.95	7.93	7.58	7.9	7.82	8.69		7.81	7.64	7.71	7.84	7.97	8.78	
Physical Parameters														
Temperature (°C)	0.1	0.4	0.6	1.1	1.2	0.3	1.9	0.1	0.4	3.7	1.1	1.2	0.3	1.9
Conductivity (µS/cm)	108	106	125	128	131	125	130	144	132	168	164	160	161	161
Hardness (mg/L)	50.8	49.4	56.5	60.5	61.7	62.3	60.8	69.7	63.6	79.5	77.1	71.9	78.8	78.4
Total Suspended Solids (mg/L)	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	14	<4.0	<4.0	4	<4.0	<4.0
Total Dissolved Solids (mg/L)	70	66	56	78	70	86	72	84	84	92	110	96	110	82
pH	7.9	7.95	7.9	7.89	7.78	7.89	7.89	8.03	8.04	8.08	7.98	7.87	7.99	7.95
Turbidity (NTU)	0.14	0.38	0.13	<0.10	<0.10	0.18	0.16	0.38	5.71	0.39	0.28	0.57	0.5	0.47
Major Anions (mg/L)														
Alkalinity-Total	42.9	43.2	50.6	54.8	52.8	55.5	55.2	60.1	58.2	73.7	73.4	69.5	70.9	70.4
Acidity-Total	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	0.56	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoride	0.022	0.025	0.028	0.028	0.031	0.023	0.026	0.031	0.032	0.038	0.034	0.033	0.025	0.029
Sulphate	9.74	8.4	12	11.5	12.8	13.6	12.9	10.9	9.97	12.2	12.6	13.2	13.1	13.3
Nutrient Parameters (mg/L)														
Ammonial Nitrogen	0.054	0.049	<0.020	0.025	<0.020	<0.020	<0.020	0.073	0.052	<0.020	0.04	<0.020	<0.020	<0.020
Nitrate Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.27	0.29	<0.20	<0.20	<0.20
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.2	<0.20	<0.20	<0.20	<0.20
Dissolved Ortho-Phosphate	<0.0010	0.002	<0.0010	0.003	0.0016	0.0011	0.0015	<0.0010	0.0065	0.002	0.0025	0.0047	0.0053	0.0058
Total Metals (mg/L)														
Aluminum (Al)	0.0119	0.0327	0.00638	0.00603	0.00571	0.00575	0.00312	0.0192	0.144	0.0143	0.00922	0.0501	0.0186	0.0182
Antimony (Sb)	0.000061	<0.000020	0.000023	0.000021	0.000025	<0.000020	<0.000020	0.000062	0.000136	0.000053	0.000047	0.000037	0.000043	0.000043
Arsenic (As)	0.000118	0.000133	0.000103	0.00009	0.000097	0.000089	0.000103	0.00016	0.000248	0.000145	0.000136	0.000119	0.000135	0.000167
Cadmium (Cd)	<0.0000050	0.000006	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000632	0.000113	0.000069	0.000072	0.000089	0.000096	0.000095
Calcium (Ca)	18.4	17.9	20.3	21.8	22.3	22.3	21.9	23.2	21	26.1	25.5	24.3	26.9	26.8
Chromium (Cr)	0.00015	0.00017	0.00011	0.00012	0.00013	0.00015	0.00013	0.0001	0.00046	<0.00010	0.0001	0.00043	0.00016	0.00015
Cobalt (Co)	0.0000259	0.000046	0.000017	0.000015	0.0000137	0.0000145	0.0000153	0.0000405	0.000218	0.000044	0.000037	0.000073	0.0000496	0.0000445
Copper (Cu)	0.000916	0.00107	0.000754	0.000495	0.000384	0.000332	0.000346	0.00114	0.00331	0.000744	0.000631	0.00074	0.000539	0.000563
Iron (Fe)	0.0072	0.0343	0.0039	0.0037	0.0077	0.0053	0.0026	0.0349	0.239	0.0441	0.0359	0.0986	0.0525	0.0501
Lead (Pb)	0.0000083	0.000042	<0.0000050	<0.0000050	0.0000102	0.000006	<0.0000050	0.0000219	0.00135	0.00001	<0.0000050	0.000039	0.0000162	0.000014
Magnesium (Mg)	1.19	1.18	1.4	1.44	1.44	1.58	1.45	2.88	2.68	3.46	3.29	2.69	2.81	2.75
Manganese (Mn)	0.000425	0.00162	0.000377	0.0003	0.000433	0.000319	0.00024	0.00973	0.0214	0.0164	0.016	0.023	0.02	0.0219
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.000213	0.0002	0.000214	0.000231	0.000241	0.000268	0.000258	0.000407	0.000377	0.000412	0.000407	0.0004	0.000426	0.000423
Nickel (Ni)	0.00016	0.000239	0.000119	0.000102	0.000079	0.000108	0.000093	0.000358	0.00065	0.000281	0.000242	0.00037	0.000184	0.000184
Phosphorus (P)	0.003	0.0042	0.0025	<0.0020	0.0045	<0.0020	0.0038	0.0064	0.0378	0.0059	0.0054	0.0144	0.0096	0.013
Potassium (K)	0.274	0.276	0.326	0.361	0.384	0.397	0.381	0.408	0.31	0.549	0.571	0.48	0.514	0.496
Selenium (Se)	0.000331	0.000222	0.000297	0.000301	0.000417	0.000392	0.00041	0.000928	0.000701	0.000733	0.000765	0.000803	0.000838	0.000844
Silicon (Si)	2.4	2.44	2.87	2.79	2.87	2.98	3.04	2.78	2.79	3.07	2.89	3.16	3.38	3.38
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.000013	<0.0000050	<0.0000050	<0.000010	<0.0000050	<0.0000050
Sodium (Na)	0.847	0.893	0.955	0.951	1.03	1.02	0.98	1.07	0.94	1.19	1.25	1.28	1.29	1.29
Strontium (Sr)	0.0277	0.027	0.0333	0.0333	0.0352	0.0367	0.0358	0.0443	0.0408	0.0531	0.051	0.0404	0.0428	0.0418
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000027	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020

Sample Location	W15							W16						
Sampling Date	**2017-06-27**	**2017-07-10**	**2017-08-19**	**2017-09-01**	**2017-10-27**	**2017-11-30**	**2017-12-02**	**2017-06-27**	**2017-07-10**	**2017-08-23**	**2017-09-01**	**2017-10-27**	**2017-11-30**	**2017-12-02**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**
Vanadium (V)	0.00026	0.00031	0.00023	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00053	<0.00020	<0.00020	0.00025	<0.00020	0.00022
Zinc (Zn)	0.00018	0.0006	0.0002	<0.00010	0.00025	0.00074	0.0002	0.00288	0.013	0.00312	0.00288	0.004	0.0042	0.00432
Dissolved Metals (mg/L)														
Aluminum (Al)	0.00812	0.00984	0.0044	0.00453	0.00266	0.00286	0.00197	0.01	0.0117	0.0056	0.00464	0.0033	0.00331	0.00194
Antimony (Sb)	0.000029	<0.000020	0.000023	0.000022	<0.000020	<0.000020	<0.000020	0.000067	0.000114	0.000055	0.000048	0.000041	0.000054	0.000037
Arsenic (As)	0.000112	0.000121	0.000088	0.000106	0.000093	0.000084	0.000098	0.00015	0.000157	0.000141	0.000128	0.000124	0.000125	0.000125
Cadmium (Cd)	<0.0000050	<0.0000050	0.000006	<0.0000050	<0.0000050	<0.0000050	0.0000066	0.0000552	0.0000631	0.000068	0.0000694	0.0000633	0.0000842	0.0000779
Calcium (Ca)	18.2	17.1	20.7	22.3	22.1	21.7	22.2	23.4	20.9	26.9	27.3	25.6	26.7	26.5
Chromium (Cr)	0.00016	0.00014	0.00012	0.00011	0.00019	0.00014	0.00013	0.00011	<0.00010	<0.00010	<0.00010	0.00016	0.00015	0.00013
Cobalt (Co)	0.0000204	0.0000228	0.00002	0.0000157	0.0000111	0.0000114	0.0000128	0.0000287	0.0000363	0.000036	0.0000329	0.0000273	0.0000295	0.0000242
Copper (Cu)	0.000869	0.000956	0.00052	0.000517	0.000364	0.000335	0.000355	0.00103	0.00125	0.000652	0.000578	0.000445	0.000578	0.000438
Iron (Fe)	0.003	0.005	0.002	0.002	0.002	<0.0010	0.002	0.022	0.024	0.026	0.025	0.018	0.014	0.010
Lead (Pb)	0.0000057	0.000005	<0.0000050	<0.0000050	0.0000876	<0.0000050	0.0000443	0.0000061	0.0000902	0.000005	<0.0000050	0.0000701	0.0000334	0.0000054
Magnesium (Mg)	1.17	1.11	1.29	1.45	1.49	1.42	1.43	2.85	2.56	3.32	3.29	2.94	2.62	2.65
Manganese (Mn)	0.000147	0.000236	0.000198	0.000192	0.000458	0.000178	0.000154	0.00824	0.00687	0.0142	0.0139	0.0153	0.0165	0.0173
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.000204	0.0002	0.000219	0.000227	0.00024	0.000268	0.000257	0.0004	0.000384	0.000413	0.000381	0.000391	0.00044	0.000453
Nickel (Ni)	0.000139	0.000152	0.000116	0.000106	0.000097	0.000089	0.000085	0.000355	0.000388	0.00024	0.000234	0.000141	0.000244	0.000144
Phosphorus (P)	0.003	0.0032	0.0024	0.0027	0.0034	0.0066	0.0022	0.0048	0.0064	0.0053	0.0045	0.008	0.0144	0.0071
Potassium (K)	0.272	0.253	0.314	0.382	0.384	0.411	0.406	0.403	0.314	0.521	0.576	0.517	0.594	0.523
Selenium (Se)	0.000308	0.000247	0.00031	0.000337	0.000327	0.000367	0.000392	0.000956	0.000669	0.000736	0.000845	0.000832	0.000814	0.00076
Silicon (Si)	2.3	2.63	2.94	2.79	2.94	2.83	2.86	2.77	3.01	3.04	3.02	3.34	3.25	3.2
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	0.827	0.792	0.901	1.03	1.04	0.977	0.986	1.04	0.865	1.16	1.26	1.33	1.34	1.25
Strontium (Sr)	0.028	0.0259	0.0345	0.0344	0.0352	0.0368	0.0374	0.0444	0.0419	0.0534	0.0493	0.0415	0.0428	0.042
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)	0.00029	0.00023	<0.00020	0.00024	<0.00020	<0.00020	<0.00020	<0.00020	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.00011	0.00039	0.00015	0.00017	0.00027	0.00082	0.00038	0.0026	0.0033	0.00278	0.00267	0.0029	0.00671	0.00395
SAD and WAD Cyanide														
Cyanide + Thiocyanate														
Weak Acid Dissoc. Cyanide (CN)					<0.00050	<0.00050	<0.00050	<0.00050	<0.00050		<0.0010	<0.00050	<0.00050	<0.00050

Sample Location	W21							W22						
Sampling Date	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-10-31**	**2017-11-29**	**2017-12-01**	**2017-05-31**	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-11-29**	**2017-12-01**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B743263**	**B753882**	**B757212**	**B770851**	**B775568**	**B7A7383**	**B7A7983**
Field Parameters														
Temperature (°C)	9.48	12.55	11.5	8.2	4	0.1		6.25	8.51	10.1	8.3	6.6	-	
pH	124	135	131.1	128.9	0.23	-		63	108	120	141.8	147.5	-	
Specific Conductivity (µS/cm^3)	176	178	176.6	189.7	510.7	302		98	157	168	208.1	227.5	409	
Conductivity (µS/cm)	8.07	8.17	7.91	8.08	8.07	9.8		11.51	8.13	8.21	7.77	8.19	8.52	
Physical Parameters														
Temperature (°C)	0.1	0.4	0.6	1.1	1.2	0.3	1.9	7.3	0.1	0.4	0.6	1.1	0.3	1.9
Conductivity (µS/cm)	176	178	190	197	443	240	241	112	158	168	221	241	336	333
Hardness (mg/L)	89.7	85.7	91.3	100	243	123	119	53.2	77.7	79.9	108	119	171	168
Total Suspended Solids (mg/L)	4.8	13.5	16.5	<4.0	<4.0	<4.0	<4.0	5.5	<4.0	<4.0	<4.0	<4.0	4.8	<4.0
Total Dissolved Solids (mg/L)	112	110	104	128	330	130	134	52	96	110	118	156	204	184
pH	8.12	8.15	8.08	8.02	8.16	8.07	8.09	7.62	8.02	8.07	8.08	8.11	8.22	8.15
Turbidity (NTU)	1.79	2.73	1.39	0.51	1.21	0.73	0.46	1.69	0.53	1.05	0.38	0.31	1.1	0.57
Major Anions (mg/L)														
Alkalinity-Total	75.4	77.8	79.8	86.1	178	102	103	40.6	57.8	64.5	85.1	94	136	134
Acidity-Total	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	2.8
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	<0.50	<0.50	1	<1.0	<1.0	<1.0	<1.0	0.6	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0
Fluoride	0.1	0.11	0.095	0.1	0.2	0.097	0.12	0.065	0.061	0.067	0.072	0.074	0.062	0.078
Sulphate	14	14.3	19	18.9	67.7	24.8	24.8	12.3	20.3	20.7	28.3	27.3	45	43.4
Nutrient Parameters (mg/L)														
Ammonial Nitrogen	0.041	0.061	<0.020	0.022	<0.020	0.028	0.033	0.027	0.065	0.64	<0.020	0.051	<0.020	<0.020
Nitrate Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.35	<0.20	<0.20	<0.20	<0.20	<0.20
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Ortho-Phosphate	0.017	0.021	0.0085	0.0087	0.017	0.012	0.012	0.0017	<0.0010	0.003	0.0017	0.0021	0.017	0.0066
Total Metals (mg/L)														
Aluminum (Al)	0.0266	0.0706	0.0526	0.0318	0.0223	0.019	0.0181	0.0809	0.0242	0.0304	0.0187	0.0157	0.0231	0.00929
Antimony (Sb)	0.000093	0.000089	0.000085	0.000083	0.000218	0.000083	0.000086	0.000047	0.000072	0.000053	0.000072	0.000065	0.000093	0.000096
Arsenic (As)	0.00213	0.00195	0.00158	0.0015	0.00113	0.00156	0.0017	0.000293	0.000198	0.000208	0.000232	0.000239	0.000376	0.00021
Cadmium (Cd)	0.0000197	0.0000292	0.000021	0.000014	0.000177	0.0000106	0.00001	0.0000266	0.0000152	0.00002	0.000032	0.000028	0.0000297	0.0000339
Calcium (Ca)	23.1	21.8	23.4	25.8	60.4	30.7	30	13.8	20.9	20.9	28.3	30.9	43.5	42.9
Chromium (Cr)	0.00022	0.00044	0.00028	0.00022	0.00014	0.00018	0.00018	0.00032	0.00023	0.00019	0.00021	0.00024	0.00042	0.0003
Cobalt (Co)	0.0000545	0.000121	0.000079	0.000055	0.0000798	0.0000356	0.0000397	0.000122	0.0000411	0.000049	0.00003	0.00004	0.0000523	0.0000276
Copper (Cu)	0.000992	0.00116	0.00094	0.000794	0.00064	0.000727	0.00075	0.00147	0.000825	0.000818	0.000603	0.000546	0.000794	0.000513
Iron (Fe)	0.136	0.213	0.177	0.124	0.182	0.0862	0.0949	0.207	0.0542	0.0727	0.0473	0.0437	0.0567	0.0779
Lead (Pb)	0.0000469	0.000271	0.000096	0.00004	0.0000671	0.0000204	0.0000234	0.000264	0.0000319	0.000032	0.000019	0.000024	0.000111	0.000132
Magnesium (Mg)	7.75	7.59	7.96	8.72	22.3	11.1	10.6	4.56	6.21	6.74	9.03	10.1	15.1	14.7
Manganese (Mn)	0.0204	0.026	0.0223	0.0154	0.0896	0.00804	0.00988	0.0277	0.00621	0.00632	0.00454	0.00585	0.00792	0.00302
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.000397	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.00114	0.00106	0.0011	0.00124	0.00343	0.00145	0.00143	0.0015	0.000472	0.000476	0.000623	0.00065	0.000818	0.00082
Nickel (Ni)	0.00221	0.00244	0.00218	0.00198	0.00303	0.00186	0.00176		0.00111	0.0012	0.0012	0.0013	0.000908	0.00102
Phosphorus (P)	0.0368	0.0523	0.029	0.0175	0.0287	0.0226	0.0238	0.9	0.005	0.0061	0.003	0.003	0.0212	0.0223
Potassium (K)	0.929	0.83	0.9	0.961	0.704	1.12	1.07	0.000263	0.647	0.642	0.743	0.831	0.997	0.903
Selenium (Se)	0.000441	0.000367	0.000449	0.000453	0.00181	0.000513	0.000566	3.02	0.000415	0.000418	0.000629	0.000627	0.00106	0.00108
Silicon (Si)	2.91	2.66	3.18	2.79	4.47	3.48	3.5	<0.000010	3.52	3.37	4.35	3.9	4.8	4.88
Silver (Ag)	<0.0000050	<0.000010	<0.000010	<0.0000050	<0.0000050	<0.0000050	<0.0000050	1.11	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000103	<0.0000050
Sodium (Na)	1.23	1.18	1.2	1.29	1.85	1.58	1.48	0.0519	1.22	1.29	1.41	1.61	2.66	2.25
Strontium (Sr)	0.0822	0.0796	0.0933	0.0955	0.248	0.116	0.114	0.0000038	0.0776	0.0845	0.124	0.138	0.22	0.204
Thallium (Tl)	<0.0000020	0.0000028	0.000002	<0.0000020	0.0000024	<0.0000020	<0.0000020	0.00042	<0.0000020	0.000002	0.000002	0.000002	0.0000036	0.0000022

Sample Location	W21							W22						
Sampling Date	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-10-31**	**2017-11-29**	**2017-12-01**	**2017-05-31**	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-11-29**	**2017-12-01**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B743263**	**B753882**	**B757212**	**B770851**	**B775568**	**B7A7383**	**B7A7983**
Vanadium (V)	0.00027	0.00048	0.00028	0.00025	<0.00020	<0.00020	<0.00020	0.0025	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.00179	0.003	0.0021	0.00108	0.0279	0.00117	0.00124		0.00148	0.00216	0.00438	0.00444	0.00682	0.00834
Dissolved Metals (mg/L)								**0.0307**						
Aluminum (Al)	0.00841	0.0094	0.00911	0.00665	0.00213	0.00316	0.00259	0.000075	0.0116	0.0116	0.00817	0.00639	0.00177	0.00284
Antimony (Sb)	0.000078	0.000085	0.000078	0.000082	0.000186	0.000362	0.00008	0.000174	0.000054	0.000048	0.000061	0.000068	0.000069	0.000078
Arsenic (As)	0.0019	0.00196	0.00146	0.00138	0.000783	0.00146	0.00147	0.00003	0.00017	0.000188	0.000222	0.000215	0.000143	0.000181
Cadmium (Cd)	0.0000083	0.0000116	0.000015	0.0000094	0.000125	0.000008	0.0000088	12.9	0.0000112	0.0000156	0.000033	0.0000258	0.0000229	0.0000259
Calcium (Ca)	22.4	21.8	23.1	26.3	59	30.3	30.2	0.00016	20.6	20.6	28.1	32.3	42.6	42.3
Chromium (Cr)	0.00016	0.00016	0.00014	0.00014	<0.00010	0.00011	0.00012	0.000034	0.00019	0.00018	0.00021	0.00021	0.00034	0.00026
Cobalt (Co)	0.000021	0.0000229	0.000027	0.000022	0.0000413	0.0000139	0.0000159	0.0017	0.0000115	0.0000207	0.000027	0.0000253	0.0000116	0.0000125
Copper (Cu)	0.000813	0.000806	0.000715	0.000681	0.000462	0.000734	0.000656	0.047	0.000755	0.000797	0.000571	0.000516	0.000481	0.000404
Iron (Fe)	0.043	0.038	0.056	0.052	0.055	0.034	0.034	0.000	0.021	0.019	0.022	0.019	0.002	0.005
Lead (Pb)	0.0000061	0.0000265	0.00001	0.0000167	0.0000334	<0.0000050	<0.0000050	3.93	<0.0000050	0.0000073	<0.0000050	<0.0000050	0.0000132	0.0000437
Magnesium (Mg)	7.65	7.47	7.74	8.98	22.2	10.5	10.5	0.00209	6.09	6.48	8.77	10.5	14.6	14.1
Manganese (Mn)	0.00405	0.00519	0.00901	0.00712	0.0763	0.00181	0.0019	0.000374	0.00133	0.00151	0.00284	0.00326	0.00103	0.000916
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00118	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.00113	0.00111	0.00111	0.00115	0.00325	0.00145	0.00143	0.0134	0.000458	0.000469	0.000599	0.000621	0.000782	0.000775
Nickel (Ni)	0.00197	0.00193	0.00174	0.00168	0.00269	0.00166	0.00166	0.878	0.000979	0.00105	0.00122	0.00121	0.000698	0.00101
Phosphorus (P)	0.0242	0.0255	0.0235	0.0136	0.0188	0.0186	0.014	0.000306	0.0031	0.0041	0.0026	0.0031	0.0022	0.0212
Potassium (K)	0.935	0.893	0.891	0.95	0.696	2.42	1.13	2.85	0.628	0.634	0.772	0.826	0.964	0.948
Selenium (Se)	0.000415	0.000445	0.000487	0.000479	0.00164	0.000497	0.000518	<0.0000050	0.000369	0.000451	0.000615	0.000692	0.000984	0.00101
Silicon (Si)	2.78	2.93	3.19	3.01	4.35	3.3	3.29	1.04	3.39	3.83	4.11	4.09	4.53	4.62
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000154	<0.0000050	0.0483	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	1.22	1.11	1.16	1.36	1.83	1.46	1.46	0.000003	1.2	1.18	1.48	1.7	2.19	2.15
Strontium (Sr)	0.0812	0.0823	0.0929	0.0925	0.256	0.117	0.118	<0.00020	0.0769	0.0828	0.124	0.128	0.219	0.215
Thallium (Tl)	<0.0000020	<0.0000020	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.00354	<0.0000020	0.0000024	0.000002	<0.0000020	0.0000032	<0.0000020
Vanadium (V)	0.00023	0.00022	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.00087	0.001	0.0008	0.0007	0.0238	0.00093	0.00086		0.00101	0.00162	0.00414	0.00306	0.00714	0.00727
SAD and WAD Cyanide														
Cyanide + Thiocyanate														
Weak Acid Dissoc. Cyanide (CN)					0.00065	0.0016	<0.00050						<0.00050	<0.00050

Sample Location	W31					W40					
Sampling Date	**2017-06-27**	**2017-07-10**	**2017-08-18**	**2017-09-01**	**2017-10-27**	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-11-29**	**2017-12-01**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B753882**	**B757212**	**B770851**	**B775568**	**B7A7383**	**B7A7983**
Field Parameters											
Temperature (°C)	5.89	4.5	6	6	0.5	8.33	10.09	8.3	6.5	-	
pH	72	70	82.4	87.4	0.079	107	120	141.8	147.3	-	
Specific Conductivity (µS/cm^3)	114	115	129.4	137.1	147.6	157	168	208.1	227.6	-	
Conductivity (µS/cm)	8.07	8.1	8.01	8.08	8.5	8.08	8.22	7.8	8.19	-	
Physical Parameters											
Temperature (°C)	0.1	0.4	0.6	1.1	1.2	0.1	0.4	0.6	1.1	0.3	1.9
Conductivity (µS/cm)	115	118	139	144	151	156	169	221	238	329	326
Hardness (mg/L)	56.4	54.7	65.2	69	74.3	76.1	80.3	105	121	172	169
Total Suspended Solids (mg/L)	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	9.3	<4.0
Total Dissolved Solids (mg/L)	68	104	66	104	106	98	94	122	152	184	192
pH	7.98	8.04	7.99	7.91	7.89	7.95	8.03	8.12	8.12	8.2	8.11
Turbidity (NTU)	0.13	0.3	0.11	<0.10	0.19	0.48	0.65	0.35	0.29	0.77	0.78
Major Anions (mg/L)											
Alkalinity-Total	51.6	54.7	63.4	74	69.9	58.9	62.2	85.7	93.3	134	133
Acidity-Total	<0.50	<0.50	<1.0	17.9	<1.0	<0.50	0.72	<1.0	<1.0	<1.0	<1.0
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	<0.50	<0.50	<1.0	<1.0	<1.0	<0.50	0.79	<1.0	<1.0	1.1	<1.0
Fluoride	0.02	0.024	0.026	0.027	0.028	0.059	0.067	0.074	0.073	0.063	0.077
Sulphate	6.47	6.55	9	9.3	9.3	20.3	22	31	26.6	43	43.2
Nutrient Parameters (mg/L)											
Ammonial Nitrogen	0.048	1.7	<0.020	0.025	<0.020	0.051	0.074	<0.020	0.034	<0.020	0.035
Nitrate Nitrogen	0.34	0.23	<0.20	<0.20	<0.20	0.33	<0.20	0.28	<0.20	<0.20	<0.20
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Ortho-Phosphate	<0.0010	0.0032	0.0029	0.0025	<0.0010	<0.0010	0.0025	0.001	0.0027	0.0093	0.0067
Total Metals (mg/L)											
Aluminum (Al)	0.0227	0.0222	0.0127	0.0103	0.00596	0.0199	0.0454	0.0134	0.0168	0.0851	0.0122
Antimony (Sb)	0.000029	<0.000020	<0.000020	0.00002	<0.000020	0.000061	0.000053	0.000065	0.000066	0.000084	0.000093
Arsenic (As)	0.000169	0.000156	0.000161	0.000138	0.000129	0.000188	0.000207	0.000242	0.000236	0.000289	0.000259
Cadmium (Cd)	<0.0000050	0.000005	<0.0000050	<0.0000050	0.0000052	0.0000138	0.000021	0.000033	0.000027	0.0000481	0.0000318
Calcium (Ca)	20.7	20.1	23.7	25.1	27.1	20.4	21.5	27.1	30.9	43.9	43.1
Chromium (Cr)	0.00013	0.00011	0.0001	<0.00010	<0.00010	0.0002	0.00019	0.0002	0.00025	0.00087	0.00044
Cobalt (Co)	0.0000397	0.000036	0.000023	0.000022	0.000016	0.0000318	0.000043	0.000029	0.000043	0.000159	0.0000349
Copper (Cu)	0.00208	0.0018	0.00112	0.00104	0.000715	0.000811	0.000798	0.000575	0.000552	0.00089	0.000625
Iron (Fe)	0.0039	0.0083	0.0023	0.0015	0.0012	0.0463	0.0724	0.0366	0.047	0.205	0.089
Lead (Pb)	0.0000067	0.000029	0.000006	<0.0000050	<0.0000050	0.0000169	0.000028	0.000011	0.000024	0.000186	0.000132
Magnesium (Mg)	1.15	1.11	1.44	1.52	1.57	6.12	6.43	9.13	10.6	15.2	15
Manganese (Mn)	0.000078	0.000182	0.000076	0.000089	0.000071	0.00487	0.00678	0.00428	0.00593	0.0251	0.00511
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.000328	0.000338	0.000338	0.000353	0.000326	0.00046	0.000517	0.000598	0.000659	0.000802	0.000805
Nickel (Ni)	0.000147	0.000139	0.000093	0.000075	0.000059	0.000987	0.00114	0.00122	0.00133	0.00152	0.00109
Phosphorus (P)	0.0035	0.0026	0.0044	0.0027	0.0033	0.0052	0.005	0.0031	0.0032	0.0203	0.0364
Potassium (K)	0.346	0.322	0.39	0.433	0.413	0.638	0.622	0.737	0.837	0.93	0.956
Selenium (Se)	0.000257	0.00018	0.000202	0.000199	0.000304	0.00041	0.000406	0.000599	0.000649	0.000949	0.00103

Sample Location	W31					W40					
Sampling Date	**2017-06-27**	**2017-07-10**	**2017-08-18**	**2017-09-01**	**2017-10-27**	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-11-29**	**2017-12-01**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B753882**	**B757212**	**B770851**	**B775568**	**B7A7383**	**B7A7983**
Silicon (Si)	2.72	2.54	3.02	2.75	2.91	3.41	3.45	4.18	3.66	4.91	4.93
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.000010	<0.0000050
Sodium (Na)	0.982	1	1.11	1.16	1.21	1.23	1.26	1.42	1.64	2.21	3.14
Strontium (Sr)	0.0132	0.0146	0.017	0.0174	0.0163	0.0779	0.0864	0.121	0.138	0.215	0.206
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.000002	0.000002	0.000002	0.0000045	<0.0000020
Vanadium (V)	0.00046	0.00039	0.00045	0.00046	0.00037	<0.00020	<0.00020	<0.00020	<0.00020	0.00026	<0.00020
Zinc (Zn)	0.00024	0.00052	0.00022	<0.00010	0.00028	0.00136	0.00221	0.00431	0.00346	0.0112	0.00814
Dissolved Metals (mg/L)											
Aluminum (Al)	0.0207	0.0187	0.0112	0.00999	0.00535	0.0109	0.0112	0.00823	0.00615	0.00216	0.00285
Antimony (Sb)	0.000022	0.000023	<0.000020	0.000022	<0.000020	0.000049	0.000051	0.000069	0.000069	0.000071	0.000077
Arsenic (As)	0.000157	0.000162	0.000178	0.000149	0.000129	0.000171	0.000186	0.000287	0.000203	0.000172	0.000174
Cadmium (Cd)	<0.0000050	<0.0000050	0.000007	<0.0000050	0.000005	0.0000114	0.0000153	0.000035	0.0000279	0.0000223	0.0000267
Calcium (Ca)	20.6	20	23.8	26.5	26.7	21	20.9	28.2	31.3	43.7	43.1
Chromium (Cr)	0.00012	0.00014	<0.00010	<0.00010	<0.00010	0.00019	0.00019	0.0002	0.00018	0.00032	0.00028
Cobalt (Co)	0.0000305	0.0000345	0.000025	0.0000215	0.000016	0.0000155	0.0000201	0.000026	0.0000215	0.0000113	0.0000142
Copper (Cu)	0.00203	0.00184	0.00116	0.00103	0.000745	0.000753	0.000793	0.000583	0.000515	0.000434	0.000375
Iron (Fe)	0.003	0.004	0.002	0.001	0.002	0.021	0.020	0.022	0.018	0.003	0.006
Lead (Pb)	<0.0000050	0.0000078	0.000006	<0.0000050	0.0000457	<0.0000050	<0.0000050	0.000008	<0.0000050	0.0000172	0.0000233
Magnesium (Mg)	1.14	1.1	1.33	1.5	1.57	6.01	6.44	8.77	10.4	14.6	14.6
Manganese (Mn)	<0.000050	<0.000050	0.000064	0.000074	0.000052	0.00136	0.00156	0.00288	0.00328	0.000927	0.00103
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.00033	0.000332	0.000344	0.000333	0.000334	0.000458	0.000474	0.000635	0.000614	0.000779	0.000811
Nickel (Ni)	0.000151	0.000104	0.000088	0.000082	0.000046	0.00096	0.00107	0.00119	0.00121	0.00099	0.000954
Phosphorus (P)	0.0031	0.0033	<0.0020	0.0029	0.0036	0.0033	0.0041	0.0027	0.0026	0.0037	0.0256
Potassium (K)	0.342	0.322	0.391	0.438	0.412	0.626	0.626	0.775	0.825	0.979	1.02
Selenium (Se)	0.000239	0.000221	0.000246	0.000207	0.000241	0.000393	0.00047	0.000686	0.000647	0.000982	0.00107
Silicon (Si)	2.61	2.85	2.91	2.98	2.88	3.41	3.78	4.8	3.96	4.6	4.64
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	0.975	0.905	1.1	1.22	1.21	1.2	1.15	1.41	1.71	2.18	2.88
Strontium (Sr)	0.0133	0.0137	0.0168	0.0161	0.0162	0.0761	0.0824	0.137	0.131	0.225	0.217
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.000002	<0.0000020	<0.0000020	0.0000022
Vanadium (V)	0.0005	0.00045	0.00047	0.00048	0.00036	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.00017	0.0003	0.00021	0.00176	0.00119	0.00093	0.00158	0.00386	0.00281	0.00683	0.00803
SAD and WAD Cyanide											
Cyanide + Thiocyanate Weak Acid Dissoc. Cyanide (CN)	<0.00050	<0.00050	<0.00050	<0.0010	0.0005					<0.00050	<0.00050

Sample Location	W71								W72							
Sampling Date	2017-05-31	2017-06-27	2017-07-09	2017-08-17	2017-09-01	2017-10-31	2017-11-29	2017-12-01	2017-05-31	2017-06-27	2017-07-09	2017-08-17	2017-09-01	2017-10-31	2017-11-29	2017-12-01
Lab Report ID	B743263	B753882	B757212	B770851	B775568	B797643	B7A7383	B7A7983	B743263	B753882	B757212	B770851	B775568	B797643	B7A7383	B7A7983
Field Parameters																
Temperature (°C)	5.5	1.1	1.3	1.6	1.5	9.4	-0.2		2.66	5.98	7.24	6	5.2	5	-0.1	
pH	93	290	283	330.2	352.4	0.232	-		187	187	184	203.5	222.8	0.235	-	
Specific Conductivity (µS/cm^3)	149	534	517	598	639	683.5	852		327	293	279	319.3	358	606.7	589	
Conductivity (µS/cm)	9.99	7.93	7.96	7.98	7.96	8.02	8.72		10.19	7.94	7.92	7.93	7.94	7.57	8.92	
Physical Parameters																
Temperature (°C)	7.3	0.1	0.4	0.6	1.1	1.2	0.3	1.9	7.3	0.1	0.4	0.6	1.1	1.2	0.3	1.9
Conductivity (µS/cm)	157	535	523	627	671	453	732	735	339	290	278	337	378	455	492	508
Hardness (mg/L)	73.2	293	296	258	375	244	426	411	180	150	140	173	193	246	280	278
Total Suspended Solids (mg/L)	<4.0	4.3	<4.0	9.3	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Total Dissolved Solids (mg/L)	82	332	326	400	440	276	480	462	188	182	194	200	212	280	310	306
pH	7.89	8.4	8.49	8.37	8.4	8.19	8.26	8.05	8.09	8.21	8.22	8.24	8.2	8.19	8.3	8.11
Turbidity (NTU)	0.77	0.54	0.74	2.05	0.69	1.28	0.14	0.15	1.14	0.66	0.52	0.98	0.89	1.16	1.14	1.01
Major Anions (mg/L)																
Alkalinity-Total	63.8	218	218	236	251	179	283	281	107	103	100	128	144	180	208	202
Acidity-Total	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	12.9	2.7	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	0.57	<0.50	0.5	1.1	<1.0	<1.0	<1.0	<1.0	0.56	<0.50	<0.50	1.1	<1.0	<1.0	<1.0	<1.0
Fluoride	0.046	0.56	0.56	0.62	0.66	0.18	0.59	0.69	0.17	0.15	0.13	0.14	0.15	0.18	0.15	0.18
Sulphate	14.3	77.9	83.3	120	129	71.2	143	140	67.9	43.9	43	52	61.5	70.6	75.9	76.1
Nutrient Parameters (mg/L)																
Ammonial Nitrogen	0.031	0.086	0.043	<0.020	0.032	0.026	<0.020	<0.020	0.033	0.052	0.04	<0.020	0.054	0.036	0.043	0.041
Nitrate Nitrogen	<0.20	0.37	0.42	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Ortho-Phosphate	<0.0010	0.0077	0.0098	0.011	0.012	0.013	0.01	0.0091	0.01	0.011	0.014	0.015	0.011	0.014	0.0079	0.0076
Total Metals (mg/L)																
Aluminum (Al)	0.0279	0.0167	0.0182	0.029	0.0163	0.0278	0.00264	0.00295	0.0247	0.0152	0.0213	0.0211	0.0194	0.0384	0.0328	0.0304
Antimony (Sb)	0.000108	0.000355	0.000356	0.000352	0.000515	0.000206	0.00051	0.000521	0.000257	0.000233	0.000205	0.000279	0.000291	0.000218	0.000183	0.000177
Arsenic (As)	0.000266	0.000308	0.000293	0.000363	0.000563	0.00174	0.00029	0.000332	0.00148	0.00133	0.00121	0.0014	0.0014	0.00176	0.00166	0.00176
Cadmium (Cd)	0.000021	0.00305	0.00296	0.00288	0.00408	0.000342	0.00236	0.00231	0.000193	0.000309	0.000211	0.000318	0.000347	0.000333	0.000463	0.000487
Calcium (Ca)	20.4	76.2	76.9	66.9	99.8	61.9	115	111	46.2	38.4	35.7	44.3	49.8	62.3	70.7	71.2
Chromium (Cr)	0.00044	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00013	0.00011	<0.00010	0.00014	0.00012	0.00015	0.00014	0.00013
Cobalt (Co)	0.00005	0.0000918	0.000083	0.000217	0.00033	0.0000891	0.0000144	0.0000131	0.000093	0.000039	0.00003	0.00005	0.000056	0.00011	0.000139	0.000143
Copper (Cu)	0.00257	0.000996	0.00104	0.00079	0.000616	0.000544	0.000467	0.000497	0.00131	0.0011	0.00108	0.000833	0.000671	0.000649	0.0006	0.00061
Iron (Fe)	0.105	0.0626	0.0652	0.128	0.168	0.157	0.0073	0.0061	0.181	0.0908	0.0777	0.0749	0.091	0.173	0.198	0.218
Lead (Pb)	0.000362	0.0000353	0.000034	0.000102	0.00004	0.0000662	0.0000054	0.0000061	0.000308	0.0000242	0.000019	0.000052	0.000043	0.000094	0.00007	0.0000699
Magnesium (Mg)	5.42	25	25.2	22.1	30.5	21.7	33.8	32.2	15.7	13	12.5	15.2	16.7	21.9	25.1	24.3
Manganese (Mn)	0.0186	0.0109	0.00966	0.025	0.0426	0.112	0.0021	0.00197	0.0762	0.0291	0.02	0.0432	0.0696	0.117	0.242	0.239
Mercury (Hg)	0.000433	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00277	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.00132	0.00379	0.00393	0.00358	0.00556	0.00292	0.00455	0.00422	0.00594	0.00194	0.00177	0.00213	0.00249	0.00303	0.00317	0.00331
Nickel (Ni)	0.0118	0.0308	0.0317	0.0258	0.0373	0.00402	0.0297	0.0295		0.00523	0.00438	0.00436	0.00449	0.00421	0.00468	0.00483
Phosphorus (P)	0.308	0.018	0.0176	0.0236	0.019	0.0249	0.0124	0.0143	0.87	0.0192	0.0199	0.0202	0.0208	0.0259	0.0195	0.0217
Potassium (K)	0.000487	0.577	0.544	0.48	0.707	0.787	0.768	0.737	0.00198	0.558	0.474	0.543	0.64	0.791	0.85	0.828
Selenium (Se)	3.15	0.00743	0.00794	0.00625	0.00685	0.00214	0.0086	0.0093	3.51	0.00169	0.00161	0.00231	0.00224	0.0021	0.00235	0.00268
Silicon (Si)	0.000005	3.75	3.68	3.09	4.27	4.6	4.43	4.29	<0.000010	3.39	3.26	4.05	4.04	4.79	5.17	5.3
Silver (Ag)	0.796	<0.0000050	<0.0000050	0.000011	0.000005	<0.0000050	<0.0000050	<0.0000050	1.4	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.000010	0.0000063
Sodium (Na)	0.0706	0.775	0.872	0.68	0.873	1.99	0.94	0.89	0.196	1.14	1.18	1.43	1.55	2.01	2.2	2.07
Strontium (Sr)	<0.0000020	0.201	0.22	0.201	0.286	0.273	0.33	0.316	0.0000022	0.163	0.169	0.2	0.229	0.274	0.338	0.346
Thallium (Tl)	0.00024	0.0000042	0.000004	0.000006	0.000008	<0.0000020	0.0000021	0.0000021	0.00023	<0.0000020	<0.0000020	0.000002	0.000002	0.000002	<0.0000020	<0.0000020

Sample Location	W71								W72							
Sampling Date	**2017-05-31**	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-10-31**	**2017-11-29**	**2017-12-01**	**2017-05-31**	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-10-31**	**2017-11-29**	**2017-12-01**
Lab Report ID	**B743263**	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B743263**	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**
Vanadium (V)	0.0018	0.00032	0.0003	0.00035	0.00028	0.00021	0.00023	0.00024	0.0439	0.00022	<0.00020	0.00024	0.00025	0.00025	<0.00020	0.00021
Zinc (Zn)		0.505	0.526	0.457	0.624	0.0439	0.683	0.68		0.0453	0.0354	0.0427	0.0456	0.0439	0.0562	0.0594
Dissolved Metals (mg/L)	**0.0238**								**0.00579**							
Aluminum (Al)	0.000122	0.00455	0.00484	0.00357	0.00335	0.00219	0.00158	0.00108	0.000241	0.00894	0.00714	0.00432	0.00344	0.00206	0.00566	0.00149
Antimony (Sb)	0.000264	0.000325	0.000352	0.000417	0.000497	0.000208	0.000515	0.000504	0.0012	0.00024	0.000226	0.000284	0.000292	0.000189	0.000167	0.000169
Arsenic (As)	0.00004	0.000291	0.000289	0.000391	0.000459	0.00146	0.00029	0.000296	0.000135	0.00125	0.0012	0.0013	0.00122	0.00146	0.00126	0.00128
Cadmium (Cd)	21.2	0.0029	0.00298	0.00364	0.00378	0.000219	0.00236	0.00231	43.1	0.000267	0.000207	0.000299	0.000321	0.000219	0.000295	0.000317
Calcium (Ca)	0.00043	77.7	74.3	86.2	102	63.1	112	114	<0.00010	39.5	36.1	44.9	52.5	61.9	68.7	68.3
Chromium (Cr)	0.000039	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.000051	<0.00010	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cobalt (Co)	0.00306	0.000066	0.0000463	0.000236	0.000306	0.0000435	0.000015	0.0000114	0.000911	0.0000243	0.0000219	0.00003	0.000035	0.0000424	0.0000855	0.0000816
Copper (Cu)	0.047	0.000961	0.00094	0.000595	0.000539	0.000429	0.000486	0.00045	0.065	0.00117	0.00114	0.000646	0.000612	0.000428	0.000371	0.000366
Iron (Fe)	0.001	0.018	0.015	0.061	0.089	0.044	0.005	0.004	0.000	0.058	0.048	0.031	0.039	0.042	0.050	0.045
Lead (Pb)	5.64	0.0000058	0.0000113	<0.0000050	<0.0000050	0.0000063	<0.0000050	<0.0000050	14.9	0.0000062	0.0000102	0.000008	<0.0000050	0.0000053	0.0000081	<0.0000050
Magnesium (Mg)	0.00534	25.3	24.9	27.9	31.6	21.6	32.6	31.2	0.0513	13.5	12.5	15.1	17.7	21.6	23.6	23.7
Manganese (Mn)	0.000432	0.00736	0.00555	0.0278	0.039	0.0859	0.00196	0.00184	0.00266	0.0203	0.0137	0.0367	0.0572	0.0841	0.197	0.207
Mercury (Hg)	0.0019	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00548	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.0142	0.00386	0.00402	0.00473	0.00489	0.00284	0.00458	0.00433	0.0239	0.00199	0.00174	0.00215	0.00238	0.00281	0.00319	0.00317
Nickel (Ni)	0.368	0.0318	0.0297	0.0321	0.0361	0.00365	0.0307	0.0296	0.827	0.00552	0.0042	0.00399	0.00438	0.0036	0.00417	0.00424
Phosphorus (P)	0.000529	0.0138	0.0142	0.0123	0.0154	0.0172	0.0116	0.0128	0.00207	0.0161	0.0175	0.0205	0.0156	0.0176	0.014	0.0098
Potassium (K)	3.52	0.558	0.548	0.61	0.717	0.78	0.799	0.793	3.5	0.546	0.474	0.567	0.648	0.772	0.873	0.868
Selenium (Se)	<0.0000050	0.00815	0.00774	0.00838	0.0071	0.00208	0.00809	0.00833	<0.0000050	0.00173	0.00162	0.00237	0.00235	0.00215	0.0023	0.00229
Silicon (Si)	0.873	3.61	3.9	4.21	4.25	4.79	4.19	4.21	1.3	3.27	3.5	4.83	4.17	4.66	4.87	4.79
Silver (Ag)	0.0727	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.2	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	0.000002	0.806	0.77	0.854	0.908	2	0.911	0.902	<0.0000020	1.19	1.1	1.32	1.62	2.01	2.05	2.03
Strontium (Sr)	<0.00020	0.206	0.211	0.259	0.265	0.27	0.336	0.337	<0.00020	0.17	0.163	0.228	0.219	0.272	0.356	0.358
Thallium (Tl)	0.0347	0.0000035	0.0000044	0.000006	0.0000056	<0.0000020	0.0000021	0.0000022	0.0407	<0.0000020	<0.0000020	0.000002	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)		0.00028	0.00026	<0.00020	0.00021	<0.00020	0.00022	0.00023		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)		0.519	0.507	0.543	0.593	0.0382	0.704	0.69		0.0465	0.0347	0.0433	0.0433	0.0386	0.0507	0.0528
SAD and WAD Cyanide																
Cyanide + Thiocyanate Weak Acid Dissoc. Cyanide (CN)						0.00055	<0.00050	<0.00050						0.00081	0.00062	<0.00050

Sample Location	W73								W80		
Sampling Date	**2017-05-31**	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-10-31**	**2017-11-29**	**2017-12-01**	**2017-06-28**	**2017-07-10**	**2017-08-23**
Lab Report ID	**B743263**	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B753882**	**B757212**	**B772753**
Field Parameters											
Temperature (°C)	0.06	6.37	6.49	6.2	6.4	0.1	0		9.34	6.48	9.6
pH	309	108	112	127.4	138.5	0.129	-		99	80	108.9
Specific Conductivity (µS/cm^3)	593	168	173	198.9	214.8	248	325		141	138	154.4
Conductivity (µS/cm)	10.62	8.14	8.18	8.1	8.15	7.67	8.25		7.92	7.93	7.91
Physical Parameters											
Temperature (°C)	7.3	0.1	0.4	0.6	1.1	1.2	0.3	1.9	0.1	0.4	5
Conductivity (µS/cm)	603	172	174	210	228	252	286	286	143	142	166
Hardness (mg/L)	326	83.1	85.5	105	114	130	149	145	69.3	65.4	80.8
Total Suspended Solids (mg/L)	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	4.8	<4.0
Total Dissolved Solids (mg/L)	348	94	96	94	120	170	172	172	72	76	116
pH	8.29	8.07	8.13	8.15	8.17	8.05	8.18	8.11	8.01	8.03	8.03
Turbidity (NTU)	0.49	0.84	0.57	0.45	0.62	0.25	0.42	0.24	0.41	0.89	0.5
Major Anions (mg/L)											
Alkalinity-Total	243	68.6	74.4	91.4	99	112	128	122	56.2	56.8	68.7
Acidity-Total	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	0.57	<0.50	<0.50	<1.0	<1.0	<1.0	1.5	<1.0	<0.50	<0.50	<1.0
Fluoride	0.54	0.039	0.041	0.049	0.053	0.057	0.048	0.058	0.04	0.037	0.047
Sulphate	97.7	15.6	15.9	21	21	25.8	29.5	29.3	14.1	13.6	15.8
Nutrient Parameters (mg/L)											
Ammonial Nitrogen	0.019	0.058	0.069	<0.020	0.034	<0.020	<0.020	<0.020	0.022	0.049	<0.020
Nitrate Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	0.36	<0.20	<0.20	<0.20	0.44	<0.20
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Ortho-Phosphate	0.008	0.0011	0.0038	0.0017	0.0017	<0.0010	0.0058	0.0024	<0.0010	0.0038	0.0025
Total Metals (mg/L)											
Aluminum (Al)	0.0347	0.0211	0.0165	0.012	0.00818	0.00821	0.0073	0.00412	0.033	0.0409	0.0173
Antimony (Sb)	0.000379	0.000099	0.000102	0.000107	0.00011	0.000107	0.000114	0.000122	0.000055	0.000043	0.000046
Arsenic (As)	0.000435	0.000221	0.000242	0.00026	0.000255	0.000243	0.000219	0.000232	0.000225	0.000219	0.000263
Cadmium (Cd)	0.00144	0.0000089	0.0000108	0.000008	0.000009	0.0000097	0.0000112	0.00001	0.0000211	0.000023	0.000019
Calcium (Ca)	84.6	23.6	24	28.9	30.2	34.3	39.8	38.8	22.1	20.9	25.2
Chromium (Cr)	0.00011	0.00028	0.00034	0.0003	0.0003	0.00032	0.00036	0.00031	0.00012	0.00017	<0.00010
Cobalt (Co)	0.000242	0.0000369	0.000039	0.000025	0.000022	0.0000282	0.0000204	0.0000156	0.0000612	0.0000732	0.000051
Copper (Cu)	0.00093	0.00143	0.00176	0.00111	0.000937	0.000706	0.000568	0.000556	0.00106	0.0011	0.000737
Iron (Fe)	0.127	0.0548	0.0562	0.0733	0.0567	0.0624	0.0431	0.037	0.0996	0.108	0.107
Lead (Pb)	0.000145	0.0000176	0.0000167	0.000019	0.000005	0.0000281	0.0000098	0.0000058	0.0000515	0.0000594	0.000022
Magnesium (Mg)	27.9	5.87	6.21	8.1	9.26	10.8	12.1	11.7	3.43	3.22	4.33
Manganese (Mn)	0.039	0.0069	0.0101	0.0115	0.0106	0.016	0.0132	0.0114	0.0139	0.0134	0.0228
Mercury (Hg)	0.00416	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.0275	0.000395	0.000417	0.000448	0.00051	0.000497	0.000492	0.000509	0.000364	0.000323	0.00037
Nickel (Ni)		0.00089	0.000991	0.000893	0.000741	0.000686	0.000773	0.000715	0.000405	0.000352	0.000316
Phosphorus (P)	0.72	0.0059	0.0061	0.0051	0.0038	0.007	0.0048	0.0068	0.0074	0.0084	0.0058
Potassium (K)	0.00701	0.198	0.182	0.228	0.283	0.296	0.337	0.33	0.446	0.385	0.566
Selenium (Se)	3.51	0.00053	0.000601	0.00072	0.000765	0.000989	0.00119	0.00112	0.000839	0.00073	0.000674

Sample Location	W73								W80		
Sampling Date	**2017-05-31**	**2017-06-27**	**2017-07-09**	**2017-08-17**	**2017-09-01**	**2017-10-31**	**2017-11-29**	**2017-12-01**	**2017-06-28**	**2017-07-10**	**2017-08-23**
Lab Report ID	**B743263**	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B753882**	**B757212**	**B772753**
Silicon (Si)	<0.000010	3.51	4.05	4.31	4.05	4.51	4.75	4.7	2.83	3.04	3.58
Silver (Ag)	0.85	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	0.24	0.877	0.868	1.02	1.15	1.31	1.37	1.35	0.911	0.827	1.07
Strontium (Sr)	0.000005	0.0709	0.0767	0.099	0.114	0.125	0.167	0.157	0.0418	0.0408	0.0504
Thallium (Tl)	0.00034	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)	0.443	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00023	0.0002	<0.00020
Zinc (Zn)		0.00032	0.00032	0.0006	0.00025	0.00066	0.0007	0.0006	0.0008	0.00109	0.00063
Dissolved Metals (mg/L)	**0.0115**										
Aluminum (Al)	0.00036	0.0058	0.00679	0.00374	0.00285	0.00163	0.00286	0.00171	0.00656	0.0061	0.00537
Antimony (Sb)	0.000339	0.000113	0.0001	0.000104	0.000111	0.00011	0.000116	0.000113	0.000062	0.000052	0.000046
Arsenic (As)	0.00124	0.000203	0.00022	0.000249	0.000232	0.000195	0.000189	0.000184	0.000202	0.000193	0.000228
Cadmium (Cd)	88.3	0.0000064	0.0000065	0.000008	0.000006	0.0000055	0.0000101	0.0000064	0.0000147	0.0000151	0.000014
Calcium (Ca)	<0.00010	24.3	23.7	29.7	31.7	35	38.1	38.9	22.4	20.9	25.3
Chromium (Cr)	0.000165	0.00028	0.00033	0.00024	0.00025	0.00027	0.00032	0.00032	<0.00010	<0.00010	<0.00010
Cobalt (Co)	0.000707	0.0000184	0.0000235	0.000015	0.0000108	0.0000088	0.0000124	0.000012	0.0000338	0.0000326	0.000038
Copper (Cu)	0.017	0.00146	0.00162	0.000953	0.000869	0.000585	0.000506	0.000517	0.000937	0.000837	0.000606
Iron (Fe)	0.000	0.026	0.025	0.035	0.029	0.020	0.012	0.012	0.036	0.032	0.065
Lead (Pb)	29.2	0.0000066	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000083	<0.0000050
Magnesium (Mg)	0.0317	5.82	6.06	7.91	9.43	10.9	11.6	11.6	3.38	3.21	4.34
Manganese (Mn)	0.00405	0.0031	0.00423	0.00576	0.00477	0.00259	0.00541	0.00449	0.00936	0.00896	0.0196
Mercury (Hg)	0.0261	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.0218	0.000407	0.00041	0.00046	0.000452	0.000486	0.000509	0.000515	0.000364	0.000323	0.000381
Nickel (Ni)	0.75	0.00081	0.000886	0.0007	0.000696	0.000599	0.000708	0.000657	0.000299	0.000254	0.000282
Phosphorus (P)	0.00768	0.0034	0.0034	0.004	0.0033	0.0044	0.0023	0.0051	0.0045	0.0052	0.0045
Potassium (K)	3.96	0.192	0.179	0.235	0.28	0.293	0.349	0.357	0.423	0.386	0.56
Selenium (Se)	<0.0000050	0.000534	0.000643	0.000727	0.000831	0.000978	0.00116	0.00116	0.000806	0.000751	0.000688
Silicon (Si)	0.905	3.55	3.95	5.07	4.35	4.55	4.39	4.42	2.67	2.98	3.37
Silver (Ag)	0.236	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	0.000004	0.9	0.843	1.02	1.21	1.3	1.33	1.35	0.923	0.846	1.04
Strontium (Sr)	<0.00020	0.0723	0.076	0.111	0.106	0.124	0.16	0.163	0.0418	0.0403	0.0508
Thallium (Tl)	0.414	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)		0.00012	0.00039	0.00043	0.00022	0.00032	0.00106	0.00141	0.00049	0.0005	0.00044
SAD and WAD Cyanide											
Cyanide + Thiocyanate											
Weak Acid Dissoc. Cyanide (CN)						0.00073	0.00081	<0.00050			

Sample Location	W81							W82				
Sampling Date	**2017-06-27**	**2017-07-10**	**2017-08-19**	**2017-09-01**	**2017-10-27**	**2017-11-30**	**2017-12-02**	**2017-06-28**	**2017-07-09**	**2017-08-19**	**2017-09-01**	**2017-10-27**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**
Field Parameters												
Temperature (°C)	6.66	5.67	3.8	5.8	1.5	1.5		7.19	6.09	2.6	6.6	0.1
pH	80	74	81.4	88.9	0.079	-		180	164	141.1	167.2	0.151
Specific Conductivity (µS/cm^3)	123	118	136.9	140.6	142.3	142.3		272	257	246.3	257.6	290.7
Conductivity (µS/cm)	7.96	7.85	7.76	7.91	7.88	7.88		7.45	7.47	7.34	7.36	8.12
Physical Parameters												
Temperature (°C)	0.1	0.4	0.6	1.1	1.2	0.3	1.9	0.1	0.4	0.6	1.1	1.2
Conductivity (µS/cm)	124	122	145	147	147	150	149	278	257	262	273	288
Hardness (mg/L)	58.3	54.9	68.8	71	72	72.9	70.8	134	119	122	131	141
Total Suspended Solids (mg/L)	<4.0	8	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Total Dissolved Solids (mg/L)	80	84	86	88	86	102	70	150	156	166	158	184
pH	7.97	7.99	7.99	7.86	7.87	7.98	7.95	8.06	8.17	8.01	8	7.86
Turbidity (NTU)	0.21	1.29	0.35	0.14	0.45	0.47	0.39	0.8	0.48	0.41	0.87	1.22
Major Anions (mg/L)												
Alkalinity-Total	51.3	53.2	61.8	64	63.5	65.4	63.3	85.5	83.5	86.8	89.6	83.4
Acidity-Total	<0.50	0.68	<1.0	<1.0	<1.0	<1.0	<1.0	0.8	1.76	1.4	<1.0	<1.0
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	<0.50	0.92	<1.0	<1.0	<1.0	2	<1.0	0.87	0.6	1.2	<1.0	1.1
Fluoride	0.023	0.027	0.032	0.032	0.032	0.027	0.029	0.099	0.093	0.1	0.13	0.16
Sulphate	10.3	9.96	13	12.6	12.6	12.8	12.8	48.9	42	45	51.9	59
Nutrient Parameters (mg/L)												
Ammonial Nitrogen	0.083	0.045	<0.020	0.068	<0.020	<0.020	<0.020	0.07	0.21	<0.020	0.031	<0.020
Nitrate Nitrogen	0.29	0.34	<0.20	<0.20	<0.20	<0.20	<0.20	0.47	0.45	0.44	0.28	0.39
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Ortho-Phosphate	<0.0010	0.0036	0.0024	0.0017	0.0035	0.003	0.0042	0.0056	0.0057	0.0054	0.0063	0.0056
Total Metals (mg/L)												
Aluminum (Al)	0.0218	0.0467	0.0116	0.00788	0.0216	0.0291	0.0128	0.021	0.0154	0.0375	0.059	0.0688
Antimony (Sb)	0.000048	0.000071	0.000039	0.000037	0.000033	0.000027	0.00003	0.000287	0.000284	0.000226	0.000229	0.000292
Arsenic (As)	0.000145	0.00016	0.000146	0.000117	0.000131	0.000124	0.000127	0.000223	0.000221	0.000191	0.000216	0.000162
Cadmium (Cd)	0.0000262	0.0000422	0.000036	0.000035	0.0000479	0.0000455	0.0000424	0.00121	0.0012	0.00329	0.00429	0.00399
Calcium (Ca)	20.3	18.8	23.5	24.5	25	25.3	24.7	46.9	41.4	42.1	45.4	47.3
Chromium (Cr)	0.00016	0.0002	0.00012	<0.00010	0.00013	0.00017	0.00015	<0.00010	<0.00010	<0.00010	0.00012	<0.00010
Cobalt (Co)	0.0000445	0.000074	0.000032	0.000029	0.0000494	0.0000522	0.0000361	0.000104	0.0000851	0.000627	0.00129	0.00161
Copper (Cu)	0.00105	0.00145	0.000639	0.000584	0.000574	0.00056	0.000511	0.00185	0.00183	0.00503	0.00778	0.00801
Iron (Fe)	0.0336	0.0738	0.0317	0.0245	0.0643	0.0556	0.0309	0.096	0.0709	0.0903	0.197	0.277
Lead (Pb)	0.0000203	0.000191	0.000008	<0.0000050	0.0000177	0.0000162	0.0000155	0.000385	0.000288	0.000239	0.000381	0.00026
Magnesium (Mg)	1.88	1.92	2.47	2.4	2.35	2.36	2.23	4.09	3.85	4.16	4.37	5.61
Manganese (Mn)	0.00521	0.00851	0.0109	0.00999	0.0155	0.0129	0.0114	0.0254	0.0189	0.0824	0.155	0.222
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.0003	0.00028	0.000308	0.000341	0.000339	0.000366	0.000349	0.00036	0.00034	0.000323	0.000359	0.000347
Nickel (Ni)	0.000232	0.00037	0.000187	0.000181	0.000177	0.000187	0.000153	0.00642	0.00592	0.0169	0.0254	0.0266
Phosphorus (P)	0.0055	0.028	0.0046	0.0031	0.0102	0.0088	0.0078	0.0132	0.0123	0.0104	0.0151	0.0186
Potassium (K)	0.344	0.26	0.42	0.46	0.471	0.461	0.45	1.03	0.915	1.13	1.22	1.06
Selenium (Se)	0.000557	0.000406	0.000523	0.00057	0.000638	0.000661	0.000604	0.00309	0.00282	0.00281	0.00305	0.00389

Sample Location	W81							W82				
Sampling Date	**2017-06-27**	**2017-07-10**	**2017-08-19**	**2017-09-01**	**2017-10-27**	**2017-11-30**	**2017-12-02**	**2017-06-28**	**2017-07-09**	**2017-08-19**	**2017-09-01**	**2017-10-27**
Lab Report ID	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**	**B7A7383**	**B7A7983**	**B753882**	**B757212**	**B770851**	**B775568**	**B797643**
Silicon (Si)	2.53	2.54	2.95	3	3.35	3.27	3.21	3.28	3.39	2.94	3.07	3.89
Silver (Ag)	<0.0000050	<0.000010	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000076	0.0000068	0.000006	0.00001	0.0000086
Sodium (Na)	0.888	0.88	1.08	1.11	1.21	1.19	1.14	1.11	0.997	1.06	1.11	1.41
Strontium (Sr)	0.0341	0.0336	0.0445	0.0442	0.0396	0.0405	0.0405	0.111	0.108	0.118	0.125	0.122
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000066	0.0000048	0.000006	0.000007	0.0000047
Vanadium (V)	0.00025	0.00032	<0.00020	<0.00020	<0.00020	0.00021	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.0012	0.0032	0.00175	0.00135	0.00205	0.0024	0.00226	0.149	0.163	0.307	0.343	0.358
Dissolved Metals (mg/L)												
Aluminum (Al)	0.00964	0.0105	0.00519	0.00462	0.00323	0.00214	0.00213	0.00757	0.00633	0.0231	0.0207	0.0182
Antimony (Sb)	0.000058	0.000044	0.000039	0.000038	0.000032	0.000029	0.000028	0.000284	0.00027	0.000209	0.000236	0.000295
Arsenic (As)	0.000134	0.000138	0.000131	0.000109	0.000109	0.000109	0.000104	0.000168	0.000196	0.000151	0.000139	0.000094
Cadmium (Cd)	0.0000244	0.0000343	0.000032	0.0000338	0.0000304	0.0000362	0.0000364	0.00105	0.00113	0.00311	0.0042	0.00308
Calcium (Ca)	20.5	19.3	23.5	25.7	24.5	24.7	24.5	46.7	42	42	46.5	45.9
Chromium (Cr)	0.00014	<0.00010	0.00012	0.00012	0.00013	0.00012	0.00013	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cobalt (Co)	0.0000248	0.0000227	0.000028	0.000023	0.0000197	0.0000187	0.0000213	0.0000786	0.000056	0.000584	0.00118	0.00151
Copper (Cu)	0.000946	0.000999	0.000575	0.000573	0.000408	0.000341	0.000337	0.00138	0.00148	0.00346	0.00406	0.00331
Iron (Fe)	0.012	0.015	0.018	0.016	0.012	0.007	0.007	0.031	0.022	0.036	0.057	0.039
Lead (Pb)	0.000025	0.0000161	<0.0000050	<0.0000050	0.0000068	<0.0000050	<0.0000050	0.0000633	0.0000434	0.000039	0.0000405	0.0000224
Magnesium (Mg)	1.89	1.91	2.28	2.52	2.37	2.16	2.23	3.95	3.89	4	4.56	5.69
Manganese (Mn)	0.00413	0.00481	0.01	0.00887	0.00966	0.00922	0.00949	0.0183	0.0137	0.0815	0.136	0.209
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.000292	0.000285	0.000305	0.000308	0.000329	0.000367	0.000358	0.000362	0.000345	0.000314	0.000322	0.000328
Nickel (Ni)	0.0002	0.000222	0.000193	0.000184	0.000137	0.000118	0.000119	0.00654	0.00573	0.017	0.0244	0.0261
Phosphorus (P)	0.0036	0.0058	0.0044	0.0036	0.0059	0.0036	0.0047	0.0085	0.0085	0.007	0.0078	0.0066
Potassium (K)	0.332	0.284	0.415	0.482	0.469	0.46	0.474	0.968	0.902	1.14	1.23	1.06
Selenium (Se)	0.000546	0.000477	0.000469	0.00059	0.000663	0.000633	0.000627	0.00299	0.00291	0.00272	0.00322	0.00386
Silicon (Si)	2.48	2.83	3.17	3.02	3.22	3.16	3.09	3.18	3.38	3.11	3.32	3.67
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	0.924	0.832	1.04	1.18	1.22	1.11	1.14	1.11	0.998	1.03	1.2	1.4
Strontium (Sr)	0.0347	0.0344	0.046	0.0422	0.0393	0.0404	0.0413	0.112	0.11	0.122	0.117	0.121
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000047	0.0000053	0.000005	0.0000085	0.0000051
Vanadium (V)	0.00023	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.00124	0.00166	0.00143	0.00137	0.00146	0.00185	0.00194	0.143	0.163	0.312	0.334	0.339
SAD and WAD Cyanide												
Cyanide + Thiocyanate												
Weak Acid Dissoc. Cyanide (CN)					0.00078	0.00075	<0.00050					0.00089

Sample Location	MW05-1A		MW05-1B			MW05-2A		MW05-2B	
Sampling Date	2017-07-04	2017-08-21	2017-07-04	2017-08-21	2017-10-28	2017-07-03	2017-08-20	2017-07-03	2017-08-20
Lab Report ID	B755643	B772721	B755643	B772721	B797661	B755643	B772721	B755643	B772721
Field Parameters									
Temperature (°C)	3.71	3.2	2.61	3.9	0.8	3.29	2.9	2.01	2.4
pH	8.27	7.16	8.27	7.21	7.75	7.55	7.39	7.14	7.09
Specific Conductivity (µS/cm^3)	151	142.8	142	153.9	0.061	226	206.4	210	172.4
Conductivity (µS/cm)	255	244.3	248	257.4	112.7	385	357.8	374	303.5
Physical Parameters									
Temperature (°C)	2.1	1.8	2.1	1.8	2.2	2.1	1.8	2.1	1.8
Conductivity (µS/cm)	249	256	233	262	217	363	376	299	277
Hardness (mg/L)	124	128	125	136	105	207	200	163	146
Total Suspended Solids (mg/L)	5	6.3	34.8	12.8	<4.0	<4.0	<4.0	37	34.3
Total Dissolved Solids (mg/L)	144	160	140	170	96	244	246	176	182
pH	8.29	8.15	8.34	8.02	7.9	8.42	8.38	8.37	8.05
Turbidity (NTU)	19	18.8	20.3	14.2	5.48	12.1	10.2	140	81.7
DOC (mg/L)									
Major Anions (mg/L)									
Alkalinity-Total	105	103	126	139	110	170	180	160	144
Acidity-Total	<0.50	1.9	<0.50	2.4	<1.0	<0.50	<1.0	2.72	9
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<1.0	<0.50	<1.0
Fluoride	0.48	0.47	0.13	0.1	0.14	0.25	0.24	0.064	0.063
Sulphate	24.8000	28.9000	<0.50	<1.0	3.8000	29.9000	30.0000	7.2300	7.7000
Nutrient Parameters (mg/L)									
Ammonial Nitrogen	0.19	0.14	0.66	0.55	0.62	0.14	0.11	0.05	0.035
Nitrate Nitrogen	0.0085	<0.20	<0.0020	<0.20	<0.20	0.0025	<0.20	<0.0020	<0.20
Nitrite Nitrogen	0.0022	<0.20	0.0042	<0.20	<0.20	<0.0020	<0.20	<0.0020	<0.20
Dissolved Ortho-Phosphate	0.28	0.053	0.014	0.12	0.029	0.0079	0.003	0.0018	0.0023
Dissolved Metals (mg/L)									
Aluminum (Al)	0.00071	<0.00050	0.0263	0.0296	0.00379	0.00121	0.00077	0.00235	0.00155
Antimony (Sb)	<0.000020	<0.000020	0.000046	0.000045	0.000077	<0.000020	<0.000020	0.000046	<0.000020
Arsenic (As)	0.0188	0.0196	0.0059	0.0049	0.00478	0.00126	0.00109	0.0441	0.0479
Cadmium (Cd)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000129	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium (Ca)	41.3	42.2	43.6	47.6	36	53.7	52.2	52.3	45
Chromium (Cr)	<0.00010	<0.00010	0.00042	0.0003	0.00013	0.0002	<0.00010	0.00012	<0.00010
Cobalt (Co)	<0.0000050	<0.0000050	0.0000658	0.000046	0.0000261	0.0000334	0.000016	0.000238	0.000155
Copper (Cu)	<0.000050	<0.000050	0.000102	<0.000050	0.000133	<0.000050	<0.000050	<0.000050	<0.000050
Iron (Fe)	1.73	1.7	4.55	6.06	2.19	0.855	0.806	21	15.3
Lead (Pb)	0.0000406	<0.0000050	0.000124	0.000041	0.0000247	0.0000121	0.00002	0.0000169	<0.0000050
Magnesium (Mg)	5.18	5.46	3.82	4.25	3.62	17.7	17	7.8	8.3
Manganese (Mn)	0.235	0.227	1.34	1.2	0.316	0.247	0.214	1.15	0.92
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.00595	0.00561	0.00146	0.00109	0.00211	0.00356	0.00338	0.00147	0.00191
Nickel (Ni)	<0.000020	<0.000020	0.000735	0.000673	0.000571	0.000375	0.000144	0.000199	0.000091
Phosphorus (P)	0.407	0.426	0.442	0.421	0.315	0.0149	0.0088	0.271	0.278
Potassium (K)	1.24	1.19	1.4	1.31	1.33	1.77	1.66	0.439	0.532
Selenium (Se)	<0.000040	<0.000040	0.000122	0.00013	0.000093	<0.000040	<0.000040	0.000088	<0.000040
Silicon (Si)	4.77	5.18	6.09	6.04	4.94	4.33	3.85	5.58	4.75
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	1.58	1.57	1.29	1.27	1.33	0.724	0.685	1.15	1.12
Strontium (Sr)	0.153	0.157	0.138	0.157	0.108	0.163	0.16	0.0937	0.097
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)	<0.00020	<0.00020	0.00114	0.00126	0.0008	<0.00020	<0.00020	0.00023	<0.00020
Zinc (Zn)	0.00022	<0.00010	0.00198	0.0004	0.0031	0.00716	0.00095	0.00212	0.00025

Sample Location	MW05-3A		MW05-3B			MW05-4A	MW05-4B	
Sampling Date	2017-07-06	2017-08-28	2017-07-06	2017-08-28	2017-10-28	2017-08-21	2017-07-05	2017-08-21
Lab Report ID	B755643	B774449	B755643	B774449	B797661	B772721	B755643	B772721
Field Parameters								
Temperature (°C)	2.93	2.6	2.83	2.5	1.7	4.2	2.53	2.3
pH	6.79	7.07	6.17	6.42	8.11	8.04	6.78	6.69
Specific Conductivity (µS/cm^3)	256	237.1	226	210	0.22	187.4	144	129.3
Conductivity (µS/cm)	443	415.3	392	368.6	395.3	311.8	252	228.6
Physical Parameters								
Temperature (°C)	2.1	2.3	2.1	2.3	2.2	1.8	2.1	1.8
Conductivity (µS/cm)	432	436	380	394	400	326	243	236
Hardness (mg/L)	205	206	180	176	190	165	112	104
Total Suspended Solids (mg/L)	<4.0	<4.0	<4.0	<4.0	<4.0	5.3	<4.0	6.5
Total Dissolved Solids (mg/L)	276	240	236	224	228	222	122	154
pH	8.31	8.05	8.09	7.73	7.48	8.22	8.15	7.91
Turbidity (NTU)	17.3	5.27	1.41	0.38	<0.10	20.5	29.2	13.1
DOC (mg/L)								
Major Anions (mg/L)								
Alkalinity-Total	142	147	99.5	103	96.4	119	80.3	77.3
Acidity-Total	3.44	17.1	10.6	25.8	7.4	<1.0	0.67	4.1
Bromide	0.012	0.014	0.011	0.014	0.013	<0.010	<0.010	<0.010
Chloride	2	2.1	2	2.6	3.4	<1.0	0.77	<1.0
Fluoride	0.35	0.37	0.12	0.13	0.12	1.1	0.39	0.39
Sulphate	85.1000	79.4000	94.4000	94.6000	108.0000	47.5000	39.1000	37.3000
Nutrient Parameters (mg/L)								
Ammonial Nitrogen	0.062	0.029	0.04	<0.020	<0.020	0.086	0.081	0.037
Nitrate Nitrogen	0.12	<0.20	0.256	0.29	0.34	<0.20	0.0105	<0.20
Nitrite Nitrogen	0.0051	<0.20	<0.0020	<0.20	<0.20	<0.20	0.0034	<0.20
Dissolved Ortho-Phosphate	0.013	0.0078	0.0039	0.0031	0.004	0.0042	0.0062	0.0018
Dissolved Metals (mg/L)								
Aluminum (Al)	0.00077	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00098	0.0008
Antimony (Sb)	0.00023	0.00026	0.000101	0.000099	0.000119	0.000046	0.000096	0.000091
Arsenic (As)	0.000363	0.000356	0.000059	0.000056	0.000054	0.0105	0.00817	0.00739
Cadmium (Cd)	0.0111	0.0104	0.0308	0.0295	0.0291	<0.0000050	0.00476	0.00487
Calcium (Ca)	68.7	69	60.9	59.2	63.7	59.2	39.9	36.8
Chromium (Cr)	<0.00010	<0.00010	0.00015	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cobalt (Co)	0.000485	0.000488	0.0000354	0.000021	0.0000226	<0.0000050	0.00356	0.00292
Copper (Cu)	0.000174	0.000139	0.00307	0.00322	0.00372	<0.000050	0.000242	0.000057
Iron (Fe)	1.03	1.04	0.0031	0.0038	0.001	1.91	2.13	1.95
Lead (Pb)	0.000313	0.000323	0.0000515	0.000039	0.0000815	<0.0000050	0.0000433	0.00003
Magnesium (Mg)	8.26	8.19	6.7	6.83	7.52	4.22	3	2.9
Manganese (Mn)	0.133	0.14	0.00577	0.00369	0.00453	0.242	3.06	2.52
Mercury (Hg)	<0.00001	<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	<0.00001
Molybdenum (Mo)	0.000979	0.00104	0.000401	0.000396	0.000374	0.00439	0.00105	0.00101
Nickel (Ni)	0.00632	0.00641	0.00714	0.00696	0.00711	0.00004	0.00603	0.00535
Phosphorus (P)	0.0135	0.0117	0.0044	0.0031	0.0054	0.0192	0.008	0.0061
Potassium (K)	1.4	1.37	1.33	1.28	1.37	1.86	1.86	1.66
Selenium (Se)	0.00518	0.00415	0.00652	0.00669	0.00865	<0.000040	<0.000040	<0.000040
Silicon (Si)	5.16	4.66	5.35	4.99	5	3.73	7.39	6.89
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	4.98	4.84	4.92	4.82	4.98	1.07	1.02	0.998
Strontium (Sr)	0.199	0.203	0.182	0.183	0.182	0.18	0.172	0.152
Thallium (Tl)	0.0000179	0.000015	0.0000164	0.000015	0.0000151	<0.0000020	0.0000451	0.000048
Vanadium (V)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	1.51	1.49	2.85	2.71	2.76	0.00023	0.23	0.201

Sample Location	MW05-5A				MW05-5B		MW05-6A		
Sampling Date	2017-05-31	2017-07-07	2017-08-27	2017-10-28	2017-05-31	2017-10-28	2017-07-04	2017-08-20	2017-10-30
Lab Report ID	B743263	B757218	B774449	B797661	B743263	B797661	B755643	B772721	B797661
Field Parameters									
Temperature (°C)	3.43	4.37	3.1	3	4.09	2.5	3.4	3.5	-1.2
pH	8.45	7.25	7.26	8.33	8.87	7.83	6.94	6.82	8.11
Specific Conductivity (µS/cm^3)	214	290	266.6	0.279	180	0.023	104	98.6	0.095
Conductivity (µS/cm)	363	478	458.4	482.1	301	42.6	177	167.2	196.3
Physical Parameters									
Temperature (°C)	7.3	0.4	2.3	2.2	7.3	2.2	2.1	1.8	2.2
Conductivity (µS/cm)	377	469	484	488	309	315	169	172	192
Hardness (mg/L)	207	259	262	271	153	164	78.4	81.6	79.8
Total Suspended Solids (mg/L)	<4.0	<4.0	4.5	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Total Dissolved Solids (mg/L)	200	278	248	262	170	162	82	124	84
pH	8.22	8.51	8.33	8.03	7.97	7.89	8.11	7.9	7.6
Turbidity (NTU)	0.21	1.03	3.85	10.2	3.94	5.86	24.4	18.3	<0.10
DOC (mg/L)									
Major Anions (mg/L)									
Alkalinity-Total	173	223	235	231	112	116	67.6	68.8	76.1
Acidity-Total	<0.50	<0.50	8.4	<1.0	<0.50	<1.0	<0.50	2.7	<1.0
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	0.61	<0.50	<1.0	<1.0	0.83	1.1	<0.50	<1.0	<1.0
Fluoride	1.4	2	2	2.1	0.2	0.2	0.14	0.14	0.038
Sulphate	30.7000	34.3000	33.7000	38.5000	45.2000	46.8000	16.7000	15.8000	17.9000
Nutrient Parameters (mg/L)									
Ammonial Nitrogen	0.085	0.11	0.07	0.09	0.083	0.022	0.051	<0.020	<0.020
Nitrate Nitrogen	<0.20	0.21	<0.20	<0.20	<0.20	<0.20	0.0028	<0.20	<0.20
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.0020	<0.20	<0.20
Dissolved Ortho-Phosphate	0.011	0.0038	0.0037	0.0048	<0.0010	0.0012	0.94	0.89	0.98
Dissolved Metals (mg/L)									
Aluminum (Al)	0.0463	0.00598	0.00474	0.00429	0.00385	0.00076	0.00062	0.00057	0.00163
Antimony (Sb)	0.00602	0.00299	0.00255	0.00311	0.000174	0.000336	0.00146	0.000506	0.00136
Arsenic (As)	0.00226	0.00281	0.0039	0.00421	0.002	0.00217	0.00638	0.00608	0.006
Cadmium (Cd)	0.00228	0.00041	0.000188	0.000142	0.000049	0.000024	<0.0000050	<0.0000050	0.0000103
Calcium (Ca)	54.4	66.5	70.4	70.9	48.9	52.7	26.4	27	26.7
Chromium (Cr)	<0.00010	0.00014	<0.00010	<0.00010	<0.00010	<0.00010	0.00011	0.00046	<0.00010
Cobalt (Co)	0.000975	0.000719	0.000515	0.00033	0.00103	0.00101	0.000244	0.000291	0.000251
Copper (Cu)	0.0125	0.000281	0.000274	0.000962	0.000424	0.00023	<0.000050	0.000061	0.000098
Iron (Fe)	0.128	0.309	0.888	1.11	0.51	0.618	1.5	1.9	1.5
Lead (Pb)	0.00208	0.000187	0.000204	0.000143	0.000623	0.0000509	0.0000081	<0.0000050	0.0000218
Magnesium (Mg)	17.3	22.5	20.8	23	7.41	7.83	3.02	3.44	3.18
Manganese (Mn)	0.149	0.143	0.15	0.121	0.924	0.898	0.122	0.153	0.122
Mercury (Hg)		<0.00001	<0.00001				<0.00001	<0.00001	
Molybdenum (Mo)	0.00592	0.00651	0.00712	0.00685	0.000984	0.00125	0.00124	0.00147	0.00135
Nickel (Ni)	0.00983	0.00729	0.00528	0.00348	0.00786	0.00766	0.00145	0.00134	0.00116
Phosphorus (P)	0.0155	0.0083	0.0087	0.0138	0.0063	0.0063	1.09	1.05	1.05
Potassium (K)	2.25	1.75	1.63	1.75	0.534	0.622	1.08	1.1	1.08
Selenium (Se)	0.000367	0.000049	<0.000040	0.000054	0.000042	0.000044	<0.000040	<0.000040	<0.000040
Silicon (Si)	3.5	3.91	3.76	3.99	3.83	4.12	7.55	7.23	7.2
Silver (Ag)	0.0000	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	0.375	0.315	0.271	0.36	0.882	0.946	1.66	1.9	1.82
Strontium (Sr)	0.11	0.12	0.134	0.128	0.111	0.115	0.0263	0.028	0.0261
Thallium (Tl)	0.000024	0.000013	0.000011	0.0000085	0.000006	0.0000034	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)	0.00022	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.178	0.105	0.0716	0.0497	0.0935	0.102	0.00475	0.00089	0.00442

Sample Location	MW05-6B			MW06-08S	MW06-9S			MW06-9M
Sampling Date	2017-07-04	2017-08-20	2017-10-30	2017-10-29	2017-07-05	2017-08-29	2017-10-29	2017-08-30
Lab Report ID	B755643	B772721	B797661	B797661	B755643	B774449	B797661	B775568
Field Parameters								
Temperature (°C)	2.94	3.5	-3.5	0.9	2.94	3	1.4	3.1
pH	7.07	6.96	7.61	7.41	7.98	7.82	7.83	7.56
Specific Conductivity (µS/cm^3)	101	99.1	0.097	0.115	147	142.2	0.138	209.7
Conductivity (µS/cm)	174	99.2	213.1	211.1	254	245.4	251.9	360.5
Physical Parameters								
Temperature (°C)	2.1	1.8	2.2	2.2	2.1	2.3	2.2	1.1
Conductivity (µS/cm)	172	180	175	211	248	256	256	376
Hardness (mg/L)	86.1	87.2	92.7	93.3	128	126	129	193
Total Suspended Solids (mg/L)	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Total Dissolved Solids (mg/L)	80	128	102	138	126	152	154	224
pH	8.23	8.09	7.7	7.12	8.31	8.25	8.01	8.12
Turbidity (NTU)	0.72	1.17	3.62	3.55	3.86	5.17	3.15	11.2
DOC (mg/L)								0.98
Major Anions (mg/L)								
Alkalinity-Total	85	85.3	73.8	63.1	103	113	108	167
Acidity-Total	<0.50	<1.0	<1.0	7.6	<0.50	2.7	<1.0	2.5
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	<0.50	<1.0	<1.0	1.9	<0.50	<1.0	<1.0	<1.0
Fluoride	0.038	0.036	0.11	0.28	0.8	0.6	0.65	0.96
Sulphate	6.6500	7.5000	9.8000	30.7000	25.2000	23.0000	24.7000	36.8000
Nutrient Parameters (mg/L)								
Ammonial Nitrogen	0.071	<0.020	<0.020	0.022	0.12	0.052	0.055	0.081
Nitrate Nitrogen	0.276	0.22	0.21	<0.20	<0.0020	<0.20	<0.20	<0.20
Nitrite Nitrogen	<0.0020	<0.20	<0.20	<0.20	<0.0020	<0.20	<0.20	<0.20
Dissolved Ortho-Phosphate	0.0047	0.005	0.0057	0.004	0.2	0.23	0.081	0.0046
Dissolved Metals (mg/L)								
Aluminum (Al)	0.00057	0.00064	0.00107	0.00298	0.00309	0.00167	0.00242	0.00169
Antimony (Sb)	0.000029	0.000031	0.000045	0.00595	<0.000020	<0.000020	<0.000020	0.000381
Arsenic (As)	0.000081	0.000061	0.00007	0.00112	0.00763	0.00841	0.00752	0.00184
Cadmium (Cd)	<0.0000050	<0.0000050	0.0000086	0.0000747	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Calcium (Ca)	30.5	30.2	32.4	31.2	43.1	42.6	43.5	57.9
Chromium (Cr)	0.00103	0.00104	0.00091	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cobalt (Co)	0.000009	0.000009	0.0000181	0.00361	0.0000651	0.000064	0.0000684	0.000028
Copper (Cu)	0.000307	0.000223	0.000276	0.000214	<0.000050	<0.000050	<0.000050	<0.000050
Iron (Fe)	0.0025	0.0086	0.01	4.98	0.794	0.7	0.711	0.777
Lead (Pb)	0.0000106	0.000025	0.0000153	0.0000182	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Magnesium (Mg)	2.43	2.89	2.84	3.72	4.97	4.81	4.99	11.8
Manganese (Mn)	0.000299	0.000403	0.00413	0.373	0.123	0.136	0.135	0.0136
Mercury (Hg)	<0.00001	<0.00001			<0.00001	<0.00001		<0.00001
Molybdenum (Mo)	0.000285	0.000259	0.000222	0.00251	0.00411	0.00487	0.00454	0.00447
Nickel (Ni)	0.000372	0.000169	0.000164	0.0405	0.000221	0.000164	0.000132	0.00214
Phosphorus (P)	0.0077	0.0063	0.0079	0.257	0.247	0.262	0.267	0.0124
Potassium (K)	0.726	0.719	0.741	0.949	1.08	0.902	0.939	1.7
Selenium (Se)	0.000763	0.000702	0.000728	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
Silicon (Si)	4.57	4.42	4.34	5.81	4.64	4.33	4.35	3.43
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	1.18	1.33	1.31	1.14	0.779	1	1.02	0.286
Strontium (Sr)	0.0465	0.0473	0.0463	0.0606	0.152	0.161	0.155	0.0804
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	0.0000142	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.00137	0.00175	0.002	1.83	0.00074	0.0008	0.00176	0.0003

Sample Location	MW06-10S			MW06-10M	MW06-10D		MW06-11S		
Sampling Date	2017-07-08	2017-08-25	2017-10-29	2017-10-30	2017-08-27	2017-10-29	2017-05-31	2017-07-06	2017-08-28
Lab Report ID	B757218	B774449	B797661	B797661	B774449	B797661	B743263	B757218	B774449
Field Parameters									
Temperature (°C)	7.78	4.3	1.6	-1.7	2.9	0.9	3.25	6.73	3.4
pH	7.86	7.65	7.71	6.92	7.35	7.65	8.3	7.33	7.4
Specific Conductivity (µS/cm^3)	193	162.2	0.151	0.27	267.1	0.247	2.55	298	256.3
Conductivity (µS/cm)	287	267.3	276.6	553.8	469.6	450.3	435	456	436.3
Physical Parameters									
Temperature (°C)	0.4	2.3	2.2	2.2	2.3	2.2	7.3	0.4	2.3
Conductivity (µS/cm)	282	286	282	481	478	474	422	433	458
Hardness (mg/L)	142	141	146	252	266	249	221	250	244
Total Suspended Solids (mg/L)	<4.0	<4.0	<4.0	9.8	6.3	<4.0	<4.0	7.8	15
Total Dissolved Solids (mg/L)	152	148	138	272	232	292	222	274	248
pH	8.32	8.21	8.04	8.01	8.31	8.11	8.19	8.33	8.25
Turbidity (NTU)	3.27	5.14	2.95	67.4	19.4	9.41	9.7	10.9	15.6
DOC (mg/L)									
Major Anions (mg/L)									
Alkalinity-Total	119	122	124	202	247	247	186	203	219
Acidity-Total	<0.50	2.6	<1.0	<1.0	8.7	<1.0	<0.50	<0.50	5.3
Bromide	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloride	<0.50	<1.0	<1.0	<1.0	<1.0	1	0.59	<0.50	<1.0
Fluoride	0.23	0.23	0.23	0.75	1	0.98	2.4	2.8	2.8
Sulphate	27.5000	26.8000	29.2000	58.9000	24.2000	22.5000	34.6000	36.5000	31.1000
Nutrient Parameters (mg/L)									
Ammonial Nitrogen	0.079	0.026	0.03	0.11	0.09	0.077	0.21	0.32	0.24
Nitrate Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nitrite Nitrogen	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.25	<0.20
Dissolved Ortho-Phosphate	0.0082	0.012	0.0021	0.002	0.0027	0.0044	0.024	0.015	0.0041
Dissolved Metals (mg/L)									
Aluminum (Al)	0.0019	0.0013	0.00145	0.00072	0.00072	0.00291	0.0135	0.00321	0.00245
Antimony (Sb)	0.000459	0.000473	0.000487	0.000185	0.000185	0.00102	0.000093	0.000047	0.00005
Arsenic (As)	0.00531	0.00556	0.00541	0.00042	0.000704	0.000979	0.00442	0.00383	0.00398
Cadmium (Cd)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.000034	<0.0000050	<0.0000050
Calcium (Ca)	48.6	49.2	51	80.5	69.3	65.3	59.3	66.7	66.7
Chromium (Cr)	0.00011	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00012	0.00021	<0.00010
Cobalt (Co)	0.000095	0.000087	0.0000816	0.0000137	0.000006	0.000006	0.000337	0.000257	0.000272
Copper (Cu)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000658	<0.000050	<0.000050
Iron (Fe)	0.348	0.379	0.359	4.83	1.41	0.54	1.34	1.22	1.26
Lead (Pb)	0.000007	<0.0000050	0.000006	0.000008	0.000005	0.0000066	0.00153	0.000005	<0.0000050
Magnesium (Mg)	4.96	4.38	4.51	12.4	22.6	20.8	17.7	20.1	18.9
Manganese (Mn)	0.112	0.121	0.111	0.0789	0.00856	0.0244	0.116	0.0692	0.074
Mercury (Hg)	<0.00001	<0.00001			<0.00001			<0.00001	<0.00001
Molybdenum (Mo)	0.00114	0.00113	0.00106	0.00268	0.00609	0.00333	0.0148	0.0132	0.0137
Nickel (Ni)	0.000807	0.000588	0.000474	0.000114	0.000236	0.000108	0.00079	0.00093	0.00072
Phosphorus (P)	0.0162	0.0158	0.0177	0.0124	0.0047	0.0139	0.0429	0.0162	0.016
Potassium (K)	1.16	1.1	1.11	1.83	1.81	4.65	1.63	1.5	1.52
Selenium (Se)	<0.000040	<0.000040	<0.000040	0.000043	<0.000040	0.00149	<0.000040	<0.000040	<0.000040
Silicon (Si)	3.57	3.47	3.66	4.34	4.2	4.18	5.89	4.79	4.85
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	1.39	1.19	1.17	2.8	0.858	1.72	2.71	1.24	1.06
Strontium (Sr)	0.179	0.189	0.178	0.132	0.164	0.161	0.113	0.113	0.119
Thallium (Tl)	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020
Vanadium (V)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.00482	0.00157	0.00277	0.00448	0.00044	0.00022	0.00712	0.00144	0.00162

Sample Location	MW08-13		
Sampling Date	2017-07-03	2017-08-20	2017-10-30
Lab Report ID	B755643	B772721	B797661
Field Parameters			
Temperature (°C)	5.13	7.6	-2.5
pH	6.26	6.23	7.26
Specific Conductivity (µS/cm^3)	208	247.1	0.13
Conductivity (µS/cm)	336	370.5	260.2
Physical Parameters			
Temperature (°C)	2.1	1.8	2.2
Conductivity (µS/cm)	328	400	484
Hardness (mg/L)	154	180	217
Total Suspended Solids (mg/L)	6.8	<4.0	<4.0
Total Dissolved Solids (mg/L)	240	288	310
pH	8.15	7.55	7.61
Turbidity (NTU)	17.1	0.65	<0.10
DOC (mg/L)			
Major Anions (mg/L)			
Alkalinity-Total	91.4	101	105
Acidity-Total	8.31	4.5	2.9
Bromide	0.018	0.02	0.027
Chloride	1.3	1.6	3.5
Fluoride	0.032	0.032	0.039
Sulphate	73.7000	98.1000	144.0000
Nutrient Parameters (mg/L)			
Ammonial Nitrogen	0.081	0.084	0.36
Nitrate Nitrogen	0.0318	<0.20	<0.20
Nitrite Nitrogen	<0.0020	<0.20	<0.20
Dissolved Ortho-Phosphate	0.0036	0.0032	0.0042
Dissolved Metals (mg/L)			
Aluminum (Al)	0.0156	0.0134	0.00927
Antimony (Sb)	0.000034	0.000036	0.000047
Arsenic (As)	0.000129	0.000178	0.0002
Cadmium (Cd)	0.0000371	0.000161	0.0000185
Calcium (Ca)	51.7	59.7	71.6
Chromium (Cr)	0.00048	0.00017	<0.00010
Cobalt (Co)	0.0000481	0.000094	0.000233
Copper (Cu)	0.00272	0.00178	0.000639
Iron (Fe)	0.0067	0.0174	0.008
Lead (Pb)	0.0000464	0.00012	0.00005
Magnesium (Mg)	6.16	7.53	9.21
Manganese (Mn)	0.0349	2	3.91
Mercury (Hg)	<0.00001	<0.00001	
Molybdenum (Mo)	0.000154	0.000319	0.000381
Nickel (Ni)	0.00203	0.00425	0.0068
Phosphorus (P)	0.0107	0.0098	0.0152
Potassium (K)	1.19	1.3	1.51
Selenium (Se)	0.000579	0.000725	0.000642
Silicon (Si)	4.36	4.05	3.31
Silver (Ag)	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)	6.01	8.79	12.5
Strontium (Sr)	0.116	0.142	0.145
Thallium (Tl)	0.0000022	0.00001	<0.0000020
Vanadium (V)	<0.00020	<0.00020	<0.00020
Zinc (Zn)	0.0063	0.00566	0.00754

Appendix E: Water Quality Lab Reports

Your C.O.C. #: 08439096, 08439097

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/06/09
Report #: R2395227
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B743263
Received: 2017/06/01, 14:30

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	7	N/A	2017/06/05	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	7	2017/06/03	2017/06/04	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	7	N/A	2017/06/05	BBY6SOP-00011	SM 22 4500-Cl- E m
Conductance - water	7	N/A	2017/06/04	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	7	N/A	2017/06/08	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3)	1	N/A	2017/06/06	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3)	2	N/A	2017/06/07	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3)	1	N/A	2017/06/09	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	6	N/A	2017/06/05	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	1	N/A	2017/06/08	BBY WI-00033	Auto Calc
Bromide as Bromine (Br) by ICPMS	7	N/A	2017/06/06	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	6	N/A	2017/06/05	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	1	N/A	2017/06/08	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	5	N/A	2017/06/04	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	2	N/A	2017/06/05	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Digested LL (total)	2	2017/06/05	2017/06/06	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Digested LL (total)	1	2017/06/07	2017/06/08	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2017/06/06	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	N/A	2017/06/07	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2017/06/09	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	1	N/A	2017/06/05	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Ammonia-N (Preserved)	7	N/A	2017/06/06	BBY6SOP-00009	SM 22 4500-NH3- G m
Nitrate+Nitrite (N) (low level)	7	N/A	2017/06/03	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	7	N/A	2017/06/03	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	7	N/A	2017/06/07	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	3	N/A	2017/06/04	BBY7 WI-00004	BCMOE Reqs 08/14
Filter and HNO3 Preserve for Metals	2	N/A	2017/06/05	BBY7 WI-00004	BCMOE Reqs 08/14
Filter and HNO3 Preserve for Metals	2	N/A	2017/06/09	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (1)	7	N/A	2017/06/04	BBY6SOP-00026	SM 22 4500-H+ B m

Your C.O.C. #: 08439096, 08439097

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/06/09
Report #: R2395227
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B743263
Received: 2017/06/01, 14:30

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Orthophosphate by Konelab (low level)	7	N/A	2017/06/04	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	6	N/A	2017/06/05	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	1	N/A	2017/06/06	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	7	2017/06/06	2017/06/07	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - UF/UP	6	2017/06/05	2017/06/05	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - UF/UP	1	2017/06/08	2017/06/08	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	6	N/A	2017/06/05	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	1	N/A	2017/06/08	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	7	2017/06/05	2017/06/06	BBY6SOP-00034	SM 22 2540 D
Turbidity	7	N/A	2017/06/03	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Your C.O.C. #: 08439096, 08439097

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/06/09
Report #: R2395227
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B743263
Received: 2017/06/01, 14:30

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B743263
Report Date: 2017/06/09

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RE8298		RE8299		RE8300		RE8307		
Sampling Date		2017/05/31 12:25		2017/05/31 12:51		2017/05/31 13:25		2017/05/31 10:14		
COC Number		08439096		08439096		08439096		08439097		
	UNITS	MW05-5A	QC Batch	MW05-5B	QC Batch	MW06-11S	QC Batch	W22	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	1.40	8656350	0.200	8656350	2.40	8656350	0.065	0.010	8656350
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L						8650052	53.2	0.50	8650052
Nitrate (N)	mg/L	<0.20	8650215	<0.20	8650215	<0.20	8650215	<0.20	0.20	8650215
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	207	8650664	153	8650664	221	8650664	48.5	0.50	8650664
Acidity (pH 4.5)	mg/L	<0.50	8652535	<0.50	8652535	<0.50	8652535	<0.50	0.50	8652535
Alkalinity (Total as CaCO3)	mg/L	173	8651214	112	8651214	186	8651208	40.6	0.50	8651200
Acidity (pH 8.3)	mg/L	<0.50	8652535	<0.50	8652535	<0.50	8652535	<0.50	0.50	8652535
Alkalinity (PP as CaCO3)	mg/L	<0.50	8651214	<0.50	8651214	<0.50	8651208	<0.50	0.50	8651200
Bicarbonate (HCO3)	mg/L	211	8651214	136	8651214	228	8651208	49.5	0.50	8651200
Carbonate (CO3)	mg/L	<0.50	8651214	<0.50	8651214	<0.50	8651208	<0.50	0.50	8651200
Hydroxide (OH)	mg/L	<0.50	8651214	<0.50	8651214	<0.50	8651208	<0.50	0.50	8651200
Anions										
Orthophosphate (P)	mg/L	0.011 (1)	8651802	<0.0010 (1)	8651802	0.024 (1)	8651802	0.0017 (1)	0.0010	8651802
Dissolved Sulphate (SO4)	mg/L	30.7	8653330	45.2	8653330	34.6	8653326	12.3	0.50	8654688
Dissolved Chloride (Cl)	mg/L	0.61	8653329	0.83	8653329	0.59	8653323	0.60	0.50	8653323
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0327 (1)	8652907	0.0092 (1)	8652907	0.0269 (1)	8652907	0.0116 (1)	0.0020	8656642
Total Ammonia (N)	mg/L	0.085	8653795	0.083	8653795	0.21	8653795	0.027	0.0050	8653795
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8651522	<0.20 (2)	8651522	<0.20 (2)	8651522	<0.20 (2)	0.20	8651522
Nitrite (N)	mg/L	<0.20 (2)	8651523	<0.20 (2)	8651523	<0.20 (2)	8651523	<0.20 (2)	0.20	8651523
Total Phosphorus (P)	mg/L	0.0115	8656648	0.0046	8652913	0.0348	8652913	0.0194	0.0020	8652913
Physical Properties										
Conductivity	uS/cm	377	8651216	309	8651216	422	8651210	112	1.0	8651197
pH	pH	8.22	8651217	7.97	8651217	8.19	8651211	7.62		8651188
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8652837	<4.0	8652837	<4.0	8652837	5.5	4.0	8652837
Total Dissolved Solids	mg/L	200	8653937	170	8653937	222	8653937	52	10	8653937
Turbidity	NTU	0.21	8651328	3.94	8651328	9.70	8651328	1.69	0.10	8651328

RDL = Reportable Detection Limit
(1) Sample analysed past recommended hold time.
(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B743263
Report Date: 2017/06/09

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RE8309		RE8312	RE8314		
Sampling Date		2017/05/31 11:14		2017/05/31 11:05	2017/05/31 10:44		
COC Number		08439097		08439097	08439097		
	UNITS	W71	QC Batch	W72	W73	RDL	QC Batch
Misc. Inorganics							
Fluoride (F)	mg/L	0.046	8656350	0.170	0.540	0.010	8656350
Calculated Parameters							
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	73.2	8650052	180	326	0.50	8650052
Nitrate (N)	mg/L	<0.20	8650215	<0.20	<0.20	0.20	8650215
Misc. Inorganics							
Dissolved Hardness (CaCO3)	mg/L	76.1	8654624	169	341	0.50	8650664
Acidity (pH 4.5)	mg/L	<0.50	8652535	<0.50	<0.50	0.50	8652535
Alkalinity (Total as CaCO3)	mg/L	63.8	8651208	107	243	0.50	8651208
Acidity (pH 8.3)	mg/L	<0.50	8652535	<0.50	<0.50	0.50	8652535
Alkalinity (PP as CaCO3)	mg/L	<0.50	8651208	<0.50	<0.50	0.50	8651208
Bicarbonate (HCO3)	mg/L	77.8	8651208	131	297	0.50	8651208
Carbonate (CO3)	mg/L	<0.50	8651208	<0.50	<0.50	0.50	8651208
Hydroxide (OH)	mg/L	<0.50	8651208	<0.50	<0.50	0.50	8651208
Anions							
Orthophosphate (P)	mg/L	<0.0010 (1)	8651802	0.010 (1)	0.0080 (1)	0.0010	8651802
Dissolved Sulphate (SO4)	mg/L	14.3	8653326	67.9	97.7	0.50	8653326
Dissolved Chloride (Cl)	mg/L	0.57	8653323	0.56	0.57	0.50	8653323
Nutrients							
Dissolved Phosphorus (P)	mg/L	0.0091 (1)	8652907	0.0312 (1)	0.0232 (1)	0.0020	8652907
Total Ammonia (N)	mg/L	0.031	8653795	0.033	0.019	0.0050	8653795
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8651522	<0.20 (2)	<0.20 (2)	0.20	8651522
Nitrite (N)	mg/L	<0.20 (2)	8651523	<0.20 (2)	<0.20 (2)	0.20	8651523
Total Phosphorus (P)	mg/L	0.0127	8652913	0.0305	0.0254	0.0020	8652913
Physical Properties							
Conductivity	uS/cm	157	8651210	339	603	1.0	8651210
pH	pH	7.89	8651211	8.09	8.29		8651211
Physical Properties							
Total Suspended Solids	mg/L	<4.0	8652837	<4.0	<4.0	4.0	8652837
Total Dissolved Solids	mg/L	82	8653937	188	348	10	8653937
Turbidity	NTU	0.77	8651328	1.14	0.49	0.10	8651328

RDL = Reportable Detection Limit
(1) Sample analysed past recommended hold time.
(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B743263
Report Date: 2017/06/09

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RE8298	RE8299	RE8300		RE8307		
Sampling Date		2017/05/31 12:25	2017/05/31 12:51	2017/05/31 13:25		2017/05/31 10:14		
COC Number		08439096	08439096	08439096		08439097		
	UNITS	MW05-5A	MW05-5B	MW06-11S	QC Batch	W22	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	8653901	<0.010	0.010	8653901
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.0463	0.00385	0.0135	8651323	0.0307	0.00050	8651323
Dissolved Antimony (Sb)	mg/L	0.00602	0.000174	0.000093	8651323	0.000075	0.000020	8651323
Dissolved Arsenic (As)	mg/L	0.00226	0.00200	0.00442	8651323	0.000174	0.000020	8651323
Dissolved Barium (Ba)	mg/L	0.0722	0.0363	0.0456	8651323	0.0308	0.000020	8651323
Dissolved Beryllium (Be)	mg/L	0.000016	<0.000010	<0.000010	8651323	<0.000010	0.000010	8651323
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	8651323	<0.0000050	0.0000050	8651323
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	8651323	<0.010	0.010	8651323
Dissolved Cadmium (Cd)	mg/L	0.00228	0.0000490	0.0000340	8651323	0.0000300	0.0000050	8651323
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	0.00012	8651323	0.00016	0.00010	8651323
Dissolved Cobalt (Co)	mg/L	0.000975	0.00103	0.000337	8651323	0.0000340	0.0000050	8651323
Dissolved Copper (Cu)	mg/L	0.0125	0.000424	0.000658	8651323	0.00170	0.000050	8651323
Dissolved Iron (Fe)	mg/L	0.128	0.510	1.34	8651323	0.0470	0.0010	8651323
Dissolved Lead (Pb)	mg/L	0.00208	0.000623	0.00153	8651323	0.000300	0.0000050	8655123
Dissolved Lithium (Li)	mg/L	0.00234	0.00129	0.00186	8651323	0.00129	0.00050	8651323
Dissolved Manganese (Mn)	mg/L	0.149	0.924	0.116	8651323	0.00209	0.000050	8651323
Dissolved Molybdenum (Mo)	mg/L	0.00592	0.000984	0.0148	8651323	0.000374	0.000050	8651323
Dissolved Nickel (Ni)	mg/L	0.00983	0.00786	0.000790	8651323	0.00118	0.000020	8651323
Dissolved Phosphorus (P)	mg/L	0.0155	0.0063	0.0429	8651323	0.0134	0.0020	8651323
Dissolved Selenium (Se)	mg/L	0.000367	0.000042	<0.000040	8651323	0.000306	0.000040	8651323
Dissolved Silicon (Si)	mg/L	3.50	3.83	5.89	8651323	2.85	0.050	8651323
Dissolved Silver (Ag)	mg/L	0.0000060	<0.0000050	<0.0000050	8651323	<0.0000050	0.0000050	8651323
Dissolved Strontium (Sr)	mg/L	0.110	0.111	0.113	8651323	0.0483	0.000050	8651323
Dissolved Thallium (Tl)	mg/L	0.0000240	0.0000060	<0.0000020	8651323	0.0000030	0.0000020	8651323
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	8651323	<0.00020	0.00020	8651323
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	8651323	<0.00050	0.00050	8651323
Dissolved Uranium (U)	mg/L	0.0283	0.00241	0.00590	8651323	0.000518	0.0000020	8651323
Dissolved Vanadium (V)	mg/L	0.00022	<0.00020	<0.00020	8651323	<0.00020	0.00020	8651323
Dissolved Zinc (Zn)	mg/L	0.178	0.0935	0.00712	8651323	0.00354 (1)	0.00010	8655123
Dissolved Zirconium (Zr)	mg/L	0.00073	<0.00010	0.00017	8651323	<0.00010	0.00010	8651323
Dissolved Calcium (Ca)	mg/L	54.4	48.9	59.3	8650174	12.9	0.050	8650174
Dissolved Magnesium (Mg)	mg/L	17.3	7.41	17.7	8650174	3.93	0.050	8650174

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

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Maxxam Job #: B743263
Report Date: 2017/06/09

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RE8298	RE8299	RE8300		RE8307		
Sampling Date		2017/05/31 12:25	2017/05/31 12:51	2017/05/31 13:25		2017/05/31 10:14		
COC Number		08439096	08439096	08439096		08439097		
	UNITS	MW05-5A	MW05-5B	MW06-11S	QC Batch	W22	RDL	QC Batch
Dissolved Potassium (K)	mg/L	2.25	0.534	1.63	8650174	0.878	0.050	8650174
Dissolved Sodium (Na)	mg/L	0.375	0.882	2.71	8650174	1.04	0.050	8650174
Dissolved Sulphur (S)	mg/L	11.2	16.1	14.4	8650174	4.3	3.0	8650174
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L					0.0809	0.0030	8652263
Total Antimony (Sb)	mg/L					0.000047	0.000020	8652263
Total Arsenic (As)	mg/L					0.000293	0.000020	8652263
Total Barium (Ba)	mg/L					0.0402	0.000050	8652263
Total Beryllium (Be)	mg/L					0.000020	0.000010	8652263
Total Bismuth (Bi)	mg/L					<0.000010	0.000010	8652263
Total Boron (B)	mg/L					<0.010	0.010	8652263
Total Cadmium (Cd)	mg/L					0.0000266	0.0000050	8652263
Total Chromium (Cr)	mg/L					0.00032	0.00010	8652263
Total Cobalt (Co)	mg/L					0.000122	0.000010	8652263
Total Copper (Cu)	mg/L					0.00147	0.00010	8652263
Total Iron (Fe)	mg/L					0.207	0.0050	8652263
Total Lead (Pb)	mg/L					0.000264	0.000020	8652263
Total Lithium (Li)	mg/L					0.00148	0.00050	8652263
Total Manganese (Mn)	mg/L					0.0277	0.00010	8652263
Total Molybdenum (Mo)	mg/L					0.000397	0.000050	8652263
Total Nickel (Ni)	mg/L					0.00150	0.00010	8652263
Total Selenium (Se)	mg/L					0.000263	0.000040	8652263
Total Silicon (Si)	mg/L					3.02	0.050	8652263
Total Silver (Ag)	mg/L					<0.000010	0.000010	8652263
Total Strontium (Sr)	mg/L					0.0519	0.000050	8652263
Total Thallium (Tl)	mg/L					0.0000038	0.0000020	8652263
Total Tin (Sn)	mg/L					<0.00020	0.00020	8652263
Total Titanium (Ti)	mg/L					0.0035	0.0020	8652263
Total Uranium (U)	mg/L					0.000681	0.0000050	8652263
Total Vanadium (V)	mg/L					0.00042	0.00020	8652263
Total Zinc (Zn)	mg/L					0.0025	0.0010	8652263
Total Zirconium (Zr)	mg/L					<0.00010	0.00010	8652263
Total Calcium (Ca)	mg/L					13.8	0.25	8650214
Total Magnesium (Mg)	mg/L					4.56	0.25	8650214
Total Potassium (K)	mg/L					0.90	0.25	8650214

RDL = Reportable Detection Limit

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Maxxam Job #: B743263
Report Date: 2017/06/09

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RE8298	RE8299	RE8300		RE8307		
Sampling Date		2017/05/31 12:25	2017/05/31 12:51	2017/05/31 13:25		2017/05/31 10:14		
COC Number		08439096	08439096	08439096		08439097		
	UNITS	**MW05-5A**	**MW05-5B**	**MW06-11S**	**QC Batch**	**W22**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L					1.11	0.25	8650214
Total Sulphur (S)	mg/L					4.4	3.0	8650214
RDL = Reportable Detection Limit								

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Maxxam Job #: B743263
Report Date: 2017/06/09

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RE8309			RE8312		RE8314		
Sampling Date		2017/05/31 11:14			2017/05/31 11:05		2017/05/31 10:44		
COC Number		08439097			08439097		08439097		
	UNITS	W71	RDL	QC Batch	W72	QC Batch	W73	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	<0.010	0.010	8653901	<0.010	8653901	<0.010	0.010	8653901
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.0238	0.00050	8651323	0.00579	8651323	0.0115	0.00050	8651323
Dissolved Antimony (Sb)	mg/L	0.000122	0.000020	8651323	0.000241	8651323	0.000360	0.000020	8651323
Dissolved Arsenic (As)	mg/L	0.000264	0.000020	8651323	0.00120	8651323	0.000339	0.000020	8651323
Dissolved Barium (Ba)	mg/L	0.0471	0.000020	8651323	0.0679	8651323	0.0514	0.000020	8651323
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8651323	<0.000010	8651323	<0.000010	0.000010	8651323
Dissolved Bismuth (Bi)	mg/L	0.0000060	0.0000050	8651323	<0.0000050	8651323	<0.0000050	0.0000050	8651323
Dissolved Boron (B)	mg/L	<0.010	0.010	8651323	<0.010	8651323	<0.010	0.010	8651323
Dissolved Cadmium (Cd)	mg/L	0.0000400 (1)	0.0000050	8655123	0.000135	8651323	0.00124	0.0000050	8651323
Dissolved Chromium (Cr)	mg/L	0.00043	0.00010	8651323	<0.00010	8651323	<0.00010	0.00010	8651323
Dissolved Cobalt (Co)	mg/L	0.0000390	0.0000050	8651323	0.0000510	8651323	0.000165	0.0000050	8651323
Dissolved Copper (Cu)	mg/L	0.00306	0.000050	8651323	0.000911	8651323	0.000707	0.000050	8651323
Dissolved Iron (Fe)	mg/L	0.0468	0.0010	8651323	0.0653	8651323	0.0172	0.0010	8651323
Dissolved Lead (Pb)	mg/L	0.000620 (1)	0.0000050	8655123	0.0000800	8651323	0.000170	0.0000050	8651323
Dissolved Lithium (Li)	mg/L	0.00053	0.00050	8651323	0.00194	8651323	0.00242	0.00050	8651323
Dissolved Manganese (Mn)	mg/L	0.00534	0.000050	8651323	0.0513	8651323	0.0317	0.000050	8651323
Dissolved Molybdenum (Mo)	mg/L	0.000432	0.000050	8651323	0.00266	8651323	0.00405	0.000050	8651323
Dissolved Nickel (Ni)	mg/L	0.00190 (1)	0.000020	8655123	0.00548	8651323	0.0261	0.000020	8651323
Dissolved Phosphorus (P)	mg/L	0.0142	0.0020	8655123	0.0239	8651323	0.0218	0.0020	8651323
Dissolved Selenium (Se)	mg/L	0.000529	0.000040	8651323	0.00207	8651323	0.00768	0.000040	8651323
Dissolved Silicon (Si)	mg/L	3.52	0.050	8651323	3.50	8651323	3.96	0.050	8651323
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8651323	<0.0000050	8651323	<0.0000050	0.0000050	8651323
Dissolved Strontium (Sr)	mg/L	0.0727	0.000050	8651323	0.200	8651323	0.236	0.000050	8651323
Dissolved Thallium (Tl)	mg/L	0.0000020	0.0000020	8651323	<0.0000020	8651323	0.0000040	0.0000020	8651323
Dissolved Tin (Sn)	mg/L	0.00030	0.00020	8651323	<0.00020	8651323	<0.00020	0.00020	8651323
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8651323	<0.00050	8651323	<0.00050	0.00050	8651323
Dissolved Uranium (U)	mg/L	0.000214	0.0000020	8651323	0.00147	8651323	0.00928	0.0000020	8651323
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8651323	<0.00020	8651323	<0.00020	0.00020	8651323
Dissolved Zinc (Zn)	mg/L	0.0347 (1)	0.00010	8655123	0.0407	8651323	0.414	0.00010	8651323
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8651323	<0.00010	8651323	<0.00010	0.00010	8651323
Dissolved Calcium (Ca)	mg/L	21.2	0.050	8654775	43.1	8650174	88.3	0.050	8650174
Dissolved Magnesium (Mg)	mg/L	5.64	0.050	8654775	14.9	8650174	29.2	0.050	8650174

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

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Maxxam Job #: B743263
Report Date: 2017/06/09

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RE8309			RE8312		RE8314		
Sampling Date		2017/05/31 11:14			2017/05/31 11:05		2017/05/31 10:44		
COC Number		08439097			08439097		08439097		
	UNITS	**W71**	**RDL**	**QC Batch**	**W72**	**QC Batch**	**W73**	**RDL**	**QC Batch**
Dissolved Potassium (K)	mg/L	0.368	0.050	8654775	0.827	8650174	0.750	0.050	8650174
Dissolved Sodium (Na)	mg/L	0.873	0.050	8654775	1.30	8650174	0.905	0.050	8650174
Dissolved Sulphur (S)	mg/L	5.0	3.0	8654775	25.0	8650174	33.5	3.0	8650174
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	0.0279	0.00050	8652362	0.0247	8652263	0.0347	0.0030	8654818
Total Antimony (Sb)	mg/L	0.000108	0.000020	8652362	0.000257	8652263	0.000379	0.000020	8654818
Total Arsenic (As)	mg/L	0.000266	0.000020	8652362	0.00148	8652263	0.000435	0.000020	8654818
Total Barium (Ba)	mg/L	0.0466	0.000020	8652362	0.0724	8652263	0.0552	0.000050	8654818
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8652362	<0.000010	8652263	<0.000010	0.000010	8654818
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8652362	<0.000010	8652263	<0.000010	0.000010	8654818
Total Boron (B)	mg/L	<0.010	0.010	8652362	<0.010	8652263	<0.010	0.010	8654818
Total Cadmium (Cd)	mg/L	0.0000210	0.0000050	8652362	0.000193	8652263	0.00144	0.0000050	8654818
Total Chromium (Cr)	mg/L	0.00044	0.00010	8652362	0.00013	8652263	0.00011	0.00010	8654818
Total Cobalt (Co)	mg/L	0.0000500	0.0000050	8652362	0.000093	8652263	0.000242	0.000010	8654818
Total Copper (Cu)	mg/L	0.00257	0.000050	8652362	0.00131	8652263	0.00093	0.00010	8654818
Total Iron (Fe)	mg/L	0.105	0.0010	8652362	0.181	8652263	0.127	0.0050	8654818
Total Lead (Pb)	mg/L	0.000362	0.0000050	8652362	0.000308	8652263	0.000145	0.000020	8654818
Total Lithium (Li)	mg/L	<0.00050	0.00050	8652362	0.00216	8652263	0.00234	0.00050	8654818
Total Manganese (Mn)	mg/L	0.0186	0.000050	8652362	0.0762	8652263	0.0390	0.00010	8654818
Total Molybdenum (Mo)	mg/L	0.000433	0.000050	8652362	0.00277	8652263	0.00416	0.000050	8654818
Total Nickel (Ni)	mg/L	0.00132	0.000020	8652362	0.00594	8652263	0.0275	0.00010	8654818
Total Phosphorus (P)	mg/L	0.0118	0.0020	8652362					
Total Selenium (Se)	mg/L	0.000487	0.000040	8652362	0.00198	8652263	0.00701	0.000040	8654818
Total Silicon (Si)	mg/L	3.15	0.050	8652362	3.51	8652263	3.51	0.050	8654818
Total Silver (Ag)	mg/L	0.0000050	0.0000050	8652362	<0.000010	8652263	<0.000010	0.000010	8654818
Total Strontium (Sr)	mg/L	0.0706	0.000050	8652362	0.196	8652263	0.240	0.000050	8654818
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8652362	0.0000022	8652263	0.0000050	0.0000020	8654818
Total Tin (Sn)	mg/L	<0.00020	0.00020	8652362	<0.00020	8652263	<0.00020	0.00020	8654818
Total Titanium (Ti)	mg/L	0.00060	0.00050	8652362	<0.0020	8652263	<0.0020	0.0020	8654818
Total Uranium (U)	mg/L	0.000208	0.0000020	8652362	0.00165	8652263	0.00900	0.0000050	8654818
Total Vanadium (V)	mg/L	0.00024	0.00020	8652362	0.00023	8652263	0.00034	0.00020	8654818
Total Zinc (Zn)	mg/L	0.00180	0.00010	8652362	0.0439	8652263	0.443	0.0010	8654818
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8652362	<0.00010	8652263	<0.00010	0.00010	8654818
Total Calcium (Ca)	mg/L	20.4	0.050	8650214	46.2	8650214	84.6	0.25	8650214
Total Magnesium (Mg)	mg/L	5.42	0.050	8650214	15.7	8650214	27.9	0.25	8650214
RDL = Reportable Detection Limit									

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Maxxam Job #: B743263
Report Date: 2017/06/09

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RE8309			RE8312		RE8314		
Sampling Date		2017/05/31 11:14			2017/05/31 11:05		2017/05/31 10:44		
COC Number		08439097			08439097		08439097		
	UNITS	**W71**	**RDL**	**QC Batch**	**W72**	**QC Batch**	**W73**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	0.308	0.050	8650214	0.87	8650214	0.72	0.25	8650214
Total Sodium (Na)	mg/L	0.796	0.050	8650214	1.40	8650214	0.85	0.25	8650214
Total Sulphur (S)	mg/L	4.8	3.0	8650214	22.3	8650214	33.5	3.0	8650214
RDL = Reportable Detection Limit									

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YUKON ZINC CORPORATION

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.3°C

Sample RE8298 [MW05-5A] : Dissolved Phosphorus greater than total. Reanalysis yields similar results.
Sample RE8307, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RE8309, Elements by ICPMS Low Level (dissolved): Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B743263
Report Date: 2017/06/09

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8651188	pH	2017/06/04			101	97 - 103				
8651197	Conductivity	2017/06/04			101	80 - 120	<1.0	uS/cm	0.77	20
8651200	Alkalinity (PP as CaCO3)	2017/06/04					<0.50	mg/L	NC	20
8651200	Alkalinity (Total as CaCO3)	2017/06/04	103	80 - 120	94	80 - 120	<0.50	mg/L	9.9	20
8651200	Bicarbonate (HCO3)	2017/06/04					<0.50	mg/L	9.9	20
8651200	Carbonate (CO3)	2017/06/04					<0.50	mg/L	NC	20
8651200	Hydroxide (OH)	2017/06/04					<0.50	mg/L	NC	20
8651208	Alkalinity (PP as CaCO3)	2017/06/04					<0.50	mg/L	NC	20
8651208	Alkalinity (Total as CaCO3)	2017/06/04	NC	80 - 120	95	80 - 120	<0.50	mg/L	0.45	20
8651208	Bicarbonate (HCO3)	2017/06/04					<0.50	mg/L	0.45	20
8651208	Carbonate (CO3)	2017/06/04					<0.50	mg/L	NC	20
8651208	Hydroxide (OH)	2017/06/04					<0.50	mg/L	NC	20
8651210	Conductivity	2017/06/04			100	80 - 120	<1.0	uS/cm		
8651211	pH	2017/06/04			101	97 - 103				
8651214	Alkalinity (PP as CaCO3)	2017/06/04					<0.50	mg/L	NC	20
8651214	Alkalinity (Total as CaCO3)	2017/06/04	102	80 - 120	96	80 - 120	<0.50	mg/L	5.4	20
8651214	Bicarbonate (HCO3)	2017/06/04					<0.50	mg/L	5.4	20
8651214	Carbonate (CO3)	2017/06/04					<0.50	mg/L	NC	20
8651214	Hydroxide (OH)	2017/06/04					<0.50	mg/L	NC	20
8651216	Conductivity	2017/06/04			100	80 - 120	<1.0	uS/cm		
8651217	pH	2017/06/04			101	97 - 103			2.1	N/A
8651323	Dissolved Aluminum (Al)	2017/06/04	105	80 - 120	107	80 - 120	<0.00050	mg/L	3.6	20
8651323	Dissolved Antimony (Sb)	2017/06/04	101	80 - 120	102	80 - 120	<0.000020	mg/L	0.93	20
8651323	Dissolved Arsenic (As)	2017/06/04	102	80 - 120	100	80 - 120	<0.000020	mg/L	4.5	20
8651323	Dissolved Barium (Ba)	2017/06/04	NC	80 - 120	100	80 - 120	<0.000020	mg/L	1.1	20
8651323	Dissolved Beryllium (Be)	2017/06/04	97	80 - 120	97	80 - 120	<0.000010	mg/L	NC	20
8651323	Dissolved Bismuth (Bi)	2017/06/04	99	80 - 120	98	80 - 120	<0.0000050	mg/L	NC	20
8651323	Dissolved Boron (B)	2017/06/04	NC	80 - 120	95	80 - 120	<0.010	mg/L	1.4	20
8651323	Dissolved Cadmium (Cd)	2017/06/04	99	80 - 120	103	80 - 120	<0.0000050	mg/L	NC	20
8651323	Dissolved Chromium (Cr)	2017/06/04	100	80 - 120	102	80 - 120	<0.00010	mg/L	0.66	20
8651323	Dissolved Cobalt (Co)	2017/06/04	94	80 - 120	100	80 - 120	<0.0000050	mg/L	1.3	20
8651323	Dissolved Copper (Cu)	2017/06/04	92	80 - 120	99	80 - 120	<0.000050	mg/L	4.9	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8651323	Dissolved Iron (Fe)	2017/06/04	98	80 - 120	102	80 - 120	<0.0010	mg/L	16	20
8651323	Dissolved Lead (Pb)	2017/06/04	97	80 - 120	102	80 - 120	<0.0000050	mg/L	NC	20
8651323	Dissolved Lithium (Li)	2017/06/04	100	80 - 120	101	80 - 120	<0.00050	mg/L	2.8	20
8651323	Dissolved Manganese (Mn)	2017/06/04	96	80 - 120	98	80 - 120	<0.000050	mg/L	7.6	20
8651323	Dissolved Molybdenum (Mo)	2017/06/04	104	80 - 120	104	80 - 120	<0.000050	mg/L	4.0	20
8651323	Dissolved Nickel (Ni)	2017/06/04	NC	80 - 120	104	80 - 120	<0.000020	mg/L	0.78	20
8651323	Dissolved Phosphorus (P)	2017/06/04					<0.0020	mg/L	5.7	20
8651323	Dissolved Selenium (Se)	2017/06/04	100	80 - 120	103	80 - 120	<0.000040	mg/L	0.39	20
8651323	Dissolved Silicon (Si)	2017/06/04					<0.050	mg/L	0.52	20
8651323	Dissolved Silver (Ag)	2017/06/04	103	80 - 120	107	80 - 120	<0.0000050	mg/L	NC	20
8651323	Dissolved Strontium (Sr)	2017/06/04	NC	80 - 120	98	80 - 120	<0.000050	mg/L	4.3	20
8651323	Dissolved Thallium (Tl)	2017/06/04	99	80 - 120	105	80 - 120	<0.0000020	mg/L	NC	20
8651323	Dissolved Tin (Sn)	2017/06/04	101	80 - 120	104	80 - 120	<0.00020	mg/L	NC	20
8651323	Dissolved Titanium (Ti)	2017/06/04	116	80 - 120	117	80 - 120	<0.00050	mg/L	NC	20
8651323	Dissolved Uranium (U)	2017/06/04	99	80 - 120	100	80 - 120	<0.0000020	mg/L	3.3	20
8651323	Dissolved Vanadium (V)	2017/06/04	101	80 - 120	100	80 - 120	<0.00020	mg/L	6.5	20
8651323	Dissolved Zinc (Zn)	2017/06/04	98	80 - 120	100	80 - 120	<0.00010	mg/L	3.9	20
8651323	Dissolved Zirconium (Zr)	2017/06/04					<0.00010	mg/L	NC	20
8651328	Turbidity	2017/06/03			105	80 - 120	<0.10	NTU	2.5	20
8651522	Nitrate plus Nitrite (N)	2017/06/03	110	80 - 120	106	80 - 120	<0.0020	mg/L	NC	25
8651523	Nitrite (N)	2017/06/03	102	80 - 120	102	80 - 120	<0.0020	mg/L	NC	25
8651802	Orthophosphate (P)	2017/06/04	98	80 - 120	96	80 - 120	<0.0010	mg/L	NC	20
8652263	Total Aluminum (Al)	2017/06/06	NC	80 - 120	106	80 - 120	<0.0030	mg/L	1.8	20
8652263	Total Antimony (Sb)	2017/06/06	100	80 - 120	101	80 - 120	<0.000020	mg/L	NC	20
8652263	Total Arsenic (As)	2017/06/06	97	80 - 120	97	80 - 120	<0.000020	mg/L	11	20
8652263	Total Barium (Ba)	2017/06/06	NC	80 - 120	101	80 - 120	<0.000050	mg/L	11	20
8652263	Total Beryllium (Be)	2017/06/06	110	80 - 120	106	80 - 120	<0.000010	mg/L	NC	20
8652263	Total Bismuth (Bi)	2017/06/06	110	80 - 120	104	80 - 120	<0.000010	mg/L	NC	20
8652263	Total Boron (B)	2017/06/06	109	80 - 120	104	80 - 120	<0.010	mg/L	NC	20
8652263	Total Cadmium (Cd)	2017/06/06	99	80 - 120	98	80 - 120	<0.0000050	mg/L	17	20
8652263	Total Chromium (Cr)	2017/06/06	103	80 - 120	95	80 - 120	<0.00010	mg/L	NC	20
8652263	Total Cobalt (Co)	2017/06/06	103	80 - 120	96	80 - 120	<0.000010	mg/L	7.7	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8652263	Total Copper (Cu)	2017/06/06	99	80 - 120	97	80 - 120	<0.00010	mg/L	13	20
8652263	Total Iron (Fe)	2017/06/06	NC	80 - 120	106	80 - 120	<0.0050	mg/L	17	20
8652263	Total Lead (Pb)	2017/06/06	111	80 - 120	102	80 - 120	<0.000020	mg/L	2.5	20
8652263	Total Lithium (Li)	2017/06/06	106	80 - 120	106	80 - 120	<0.00050	mg/L	NC	20
8652263	Total Manganese (Mn)	2017/06/06	NC	80 - 120	95	80 - 120	<0.00010	mg/L	0.36	20
8652263	Total Molybdenum (Mo)	2017/06/06	105	80 - 120	102	80 - 120	<0.000050	mg/L	7.1	20
8652263	Total Nickel (Ni)	2017/06/06	102	80 - 120	94	80 - 120	<0.00010	mg/L	12	20
8652263	Total Selenium (Se)	2017/06/06	98	80 - 120	99	80 - 120	<0.000040	mg/L	NC	20
8652263	Total Silicon (Si)	2017/06/06					<0.050	mg/L	4.6	20
8652263	Total Silver (Ag)	2017/06/06	107	80 - 120	103	80 - 120	<0.000010	mg/L	NC	20
8652263	Total Strontium (Sr)	2017/06/06	NC	80 - 120	94	80 - 120	<0.000050	mg/L	0.28	20
8652263	Total Thallium (Tl)	2017/06/06	107	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8652263	Total Tin (Sn)	2017/06/06	116	80 - 120	104	80 - 120	<0.00020	mg/L	NC	20
8652263	Total Titanium (Ti)	2017/06/06	104	80 - 120	91	80 - 120	<0.0020	mg/L	NC	20
8652263	Total Uranium (U)	2017/06/06	116	80 - 120	106	80 - 120	<0.0000050	mg/L	12	20
8652263	Total Vanadium (V)	2017/06/06	101	80 - 120	93	80 - 120	<0.00020	mg/L	NC	20
8652263	Total Zinc (Zn)	2017/06/06	110	80 - 120	97	80 - 120	<0.0010	mg/L	NC	20
8652263	Total Zirconium (Zr)	2017/06/06					<0.00010	mg/L	NC	20
8652362	Total Aluminum (Al)	2017/06/05	99	80 - 120	98	80 - 120	<0.00050	mg/L	NC	20
8652362	Total Antimony (Sb)	2017/06/05	103	80 - 120	102	80 - 120	<0.000020	mg/L	NC	20
8652362	Total Arsenic (As)	2017/06/05	101	80 - 120	102	80 - 120	<0.000020	mg/L	NC	20
8652362	Total Barium (Ba)	2017/06/05	100	80 - 120	101	80 - 120	<0.000020	mg/L	NC	20
8652362	Total Beryllium (Be)	2017/06/05	92	80 - 120	96	80 - 120	<0.000010	mg/L	NC	20
8652362	Total Bismuth (Bi)	2017/06/05	103	80 - 120	102	80 - 120	<0.0000050	mg/L	NC	20
8652362	Total Boron (B)	2017/06/05	96	80 - 120	99	80 - 120	<0.010	mg/L	NC	20
8652362	Total Cadmium (Cd)	2017/06/05	103	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20
8652362	Total Chromium (Cr)	2017/06/05	104	80 - 120	106	80 - 120	<0.00010	mg/L	NC	20
8652362	Total Cobalt (Co)	2017/06/05	101	80 - 120	103	80 - 120	<0.0000050	mg/L	NC	20
8652362	Total Copper (Cu)	2017/06/05	103	80 - 120	103	80 - 120	<0.000050	mg/L	NC	20
8652362	Total Iron (Fe)	2017/06/05	103	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20
8652362	Total Lead (Pb)	2017/06/05	100	80 - 120	101	80 - 120	<0.0000050	mg/L	NC	20
8652362	Total Lithium (Li)	2017/06/05	96	80 - 120	99	80 - 120	<0.00050	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8652362	Total Manganese (Mn)	2017/06/05	100	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8652362	Total Molybdenum (Mo)	2017/06/05	105	80 - 120	107	80 - 120	<0.000050	mg/L	NC	20
8652362	Total Nickel (Ni)	2017/06/05	104	80 - 120	107	80 - 120	<0.000020	mg/L	NC	20
8652362	Total Phosphorus (P)	2017/06/05					<0.0020	mg/L		
8652362	Total Selenium (Se)	2017/06/05	107	80 - 120	105	80 - 120	<0.000040	mg/L	NC	20
8652362	Total Silicon (Si)	2017/06/05					<0.050	mg/L	NC	20
8652362	Total Silver (Ag)	2017/06/05	105	80 - 120	106	80 - 120	<0.0000050	mg/L	NC	20
8652362	Total Strontium (Sr)	2017/06/05	100	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8652362	Total Thallium (Tl)	2017/06/05	99	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8652362	Total Tin (Sn)	2017/06/05	104	80 - 120	105	80 - 120	<0.00020	mg/L	NC	20
8652362	Total Titanium (Ti)	2017/06/05	99	80 - 120	101	80 - 120	<0.00050	mg/L	NC	20
8652362	Total Uranium (U)	2017/06/05	98	80 - 120	100	80 - 120	<0.0000020	mg/L	NC	20
8652362	Total Vanadium (V)	2017/06/05	103	80 - 120	104	80 - 120	<0.00020	mg/L	NC	20
8652362	Total Zinc (Zn)	2017/06/05	108	80 - 120	104	80 - 120	<0.00010	mg/L	NC	20
8652362	Total Zirconium (Zr)	2017/06/05					<0.00010	mg/L	NC	20
8652535	Acidity (pH 4.5)	2017/06/05					<0.50	mg/L	NC	20
8652535	Acidity (pH 8.3)	2017/06/05			100	80 - 120	<0.50	mg/L	NC	20
8652837	Total Suspended Solids	2017/06/06	102	80 - 120	99	80 - 120	<4.0	mg/L	NC	20
8652907	Dissolved Phosphorus (P)	2017/06/05	89	80 - 120	100	80 - 120	<0.0020	mg/L	4.2	20
8652913	Total Phosphorus (P)	2017/06/05	88	80 - 120	95	80 - 120	<0.0020	mg/L	0.53	20
8653323	Dissolved Chloride (Cl)	2017/06/05	97	80 - 120	98	80 - 120	<0.50	mg/L	0.15	20
8653326	Dissolved Sulphate (SO4)	2017/06/05	NC	80 - 120	97	80 - 120	<0.50	mg/L	9.0	20
8653329	Dissolved Chloride (Cl)	2017/06/05	109	80 - 120	98	80 - 120	<0.50	mg/L	1.5	20
8653330	Dissolved Sulphate (SO4)	2017/06/05	NC	80 - 120	96	80 - 120	<0.50	mg/L	NC	20
8653795	Total Ammonia (N)	2017/06/06	92	80 - 120	100	80 - 120	<0.0050	mg/L	4.3	20
8653901	Bromide (Br)	2017/06/06	108	78 - 120	97	80 - 120	<0.010	mg/L	NC	20
8653937	Total Dissolved Solids	2017/06/07	100	80 - 120	94	80 - 120	<10	mg/L	12	20
8654688	Dissolved Sulphate (SO4)	2017/06/06	114	80 - 120	102	80 - 120	0.58, RDL=0.50	mg/L	8.1	20
8654818	Total Aluminum (Al)	2017/06/08	103	80 - 120	98	80 - 120	<0.0030	mg/L	0.36	20
8654818	Total Antimony (Sb)	2017/06/08	105	80 - 120	100	80 - 120	<0.000020	mg/L	3.0	20
8654818	Total Arsenic (As)	2017/06/08	100	80 - 120	98	80 - 120	<0.000020	mg/L	1.7	20
8654818	Total Barium (Ba)	2017/06/08	NC	80 - 120	99	80 - 120	<0.000050	mg/L	1.5	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8654818	Total Beryllium (Be)	2017/06/08	103	80 - 120	95	80 - 120	<0.000010	mg/L	NC	20
8654818	Total Bismuth (Bi)	2017/06/08	100	80 - 120	99	80 - 120	<0.000010	mg/L	NC	20
8654818	Total Boron (B)	2017/06/08	94	80 - 120	85	80 - 120	<0.010	mg/L	NC	20
8654818	Total Cadmium (Cd)	2017/06/08	102	80 - 120	100	80 - 120	<0.0000050	mg/L	2.5	20
8654818	Total Chromium (Cr)	2017/06/08	106	80 - 120	103	80 - 120	<0.00010	mg/L	11	20
8654818	Total Cobalt (Co)	2017/06/08	103	80 - 120	102	80 - 120	<0.000010	mg/L	8.1	20
8654818	Total Copper (Cu)	2017/06/08	104	80 - 120	106	80 - 120	<0.00010	mg/L	1.6	20
8654818	Total Iron (Fe)	2017/06/08	NC	80 - 120	99	80 - 120	<0.0050	mg/L	0.55	20
8654818	Total Lead (Pb)	2017/06/08	100	80 - 120	97	80 - 120	<0.000020	mg/L	0.75	20
8654818	Total Lithium (Li)	2017/06/08	111	80 - 120	104	80 - 120	<0.00050	mg/L	7.7	20
8654818	Total Manganese (Mn)	2017/06/08	NC	80 - 120	96	80 - 120	<0.00010	mg/L	0.64	20
8654818	Total Molybdenum (Mo)	2017/06/08	103	80 - 120	101	80 - 120	<0.000050	mg/L	0.59	20
8654818	Total Nickel (Ni)	2017/06/08	105	80 - 120	104	80 - 120	<0.00010	mg/L	1.1	20
8654818	Total Selenium (Se)	2017/06/08	102	80 - 120	99	80 - 120	<0.000040	mg/L	5.1	20
8654818	Total Silicon (Si)	2017/06/08					<0.050	mg/L	2.5	20
8654818	Total Silver (Ag)	2017/06/08	108	80 - 120	105	80 - 120	<0.000010	mg/L	NC	20
8654818	Total Strontium (Sr)	2017/06/08	NC	80 - 120	95	80 - 120	<0.000050	mg/L	1.8	20
8654818	Total Thallium (Tl)	2017/06/08	103	80 - 120	98	80 - 120	<0.0000020	mg/L	NC	20
8654818	Total Tin (Sn)	2017/06/08	101	80 - 120	103	80 - 120	<0.00020	mg/L	NC	20
8654818	Total Titanium (Ti)	2017/06/08	101	80 - 120	104	80 - 120	<0.0020	mg/L	NC	20
8654818	Total Uranium (U)	2017/06/08	99	80 - 120	95	80 - 120	<0.0000050	mg/L	2.3	20
8654818	Total Vanadium (V)	2017/06/08	108	80 - 120	104	80 - 120	<0.00020	mg/L	NC	20
8654818	Total Zinc (Zn)	2017/06/08	113	80 - 120	104	80 - 120	<0.0010	mg/L	5.0	20
8654818	Total Zirconium (Zr)	2017/06/08					<0.00010	mg/L	NC	20
8655123	Dissolved Cadmium (Cd)	2017/06/07			106	80 - 120	<0.0000050	mg/L		
8655123	Dissolved Lead (Pb)	2017/06/07			103	80 - 120	<0.0000050	mg/L		
8655123	Dissolved Nickel (Ni)	2017/06/07			108	80 - 120	<0.000020	mg/L		
8655123	Dissolved Phosphorus (P)	2017/06/07					<0.0020	mg/L		
8655123	Dissolved Zinc (Zn)	2017/06/07			109	80 - 120	<0.00010	mg/L		
8656350	Fluoride (F)	2017/06/08	95	80 - 120	100	80 - 120	0.015, RDL=0.010	mg/L	0	20
8656642	Dissolved Phosphorus (P)	2017/06/08	89	80 - 120	92	80 - 120	<0.0020	mg/L	4.6	20

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Maxxam Job #: B743263
Report Date: 2017/06/09

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8656648	Total Phosphorus (P)	2017/06/08	85	80 - 120	93	80 - 120	<0.0020	mg/L	NC	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Maxxam Job #: B743263
Report Date: 2017/06/09

YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Andy Lu, Ph.D., P.Chem., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Your C.O.C. #: 08439831, 08439832

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/17
Report #: R2413599
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B753882
Received: 2017/06/30, 12:30

Sample Matrix: Water
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	27	N/A	2017/07/10	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	15	2017/07/05	2017/07/05	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	12	2017/07/05	2017/07/06	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	25	N/A	2017/07/05	BBY6SOP-00011	SM 22 4500-Cl- E m
Chloride by Automated Colourimetry	2	N/A	2017/07/06	BBY6SOP-00011	SM 22 4500-Cl- E m
Cyanide SAD (strong acid dissociable)	9	N/A	2017/07/05	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide SAD (strong acid dissociable)	1	N/A	2017/07/06	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide WAD (weak acid dissociable)	10	N/A	2017/07/05	BBY6SOP-00004	SM 22 4500-CN O m
Carbon (DOC) (1, 2)	11	N/A	2017/07/07	CAL SOP-00077	MMCW 119 1996 m
Carbon (DOC) (1, 2)	16	N/A	2017/07/10	CAL SOP-00077	MMCW 119 1996 m
Conductance - water	15	2017/07/05	2017/07/05	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	12	2017/07/05	2017/07/06	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	27	N/A	2017/07/06	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3)	27	N/A	2017/07/06	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	25	N/A	2017/07/06	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	1	N/A	2017/07/07	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	1	N/A	2017/07/13	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	11	N/A	2017/07/07	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Dissolved) by CVAF	16	N/A	2017/07/10	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	26	2017/07/07	2017/07/07	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	1	2017/07/10	2017/07/10	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	27	N/A	2017/07/05	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	25	N/A	2017/07/06	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	1	N/A	2017/07/07	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	1	N/A	2017/07/13	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	20	N/A	2017/07/05	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	7	N/A	2017/07/06	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Digested LL (total)	2	2017/07/05	2017/07/05	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	27	N/A	2017/07/06	BBY7SOP-00003,	BCLM2005,EPA6020bR2m

Your C.O.C. #: 08439831, 08439832

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/17
Report #: R2413599
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B753882
Received: 2017/06/30, 12:30

Sample Matrix: Water
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS Low Level (total)	12	N/A	2017/07/05	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	13	N/A	2017/07/06	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Ammonia-N (Preserved)	27	N/A	2017/07/06	BBY6SOP-00009	SM 22 4500-NH3- G m
Nitrate+Nitrite (N) (low level)	27	N/A	2017/07/05	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	27	N/A	2017/07/05	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	27	N/A	2017/07/06	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	27	N/A	2017/07/05	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (3)	15	2017/07/05	2017/07/05	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (3)	12	2017/07/05	2017/07/06	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	27	N/A	2017/07/05	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	18	N/A	2017/07/05	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	9	N/A	2017/07/06	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	23	2017/07/05	2017/07/06	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	3	2017/07/06	2017/07/07	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	1	2017/07/07	2017/07/10	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	27	2017/07/05	2017/07/05	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	27	N/A	2017/07/05	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	1	2017/07/05	2017/07/05	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	22	2017/07/05	2017/07/06	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	4	2017/07/06	2017/07/07	BBY6SOP-00034	SM 22 2540 D
Turbidity	27	N/A	2017/07/05	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Your C.O.C. #: 08439831, 08439832

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/17
Report #: R2413599
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B753882
Received: 2017/06/30, 12:30

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Calgary Environmental
(2) DOC present in the sample should be considered as non-purgeable DOC. Dissolved > Total Imbalance: Whenever applicable, Dissolved >Total for any parameter that falls within method uncertainty for duplicates is likely equivalent. If RPD is >20% samples were reanalyzed and confirmed.
(3) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8252		RK8253		RK8254		RK8255		
Sampling Date		2017/06/28 12:00		2017/06/28 10:20		2017/06/28 13:10		2017/06/28 12:45		
COC Number		08439831		08439831		08439831		08439831		
	UNITS	L1	QC Batch	W1	QC Batch	W8	QC Batch	W9	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.066	8686075	0.110	8686075	0.034	8686075	0.100	0.010	8686075
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	56.2	8683811	80.7	8683811	80.5	8683811	144	0.50	8683811
Nitrate (N)	mg/L	<0.20	8683782	0.21	8683782	0.24	8683782	<0.20	0.20	8683782
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	53.5	8683422	78.4	8683422	78.9	8683422	142	0.50	8683422
Dissolved Organic Carbon (C)	mg/L	4.8	8687193	5.5	8687193	2.4	8687193	3.2	0.50	8687193
Acidity (pH 4.5)	mg/L	<0.50	8691105	<0.50	8691101	<0.50	8691105	<0.50	0.50	8691105
Alkalinity (Total as CaCO3)	mg/L	46.1	8685396	68.1	8685396	66.9	8685413	104	0.50	8685396
Acidity (pH 8.3)	mg/L	2.53	8691105	<0.50	8691101	<0.50	8691105	<0.50	0.50	8691105
Alkalinity (PP as CaCO3)	mg/L	<0.50	8685396	<0.50	8685396	<0.50	8685413	<0.50	0.50	8685396
Bicarbonate (HCO3)	mg/L	56.2	8685396	83.1	8685396	81.6	8685413	127	0.50	8685396
Carbonate (CO3)	mg/L	<0.50	8685396	<0.50	8685396	<0.50	8685413	<0.50	0.50	8685396
Hydroxide (OH)	mg/L	<0.50	8685396	<0.50	8685396	<0.50	8685413	<0.50	0.50	8685396
Anions										
Orthophosphate (P)	mg/L	0.0026	8684847	0.026	8684847	<0.0010	8684849	0.0016	0.0010	8684847
Dissolved Sulphate (SO4)	mg/L	10.3	8686802	12.2	8686802	15.6	8686802	42.0	0.50	8686416
Dissolved Chloride (Cl)	mg/L	<0.50	8686414	<0.50	8686409	<0.50	8686414	0.55	0.50	8686414
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0073	8684868	0.0349	8684868	<0.0020	8684868	0.0054	0.0020	8684871
Total Ammonia (N)	mg/L	0.061	8686634	0.053	8686634	0.067	8686634	0.047	0.0050	8686634
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8686140	0.21 (1)	8686140	0.24 (1)	8686140	<0.20 (1)	0.20	8686140
Nitrite (N)	mg/L	<0.20 (1)	8686141	<0.20 (1)	8686141	<0.20 (1)	8686141	<0.20 (1)	0.20	8686141
Total Phosphorus (P)	mg/L	0.0153	8684865	0.0515	8684862	0.0023	8684862	0.0053	0.0020	8684862
Physical Properties										
Conductivity	uS/cm	115	8685408	160	8685408	168	8685418	289	1.0	8685408
pH	pH	7.92	8685402	8.10	8685402	8.07	8685416	8.23		8685402
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8684721	<4.0	8684721	<4.0	8684721	<4.0	4.0	8684721
Total Dissolved Solids	mg/L	68	8684909	92	8684909	96	8684909	162	10	8684909
Turbidity	NTU	0.91	8684951	1.88	8684951	0.18	8684951	0.26	0.10	8684951

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8256		RK8257		RK8258	RK8259		
Sampling Date		2017/06/28 16:10		2017/06/28 17:30		2017/06/27 18:40	2017/06/27 15:40		
COC Number		08439831		08439831		08439831	08439831		
	UNITS	W12	QC Batch	W14	QC Batch	W15	W16	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.039	8686075	0.056	8686075	0.022	0.031	0.010	8686075
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	68.6	8683811	56.1	8683811	50.8	69.7	0.50	8683811
Nitrate (N)	mg/L	<0.20	8683782	0.35	8683782	<0.20	<0.20	0.20	8683782
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L						0.00077	0.00050	8684935
Weak Acid Dissoc. Cyanide (CN)	mg/L						<0.00050	0.00050	8684937
Dissolved Hardness (CaCO3)	mg/L	67.0	8683422	54.4	8683422	50.3	70.1	0.50	8683422
Dissolved Organic Carbon (C)	mg/L	2.0	8687193	2.8	8687193	1.3	2.8	0.50	8687193
Acidity (pH 4.5)	mg/L	<0.50	8691101	<0.50	8691101	<0.50	<0.50	0.50	8691101
Alkalinity (Total as CaCO3)	mg/L	57.9	8685396	42.0	8685396	42.9	60.1	0.50	8685396
Acidity (pH 8.3)	mg/L	<0.50	8691101	<0.50	8691101	<0.50	<0.50	0.50	8691101
Alkalinity (PP as CaCO3)	mg/L	<0.50	8685396	<0.50	8685396	<0.50	<0.50	0.50	8685396
Bicarbonate (HCO3)	mg/L	70.6	8685396	51.2	8685396	52.3	73.3	0.50	8685396
Carbonate (CO3)	mg/L	<0.50	8685396	<0.50	8685396	<0.50	<0.50	0.50	8685396
Hydroxide (OH)	mg/L	<0.50	8685396	<0.50	8685396	<0.50	<0.50	0.50	8685396
Anions									
Orthophosphate (P)	mg/L	<0.0010	8684847	<0.0010	8684847	<0.0010	<0.0010	0.0010	8684847
Dissolved Sulphate (SO4)	mg/L	14.4	8686411	14.9	8686411	9.74	10.9	0.50	8686416
Dissolved Chloride (Cl)	mg/L	<0.50	8686409	<0.50	8686409	<0.50	0.56	0.50	8686414
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0047	8684868	0.0026	8684868	<0.0020	0.0040	0.0020	8684868
Total Ammonia (N)	mg/L	0.030	8686634	0.046	8686634	0.054	0.073	0.0050	8686634
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8686140	0.35 (1)	8686134	<0.20 (1)	<0.20 (1)	0.20	8686140
Nitrite (N)	mg/L	<0.20 (1)	8686141	<0.20 (1)	8686139	<0.20 (1)	<0.20 (1)	0.20	8686141
Total Phosphorus (P)	mg/L	0.0055	8684862	0.0032	8684865	0.0032	0.0065	0.0020	8684862
Physical Properties									
Conductivity	uS/cm	143	8685408	116	8685408	108	144	1.0	8685408
pH	pH	8.03	8685402	7.87	8685402	7.90	8.03		8685402
Physical Properties									
Total Suspended Solids	mg/L	<4.0	8684721	<4.0	8684721	<4.0	<4.0	4.0	8684716
Total Dissolved Solids	mg/L	74	8684909	64	8684909	70	84	10	8684906

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8256		RK8257		RK8258	RK8259		
Sampling Date		2017/06/28 16:10		2017/06/28 17:30		2017/06/27 18:40	2017/06/27 15:40		
COC Number		08439831		08439831		08439831	08439831		
	UNITS	W12	QC Batch	W14	QC Batch	W15	W16	RDL	QC Batch
Turbidity	NTU	0.34	8684951	0.44	8684951	0.14	0.38	0.10	8684951
RDL = Reportable Detection Limit									

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8260		RK8261		RK8262		RK8263		
Sampling Date		2017/06/27 09:30		2017/06/27 11:05		2017/06/27 15:10		2017/06/27 10:45		
COC Number		08439831		08439831		08439831		08439831		
	UNITS	W21	QC Batch	W22	QC Batch	W31	QC Batch	W40	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.100	8686075	0.061	8686075	0.020	8686075	0.059	0.010	8686075
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	89.7	8683811	77.7	8683811	56.4	8683811	76.1	0.50	8683811
Nitrate (N)	mg/L	<0.20	8683782	0.35	8683782	0.34	8683782	0.33	0.20	8683782
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L		8684935		8684935	0.00062	8684935		0.00050	8684935
Weak Acid Dissoc. Cyanide (CN)	mg/L		8684937		8684937	<0.00050	8684937		0.00050	8684937
Dissolved Hardness (CaCO3)	mg/L	87.5	8683422	76.5	8683422	56.2	8683422	77.2	0.50	8683422
Dissolved Organic Carbon (C)	mg/L	5.8	8687193	3.1	8687193	2.4	8687193	3.1	0.50	8689399
Acidity (pH 4.5)	mg/L	<0.50	8691105	<0.50	8691101	<0.50	8691101	<0.50	0.50	8691101
Alkalinity (Total as CaCO3)	mg/L	75.4	8685396	57.8	8685396	51.6	8685396	58.9	0.50	8685379
Acidity (pH 8.3)	mg/L	<0.50	8691105	<0.50	8691101	<0.50	8691101	<0.50	0.50	8691101
Alkalinity (PP as CaCO3)	mg/L	<0.50	8685396	<0.50	8685396	<0.50	8685396	<0.50	0.50	8685379
Bicarbonate (HCO3)	mg/L	91.9	8685396	70.5	8685396	63.0	8685396	71.8	0.50	8685379
Carbonate (CO3)	mg/L	<0.50	8685396	<0.50	8685396	<0.50	8685396	<0.50	0.50	8685379
Hydroxide (OH)	mg/L	<0.50	8685396	<0.50	8685396	<0.50	8685396	<0.50	0.50	8685379
Anions										
Orthophosphate (P)	mg/L	0.017	8684847	<0.0010	8684847	<0.0010	8684847	<0.0010	0.0010	8684847
Dissolved Sulphate (SO4)	mg/L	14.0	8686416	20.3	8686411	6.47	8686411	20.3	0.50	8686802
Dissolved Chloride (Cl)	mg/L	<0.50	8686414	<0.50	8686409	<0.50	8686409	<0.50	0.50	8686409
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0244	8684868	0.0024	8684871	0.0024	8684868	0.0023	0.0020	8684868
Total Ammonia (N)	mg/L	0.041	8686635	0.065	8686634	0.048	8686635	0.051	0.0050	8686635
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8686140	0.35 (1)	8686134	0.34 (1)	8686134	0.33 (1)	0.20	8686134
Nitrite (N)	mg/L	<0.20 (1)	8686141	<0.20 (1)	8686139	<0.20 (1)	8686139	<0.20 (1)	0.20	8686139
Total Phosphorus (P)	mg/L	0.0375	8684865	0.0047	8684865	0.0031	8684865	0.0045	0.0020	8684865
Physical Properties										
Conductivity	uS/cm	176	8685408	158	8685408	115	8685408	156	1.0	8685383
pH	pH	8.12	8685402	8.02	8685402	7.98	8685402	7.95		8685382
Physical Properties										
Total Suspended Solids	mg/L	4.8	8684716	<4.0	8684716	<4.0	8684716	<4.0	4.0	8684716
Total Dissolved Solids	mg/L	112	8684906	96	8684906	68	8684906	98	10	8684906

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8260		RK8261		RK8262		RK8263		
Sampling Date		2017/06/27 09:30		2017/06/27 11:05		2017/06/27 15:10		2017/06/27 10:45		
COC Number		08439831		08439831		08439831		08439831		
	UNITS	**W21**	**QC Batch**	**W22**	**QC Batch**	**W31**	**QC Batch**	**W40**	**RDL**	**QC Batch**
Turbidity	NTU	1.79	8684951	0.53	8684951	0.13	8684951	0.48	0.10	8684951
RDL = Reportable Detection Limit										

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Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8264		RK8265		RK8266		RK8267		
Sampling Date		2017/06/27 12:10		2017/06/27 12:30		2017/06/27 12:55		2017/06/28 16:50		
COC Number		08439831		08439831		08439831		08439831		
	UNITS	W71	QC Batch	W72	QC Batch	W73	QC Batch	W80	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.560	8686075	0.150	8686075	0.039	8686075	0.040	0.010	8686075
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	293	8683811	150	8683811	83.1	8683811	69.3	0.50	8683811
Nitrate (N)	mg/L	0.37	8683782	<0.20	8683782	<0.20	8683782	<0.20	0.20	8683782
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	298	8683422	154	8683422	84.6	8683422	69.9	0.50	8683422
Dissolved Organic Carbon (C)	mg/L	5.7	8689399	7.5	8689399	3.3	8689399	2.3	0.50	8689399
Acidity (pH 4.5)	mg/L	<0.50	8691105	<0.50	8691101	<0.50	8691105	<0.50	0.50	8691105
Alkalinity (Total as CaCO3)	mg/L	218	8685413	103	8685396	68.6	8685413	56.2	0.50	8685396
Acidity (pH 8.3)	mg/L	<0.50	8691105	<0.50	8691101	<0.50	8691105	<0.50	0.50	8691105
Alkalinity (PP as CaCO3)	mg/L	4.32	8685413	<0.50	8685396	<0.50	8685413	<0.50	0.50	8685396
Bicarbonate (HCO3)	mg/L	255	8685413	126	8685396	83.7	8685413	68.6	0.50	8685396
Carbonate (CO3)	mg/L	5.18	8685413	<0.50	8685396	<0.50	8685413	<0.50	0.50	8685396
Hydroxide (OH)	mg/L	<0.50	8685413	<0.50	8685396	<0.50	8685413	<0.50	0.50	8685396
Anions										
Orthophosphate (P)	mg/L	0.0077	8684849	0.011	8684847	0.0011	8684847	<0.0010	0.0010	8684847
Dissolved Sulphate (SO4)	mg/L	77.9	8686802	43.9	8686416	15.6	8686802	14.1	0.50	8686416
Dissolved Chloride (Cl)	mg/L	<0.50	8686414	<0.50	8686414	<0.50	8686797	<0.50	0.50	8686414
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0127	8684871	0.0183	8684868	0.0023	8684868	0.0031	0.0020	8684868
Total Ammonia (N)	mg/L	0.086	8686635	0.052	8686635	0.058	8686635	0.022	0.0050	8686635
Nitrate plus Nitrite (N)	mg/L	0.37 (1)	8686140	<0.20 (1)	8686140	<0.20 (1)	8686140	<0.20 (1)	0.20	8686140
Nitrite (N)	mg/L	<0.20 (1)	8686141	<0.20 (1)	8686141	<0.20 (1)	8686141	<0.20 (1)	0.20	8686141
Total Phosphorus (P)	mg/L	0.0163	8684865	0.0200	8684865	0.0040	8684865	0.0052	0.0020	8684865
Physical Properties										
Conductivity	uS/cm	535	8685418	290	8685408	172	8685418	143	1.0	8685408
pH	pH	8.40	8685416	8.21	8685402	8.07	8685416	8.01		8685402
Physical Properties										
Total Suspended Solids	mg/L	4.3	8684716	<4.0	8684716	<4.0	8684716	<4.0	4.0	8684721
Total Dissolved Solids	mg/L	332	8684906	182	8684906	94	8684906	72	10	8684909
Turbidity	NTU	0.54	8684951	0.66	8684951	0.84	8684951	0.41	0.10	8684958

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8268		RK8269			RK8270		
Sampling Date		2017/06/27 18:15		2017/06/28 15:20			2017/06/29 06:55		
COC Number		08439831		08439831			08439831		
	UNITS	W81	QC Batch	W82	RDL	QC Batch	T1	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.023	8686075	0.099	0.010	8686075	0.130	0.010	8686075
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	58.3	8683811	134	0.50	8683811	903	0.50	8683811
Nitrate (N)	mg/L	0.29	8683782	0.47	0.20	8683782	0.35	0.20	8683782
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L		8684935		0.00050	8684935	0.00298	0.00050	8684935
Weak Acid Dissoc. Cyanide (CN)	mg/L		8684937		0.00050	8684937	<0.00050	0.00050	8684937
Dissolved Hardness (CaCO3)	mg/L	58.9	8683422	133	0.50	8683422	934	0.50	8683422
Dissolved Organic Carbon (C)	mg/L	2.2	8689399	1.7	0.50	8689399	15	0.50	8689399
Acidity (pH 4.5)	mg/L	<0.50	8691101	<0.50	0.50	8691101	1.87	0.50	8691101
Alkalinity (Total as CaCO3)	mg/L	51.3	8685396	85.5	0.50	8685379	<0.50	0.50	8685379
Acidity (pH 8.3)	mg/L	<0.50	8691101	0.80	0.50	8691101	13.5	0.50	8691101
Alkalinity (PP as CaCO3)	mg/L	<0.50	8685396	<0.50	0.50	8685379	<0.50	0.50	8685379
Bicarbonate (HCO3)	mg/L	62.5	8685396	104	0.50	8685379	<0.50	0.50	8685379
Carbonate (CO3)	mg/L	<0.50	8685396	<0.50	0.50	8685379	<0.50	0.50	8685379
Hydroxide (OH)	mg/L	<0.50	8685396	<0.50	0.50	8685379	<0.50	0.50	8685379
Anions									
Orthophosphate (P)	mg/L	<0.0010	8684847	0.0056	0.0010	8684847	0.064	0.0010	8684847
Dissolved Sulphate (SO4)	mg/L	10.3	8686802	48.9	0.50	8686802	1110 (1)	5.0	8686411
Dissolved Chloride (Cl)	mg/L	<0.50	8686409	0.87	0.50	8686409	120	0.50	8686409
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0027	8684871	0.0111	0.0020	8684868	0.0627	0.0020	8684868
Total Ammonia (N)	mg/L	0.083	8686634	0.070	0.0050	8686634	0.40	0.0050	8686634
Nitrate plus Nitrite (N)	mg/L	0.29 (2)	8686134	0.47 (2)	0.20	8686134	0.35 (2)	0.20	8686134
Nitrite (N)	mg/L	<0.20 (2)	8686139	<0.20 (2)	0.20	8686139	<0.20 (2)	0.20	8686139
Total Phosphorus (P)	mg/L	0.0036	8684865	0.0104	0.0020	8684865	0.148	0.0020	8684865
Physical Properties									
Conductivity	uS/cm	124	8685408	278	1.0	8685383	2150	1.0	8685383
pH	pH	7.97	8685402	8.06		8685382	4.07		8685382
Physical Properties									
Total Suspended Solids	mg/L	<4.0	8684716	<4.0	4.0	8684721	<4.0	4.0	8686007

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8268		RK8269			RK8270		
Sampling Date		2017/06/27 18:15		2017/06/28 15:20			2017/06/29 06:55		
COC Number		08439831		08439831			08439831		
	UNITS	W81	QC Batch	W82	RDL	QC Batch	T1	RDL	QC Batch
Total Dissolved Solids	mg/L	80	8684906	150	10	8684909	1790	10	8684909
Turbidity	NTU	0.21	8684958	0.80	0.10	8684958	55.8	0.10	8684958
RDL = Reportable Detection Limit									

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Maxxam Job #: B753882
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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8389		RK8390		RK8391		
Sampling Date		2017/06/27 17:30		2017/06/27 16:10		2017/06/27 16:30		
COC Number		08439832		08439832		08439832		
	UNITS	WRSS	QC Batch	BIO-IN	QC Batch	BIO-OUT	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.095	8686075	0.110	8686097	0.063	0.010	8686097
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	1390	8683811	845	8683811	872	0.50	8683811
Nitrate (N)	mg/L	11.0	8683782	0.37	8683782	0.24	0.20	8683782
Misc. Inorganics								
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00071	8684935	0.00058	8684935	0.00070	0.00050	8684935
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8684937	<0.00050	8684937	<0.00050	0.00050	8684937
Dissolved Hardness (CaCO3)	mg/L	1410	8683422	869	8683422	899	0.50	8683422
Dissolved Organic Carbon (C)	mg/L	1.3	8689399	3.1	8689399	6.3	0.50	8689399
Acidity (pH 4.5)	mg/L	<0.50	8691101	<0.50	8691105	<0.50	0.50	8691105
Alkalinity (Total as CaCO3)	mg/L	199	8685396	72.6	8685413	141	0.50	8685413
Acidity (pH 8.3)	mg/L	2.41	8691101	29.8	8691105	1.87	0.50	8691105
Alkalinity (PP as CaCO3)	mg/L	<0.50	8685396	<0.50	8685413	<0.50	0.50	8685413
Bicarbonate (HCO3)	mg/L	243	8685396	88.5	8685413	172	0.50	8685413
Carbonate (CO3)	mg/L	<0.50	8685396	<0.50	8685413	<0.50	0.50	8685413
Hydroxide (OH)	mg/L	<0.50	8685396	<0.50	8685413	<0.50	0.50	8685413
Anions								
Orthophosphate (P)	mg/L	0.0016	8684847	0.0017	8684849	<0.0010	0.0010	8684849
Dissolved Sulphate (SO4)	mg/L	1340 (1)	8686411	903 (1)	8686416	840 (1)	5.0	8686416
Dissolved Chloride (Cl)	mg/L	4.5	8686409	5.4	8686414	5.0	0.50	8686414
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0035	8684871	0.0109	8684868	0.0134	0.0020	8684871
Total Ammonia (N)	mg/L	0.036	8686634	0.25	8686634	0.31	0.0050	8686634
Nitrate plus Nitrite (N)	mg/L	11.0 (2)	8686140	0.37 (2)	8686140	0.24 (2)	0.20	8686140
Nitrite (N)	mg/L	<0.20 (2)	8686141	<0.20 (2)	8686141	<0.20 (2)	0.20	8686141
Total Phosphorus (P)	mg/L	0.0068	8684865	0.0491	8684865	0.0290	0.0020	8684865
Physical Properties								
Conductivity	uS/cm	2580	8685408	1700	8685418	1660	1.0	8685418
pH	pH	8.19	8685402	7.73	8685416	8.05		8685416
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8684716	5.8	8684716	18.3	4.0	8684716

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B753882
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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8389		RK8390		RK8391		
Sampling Date		2017/06/27 17:30		2017/06/27 16:10		2017/06/27 16:30		
COC Number		08439832		08439832		08439832		
	UNITS	WRSS	QC Batch	BIO-IN	QC Batch	BIO-OUT	RDL	QC Batch
Total Dissolved Solids	mg/L	2240	8684906	1400	8687417	1350	10	8684906
Turbidity	NTU	1.32	8684958	4.87	8684958	54.8	0.10	8684958
RDL = Reportable Detection Limit								

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Maxxam Job #: B753882
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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8392			RK8393			RK8394		
Sampling Date		2017/06/28 07:30			2017/06/28 12:00			2017/06/29 07:15		
COC Number		08439832			08439832			08439832		
	UNITS	PORTAL	RDL	QC Batch	DUP	RDL	QC Batch	T1-2	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.230	0.010	8686097	0.069	0.010	8686097	0.220	0.010	8686097
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	514	0.50	8683811	55.1	0.50	8683811	1590	0.50	8683811
Nitrate (N)	mg/L	<0.20	0.20	8683782	<0.20	0.20	8683782	0.30	0.20	8683782
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00267	0.00050	8684935		0.00050	8684935	0.0195	0.00050	8684935
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	0.00050	8684937		0.00050	8684937	<0.00050	0.00050	8684937
Dissolved Hardness (CaCO3)	mg/L	502	0.50	8683422	56.0	0.50	8683422	1560	0.50	8683422
Dissolved Organic Carbon (C)	mg/L	1.2	0.50	8689399	4.0	0.50	8689399	24	0.50	8689399
Acidity (pH 4.5)	mg/L	<0.50	0.50	8691105	<0.50	0.50	8691105	<0.50	0.50	8691105
Alkalinity (Total as CaCO3)	mg/L	90.9	0.50	8685413	47.5	0.50	8685413	0.71	0.50	8685413
Acidity (pH 8.3)	mg/L	1.92	0.50	8691105	<0.50	0.50	8691105	8.93	0.50	8691105
Alkalinity (PP as CaCO3)	mg/L	<0.50	0.50	8685413	<0.50	0.50	8685413	<0.50	0.50	8685413
Bicarbonate (HCO3)	mg/L	111	0.50	8685413	58.0	0.50	8685413	0.87	0.50	8685413
Carbonate (CO3)	mg/L	<0.50	0.50	8685413	<0.50	0.50	8685413	<0.50	0.50	8685413
Hydroxide (OH)	mg/L	<0.50	0.50	8685413	<0.50	0.50	8685413	<0.50	0.50	8685413
Anions										
Orthophosphate (P)	mg/L	0.0018	0.0010	8684847	0.0039	0.0010	8684849	0.012	0.0010	8684849
Dissolved Sulphate (SO4)	mg/L	531 (1)	5.0	8686416	11.1	0.50	8686416	1700 (1)	5.0	8686416
Dissolved Chloride (Cl)	mg/L	3.2	0.50	8686797	<0.50	0.50	8686414	290 (1)	5.0	8686414
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0103	0.0020	8684871	0.0062	0.0020	8684868	0.0375	0.0020	8684868
Total Ammonia (N)	mg/L	1.5 (1)	0.010	8686634	0.051	0.0050	8686634	0.39	0.0050	8686634
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	0.20	8686140	<0.20 (2)	0.20	8686140	0.30 (2)	0.20	8686140
Nitrite (N)	mg/L	<0.20 (2)	0.20	8686141	<0.20 (2)	0.20	8686141	<0.20 (2)	0.20	8686141
Total Phosphorus (P)	mg/L	0.0274	0.0020	8684862	0.0137	0.0020	8684865	0.114	0.0020	8684862
Physical Properties										
Conductivity	uS/cm	1220	1.0	8685418	116	1.0	8685418	3390	1.0	8685418
pH	pH	7.97		8685416	7.91		8685416	5.27		8685416
Physical Properties										
Total Suspended Solids	mg/L	22.8	4.0	8684721	<4.0	4.0	8684613	<4.0	4.0	8686013

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8392			RK8393			RK8394		
Sampling Date		2017/06/28 07:30			2017/06/28 12:00			2017/06/29 07:15		
COC Number		08439832			08439832			08439832		
	UNITS	PORTAL	RDL	QC Batch	DUP	RDL	QC Batch	T1-2	RDL	QC Batch
Total Dissolved Solids	mg/L	840	10	8684909	60	10	8684909	3110	10	8686021
Turbidity	NTU	88.3	0.10	8684958	0.81	0.10	8684958	1.67	0.10	8684958
RDL = Reportable Detection Limit										

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RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8395			RK8396		
Sampling Date		2017/06/29 07:40			2017/06/29 06:30		
COC Number		08439832			08439832		
	UNITS	T1-3	RDL	QC Batch	R1	RDL	QC Batch
Misc. Inorganics							
Fluoride (F)	mg/L	0.240	0.010	8686097	0.040	0.010	8686097
Calculated Parameters							
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	1650	0.50	8683811	156	0.50	8683811
Nitrate (N)	mg/L	<0.20	0.20	8683782	0.29	0.20	8683782
Misc. Inorganics							
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.230 (1)	0.0025	8686482	0.00074	0.00050	8684935
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0162	0.00050	8684937	<0.00050	0.00050	8684937
Dissolved Hardness (CaCO3)	mg/L	1820	0.50	8691627	150	0.50	8683422
Dissolved Organic Carbon (C)	mg/L	31 (2)	2.0	8689399	4.1	0.50	8689399
Acidity (pH 4.5)	mg/L	<0.50	0.50	8691105	<0.50	0.50	8691105
Alkalinity (Total as CaCO3)	mg/L	<0.50	0.50	8685413	54.5	0.50	8685413
Acidity (pH 8.3)	mg/L	9.32	0.50	8691105	<0.50	0.50	8691105
Alkalinity (PP as CaCO3)	mg/L	<0.50	0.50	8685413	<0.50	0.50	8685413
Bicarbonate (HCO3)	mg/L	<0.50	0.50	8685413	66.4	0.50	8685413
Carbonate (CO3)	mg/L	<0.50	0.50	8685413	<0.50	0.50	8685413
Hydroxide (OH)	mg/L	<0.50	0.50	8685413	<0.50	0.50	8685413
Anions							
Orthophosphate (P)	mg/L	0.14	0.0010	8684847	0.0034	0.0010	8684849
Dissolved Sulphate (SO4)	mg/L	1560 (1)	5.0	8686416	114	0.50	8686802
Dissolved Chloride (Cl)	mg/L	660 (1)	5.0	8686414	1.6	0.50	8686414
Nutrients							
Dissolved Phosphorus (P)	mg/L	0.163	0.0020	8684868	0.0137	0.0020	8684868
Total Ammonia (N)	mg/L	2.2 (1)	0.050	8686634	0.055	0.0050	8686634
Nitrate plus Nitrite (N)	mg/L	<0.20 (3)	0.20	8686140	0.29 (3)	0.20	8686140
Nitrite (N)	mg/L	<0.20 (3)	0.20	8686141	<0.20 (3)	0.20	8686141
Total Phosphorus (P)	mg/L	0.205	0.0020	8684865	0.0218	0.0020	8684862
Physical Properties							
Conductivity	uS/cm	3720	1.0	8685418	359	1.0	8685418
pH	pH	5.01		8685416	7.96		8685416

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) Detection limits raised due to sample matrix.
(3) RDL raised due to sample matrix interference.

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RK8395			RK8396		
Sampling Date		2017/06/29 07:40			2017/06/29 06:30		
COC Number		08439832			08439832		
	UNITS	T1-3	RDL	QC Batch	R1	RDL	QC Batch
Physical Properties							
Total Suspended Solids	mg/L	5.0	4.0	8686013	<4.0	4.0	8686013
Total Dissolved Solids	mg/L	3320	10	8686021	226	10	8686021
Turbidity	NTU	12.5	0.10	8684958	1.31	0.10	8684958
RDL = Reportable Detection Limit							

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MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RK8252	RK8253	RK8254	RK8255	RK8256	RK8257		
Sampling Date		2017/06/28 12:00	2017/06/28 10:20	2017/06/28 13:10	2017/06/28 12:45	2017/06/28 16:10	2017/06/28 17:30		
COC Number		08439831	08439831	08439831	08439831	08439831	08439831		
	UNITS	L1	W1	W8	W9	W12	W14	RDL	QC Batch
Elements									
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8689901
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8687450
RDL = Reportable Detection Limit									

Maxxam ID		RK8258	RK8259	RK8260	RK8261	RK8262		RK8263		
Sampling Date		2017/06/27 18:40	2017/06/27 15:40	2017/06/27 09:30	2017/06/27 11:05	2017/06/27 15:10		2017/06/27 10:45		
COC Number		08439831	08439831	08439831	08439831	08439831		08439831		
	UNITS	W15	W16	W21	W22	W31	QC Batch	W40	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	8689901	<0.010	0.010	8687191
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	8687482	<0.010	0.010	8687482
RDL = Reportable Detection Limit										

Maxxam ID		RK8264	RK8265	RK8266	RK8267	RK8268	RK8269	RK8270		
Sampling Date		2017/06/27 12:10	2017/06/27 12:30	2017/06/27 12:55	2017/06/28 16:50	2017/06/27 18:15	2017/06/28 15:20	2017/06/29 06:55		
COC Number		08439831	08439831	08439831	08439831	08439831	08439831	08439831		
	UNITS	W71	W72	W73	W80	W81	W82	T1	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8687191
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8687482
RDL = Reportable Detection Limit										

Maxxam ID		RK8389	RK8390	RK8391		RK8392	RK8393	RK8394		
Sampling Date		2017/06/27 17:30	2017/06/27 16:10	2017/06/27 16:30		2017/06/28 07:30	2017/06/28 12:00	2017/06/29 07:15		
COC Number		08439832	08439832	08439832		08439832	08439832	08439832		
	UNITS	WRSS	BIO-IN	BIO-OUT	QC Batch	PORTAL	DUP	T1-2	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	8687191	<0.010	<0.010	<0.010	0.010	8689901
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	8687482	<0.010	<0.010	<0.010	0.010	8687482
RDL = Reportable Detection Limit										

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RK8395		RK8396		
Sampling Date		2017/06/29 07:40		2017/06/29 06:30		
COC Number		08439832		08439832		
	UNITS	T1-3	QC Batch	R1	RDL	QC Batch
Elements						
Dissolved Mercury (Hg)	ug/L	<0.010	8689901	<0.010	0.010	8689901
Total Mercury (Hg)	ug/L	<0.010	8687482	<0.010	0.010	8690031
RDL = Reportable Detection Limit						

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8252	RK8253		RK8254		
Sampling Date		2017/06/28 12:00	2017/06/28 10:20		2017/06/28 13:10		
COC Number		08439831	08439831		08439831		
	UNITS	L1	W1	QC Batch	W8	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	<0.010	8685287	<0.010	0.010	8685313
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.0160	0.00794	8684665	0.00951	0.00050	8684665
Dissolved Antimony (Sb)	mg/L	0.000044	0.000067	8684665	0.000045	0.000020	8684665
Dissolved Arsenic (As)	mg/L	0.000963	0.00257	8684665	0.000111	0.000020	8684665
Dissolved Barium (Ba)	mg/L	0.0389	0.0337	8684665	0.0364	0.000020	8684665
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	8684665	<0.000010	0.000010	8684665
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	8684665	<0.0000050	0.0000050	8684665
Dissolved Boron (B)	mg/L	<0.010	<0.010	8684665	<0.010	0.010	8684665
Dissolved Cadmium (Cd)	mg/L	0.0000191	0.0000060	8684665	0.0000229	0.0000050	8684665
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	8684665	0.00011	0.00010	8684665
Dissolved Cobalt (Co)	mg/L	0.0000121	0.0000147	8684665	0.0000200	0.0000050	8684665
Dissolved Copper (Cu)	mg/L	0.000667	0.000547	8684665	0.00120	0.000050	8684665
Dissolved Iron (Fe)	mg/L	0.0269	0.0255	8684665	0.0069	0.0010	8684665
Dissolved Lead (Pb)	mg/L	0.0000090	<0.0000050	8684665	<0.0000050	0.0000050	8684665
Dissolved Lithium (Li)	mg/L	<0.00050	0.00137	8684665	<0.00050	0.00050	8684665
Dissolved Manganese (Mn)	mg/L	0.00367	0.00420	8684665	0.000441	0.000050	8684665
Dissolved Molybdenum (Mo)	mg/L	0.000858	0.00109	8684665	0.000444	0.000050	8684665
Dissolved Nickel (Ni)	mg/L	0.000538	0.00131	8684665	0.000607	0.000020	8684665
Dissolved Phosphorus (P)	mg/L	0.0071	0.0348	8684665	0.0034	0.0020	8684665
Dissolved Selenium (Se)	mg/L	0.000423	0.000352	8684665	0.000527	0.000040	8684665
Dissolved Silicon (Si)	mg/L	2.40	2.44	8684665	2.61	0.050	8684665
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	8684665	<0.0000050	0.0000050	8684665
Dissolved Strontium (Sr)	mg/L	0.0395	0.0684	8684665	0.0542	0.000050	8684665
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	8684665	<0.0000020	0.0000020	8684665
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	8684665	<0.00020	0.00020	8684665
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	8684665	<0.00050	0.00050	8684665
Dissolved Uranium (U)	mg/L	0.000561	0.00102	8684665	0.000373	0.0000020	8684665
Dissolved Vanadium (V)	mg/L	<0.00020	0.00024	8684665	<0.00020	0.00020	8684665
Dissolved Zinc (Zn)	mg/L	0.00208	0.00050	8684665	0.00255	0.00010	8684665
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	8684665	<0.00010	0.00010	8684665
Dissolved Calcium (Ca)	mg/L	16.2	20.4	8683423	26.8	0.050	8683423
Dissolved Magnesium (Mg)	mg/L	3.18	6.65	8683423	2.93	0.050	8683423
Dissolved Potassium (K)	mg/L	0.601	1.06	8683423	0.276	0.050	8683423
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8252	RK8253		RK8254		
Sampling Date		2017/06/28 12:00	2017/06/28 10:20		2017/06/28 13:10		
COC Number		08439831	08439831		08439831		
	UNITS	L1	W1	QC Batch	W8	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	0.908	1.19	8683423	1.04	0.050	8683423
Dissolved Sulphur (S)	mg/L	3.6	4.2	8683423	5.4	3.0	8683423
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.0224	0.0178	8684581	0.0145	0.00050	8684581
Total Antimony (Sb)	mg/L	0.000047	0.000069	8684581	0.000054	0.000020	8684581
Total Arsenic (As)	mg/L	0.00110	0.00295	8684581	0.000116	0.000020	8684581
Total Barium (Ba)	mg/L	0.0408	0.0355	8684581	0.0373	0.000020	8684581
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	8684581	<0.000010	0.000010	8684581
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	8684581	<0.0000050	0.0000050	8684581
Total Boron (B)	mg/L	<0.010	<0.010	8684581	<0.010	0.010	8684581
Total Cadmium (Cd)	mg/L	0.0000263	0.0000116	8684581	0.0000232	0.0000050	8684581
Total Chromium (Cr)	mg/L	<0.00010	0.00012	8684581	0.00012	0.00010	8684581
Total Cobalt (Co)	mg/L	0.0000219	0.0000286	8684581	0.0000290	0.0000050	8684581
Total Copper (Cu)	mg/L	0.000688	0.000642	8684581	0.00122	0.000050	8684581
Total Iron (Fe)	mg/L	0.0585	0.0780	8684581	0.0145	0.0010	8684581
Total Lead (Pb)	mg/L	0.0000140	0.0000213	8684581	0.0000125	0.0000050	8684581
Total Lithium (Li)	mg/L	<0.00050	0.00143	8684581	<0.00050	0.00050	8684581
Total Manganese (Mn)	mg/L	0.0145	0.0185	8684581	0.000775	0.000050	8684581
Total Molybdenum (Mo)	mg/L	0.000903	0.00110	8684581	0.000445	0.000050	8684581
Total Nickel (Ni)	mg/L	0.000595	0.00136	8684581	0.000562	0.000020	8684581
Total Phosphorus (P)	mg/L	0.0142	0.0503	8684581	0.0043	0.0020	8684581
Total Selenium (Se)	mg/L	0.000494	0.000425	8684581	0.000602	0.000040	8684581
Total Silicon (Si)	mg/L	2.54	2.59	8684581	2.58	0.050	8684581
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	8684581	<0.0000050	0.0000050	8684581
Total Strontium (Sr)	mg/L	0.0414	0.0693	8684581	0.0540	0.000050	8684581
Total Thallium (Tl)	mg/L	<0.0000020	<0.0000020	8684581	<0.0000020	0.0000020	8684581
Total Tin (Sn)	mg/L	<0.00020	<0.00020	8684581	<0.00020	0.00020	8684581
Total Titanium (Ti)	mg/L	<0.00050	0.00052	8684581	<0.00050	0.00050	8684581
Total Uranium (U)	mg/L	0.000586	0.00106	8684581	0.000379	0.0000020	8684581
Total Vanadium (V)	mg/L	<0.00020	0.00028	8684581	<0.00020	0.00020	8684581
Total Zinc (Zn)	mg/L	0.00309	0.00120	8684581	0.00278	0.00010	8684581
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	8684581	<0.00010	0.00010	8684581
Total Calcium (Ca)	mg/L	16.9	21.0	8683424	27.3	0.050	8683424
Total Magnesium (Mg)	mg/L	3.39	6.85	8683424	3.00	0.050	8683424
Total Potassium (K)	mg/L	0.622	1.06	8683424	0.287	0.050	8683424

RDL = Reportable Detection Limit

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8252	RK8253		RK8254		
Sampling Date		2017/06/28 12:00	2017/06/28 10:20		2017/06/28 13:10		
COC Number		08439831	08439831		08439831		
	UNITS	**L1**	**W1**	**QC Batch**	**W8**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	0.939	1.22	8683424	1.08	0.050	8683424
Total Sulphur (S)	mg/L	3.8	4.5	8683424	5.4	3.0	8683424
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8255	RK8256	RK8257	RK8258	RK8259		
Sampling Date		2017/06/28 12:45	2017/06/28 16:10	2017/06/28 17:30	2017/06/27 18:40	2017/06/27 15:40		
COC Number		08439831	08439831	08439831	08439831	08439831		
	UNITS	W9	W12	W14	W15	W16	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8685287
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00432	0.00702	0.0182	0.00812	0.0100	0.00050	8684665
Dissolved Antimony (Sb)	mg/L	0.000195	0.000062	0.000028	0.000029	0.000067	0.000020	8684665
Dissolved Arsenic (As)	mg/L	0.000216	0.000198	0.000143	0.000112	0.000150	0.000020	8684665
Dissolved Barium (Ba)	mg/L	0.112	0.0510	0.0383	0.0146	0.0545	0.000020	8684665
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000011	<0.000010	<0.000010	0.000010	8684665
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684665
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8684665
Dissolved Cadmium (Cd)	mg/L	0.00140	0.0000119	0.0000213	<0.0000050	0.0000552	0.0000050	8684665
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	0.00011	0.00016	0.00011	0.00010	8684665
Dissolved Cobalt (Co)	mg/L	0.0000137	0.0000250	0.0000175	0.0000204	0.0000287	0.0000050	8684665
Dissolved Copper (Cu)	mg/L	0.00130	0.000855	0.000620	0.000869	0.00103	0.000050	8684665
Dissolved Iron (Fe)	mg/L	0.0034	0.0289	0.0351	0.0027	0.0221	0.0010	8684665
Dissolved Lead (Pb)	mg/L	0.0000214	<0.0000050	0.0000054	0.0000057	0.0000061	0.0000050	8684665
Dissolved Lithium (Li)	mg/L	0.00073	<0.00050	0.00113	<0.00050	<0.00050	0.00050	8684665
Dissolved Manganese (Mn)	mg/L	0.000095	0.00577	0.00461	0.000147	0.00824	0.000050	8684665
Dissolved Molybdenum (Mo)	mg/L	0.000695	0.000352	0.000322	0.000204	0.000400	0.000050	8684665
Dissolved Nickel (Ni)	mg/L	0.00404	0.000292	0.000748	0.000139	0.000355	0.000020	8684665
Dissolved Phosphorus (P)	mg/L	0.0062	0.0043	0.0033	0.0030	0.0048	0.0020	8684665
Dissolved Selenium (Se)	mg/L	0.00334	0.000846	0.000346	0.000308	0.000956	0.000040	8684665
Dissolved Silicon (Si)	mg/L	3.23	2.65	3.11	2.30	2.77	0.050	8684665
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684665
Dissolved Strontium (Sr)	mg/L	0.120	0.0410	0.0387	0.0280	0.0444	0.000050	8684665
Dissolved Thallium (Tl)	mg/L	0.0000032	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000020	8684665
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8684665
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8684665
Dissolved Uranium (U)	mg/L	0.00148	0.000229	0.000657	0.0000517	0.000173	0.0000020	8684665
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	0.00029	<0.00020	0.00020	8684665
Dissolved Zinc (Zn)	mg/L	0.141	0.00031	0.00247	0.00011	0.00260	0.00010	8684665
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8684665
Dissolved Calcium (Ca)	mg/L	42.2	21.3	15.8	18.2	23.4	0.050	8683423
Dissolved Magnesium (Mg)	mg/L	8.91	3.34	3.61	1.17	2.85	0.050	8683423
Dissolved Potassium (K)	mg/L	0.870	0.410	0.601	0.272	0.403	0.050	8683423

RDL = Reportable Detection Limit

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8255	RK8256	RK8257	RK8258	RK8259		
Sampling Date		2017/06/28 12:45	2017/06/28 16:10	2017/06/28 17:30	2017/06/27 18:40	2017/06/27 15:40		
COC Number		08439831	08439831	08439831	08439831	08439831		
	UNITS	W9	W12	W14	W15	W16	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	1.01	0.916	1.04	0.827	1.04	0.050	8683423
Dissolved Sulphur (S)	mg/L	14.0	4.9	5.2	3.3	3.9	3.0	8683423
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.00783	0.0305	0.0330	0.0119	0.0192	0.00050	8684581
Total Antimony (Sb)	mg/L	0.000197	0.000061	0.000029	0.000061	0.000062	0.000020	8684581
Total Arsenic (As)	mg/L	0.000222	0.000217	0.000169	0.000118	0.000160	0.000020	8684581
Total Barium (Ba)	mg/L	0.116	0.0531	0.0405	0.0146	0.0555	0.000020	8684581
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8684581
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684581
Total Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8684581
Total Cadmium (Cd)	mg/L	0.00142	0.0000191	0.0000226	<0.0000050	0.0000632	0.0000050	8684581
Total Chromium (Cr)	mg/L	<0.00010	0.00013	0.00014	0.00015	0.00010	0.00010	8684581
Total Cobalt (Co)	mg/L	0.0000184	0.0000583	0.0000343	0.0000259	0.0000405	0.0000050	8684581
Total Copper (Cu)	mg/L	0.00139	0.00107	0.000710	0.000916	0.00114	0.000050	8684581
Total Iron (Fe)	mg/L	0.0131	0.0849	0.0755	0.0072	0.0349	0.0010	8684581
Total Lead (Pb)	mg/L	0.0000404	0.0000401	0.0000212	0.0000083	0.0000219	0.0000050	8684581
Total Lithium (Li)	mg/L	0.00073	<0.00050	0.00121	<0.00050	<0.00050	0.00050	8684581
Total Manganese (Mn)	mg/L	0.00108	0.0113	0.00753	0.000425	0.00973	0.000050	8684581
Total Molybdenum (Mo)	mg/L	0.000725	0.000372	0.000333	0.000213	0.000407	0.000050	8684581
Total Nickel (Ni)	mg/L	0.00422	0.000408	0.000763	0.000160	0.000358	0.000020	8684581
Total Phosphorus (P)	mg/L	0.0069	0.0082	0.0056	0.0030	0.0064	0.0020	8684581
Total Selenium (Se)	mg/L	0.00322	0.000930	0.000387	0.000331	0.000928	0.000040	8684581
Total Silicon (Si)	mg/L	3.31	2.74	3.25	2.40	2.78	0.050	8684581
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684581
Total Strontium (Sr)	mg/L	0.123	0.0413	0.0398	0.0277	0.0443	0.000050	8684581
Total Thallium (Tl)	mg/L	0.0000030	<0.0000020	0.0000021	<0.0000020	<0.0000020	0.0000020	8684581
Total Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	0.00034	<0.00020	0.00020	8684581
Total Titanium (Ti)	mg/L	<0.00050	0.00126	0.00099	<0.00050	0.00063	0.00050	8684581
Total Uranium (U)	mg/L	0.00148	0.000248	0.000672	0.0000535	0.000182	0.0000020	8684581
Total Vanadium (V)	mg/L	<0.00020	0.00025	<0.00020	0.00026	<0.00020	0.00020	8684581
Total Zinc (Zn)	mg/L	0.147	0.00089	0.00319	0.00018	0.00288	0.00010	8684581
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8684581
Total Calcium (Ca)	mg/L	42.9	21.9	16.4	18.4	23.2	0.050	8683424
Total Magnesium (Mg)	mg/L	9.06	3.40	3.64	1.19	2.88	0.050	8683424
Total Potassium (K)	mg/L	0.894	0.427	0.617	0.274	0.408	0.050	8683424

RDL = Reportable Detection Limit

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8255	RK8256	RK8257	RK8258	RK8259		
Sampling Date		2017/06/28 12:45	2017/06/28 16:10	2017/06/28 17:30	2017/06/27 18:40	2017/06/27 15:40		
COC Number		08439831	08439831	08439831	08439831	08439831		
	UNITS	W9	W12	W14	W15	W16	RDL	QC Batch
Total Sodium (Na)	mg/L	1.05	0.933	1.04	0.847	1.07	0.050	8683424
Total Sulphur (S)	mg/L	13.9	4.8	5.2	3.4	4.0	3.0	8683424
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8260	RK8261	RK8262	RK8263		
Sampling Date		2017/06/27 09:30	2017/06/27 11:05	2017/06/27 15:10	2017/06/27 10:45		
COC Number		08439831	08439831	08439831	08439831		
	UNITS	W21	W22	W31	W40	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8685287
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00841	0.0116	0.0207	0.0109	0.00050	8684665
Dissolved Antimony (Sb)	mg/L	0.000078	0.000054	0.000022	0.000049	0.000020	8684665
Dissolved Arsenic (As)	mg/L	0.00190	0.000170	0.000157	0.000171	0.000020	8684665
Dissolved Barium (Ba)	mg/L	0.0389	0.0431	0.0109	0.0437	0.000020	8684665
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8684665
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684665
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8684665
Dissolved Cadmium (Cd)	mg/L	0.0000083	0.0000112	<0.0000050	0.0000114	0.0000050	8684665
Dissolved Chromium (Cr)	mg/L	0.00016	0.00019	0.00012	0.00019	0.00010	8684665
Dissolved Cobalt (Co)	mg/L	0.0000210	0.0000115	0.0000305	0.0000155	0.0000050	8684665
Dissolved Copper (Cu)	mg/L	0.000813	0.000755	0.00203	0.000753	0.000050	8684665
Dissolved Iron (Fe)	mg/L	0.0432	0.0205	0.0033	0.0213	0.0010	8684665
Dissolved Lead (Pb)	mg/L	0.0000061	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684665
Dissolved Lithium (Li)	mg/L	0.00133	0.00145	<0.00050	0.00147	0.00050	8684665
Dissolved Manganese (Mn)	mg/L	0.00405	0.00133	<0.000050	0.00136	0.000050	8684665
Dissolved Molybdenum (Mo)	mg/L	0.00113	0.000458	0.000330	0.000458	0.000050	8684665
Dissolved Nickel (Ni)	mg/L	0.00197	0.000979	0.000151	0.000960	0.000020	8684665
Dissolved Phosphorus (P)	mg/L	0.0242	0.0031	0.0031	0.0033	0.0020	8684665
Dissolved Selenium (Se)	mg/L	0.000415	0.000369	0.000239	0.000393	0.000040	8684665
Dissolved Silicon (Si)	mg/L	2.78	3.39	2.61	3.41	0.050	8684665
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684665
Dissolved Strontium (Sr)	mg/L	0.0812	0.0769	0.0133	0.0761	0.000050	8684665
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000020	8684665
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8684665
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8684665
Dissolved Uranium (U)	mg/L	0.000935	0.000657	0.0000118	0.000671	0.0000020	8684665
Dissolved Vanadium (V)	mg/L	0.00023	<0.00020	0.00050	<0.00020	0.00020	8684665
Dissolved Zinc (Zn)	mg/L	0.00087	0.00101	0.00017	0.00093	0.00010	8684665
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8684665
Dissolved Calcium (Ca)	mg/L	22.4	20.6	20.6	21.0	0.050	8683423
Dissolved Magnesium (Mg)	mg/L	7.65	6.09	1.14	6.01	0.050	8683423
Dissolved Potassium (K)	mg/L	0.935	0.628	0.342	0.626	0.050	8683423

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8260	RK8261	RK8262	RK8263		
Sampling Date		2017/06/27 09:30	2017/06/27 11:05	2017/06/27 15:10	2017/06/27 10:45		
COC Number		08439831	08439831	08439831	08439831		
	UNITS	W21	W22	W31	W40	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	1.22	1.20	0.975	1.20	0.050	8683423
Dissolved Sulphur (S)	mg/L	4.9	6.7	<3.0	6.7	3.0	8683423
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.0266	0.0242	0.0227	0.0199	0.00050	8684581
Total Antimony (Sb)	mg/L	0.000093	0.000072	0.000029	0.000061	0.000020	8684581
Total Arsenic (As)	mg/L	0.00213	0.000198	0.000169	0.000188	0.000020	8684581
Total Barium (Ba)	mg/L	0.0405	0.0449	0.0115	0.0447	0.000020	8684581
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8684581
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684581
Total Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8684581
Total Cadmium (Cd)	mg/L	0.0000197	0.0000152	<0.0000050	0.0000138	0.0000050	8684581
Total Chromium (Cr)	mg/L	0.00022	0.00023	0.00013	0.00020	0.00010	8684581
Total Cobalt (Co)	mg/L	0.0000545	0.0000411	0.0000397	0.0000318	0.0000050	8684581
Total Copper (Cu)	mg/L	0.000992	0.000825	0.00208	0.000811	0.000050	8684581
Total Iron (Fe)	mg/L	0.136	0.0542	0.0039	0.0463	0.0010	8684581
Total Lead (Pb)	mg/L	0.0000469	0.0000319	0.0000067	0.0000169	0.0000050	8684581
Total Lithium (Li)	mg/L	0.00135	0.00148	<0.00050	0.00147	0.00050	8684581
Total Manganese (Mn)	mg/L	0.0204	0.00621	0.000078	0.00487	0.000050	8684581
Total Molybdenum (Mo)	mg/L	0.00114	0.000472	0.000328	0.000460	0.000050	8684581
Total Nickel (Ni)	mg/L	0.00221	0.00111	0.000147	0.000987	0.000020	8684581
Total Phosphorus (P)	mg/L	0.0368	0.0050	0.0035	0.0052	0.0020	8684581
Total Selenium (Se)	mg/L	0.000441	0.000415	0.000257	0.000410	0.000040	8684581
Total Silicon (Si)	mg/L	2.91	3.52	2.72	3.41	0.050	8684581
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684581
Total Strontium (Sr)	mg/L	0.0822	0.0776	0.0132	0.0779	0.000050	8684581
Total Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000020	8684581
Total Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8684581
Total Titanium (Ti)	mg/L	0.00096	<0.00050	<0.00050	0.00063	0.00050	8684581
Total Uranium (U)	mg/L	0.000938	0.000677	0.0000143	0.000686	0.0000020	8684581
Total Vanadium (V)	mg/L	0.00027	<0.00020	0.00046	<0.00020	0.00020	8684581
Total Zinc (Zn)	mg/L	0.00179	0.00148	0.00024	0.00136	0.00010	8684581
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8684581
Total Calcium (Ca)	mg/L	23.1	20.9	20.7	20.4	0.050	8683424
Total Magnesium (Mg)	mg/L	7.75	6.21	1.15	6.12	0.050	8683424
Total Potassium (K)	mg/L	0.929	0.647	0.346	0.638	0.050	8683424

RDL = Reportable Detection Limit

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8260	RK8261	RK8262	RK8263		
Sampling Date		2017/06/27 09:30	2017/06/27 11:05	2017/06/27 15:10	2017/06/27 10:45		
COC Number		08439831	08439831	08439831	08439831		
	UNITS	W21	W22	W31	W40	RDL	QC Batch
Total Sodium (Na)	mg/L	1.23	1.22	0.982	1.23	0.050	8683424
Total Sulphur (S)	mg/L	5.2	6.9	<3.0	6.9	3.0	8683424
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8264		RK8265	RK8266	RK8267		
Sampling Date		2017/06/27 12:10		2017/06/27 12:30	2017/06/27 12:55	2017/06/28 16:50		
COC Number		08439831		08439831	08439831	08439831		
	UNITS	W71	QC Batch	W72	W73	W80	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	8685313	<0.010	<0.010	<0.010	0.010	8685287
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00455	8684665	0.00894	0.00580	0.00656	0.00050	8684665
Dissolved Antimony (Sb)	mg/L	0.000325	8684665	0.000240	0.000113	0.000062	0.000020	8684665
Dissolved Arsenic (As)	mg/L	0.000291	8684665	0.00125	0.000203	0.000202	0.000020	8684665
Dissolved Barium (Ba)	mg/L	0.0446	8684665	0.0658	0.0443	0.0524	0.000020	8684665
Dissolved Beryllium (Be)	mg/L	<0.000010	8684665	<0.000010	<0.000010	<0.000010	0.000010	8684665
Dissolved Bismuth (Bi)	mg/L	<0.0000050	8684665	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684665
Dissolved Boron (B)	mg/L	<0.010	8684665	<0.010	<0.010	<0.010	0.010	8684665
Dissolved Cadmium (Cd)	mg/L	0.00290	8684665	0.000267	0.0000064	0.0000147	0.0000050	8684665
Dissolved Chromium (Cr)	mg/L	<0.00010	8684665	<0.00010	0.00028	<0.00010	0.00010	8684665
Dissolved Cobalt (Co)	mg/L	0.0000660	8684665	0.0000243	0.0000184	0.0000338	0.0000050	8684665
Dissolved Copper (Cu)	mg/L	0.000961	8684665	0.00117	0.00146	0.000937	0.000050	8684665
Dissolved Iron (Fe)	mg/L	0.0183	8684665	0.0582	0.0258	0.0362	0.0010	8684665
Dissolved Lead (Pb)	mg/L	0.0000058	8684665	0.0000062	0.0000066	<0.0000050	0.0000050	8684665
Dissolved Lithium (Li)	mg/L	0.00200	8684665	0.00157	<0.00050	<0.00050	0.00050	8684665
Dissolved Manganese (Mn)	mg/L	0.00736	8684665	0.0203	0.00310	0.00936	0.000050	8684665
Dissolved Molybdenum (Mo)	mg/L	0.00386	8684665	0.00199	0.000407	0.000364	0.000050	8684665
Dissolved Nickel (Ni)	mg/L	0.0318	8684665	0.00552	0.000810	0.000299	0.000020	8684665
Dissolved Phosphorus (P)	mg/L	0.0138	8684665	0.0161	0.0034	0.0045	0.0020	8684665
Dissolved Selenium (Se)	mg/L	0.00815	8684665	0.00173	0.000534	0.000806	0.000040	8684665
Dissolved Silicon (Si)	mg/L	3.61	8684665	3.27	3.55	2.67	0.050	8684665
Dissolved Silver (Ag)	mg/L	<0.0000050	8684665	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684665
Dissolved Strontium (Sr)	mg/L	0.206	8684665	0.170	0.0723	0.0418	0.000050	8684665
Dissolved Thallium (Tl)	mg/L	0.0000035	8684665	<0.0000020	<0.0000020	<0.0000020	0.0000020	8684665
Dissolved Tin (Sn)	mg/L	<0.00020	8684665	<0.00020	<0.00020	<0.00020	0.00020	8684665
Dissolved Titanium (Ti)	mg/L	<0.00050	8684665	<0.00050	<0.00050	<0.00050	0.00050	8684665
Dissolved Uranium (U)	mg/L	0.00739	8684665	0.000890	0.000200	0.000234	0.0000020	8684665
Dissolved Vanadium (V)	mg/L	0.00028	8684665	<0.00020	<0.00020	<0.00020	0.00020	8684665
Dissolved Zinc (Zn)	mg/L	0.519	8684665	0.0465	0.00012	0.00049	0.00010	8684665
Dissolved Zirconium (Zr)	mg/L	<0.00010	8684665	<0.00010	<0.00010	<0.00010	0.00010	8684665
Dissolved Calcium (Ca)	mg/L	77.7	8683423	39.5	24.3	22.4	0.050	8683423
Dissolved Magnesium (Mg)	mg/L	25.3	8683423	13.5	5.82	3.38	0.050	8683423
Dissolved Potassium (K)	mg/L	0.558	8683423	0.546	0.192	0.423	0.050	8683423

RDL = Reportable Detection Limit

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8264		RK8265	RK8266	RK8267		
Sampling Date		2017/06/27 12:10		2017/06/27 12:30	2017/06/27 12:55	2017/06/28 16:50		
COC Number		08439831		08439831	08439831	08439831		
	UNITS	W71	QC Batch	W72	W73	W80	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	0.806	8683423	1.19	0.900	0.923	0.050	8683423
Dissolved Sulphur (S)	mg/L	25.4	8683423	14.6	5.3	4.8	3.0	8683423
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0167	8684588	0.0152	0.0211	0.0330	0.00050	8684588
Total Antimony (Sb)	mg/L	0.000355	8684588	0.000233	0.000099	0.000055	0.000020	8684588
Total Arsenic (As)	mg/L	0.000308	8684588	0.00133	0.000221	0.000225	0.000020	8684588
Total Barium (Ba)	mg/L	0.0468	8684588	0.0682	0.0454	0.0556	0.000020	8684588
Total Beryllium (Be)	mg/L	<0.000010	8684588	<0.000010	<0.000010	<0.000010	0.000010	8684588
Total Bismuth (Bi)	mg/L	<0.0000050	8684588	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684588
Total Boron (B)	mg/L	<0.010	8684588	<0.010	<0.010	<0.010	0.010	8684588
Total Cadmium (Cd)	mg/L	0.00305	8684588	0.000309	0.0000089	0.0000211	0.0000050	8684588
Total Chromium (Cr)	mg/L	<0.00010	8684588	0.00011	0.00028	0.00012	0.00010	8684588
Total Cobalt (Co)	mg/L	0.0000918	8684588	0.0000390	0.0000369	0.0000612	0.0000050	8684588
Total Copper (Cu)	mg/L	0.000996	8684588	0.00110	0.00143	0.00106	0.000050	8684588
Total Iron (Fe)	mg/L	0.0626	8684588	0.0908	0.0548	0.0996	0.0010	8684588
Total Lead (Pb)	mg/L	0.0000353	8684588	0.0000242	0.0000176	0.0000515	0.0000050	8684588
Total Lithium (Li)	mg/L	0.00211	8684588	0.00160	<0.00050	<0.00050	0.00050	8684588
Total Manganese (Mn)	mg/L	0.0109	8684588	0.0291	0.00690	0.0139	0.000050	8684588
Total Molybdenum (Mo)	mg/L	0.00379	8684588	0.00194	0.000395	0.000364	0.000050	8684588
Total Nickel (Ni)	mg/L	0.0308	8684588	0.00523	0.000890	0.000405	0.000020	8684588
Total Phosphorus (P)	mg/L	0.0180	8684588	0.0192	0.0059	0.0074	0.0020	8684588
Total Selenium (Se)	mg/L	0.00743	8684588	0.00169	0.000530	0.000839	0.000040	8684588
Total Silicon (Si)	mg/L	3.75	8684588	3.39	3.51	2.83	0.050	8684588
Total Silver (Ag)	mg/L	<0.0000050	8684588	<0.0000050	<0.0000050	<0.0000050	0.0000050	8684588
Total Strontium (Sr)	mg/L	0.201	8684588	0.163	0.0709	0.0418	0.000050	8684588
Total Thallium (Tl)	mg/L	0.0000042	8684588	<0.0000020	<0.0000020	<0.0000020	0.0000020	8684588
Total Tin (Sn)	mg/L	<0.00020	8684588	<0.00020	<0.00020	<0.00020	0.00020	8684588
Total Titanium (Ti)	mg/L	0.00077	8684588	<0.00050	<0.00050	0.00149	0.00050	8684588
Total Uranium (U)	mg/L	0.00739	8684588	0.000907	0.000194	0.000236	0.0000020	8684588
Total Vanadium (V)	mg/L	0.00032	8684588	0.00022	<0.00020	0.00023	0.00020	8684588
Total Zinc (Zn)	mg/L	0.505	8684588	0.0453	0.00032	0.00080	0.00010	8684588
Total Zirconium (Zr)	mg/L	<0.00010	8684588	<0.00010	<0.00010	<0.00010	0.00010	8684588
Total Calcium (Ca)	mg/L	76.2	8683424	38.4	23.6	22.1	0.050	8683424
Total Magnesium (Mg)	mg/L	25.0	8683424	13.0	5.87	3.43	0.050	8683424
Total Potassium (K)	mg/L	0.577	8683424	0.558	0.198	0.446	0.050	8683424

RDL = Reportable Detection Limit

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8264		RK8265	RK8266	RK8267		
Sampling Date		2017/06/27 12:10		2017/06/27 12:30	2017/06/27 12:55	2017/06/28 16:50		
COC Number		08439831		08439831	08439831	08439831		
	UNITS	W71	QC Batch	W72	W73	W80	RDL	QC Batch
Total Sodium (Na)	mg/L	0.775	8683424	1.14	0.877	0.911	0.050	8683424
Total Sulphur (S)	mg/L	26.1	8683424	15.3	5.3	4.9	3.0	8683424
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8268		RK8269			RK8270		
Sampling Date		2017/06/27 18:15		2017/06/28 15:20			2017/06/29 06:55		
COC Number		08439831		08439831			08439831		
	UNITS	W81	QC Batch	W82	RDL	QC Batch	T1	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	<0.010	8685287	<0.010	0.010	8685287	0.069	0.010	8685287
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.00964	8684665	0.00757	0.00050	8684665	0.0357	0.0025	8684665
Dissolved Antimony (Sb)	mg/L	0.000058	8684665	0.000284	0.000020	8684665	0.0259	0.00010	8684665
Dissolved Arsenic (As)	mg/L	0.000134	8684665	0.000168	0.000020	8684665	0.00439	0.00010	8684665
Dissolved Barium (Ba)	mg/L	0.0328	8684665	0.137	0.000020	8684665	0.0349	0.00010	8684665
Dissolved Beryllium (Be)	mg/L	<0.000010	8684665	<0.000010	0.000010	8684665	<0.000050	0.000050	8684665
Dissolved Bismuth (Bi)	mg/L	<0.0000050	8684665	<0.0000050	0.0000050	8684665	<0.000025	0.000025	8684665
Dissolved Boron (B)	mg/L	<0.010	8684665	<0.010	0.010	8684665	<0.050	0.050	8684665
Dissolved Cadmium (Cd)	mg/L	0.0000244	8684665	0.00105	0.0000050	8684665	0.0118	0.000025	8684665
Dissolved Chromium (Cr)	mg/L	0.00014	8684665	<0.00010	0.00010	8684665	<0.00050	0.00050	8684665
Dissolved Cobalt (Co)	mg/L	0.0000248	8684665	0.0000786	0.0000050	8684665	0.00138	0.000025	8684665
Dissolved Copper (Cu)	mg/L	0.000946	8684665	0.00138	0.000050	8684665	0.189	0.00025	8684665
Dissolved Iron (Fe)	mg/L	0.0120	8684665	0.0311	0.0010	8684665	0.803	0.0050	8684665
Dissolved Lead (Pb)	mg/L	0.0000250	8694883	0.0000633	0.0000050	8684665	0.0576	0.000025	8684665
Dissolved Lithium (Li)	mg/L	<0.00050	8684665	0.00052	0.00050	8684665	0.0070	0.0025	8684665
Dissolved Manganese (Mn)	mg/L	0.00413	8684665	0.0183	0.000050	8684665	0.376	0.00025	8684665
Dissolved Molybdenum (Mo)	mg/L	0.000292	8684665	0.000362	0.000050	8684665	0.0268	0.00025	8684665
Dissolved Nickel (Ni)	mg/L	0.000200	8684665	0.00654	0.000020	8684665	0.00706	0.00010	8684665
Dissolved Phosphorus (P)	mg/L	0.0036	8684665	0.0085	0.0020	8684665	0.061	0.010	8684665
Dissolved Selenium (Se)	mg/L	0.000546	8684665	0.00299	0.000040	8684665	0.522	0.00020	8684665
Dissolved Silicon (Si)	mg/L	2.48	8684665	3.18	0.050	8684665	1.28	0.25	8684665
Dissolved Silver (Ag)	mg/L	<0.0000050	8684665	<0.0000050	0.0000050	8684665	0.000579	0.000025	8684665
Dissolved Strontium (Sr)	mg/L	0.0347	8684665	0.112	0.000050	8684665	1.41	0.00025	8684665
Dissolved Thallium (Tl)	mg/L	<0.0000020	8684665	0.0000047	0.0000020	8684665	0.000843	0.000010	8684665
Dissolved Tin (Sn)	mg/L	<0.00020	8684665	<0.00020	0.00020	8684665	<0.0010	0.0010	8684665
Dissolved Titanium (Ti)	mg/L	<0.00050	8684665	<0.00050	0.00050	8684665	<0.0025	0.0025	8684665
Dissolved Uranium (U)	mg/L	0.000102	8684665	0.000333	0.0000020	8684665	0.000199	0.000010	8684665
Dissolved Vanadium (V)	mg/L	0.00023	8684665	<0.00020	0.00020	8684665	<0.0010	0.0010	8684665
Dissolved Zinc (Zn)	mg/L	0.00124	8684665	0.143	0.00010	8684665	1.42	0.00050	8684665
Dissolved Zirconium (Zr)	mg/L	<0.00010	8684665	<0.00010	0.00010	8684665	<0.00050	0.00050	8684665
Dissolved Calcium (Ca)	mg/L	20.5	8683423	46.7	0.050	8683423	370	0.25	8683423
Dissolved Magnesium (Mg)	mg/L	1.89	8683423	3.95	0.050	8683423	2.65	0.25	8683423
Dissolved Potassium (K)	mg/L	0.332	8683423	0.968	0.050	8683423	27.3	0.25	8683423

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8268		RK8269			RK8270		
Sampling Date		2017/06/27 18:15		2017/06/28 15:20			2017/06/29 06:55		
COC Number		08439831		08439831			08439831		
	UNITS	W81	QC Batch	W82	RDL	QC Batch	T1	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	0.924	8683423	1.11	0.050	8683423	105	0.25	8683423
Dissolved Sulphur (S)	mg/L	3.5	8683423	15.9	3.0	8683423	468	15	8683423
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	0.0218	8684588	0.0210	0.00050	8684588	0.049	0.015	8684615
Total Antimony (Sb)	mg/L	0.000048	8684588	0.000287	0.000020	8684588	0.0253	0.00010	8684615
Total Arsenic (As)	mg/L	0.000145	8684588	0.000223	0.000020	8684588	0.00447	0.00010	8684615
Total Barium (Ba)	mg/L	0.0342	8684588	0.142	0.000020	8684588	0.0354	0.00025	8684615
Total Beryllium (Be)	mg/L	<0.000010	8684588	<0.000010	0.000010	8684588	<0.000050	0.000050	8684615
Total Bismuth (Bi)	mg/L	<0.0000050	8684588	<0.0000050	0.0000050	8684588	<0.000050	0.000050	8684615
Total Boron (B)	mg/L	<0.010	8684588	<0.010	0.010	8684588	<0.050	0.050	8684615
Total Cadmium (Cd)	mg/L	0.0000262	8684588	0.00121	0.0000050	8684588	0.0117	0.000025	8684615
Total Chromium (Cr)	mg/L	0.00016	8684588	<0.00010	0.00010	8684588	<0.00050	0.00050	8684615
Total Cobalt (Co)	mg/L	0.0000445	8684588	0.000104	0.0000050	8684588	0.00139	0.000050	8684615
Total Copper (Cu)	mg/L	0.00105	8684588	0.00185	0.000050	8684588	0.186	0.00050	8684615
Total Iron (Fe)	mg/L	0.0336	8684588	0.0960	0.0010	8684588	0.807	0.025	8684615
Total Lead (Pb)	mg/L	0.0000203	8684588	0.000385	0.0000050	8684588	0.0576	0.00010	8684615
Total Lithium (Li)	mg/L	<0.00050	8684588	0.00053	0.00050	8684588	0.0068	0.0025	8684615
Total Manganese (Mn)	mg/L	0.00521	8684588	0.0254	0.000050	8684588	0.364	0.00050	8684615
Total Molybdenum (Mo)	mg/L	0.000300	8684588	0.000360	0.000050	8684588	0.0265	0.00025	8684615
Total Nickel (Ni)	mg/L	0.000232	8684588	0.00642	0.000020	8684588	0.00686	0.00050	8684615
Total Phosphorus (P)	mg/L	0.0055	8684588	0.0132	0.0020	8684588	0.076	0.025	8684615
Total Selenium (Se)	mg/L	0.000557	8684588	0.00309	0.000040	8684588	0.515	0.00020	8684615
Total Silicon (Si)	mg/L	2.53	8684588	3.28	0.050	8684588	1.31	0.25	8684615
Total Silver (Ag)	mg/L	<0.0000050	8684588	0.0000076	0.0000050	8684588	0.00262	0.000050	8684615
Total Strontium (Sr)	mg/L	0.0341	8684588	0.111	0.000050	8684588	1.33	0.00025	8684615
Total Thallium (Tl)	mg/L	<0.0000020	8684588	0.0000066	0.0000020	8684588	0.000746	0.000010	8684615
Total Tin (Sn)	mg/L	<0.00020	8684588	<0.00020	0.00020	8684588	<0.0010	0.0010	8684615
Total Titanium (Ti)	mg/L	0.00088	8684588	0.00075	0.00050	8684588	<0.010	0.010	8684615
Total Uranium (U)	mg/L	0.000107	8684588	0.000326	0.0000020	8684588	0.000250	0.000025	8684615
Total Vanadium (V)	mg/L	0.00025	8684588	<0.00020	0.00020	8684588	<0.0010	0.0010	8684615
Total Zinc (Zn)	mg/L	0.00120	8684588	0.149	0.00010	8684588	1.42	0.0050	8684615
Total Zirconium (Zr)	mg/L	<0.00010	8684588	<0.00010	0.00010	8684588	<0.00050	0.00050	8684615
Total Calcium (Ca)	mg/L	20.3	8683424	46.9	0.050	8683424	357	1.3	8683424
Total Magnesium (Mg)	mg/L	1.88	8683424	4.09	0.050	8683424	2.5	1.3	8683424
Total Potassium (K)	mg/L	0.344	8683424	1.03	0.050	8683424	26.0	1.3	8683424

RDL = Reportable Detection Limit

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8268		RK8269			RK8270		
Sampling Date		2017/06/27 18:15		2017/06/28 15:20			2017/06/29 06:55		
COC Number		08439831		08439831			08439831		
	UNITS	W81	QC Batch	W82	RDL	QC Batch	T1	RDL	QC Batch
Total Sodium (Na)	mg/L	0.888	8683424	1.11	0.050	8683424	103	1.3	8683424
Total Sulphur (S)	mg/L	3.5	8683424	16.5	3.0	8683424	480	15	8683424
RDL = Reportable Detection Limit									

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8389		RK8390	RK8391		
Sampling Date		2017/06/27 17:30		2017/06/27 16:10	2017/06/27 16:30		
COC Number		08439832		08439832	08439832		
	UNITS	WRSS	QC Batch	BIO-IN	BIO-OUT	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.10 (1)	8685287	<0.10 (1)	<0.10 (1)	0.10	8685313
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	<0.0025	8684665	0.0060	0.0040	0.0025	8684715
Dissolved Antimony (Sb)	mg/L	0.00252	8684665	0.0121	<0.00010	0.00010	8684715
Dissolved Arsenic (As)	mg/L	0.00046	8684665	0.00123	0.00159	0.00010	8684715
Dissolved Barium (Ba)	mg/L	0.0159	8684665	0.0535	0.0713	0.00010	8684715
Dissolved Beryllium (Be)	mg/L	<0.000050	8684665	<0.000050	<0.000050	0.000050	8684715
Dissolved Bismuth (Bi)	mg/L	<0.000025	8684665	<0.000025	<0.000025	0.000025	8684715
Dissolved Boron (B)	mg/L	0.071	8684665	<0.050	<0.050	0.050	8684715
Dissolved Cadmium (Cd)	mg/L	0.0275	8684665	0.202	0.000105	0.000025	8684715
Dissolved Chromium (Cr)	mg/L	<0.00050	8684665	<0.00050	<0.00050	0.00050	8684715
Dissolved Cobalt (Co)	mg/L	0.000110	8684665	0.0162	0.00412	0.000025	8684715
Dissolved Copper (Cu)	mg/L	0.0110	8684665	0.0178	0.00033	0.00025	8684715
Dissolved Iron (Fe)	mg/L	<0.0050	8684665	0.0308	8.06	0.0050	8684715
Dissolved Lead (Pb)	mg/L	0.000745	8684665	0.0196	<0.000025	0.000025	8684715
Dissolved Lithium (Li)	mg/L	<0.0025	8684665	0.0142	0.0041	0.0025	8684715
Dissolved Manganese (Mn)	mg/L	0.100	8684665	3.09	7.28	0.00025	8684715
Dissolved Molybdenum (Mo)	mg/L	0.00069	8684665	0.00297	0.00167	0.00025	8684715
Dissolved Nickel (Ni)	mg/L	0.145	8684665	0.0634	0.00604	0.00010	8684715
Dissolved Phosphorus (P)	mg/L	<0.010	8684665	<0.010	<0.010	0.010	8684715
Dissolved Selenium (Se)	mg/L	0.0936	8684665	0.0970	0.00198	0.00020	8684715
Dissolved Silicon (Si)	mg/L	3.53	8684665	4.71	6.47	0.25	8684715
Dissolved Silver (Ag)	mg/L	<0.000025	8684665	<0.000025	<0.000025	0.000025	8684715
Dissolved Strontium (Sr)	mg/L	1.40	8684665	1.16	0.748	0.00025	8684715
Dissolved Thallium (Tl)	mg/L	0.000409	8684665	0.00782	0.000045	0.000010	8684715
Dissolved Tin (Sn)	mg/L	<0.0010	8684665	<0.0010	<0.0010	0.0010	8684715
Dissolved Titanium (Ti)	mg/L	<0.0025	8684665	<0.0025	<0.0025	0.0025	8684715
Dissolved Uranium (U)	mg/L	0.00948	8684665	0.00581	0.000532	0.000010	8684715
Dissolved Vanadium (V)	mg/L	<0.0010	8684665	<0.0010	<0.0010	0.0010	8684715
Dissolved Zinc (Zn)	mg/L	3.95	8684665	24.3	0.103	0.00050	8684715
Dissolved Zirconium (Zr)	mg/L	<0.00050	8684665	<0.00050	<0.00050	0.00050	8684715
Dissolved Calcium (Ca)	mg/L	438	8683423	312	308	0.25	8683423
Dissolved Magnesium (Mg)	mg/L	76.8	8683423	22.0	31.4	0.25	8683423

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8389		RK8390	RK8391		
Sampling Date		2017/06/27 17:30		2017/06/27 16:10	2017/06/27 16:30		
COC Number		08439832		08439832	08439832		
	UNITS	WRSS	QC Batch	BIO-IN	BIO-OUT	RDL	QC Batch
Dissolved Potassium (K)	mg/L	9.76	8683423	12.8	8.89	0.25	8683423
Dissolved Sodium (Na)	mg/L	111	8683423	39.8	38.0	0.25	8683423
Dissolved Sulphur (S)	mg/L	471	8683423	312	277	15	8683423
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.104	8684588	0.0875	0.0055	0.0025	8684588
Total Antimony (Sb)	mg/L	0.00264	8684588	0.0127	<0.00010	0.00010	8684588
Total Arsenic (As)	mg/L	0.00072	8684588	0.00261	0.00191	0.00010	8684588
Total Barium (Ba)	mg/L	0.0191	8684588	0.0581	0.0717	0.00010	8684588
Total Beryllium (Be)	mg/L	<0.000050	8684588	<0.000050	<0.000050	0.000050	8684588
Total Bismuth (Bi)	mg/L	0.000186	8684588	0.000099	<0.000025	0.000025	8684588
Total Boron (B)	mg/L	0.075	8684588	<0.050	<0.050	0.050	8684588
Total Cadmium (Cd)	mg/L	0.0272	8684588	0.204	0.000495	0.000025	8684588
Total Chromium (Cr)	mg/L	<0.00050	8684588	<0.00050	<0.00050	0.00050	8684588
Total Cobalt (Co)	mg/L	0.000210	8684588	0.0162	0.00403	0.000025	8684588
Total Copper (Cu)	mg/L	0.0139	8684588	0.0246	<0.00025	0.00025	8684588
Total Iron (Fe)	mg/L	0.183	8684588	0.279	9.08	0.0050	8684588
Total Lead (Pb)	mg/L	0.00378	8684588	0.0633	0.000053	0.000025	8684588
Total Lithium (Li)	mg/L	<0.0025	8684588	0.0142	0.0041	0.0025	8684588
Total Manganese (Mn)	mg/L	0.112	8684588	3.08	7.34	0.00025	8684588
Total Molybdenum (Mo)	mg/L	0.00066	8684588	0.00288	0.00169	0.00025	8684588
Total Nickel (Ni)	mg/L	0.139	8684588	0.0657	0.00671	0.00010	8684588
Total Phosphorus (P)	mg/L	<0.010	8684588	0.011	0.022	0.010	8684588
Total Selenium (Se)	mg/L	0.0895	8684588	0.0978	0.00194	0.00020	8684588
Total Silicon (Si)	mg/L	3.72	8684588	4.78	6.43	0.25	8684588
Total Silver (Ag)	mg/L	0.000062	8684588	0.000247	<0.000025	0.000025	8684588
Total Strontium (Sr)	mg/L	1.35	8684588	1.14	0.737	0.00025	8684588
Total Thallium (Tl)	mg/L	0.000423	8684588	0.00805	0.000043	0.000010	8684588
Total Tin (Sn)	mg/L	<0.0010	8684588	<0.0010	<0.0010	0.0010	8684588
Total Titanium (Ti)	mg/L	0.0063	8684588	0.0026	<0.0025	0.0025	8684588
Total Uranium (U)	mg/L	0.00929	8684588	0.00594	0.000508	0.000010	8684588
Total Vanadium (V)	mg/L	<0.0010	8684588	<0.0010	<0.0010	0.0010	8684588
Total Zinc (Zn)	mg/L	3.82	8684588	24.6	0.113	0.00050	8684588
Total Zirconium (Zr)	mg/L	<0.00050	8684588	<0.00050	<0.00050	0.00050	8684588
Total Calcium (Ca)	mg/L	432	8683424	301	297	0.25	8683424
Total Magnesium (Mg)	mg/L	74.4	8683424	22.6	31.4	0.25	8683424
RDL = Reportable Detection Limit							

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8389		RK8390	RK8391		
Sampling Date		2017/06/27 17:30		2017/06/27 16:10	2017/06/27 16:30		
COC Number		08439832		08439832	08439832		
	UNITS	**WRSS**	**QC Batch**	**BIO-IN**	**BIO-OUT**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	10.2	8683424	13.0	8.74	0.25	8683424
Total Sodium (Na)	mg/L	110	8683424	38.9	37.3	0.25	8683424
Total Sulphur (S)	mg/L	460	8683424	314	275	15	8683424
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8392			RK8393		RK8394		
Sampling Date		2017/06/28 07:30			2017/06/28 12:00		2017/06/29 07:15		
COC Number		08439832			08439832		08439832		
	UNITS	PORTAL	RDL	QC Batch	DUP	RDL	T1-2	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	<0.10 (1)	0.10	8685287	<0.010	0.010	0.11 (1)	0.10	8685313
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.0136	0.00050	8684715	0.0184	0.00050	0.0319	0.0025	8684715
Dissolved Antimony (Sb)	mg/L	0.000396	0.000020	8684715	0.000055	0.000020	0.0472	0.00010	8684715
Dissolved Arsenic (As)	mg/L	0.00144	0.000020	8684715	0.00105	0.000020	0.00705	0.00010	8684715
Dissolved Barium (Ba)	mg/L	0.0266	0.000020	8684715	0.0422	0.000020	0.0597	0.00010	8684715
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8684715	<0.000010	0.000010	<0.000050	0.000050	8684715
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8684715	<0.0000050	0.0000050	<0.000025	0.000025	8684715
Dissolved Boron (B)	mg/L	0.017	0.010	8684715	<0.010	0.010	<0.050	0.050	8684715
Dissolved Cadmium (Cd)	mg/L	0.000220	0.0000050	8684715	0.0000204	0.0000050	0.0120	0.000025	8684715
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8684715	<0.00010	0.00010	<0.00050	0.00050	8684715
Dissolved Cobalt (Co)	mg/L	0.00389	0.0000050	8684715	0.0000165	0.0000050	0.00198	0.000025	8684715
Dissolved Copper (Cu)	mg/L	0.000067	0.000050	8684715	0.000602	0.000050	0.312	0.00025	8684715
Dissolved Iron (Fe)	mg/L	6.66	0.0010	8684715	0.0271	0.0010	1.24	0.0050	8684715
Dissolved Lead (Pb)	mg/L	0.0000498	0.0000050	8684715	<0.0000050	0.0000050	0.0720	0.000025	8684715
Dissolved Lithium (Li)	mg/L	0.0119	0.00050	8684715	<0.00050	0.00050	0.0132	0.0025	8684715
Dissolved Manganese (Mn)	mg/L	0.845	0.000050	8684715	0.00388	0.000050	0.556	0.00025	8684715
Dissolved Molybdenum (Mo)	mg/L	0.00966	0.000050	8684715	0.000890	0.000050	0.0433	0.00025	8684715
Dissolved Nickel (Ni)	mg/L	0.0160	0.000020	8684715	0.000513	0.000020	0.00879	0.00010	8684715
Dissolved Phosphorus (P)	mg/L	0.0129	0.0020	8684715	0.0079	0.0020	0.110	0.010	8684715
Dissolved Selenium (Se)	mg/L	0.00312	0.000040	8684715	0.000449	0.000040	1.60	0.00020	8684715
Dissolved Silicon (Si)	mg/L	4.70	0.050	8684715	2.66	0.050	2.20	0.25	8684715
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8684715	<0.0000050	0.0000050	0.00597	0.000025	8684715
Dissolved Strontium (Sr)	mg/L	1.02	0.000050	8684715	0.0411	0.000050	2.32	0.00025	8684715
Dissolved Thallium (Tl)	mg/L	0.000375	0.0000020	8684715	<0.0000020	0.0000020	0.00128	0.000010	8684715
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8684715	<0.00020	0.00020	<0.0010	0.0010	8684715
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8684715	<0.00050	0.00050	<0.0025	0.0025	8684715
Dissolved Uranium (U)	mg/L	0.00349	0.0000020	8684715	0.000605	0.0000020	0.000244	0.000010	8684715
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8684715	<0.00020	0.00020	<0.0010	0.0010	8684715
Dissolved Zinc (Zn)	mg/L	0.359	0.00010	8684715	0.00196	0.00010	1.61	0.00050	8684715
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8684715	<0.00010	0.00010	<0.00050	0.00050	8684715
Dissolved Calcium (Ca)	mg/L	164	0.050	8683423	16.9	0.050	619	0.25	8683423
Dissolved Magnesium (Mg)	mg/L	22.1	0.050	8683423	3.34	0.050	3.32	0.25	8683423

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8392			RK8393		RK8394		
Sampling Date		2017/06/28 07:30			2017/06/28 12:00		2017/06/29 07:15		
COC Number		08439832			08439832		08439832		
	UNITS	PORTAL	RDL	QC Batch	DUP	RDL	T1-2	RDL	QC Batch
Dissolved Potassium (K)	mg/L	21.5	0.050	8683423	0.640	0.050	54.5	0.25	8683423
Dissolved Sodium (Na)	mg/L	51.0	0.050	8683423	0.891	0.050	191	0.25	8683423
Dissolved Sulphur (S)	mg/L	183	3.0	8683423	3.8	3.0	815	15	8683423
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	0.217	0.00050	8684588	0.0237	0.00050	0.0399	0.0025	8684588
Total Antimony (Sb)	mg/L	0.00105	0.000020	8684588	0.000043	0.000020	0.0480	0.00010	8684588
Total Arsenic (As)	mg/L	0.00426	0.000020	8684588	0.00110	0.000020	0.00740	0.00010	8684588
Total Barium (Ba)	mg/L	0.0408	0.000020	8684588	0.0416	0.000020	0.0634	0.00010	8684588
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8684588	<0.000010	0.000010	<0.000050	0.000050	8684588
Total Bismuth (Bi)	mg/L	0.000103	0.0000050	8684588	<0.0000050	0.0000050	0.000033	0.000025	8684588
Total Boron (B)	mg/L	0.016	0.010	8684588	<0.010	0.010	<0.050	0.050	8684588
Total Cadmium (Cd)	mg/L	0.00112	0.0000050	8684588	0.0000232	0.0000050	0.0128	0.000025	8684588
Total Chromium (Cr)	mg/L	0.00048	0.00010	8684588	<0.00010	0.00010	<0.00050	0.00050	8684588
Total Cobalt (Co)	mg/L	0.00424	0.0000050	8684588	0.0000200	0.0000050	0.00207	0.000025	8684588
Total Copper (Cu)	mg/L	0.00631	0.000050	8684588	0.000656	0.000050	0.320	0.00025	8684588
Total Iron (Fe)	mg/L	7.94	0.0010	8684588	0.0594	0.0010	1.30	0.0050	8684588
Total Lead (Pb)	mg/L	0.0161	0.0000050	8684588	0.0000155	0.0000050	0.0753	0.000025	8684588
Total Lithium (Li)	mg/L	0.0122	0.00050	8684588	<0.00050	0.00050	0.0136	0.0025	8684588
Total Manganese (Mn)	mg/L	0.880	0.000050	8684588	0.0142	0.000050	0.583	0.00025	8684588
Total Molybdenum (Mo)	mg/L	0.00994	0.000050	8684588	0.000861	0.000050	0.0364	0.00025	8684588
Total Nickel (Ni)	mg/L	0.0173	0.000020	8684588	0.000555	0.000020	0.00914	0.00010	8684588
Total Phosphorus (P)	mg/L	0.0280	0.0020	8684588	0.0206	0.0020	0.119	0.010	8684588
Total Selenium (Se)	mg/L	0.00449	0.000040	8684588	0.000465	0.000040	1.73	0.00020	8684588
Total Silicon (Si)	mg/L	4.96	0.050	8684588	2.46	0.050	2.32	0.25	8684588
Total Silver (Ag)	mg/L	0.0000403	0.0000050	8684588	<0.0000050	0.0000050	0.00500	0.000025	8684588
Total Strontium (Sr)	mg/L	1.04	0.000050	8684588	0.0406	0.000050	2.43	0.00025	8684588
Total Thallium (Tl)	mg/L	0.000423	0.0000020	8684588	<0.0000020	0.0000020	0.00140	0.000010	8684588
Total Tin (Sn)	mg/L	<0.00020	0.00020	8684588	<0.00020	0.00020	<0.0010	0.0010	8684588
Total Titanium (Ti)	mg/L	0.00825	0.00050	8684588	<0.00050	0.00050	<0.0025	0.0025	8684588
Total Uranium (U)	mg/L	0.00364	0.0000020	8684588	0.000594	0.0000020	0.000330	0.000010	8684588
Total Vanadium (V)	mg/L	0.00038	0.00020	8684588	<0.00020	0.00020	<0.0010	0.0010	8684588
Total Zinc (Zn)	mg/L	0.516	0.00010	8684588	0.00289	0.00010	1.66	0.00050	8684588
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8684588	<0.00010	0.00010	<0.00050	0.00050	8684588
Total Calcium (Ca)	mg/L	169	0.050	8683424	16.6	0.050	633	0.25	8683424
Total Magnesium (Mg)	mg/L	22.7	0.050	8683424	3.33	0.050	3.55	0.25	8683424

RDL = Reportable Detection Limit

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8392			RK8393		RK8394		
Sampling Date		2017/06/28 07:30			2017/06/28 12:00		2017/06/29 07:15		
COC Number		08439832			08439832		08439832		
	UNITS	**PORTAL**	**RDL**	**QC Batch**	**DUP**	**RDL**	**T1-2**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	22.5	0.050	8683424	0.647	0.050	55.6	0.25	8683424
Total Sodium (Na)	mg/L	53.0	0.050	8683424	0.895	0.050	199	0.25	8683424
Total Sulphur (S)	mg/L	181	3.0	8683424	3.6	3.0	871	15	8683424
RDL = Reportable Detection Limit									

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8395			RK8396		
Sampling Date		2017/06/29 07:40			2017/06/29 06:30		
COC Number		08439832			08439832		
	UNITS	T1-3	RDL	QC Batch	R1	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	0.11 (1)	0.10	8685287	0.011	0.010	8685313
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.0471	0.0025	8684715	0.00700	0.00050	8684715
Dissolved Antimony (Sb)	mg/L	0.0489	0.00010	8684715	0.000090	0.000020	8684715
Dissolved Arsenic (As)	mg/L	0.00795	0.00010	8684715	0.000509	0.000020	8684715
Dissolved Barium (Ba)	mg/L	0.0616	0.00010	8684715	0.129	0.000020	8684715
Dissolved Beryllium (Be)	mg/L	<0.000050	0.000050	8684715	<0.000010	0.000010	8684715
Dissolved Bismuth (Bi)	mg/L	<0.000050	0.000050	8691883	<0.0000050	0.0000050	8684715
Dissolved Boron (B)	mg/L	<0.050	0.050	8684715	<0.010	0.010	8684715
Dissolved Cadmium (Cd)	mg/L	0.00737	0.000025	8684715	0.0000369	0.0000050	8684715
Dissolved Chromium (Cr)	mg/L	<0.00050	0.00050	8684715	<0.00010	0.00010	8684715
Dissolved Cobalt (Co)	mg/L	0.00126	0.000025	8684715	0.000176	0.0000050	8684715
Dissolved Copper (Cu)	mg/L	0.637	0.00025	8684715	0.000809	0.000050	8684715
Dissolved Iron (Fe)	mg/L	1.36	0.0050	8684715	0.103	0.0010	8684715
Dissolved Lead (Pb)	mg/L	0.156	0.000025	8684715	0.0000540	0.0000050	8684715
Dissolved Lithium (Li)	mg/L	0.0135	0.0025	8684715	<0.00050	0.00050	8684715
Dissolved Manganese (Mn)	mg/L	0.288	0.00025	8684715	0.161	0.000050	8684715
Dissolved Molybdenum (Mo)	mg/L	0.0788	0.00025	8684715	0.000173	0.000050	8684715
Dissolved Nickel (Ni)	mg/L	0.00913	0.00010	8684715	0.00258	0.000020	8684715
Dissolved Phosphorus (P)	mg/L	0.151	0.010	8684715	0.0148	0.0020	8684715
Dissolved Selenium (Se)	mg/L	2.19	0.00040	8691883	0.00250	0.000040	8684715
Dissolved Silicon (Si)	mg/L	1.74	0.25	8684715	1.35	0.050	8684715
Dissolved Silver (Ag)	mg/L	0.00206	0.000025	8684715	<0.0000050	0.0000050	8684715
Dissolved Strontium (Sr)	mg/L	2.55	0.00025	8684715	0.0615	0.000050	8684715
Dissolved Thallium (Tl)	mg/L	0.00107	0.000010	8684715	<0.0000020	0.0000020	8684715
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	8684715	0.00021	0.00020	8684715
Dissolved Titanium (Ti)	mg/L	<0.0025	0.0025	8684715	<0.00050	0.00050	8684715
Dissolved Uranium (U)	mg/L	0.000247	0.000010	8684715	0.0000353	0.0000020	8684715
Dissolved Vanadium (V)	mg/L	<0.0010	0.0010	8684715	<0.00020	0.00020	8684715
Dissolved Zinc (Zn)	mg/L	1.17	0.00050	8684715	0.00119	0.00010	8684715
Dissolved Zirconium (Zr)	mg/L	<0.00050	0.00050	8684715	<0.00010	0.00010	8684715
Dissolved Calcium (Ca)	mg/L	726	0.50	8690511	49.1	0.050	8683423
Dissolved Magnesium (Mg)	mg/L	2.40	0.50	8690511	6.55	0.050	8683423

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8395			RK8396		
Sampling Date		2017/06/29 07:40			2017/06/29 06:30		
COC Number		08439832			08439832		
	UNITS	T1-3	RDL	QC Batch	R1	RDL	QC Batch
Dissolved Potassium (K)	mg/L	57.5	0.25	8690511	1.21	0.050	8683423
Dissolved Sodium (Na)	mg/L	227	0.50	8690511	8.09	0.050	8683423
Dissolved Sulphur (S)	mg/L	886	30	8690511	36.4	3.0	8683423
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.055	0.015	8684615	0.0216	0.00050	8684588
Total Antimony (Sb)	mg/L	0.0476	0.00010	8684615	0.000099	0.000020	8684588
Total Arsenic (As)	mg/L	0.00700	0.00010	8684615	0.000555	0.000020	8684588
Total Barium (Ba)	mg/L	0.0658	0.00025	8684615	0.134	0.000020	8684588
Total Beryllium (Be)	mg/L	<0.000050	0.000050	8684615	<0.000010	0.000010	8684588
Total Bismuth (Bi)	mg/L	<0.000050	0.000050	8684615	<0.0000050	0.0000050	8684588
Total Boron (B)	mg/L	<0.050	0.050	8684615	<0.010	0.010	8684588
Total Cadmium (Cd)	mg/L	0.00766	0.000025	8684615	0.0000470	0.0000050	8684588
Total Chromium (Cr)	mg/L	<0.00050	0.00050	8684615	0.00012	0.00010	8684588
Total Cobalt (Co)	mg/L	0.00134	0.000050	8684615	0.000198	0.0000050	8684588
Total Copper (Cu)	mg/L	0.556	0.00050	8684615	0.000998	0.000050	8684588
Total Iron (Fe)	mg/L	1.38	0.025	8684615	0.197	0.0010	8684588
Total Lead (Pb)	mg/L	0.168	0.00010	8684615	0.000116	0.0000050	8684588
Total Lithium (Li)	mg/L	0.0139	0.0025	8684615	<0.00050	0.00050	8684588
Total Manganese (Mn)	mg/L	0.303	0.00050	8684615	0.170	0.000050	8684588
Total Molybdenum (Mo)	mg/L	0.0957	0.00025	8684615	0.000178	0.000050	8684588
Total Nickel (Ni)	mg/L	0.0102	0.00050	8684615	0.00276	0.000020	8684588
Total Phosphorus (P)	mg/L	0.142	0.025	8684615	0.0206	0.0020	8684588
Total Selenium (Se)	mg/L	1.85	0.00020	8684615	0.00271	0.000040	8684588
Total Silicon (Si)	mg/L	1.81	0.25	8684615	1.46	0.050	8684588
Total Silver (Ag)	mg/L	0.0118	0.000050	8684615	0.0000058	0.0000050	8684588
Total Strontium (Sr)	mg/L	2.64	0.00025	8684615	0.0638	0.000050	8684588
Total Thallium (Tl)	mg/L	0.00106	0.000010	8684615	0.0000020	0.0000020	8684588
Total Tin (Sn)	mg/L	<0.0010	0.0010	8684615	<0.00020	0.00020	8684588
Total Titanium (Ti)	mg/L	<0.010	0.010	8684615	0.00138	0.00050	8684588
Total Uranium (U)	mg/L	0.000303	0.000025	8684615	0.0000399	0.0000020	8684588
Total Vanadium (V)	mg/L	<0.0010	0.0010	8684615	<0.00020	0.00020	8684588
Total Zinc (Zn)	mg/L	1.25	0.0050	8684615	0.00174	0.00010	8684588
Total Zirconium (Zr)	mg/L	<0.00050	0.00050	8684615	<0.00010	0.00010	8684588
Total Calcium (Ca)	mg/L	656	1.3	8683424	51.2	0.050	8683424
Total Magnesium (Mg)	mg/L	2.2	1.3	8683424	6.75	0.050	8683424
RDL = Reportable Detection Limit							

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Maxxam Job #: B753882
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RK8395			RK8396		
Sampling Date		2017/06/29 07:40			2017/06/29 06:30		
COC Number		08439832			08439832		
	UNITS	**T1-3**	**RDL**	**QC Batch**	**R1**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	56.4	1.3	8683424	1.21	0.050	8683424
Total Sodium (Na)	mg/L	217	1.3	8683424	8.32	0.050	8683424
Total Sulphur (S)	mg/L	824	15	8683424	39.9	3.0	8683424
RDL = Reportable Detection Limit							

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.7°C
Package 2	4.7°C
Package 3	4.7°C
Package 4	1.7°C
Package 5	0.3°C

Sample RK8252 [L1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8253 [W1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8254 [W8] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8255 [W9] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8256 [W12] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8257 [W14] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8258 [W15] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8259 [W16] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8260 [W21] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

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Sample RK8261 [W22] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8262 [W31] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8263 [W40] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8264 [W71] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8265 [W72] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8266 [W73] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8267 [W80] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8268 [W81] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8269 [W82] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8270 [T1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

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Sample RK8389 [WRSS] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8390 [BIO-IN] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8391 [BIO-OUT] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample analyzed past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8392 [PORTAL] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8393 [DUP] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8394 [T1-2] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8395 [T1-3] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RK8396 [R1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER) Comments

Method Blank Elements by ICPMS Low Level (total): Method blank exceeds acceptance limits for Se- 2X RDL acceptable for low level metals determination.
Sample RK8270 [T1] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Method Blank Elements by ICPMS Digested LL (total): Method blank exceeds acceptance limits for P- 2X RDL acceptable for low level metals determination.
Sample RK8270 [T1] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RK8389 [WRSS] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RK8389 [WRSS] Elements by ICPMS Low Level (total): RDL raised due to sample matrix interference.
Sample RK8390 [BIO-IN] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RK8390 [BIO-IN] Elements by ICPMS Low Level (total): RDL raised due to sample matrix interference.
Sample RK8391 [BIO-OUT] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RK8391 [BIO-OUT] Elements by ICPMS Low Level (total): RDL raised due to sample matrix interference.
Sample RK8394 [T1-2] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RK8394 [T1-2] Elements by ICPMS Low Level (total): RDL raised due to sample matrix interference.
Sample RK8395 [T1-3] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Method Blank Elements by ICPMS Low Level (dissolved): Method blank exceeds acceptance limits for Mn- 2X RDL acceptable for low level metals determination.
Sample RK8395 [T1-3] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RK8268, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RK8395, Elements by ICPMS Low Level (dissolved): Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B753882
Report Date: 2017/07/17

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8684581	Total Aluminum (Al)	2017/07/05	95	80 - 120	100	80 - 120	<0.00050	mg/L	9.7	20
8684581	Total Antimony (Sb)	2017/07/05	96	80 - 120	94	80 - 120	<0.000020	mg/L	4.4	20
8684581	Total Arsenic (As)	2017/07/05	94	80 - 120	99	80 - 120	<0.000020	mg/L	1.2	20
8684581	Total Barium (Ba)	2017/07/05	NC	80 - 120	97	80 - 120	<0.000020	mg/L	0.24	20
8684581	Total Beryllium (Be)	2017/07/05	89	80 - 120	92	80 - 120	<0.000010	mg/L	NC	20
8684581	Total Bismuth (Bi)	2017/07/05	92	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8684581	Total Boron (B)	2017/07/05	88	80 - 120	88	80 - 120	<0.010	mg/L	NC	20
8684581	Total Cadmium (Cd)	2017/07/05	98	80 - 120	101	80 - 120	<0.0000050	mg/L	2.3	20
8684581	Total Chromium (Cr)	2017/07/05	99	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20
8684581	Total Cobalt (Co)	2017/07/05	97	80 - 120	101	80 - 120	<0.0000050	mg/L	14	20
8684581	Total Copper (Cu)	2017/07/05	96	80 - 120	101	80 - 120	<0.000050	mg/L	4.4	20
8684581	Total Iron (Fe)	2017/07/05	94	80 - 120	102	80 - 120	<0.0010	mg/L	1.8	20
8684581	Total Lead (Pb)	2017/07/05	96	80 - 120	98	80 - 120	<0.0000050	mg/L	0.72	20
8684581	Total Lithium (Li)	2017/07/05	92	80 - 120	94	80 - 120	<0.00050	mg/L	NC	20
8684581	Total Manganese (Mn)	2017/07/05	NC	80 - 120	97	80 - 120	<0.000050	mg/L	0.18	20
8684581	Total Molybdenum (Mo)	2017/07/05	90	80 - 120	101	80 - 120	<0.000050	mg/L	1.6	20
8684581	Total Nickel (Ni)	2017/07/05	95	80 - 120	99	80 - 120	<0.000020	mg/L	5.4	20
8684581	Total Phosphorus (P)	2017/07/05					<0.0020	mg/L	2.9	20
8684581	Total Selenium (Se)	2017/07/05	99	80 - 120	103	80 - 120	0.000047, RDL=0.000040	mg/L	6.3	20
8684581	Total Silicon (Si)	2017/07/05					<0.050	mg/L	0.27	20
8684581	Total Silver (Ag)	2017/07/05	101	80 - 120	102	80 - 120	<0.0000050	mg/L	NC	20
8684581	Total Strontium (Sr)	2017/07/05	NC	80 - 120	97	80 - 120	<0.000050	mg/L	0.37	20
8684581	Total Thallium (Tl)	2017/07/05	94	80 - 120	94	80 - 120	<0.0000020	mg/L	NC	20
8684581	Total Tin (Sn)	2017/07/05	87	80 - 120	104	80 - 120	<0.00020	mg/L	NC	20
8684581	Total Titanium (Ti)	2017/07/05	94	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8684581	Total Uranium (U)	2017/07/05	95	80 - 120	96	80 - 120	<0.0000020	mg/L	0.10	20
8684581	Total Vanadium (V)	2017/07/05	97	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8684581	Total Zinc (Zn)	2017/07/05	99	80 - 120	106	80 - 120	<0.00010	mg/L	1.0	20
8684581	Total Zirconium (Zr)	2017/07/05					<0.00010	mg/L	NC	20
8684588	Total Aluminum (Al)	2017/07/06	104	80 - 120	105	80 - 120	<0.00050	mg/L	0.28	20
8684588	Total Antimony (Sb)	2017/07/06	96	80 - 120	96	80 - 120	<0.000020	mg/L	4.6	20
8684588	Total Arsenic (As)	2017/07/06	97	80 - 120	99	80 - 120	<0.000020	mg/L	0.98	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8684588	Total Barium (Ba)	2017/07/06	NC	80 - 120	97	80 - 120	<0.000020	mg/L	0.71	20
8684588	Total Beryllium (Be)	2017/07/06	97	80 - 120	95	80 - 120	<0.000010	mg/L	NC	20
8684588	Total Bismuth (Bi)	2017/07/06	93	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8684588	Total Boron (B)	2017/07/06	98	80 - 120	94	80 - 120	<0.010	mg/L	NC	20
8684588	Total Cadmium (Cd)	2017/07/06	98	80 - 120	99	80 - 120	<0.0000050	mg/L	1.9	20
8684588	Total Chromium (Cr)	2017/07/06	96	80 - 120	101	80 - 120	<0.00010	mg/L	NC	20
8684588	Total Cobalt (Co)	2017/07/06	94	80 - 120	99	80 - 120	<0.0000050	mg/L	4.4	20
8684588	Total Copper (Cu)	2017/07/06	91	80 - 120	97	80 - 120	<0.000050	mg/L	2.1	20
8684588	Total Iron (Fe)	2017/07/06	97	80 - 120	102	80 - 120	<0.0010	mg/L	0.35	20
8684588	Total Lead (Pb)	2017/07/06	97	80 - 120	97	80 - 120	<0.0000050	mg/L	1.1	20
8684588	Total Lithium (Li)	2017/07/06	98	80 - 120	97	80 - 120	<0.00050	mg/L	0.25	20
8684588	Total Manganese (Mn)	2017/07/06	NC	80 - 120	95	80 - 120	<0.000050	mg/L	1.5	20
8684588	Total Molybdenum (Mo)	2017/07/06	NC	80 - 120	97	80 - 120	<0.000050	mg/L	0.48	20
8684588	Total Nickel (Ni)	2017/07/06	NC	80 - 120	99	80 - 120	<0.000020	mg/L	0.97	20
8684588	Total Phosphorus (P)	2017/07/06					<0.0020	mg/L	1.5	20
8684588	Total Selenium (Se)	2017/07/06	96	80 - 120	102	80 - 120	<0.000040	mg/L	0.44	20
8684588	Total Silicon (Si)	2017/07/06					<0.050	mg/L	0.11	20
8684588	Total Silver (Ag)	2017/07/06	100	80 - 120	102	80 - 120	<0.0000050	mg/L	NC	20
8684588	Total Strontium (Sr)	2017/07/06	NC	80 - 120	95	80 - 120	<0.000050	mg/L	0.46	20
8684588	Total Thallium (Tl)	2017/07/06	96	80 - 120	97	80 - 120	<0.0000020	mg/L	10	20
8684588	Total Tin (Sn)	2017/07/06	99	80 - 120	103	80 - 120	<0.00020	mg/L	NC	20
8684588	Total Titanium (Ti)	2017/07/06	97	80 - 120	96	80 - 120	<0.00050	mg/L	NC	20
8684588	Total Uranium (U)	2017/07/06	97	80 - 120	95	80 - 120	<0.0000020	mg/L	0.26	20
8684588	Total Vanadium (V)	2017/07/06	97	80 - 120	100	80 - 120	<0.00020	mg/L	4.3	20
8684588	Total Zinc (Zn)	2017/07/06	NC	80 - 120	101	80 - 120	<0.00010	mg/L	0.98	20
8684588	Total Zirconium (Zr)	2017/07/06					<0.00010	mg/L	NC	20
8684613	Total Suspended Solids	2017/07/05	106	80 - 120	97	80 - 120	<4.0	mg/L	NC	20
8684615	Total Aluminum (Al)	2017/07/05	NC	80 - 120	112	80 - 120	<0.0030	mg/L	0.19	20
8684615	Total Antimony (Sb)	2017/07/05	94	80 - 120	97	80 - 120	<0.000020	mg/L	0.62	20
8684615	Total Arsenic (As)	2017/07/05	100	80 - 120	97	80 - 120	<0.000020	mg/L	0.17	20
8684615	Total Barium (Ba)	2017/07/05	NC	80 - 120	99	80 - 120	<0.000050	mg/L	1.2	20
8684615	Total Beryllium (Be)	2017/07/05	96	80 - 120	93	80 - 120	<0.000010	mg/L	28 (1)	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8684615	Total Bismuth (Bi)	2017/07/05	96	80 - 120	98	80 - 120	<0.000010	mg/L	13	20
8684615	Total Boron (B)	2017/07/05	91	80 - 120	94	80 - 120	<0.010	mg/L	10	20
8684615	Total Cadmium (Cd)	2017/07/05	96	80 - 120	102	80 - 120	<0.0000050	mg/L	0.71	20
8684615	Total Chromium (Cr)	2017/07/05	99	80 - 120	101	80 - 120	<0.00010	mg/L	7.3	20
8684615	Total Cobalt (Co)	2017/07/05	96	80 - 120	101	80 - 120	<0.000010	mg/L	1.0	20
8684615	Total Copper (Cu)	2017/07/05	NC	80 - 120	99	80 - 120	<0.00010	mg/L	1.2	20
8684615	Total Iron (Fe)	2017/07/05	NC	80 - 120	102	80 - 120	<0.0050	mg/L	1.6	20
8684615	Total Lead (Pb)	2017/07/05	NC	80 - 120	101	80 - 120	<0.000020	mg/L	0.82	20
8684615	Total Lithium (Li)	2017/07/05	97	80 - 120	98	80 - 120	<0.00050	mg/L	6.1	20
8684615	Total Manganese (Mn)	2017/07/05	NC	80 - 120	95	80 - 120	<0.00010	mg/L	0.46	20
8684615	Total Molybdenum (Mo)	2017/07/05	NC	80 - 120	99	80 - 120	<0.000050	mg/L	0.44	20
8684615	Total Nickel (Ni)	2017/07/05	96	80 - 120	100	80 - 120	<0.00010	mg/L	1.6	20
8684615	Total Phosphorus (P)	2017/07/05					0.0094, RDL=0.0050	mg/L		
8684615	Total Selenium (Se)	2017/07/05	101	80 - 120	103	80 - 120	<0.000040	mg/L	1.4	20
8684615	Total Silicon (Si)	2017/07/05					<0.050	mg/L	0.68	20
8684615	Total Silver (Ag)	2017/07/05	102	80 - 120	104	80 - 120	<0.000010	mg/L	6.2	20
8684615	Total Strontium (Sr)	2017/07/05	NC	80 - 120	94	80 - 120	<0.000050	mg/L	0.96	20
8684615	Total Thallium (Tl)	2017/07/05	100	80 - 120	100	80 - 120	<0.0000020	mg/L	15	20
8684615	Total Tin (Sn)	2017/07/05	96	80 - 120	88	80 - 120	<0.00020	mg/L	NC	20
8684615	Total Titanium (Ti)	2017/07/05	102	80 - 120	95	80 - 120	<0.0020	mg/L	10	20
8684615	Total Uranium (U)	2017/07/05	101	80 - 120	98	80 - 120	<0.0000050	mg/L	0.97	20
8684615	Total Vanadium (V)	2017/07/05	102	80 - 120	101	80 - 120	<0.00020	mg/L	2.1	20
8684615	Total Zinc (Zn)	2017/07/05	NC	80 - 120	101	80 - 120	<0.0010	mg/L	1.2	20
8684615	Total Zirconium (Zr)	2017/07/05					<0.00010	mg/L	NC	20
8684665	Dissolved Aluminum (Al)	2017/07/05	99	80 - 120	100	80 - 120	<0.00050	mg/L	3.4	20
8684665	Dissolved Antimony (Sb)	2017/07/05	102	80 - 120	96	80 - 120	<0.000020	mg/L	5.8	20
8684665	Dissolved Arsenic (As)	2017/07/05	98	80 - 120	99	80 - 120	<0.000020	mg/L	0.53	20
8684665	Dissolved Barium (Ba)	2017/07/05	NC	80 - 120	97	80 - 120	<0.000020	mg/L	0.56	20
8684665	Dissolved Beryllium (Be)	2017/07/05	94	80 - 120	89	80 - 120	<0.000010	mg/L	NC	20
8684665	Dissolved Bismuth (Bi)	2017/07/05	100	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8684665	Dissolved Boron (B)	2017/07/05	93	80 - 120	88	80 - 120	<0.010	mg/L	NC	20
8684665	Dissolved Cadmium (Cd)	2017/07/05	102	80 - 120	100	80 - 120	<0.0000050	mg/L	2.6	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8684665	Dissolved Chromium (Cr)	2017/07/05	103	80 - 120	103	80 - 120	<0.00010	mg/L	NC	20
8684665	Dissolved Cobalt (Co)	2017/07/05	102	80 - 120	100	80 - 120	<0.0000050	mg/L	0.82	20
8684665	Dissolved Copper (Cu)	2017/07/05	102	80 - 120	101	80 - 120	<0.000050	mg/L	8.9	20
8684665	Dissolved Iron (Fe)	2017/07/05	101	80 - 120	99	80 - 120	<0.0010	mg/L	3.1	20
8684665	Dissolved Lead (Pb)	2017/07/05	99	80 - 120	98	80 - 120	<0.0000050	mg/L	11	20
8684665	Dissolved Lithium (Li)	2017/07/05	97	80 - 120	94	80 - 120	<0.00050	mg/L	NC	20
8684665	Dissolved Manganese (Mn)	2017/07/05	93	80 - 120	97	80 - 120	<0.000050	mg/L	0.23	20
8684665	Dissolved Molybdenum (Mo)	2017/07/05	96	80 - 120	102	80 - 120	<0.000050	mg/L	0.65	20
8684665	Dissolved Nickel (Ni)	2017/07/05	103	80 - 120	100	80 - 120	<0.000020	mg/L	2.3	20
8684665	Dissolved Phosphorus (P)	2017/07/05					<0.0020	mg/L	1.2	20
8684665	Dissolved Selenium (Se)	2017/07/05	107	80 - 120	105	80 - 120	<0.000040	mg/L	11	20
8684665	Dissolved Silicon (Si)	2017/07/05					<0.050	mg/L	0.012	20
8684665	Dissolved Silver (Ag)	2017/07/05	103	80 - 120	102	80 - 120	<0.0000050	mg/L	NC	20
8684665	Dissolved Strontium (Sr)	2017/07/05	NC	80 - 120	98	80 - 120	<0.000050	mg/L	1.7	20
8684665	Dissolved Thallium (Tl)	2017/07/05	98	80 - 120	96	80 - 120	<0.0000020	mg/L	NC	20
8684665	Dissolved Tin (Sn)	2017/07/05	96	80 - 120	104	80 - 120	<0.00020	mg/L	NC	20
8684665	Dissolved Titanium (Ti)	2017/07/05	103	80 - 120	102	80 - 120	<0.00050	mg/L	NC	20
8684665	Dissolved Uranium (U)	2017/07/05	98	80 - 120	95	80 - 120	<0.0000020	mg/L	0.76	20
8684665	Dissolved Vanadium (V)	2017/07/05	102	80 - 120	102	80 - 120	<0.00020	mg/L	NC	20
8684665	Dissolved Zinc (Zn)	2017/07/05	110	80 - 120	106	80 - 120	<0.00010	mg/L	6.5	20
8684665	Dissolved Zirconium (Zr)	2017/07/05					<0.00010	mg/L	NC	20
8684715	Dissolved Aluminum (Al)	2017/07/06	100	80 - 120	106	80 - 120	<0.00050	mg/L	NC	20
8684715	Dissolved Antimony (Sb)	2017/07/06	NC	80 - 120	96	80 - 120	<0.000020	mg/L	2.7	20
8684715	Dissolved Arsenic (As)	2017/07/06	95	80 - 120	100	80 - 120	<0.000020	mg/L	0.83	20
8684715	Dissolved Barium (Ba)	2017/07/06	NC	80 - 120	100	80 - 120	<0.000020	mg/L	1.8	20
8684715	Dissolved Beryllium (Be)	2017/07/06	91	80 - 120	95	80 - 120	<0.000010	mg/L	NC	20
8684715	Dissolved Bismuth (Bi)	2017/07/06	90	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8684715	Dissolved Boron (B)	2017/07/06	90	80 - 120	97	80 - 120	<0.010	mg/L	NC	20
8684715	Dissolved Cadmium (Cd)	2017/07/06	NC	80 - 120	99	80 - 120	<0.0000050	mg/L	1.5	20
8684715	Dissolved Chromium (Cr)	2017/07/06	95	80 - 120	99	80 - 120	<0.00010	mg/L	NC	20
8684715	Dissolved Cobalt (Co)	2017/07/06	NC	80 - 120	97	80 - 120	<0.0000050	mg/L	1.9	20
8684715	Dissolved Copper (Cu)	2017/07/06	NC	80 - 120	96	80 - 120	<0.000050	mg/L	0.52	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8684715	Dissolved Iron (Fe)	2017/07/06	88	80 - 120	100	80 - 120	<0.0010	mg/L	16	20
8684715	Dissolved Lead (Pb)	2017/07/06	NC	80 - 120	97	80 - 120	<0.0000050	mg/L	0.79	20
8684715	Dissolved Lithium (Li)	2017/07/06	NC	80 - 120	97	80 - 120	<0.00050	mg/L	0.060	20
8684715	Dissolved Manganese (Mn)	2017/07/06	NC	80 - 120	96	80 - 120	<0.000050	mg/L	1.4	20
8684715	Dissolved Molybdenum (Mo)	2017/07/06	NC	80 - 120	97	80 - 120	<0.000050	mg/L	1.3	20
8684715	Dissolved Nickel (Ni)	2017/07/06	NC	80 - 120	98	80 - 120	<0.000020	mg/L	0.20	20
8684715	Dissolved Phosphorus (P)	2017/07/06					<0.0020	mg/L	NC	20
8684715	Dissolved Selenium (Se)	2017/07/06	NC	80 - 120	104	80 - 120	<0.000040	mg/L	3.5	20
8684715	Dissolved Silicon (Si)	2017/07/06					<0.050	mg/L	0.90	20
8684715	Dissolved Silver (Ag)	2017/07/06	97	80 - 120	99	80 - 120	<0.0000050	mg/L	NC	20
8684715	Dissolved Strontium (Sr)	2017/07/06	NC	80 - 120	97	80 - 120	<0.000050	mg/L	0.75	20
8684715	Dissolved Thallium (Tl)	2017/07/06	NC	80 - 120	96	80 - 120	<0.0000020	mg/L	1.9	20
8684715	Dissolved Tin (Sn)	2017/07/06	88	80 - 120	103	80 - 120	<0.00020	mg/L	NC	20
8684715	Dissolved Titanium (Ti)	2017/07/06	101	80 - 120	97	80 - 120	<0.00050	mg/L	NC	20
8684715	Dissolved Uranium (U)	2017/07/06	93	80 - 120	94	80 - 120	<0.0000020	mg/L	1.3	20
8684715	Dissolved Vanadium (V)	2017/07/06	96	80 - 120	99	80 - 120	<0.00020	mg/L	NC	20
8684715	Dissolved Zinc (Zn)	2017/07/06	NC	80 - 120	99	80 - 120	<0.00010	mg/L	0.68	20
8684715	Dissolved Zirconium (Zr)	2017/07/06					<0.00010	mg/L	NC	20
8684716	Total Suspended Solids	2017/07/06	107	80 - 120	99	80 - 120	<4.0	mg/L		
8684721	Total Suspended Solids	2017/07/06	109	80 - 120	97	80 - 120	<4.0	mg/L		
8684847	Orthophosphate (P)	2017/07/05	105	80 - 120	94	80 - 120	<0.0010	mg/L	NC	20
8684849	Orthophosphate (P)	2017/07/05	100	80 - 120	94	80 - 120	<0.0010	mg/L	15	20
8684862	Total Phosphorus (P)	2017/07/05	98	80 - 120	100	80 - 120	<0.0020	mg/L	4.0	20
8684865	Total Phosphorus (P)	2017/07/05	92	80 - 120	103	80 - 120	<0.0020	mg/L	1.3	20
8684868	Dissolved Phosphorus (P)	2017/07/05	NC	80 - 120	100	80 - 120	<0.0020	mg/L	0.66	20
8684871	Dissolved Phosphorus (P)	2017/07/05	97	80 - 120	105	80 - 120	<0.0020	mg/L	8.7	20
8684906	Total Dissolved Solids	2017/07/06	98	80 - 120	104	80 - 120	<10	mg/L	2.5	20
8684909	Total Dissolved Solids	2017/07/06	98	80 - 120	107	80 - 120	<10	mg/L	NC	20
8684935	Strong Acid Dissoc. Cyanide (CN)	2017/07/05	103	80 - 120	103	80 - 120	<0.00050	mg/L	NC	20
8684937	Weak Acid Dissoc. Cyanide (CN)	2017/07/05			101	80 - 120	<0.00050	mg/L		
8684951	Turbidity	2017/07/05			98	80 - 120	<0.10	NTU	6.0	20
8684958	Turbidity	2017/07/05			97	80 - 120	<0.10	NTU	1.1	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8685287	Bromide (Br)	2017/07/05	95	78 - 120	87	80 - 120	<0.010	mg/L	NC	20
8685313	Bromide (Br)	2017/07/05	NC (2)	78 - 120	88	80 - 120	<0.010	mg/L	2.0 (2)	20
8685379	Alkalinity (PP as CaCO3)	2017/07/05					<0.50	mg/L		
8685379	Alkalinity (Total as CaCO3)	2017/07/05			97	80 - 120	<0.50	mg/L		
8685379	Bicarbonate (HCO3)	2017/07/05					<0.50	mg/L		
8685379	Carbonate (CO3)	2017/07/05					<0.50	mg/L		
8685379	Hydroxide (OH)	2017/07/05					<0.50	mg/L		
8685382	pH	2017/07/05			101	97 - 103				
8685383	Conductivity	2017/07/05			101	80 - 120	<1.0	uS/cm		
8685396	Alkalinity (PP as CaCO3)	2017/07/05					<0.50	mg/L		
8685396	Alkalinity (Total as CaCO3)	2017/07/05			96	80 - 120	<0.50	mg/L		
8685396	Bicarbonate (HCO3)	2017/07/05					<0.50	mg/L		
8685396	Carbonate (CO3)	2017/07/05					<0.50	mg/L		
8685396	Hydroxide (OH)	2017/07/05					<0.50	mg/L		
8685402	pH	2017/07/05			101	97 - 103				
8685408	Conductivity	2017/07/05			101	80 - 120	<1.0	uS/cm		
8685413	Alkalinity (PP as CaCO3)	2017/07/06					<0.50	mg/L		
8685413	Alkalinity (Total as CaCO3)	2017/07/06			100	80 - 120	<0.50	mg/L		
8685413	Bicarbonate (HCO3)	2017/07/06					<0.50	mg/L		
8685413	Carbonate (CO3)	2017/07/06					<0.50	mg/L		
8685413	Hydroxide (OH)	2017/07/06					<0.50	mg/L		
8685416	pH	2017/07/06			101	97 - 103				
8685418	Conductivity	2017/07/06			101	80 - 120	<1.0	uS/cm		
8686007	Total Suspended Solids	2017/07/07	107	80 - 120	99	80 - 120	<4.0	mg/L	NC	20
8686013	Total Suspended Solids	2017/07/07	107	80 - 120	100	80 - 120	<4.0	mg/L		
8686021	Total Dissolved Solids	2017/07/07	99	80 - 120	98	80 - 120	<10	mg/L	3.6	20
8686075	Fluoride (F)	2017/07/06	111	80 - 120	102	80 - 120	0.015, RDL=0.010	mg/L		
8686097	Fluoride (F)	2017/07/06	112	80 - 120	108	80 - 120	0.012, RDL=0.010	mg/L		
8686134	Nitrate plus Nitrite (N)	2017/07/05	104	80 - 120	107	80 - 120	<0.0020	mg/L		
8686139	Nitrite (N)	2017/07/05	NC	80 - 120	101	80 - 120	<0.0020	mg/L		
8686140	Nitrate plus Nitrite (N)	2017/07/05	102	80 - 120	108	80 - 120	<0.0020	mg/L		

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8686141	Nitrite (N)	2017/07/05	95	80 - 120	102	80 - 120	<0.0020	mg/L		
8686409	Dissolved Chloride (Cl)	2017/07/05	96	80 - 120	101	80 - 120	<0.50	mg/L	3.2	20
8686411	Dissolved Sulphate (SO4)	2017/07/05	89	80 - 120	94	80 - 120	0.62, RDL=0.50	mg/L	9.0	20
8686414	Dissolved Chloride (Cl)	2017/07/05	NC	80 - 120	99	80 - 120	<0.50	mg/L	1.5	20
8686416	Dissolved Sulphate (SO4)	2017/07/05			94	80 - 120	<0.50	mg/L		
8686482	Strong Acid Dissoc. Cyanide (CN)	2017/07/06	107	80 - 120	103	80 - 120	<0.00050	mg/L	6.5	20
8686634	Total Ammonia (N)	2017/07/06	98	80 - 120	103	80 - 120	<0.0050	mg/L		
8686635	Total Ammonia (N)	2017/07/06	100	80 - 120	107	80 - 120	<0.0050	mg/L	NC	20
8686797	Dissolved Chloride (Cl)	2017/07/06			97	80 - 120	<0.50	mg/L		
8686802	Dissolved Sulphate (SO4)	2017/07/06	93	80 - 120	94	80 - 120	0.61, RDL=0.50	mg/L	1.5	20
8687191	Dissolved Mercury (Hg)	2017/07/07	99	80 - 120	98	80 - 120	<0.010	ug/L	NC	20
8687193	Dissolved Organic Carbon (C)	2017/07/07	NC	80 - 120	104	80 - 120	<0.50	mg/L	5.8	20
8687417	Total Dissolved Solids	2017/07/10	99	80 - 120	94	80 - 120	<10	mg/L	1.7	20
8687450	Total Mercury (Hg)	2017/07/07	93	80 - 120	91	80 - 120	<0.010	ug/L	NC	20
8687482	Total Mercury (Hg)	2017/07/07	90	80 - 120	91	80 - 120	<0.010	ug/L		
8689399	Dissolved Organic Carbon (C)	2017/07/10	NC	80 - 120	104	80 - 120	<0.50	mg/L	3.2	20
8689901	Dissolved Mercury (Hg)	2017/07/10	96	80 - 120	98	80 - 120	<0.010	ug/L		
8690031	Total Mercury (Hg)	2017/07/10	95	80 - 120	97	80 - 120	<0.010	ug/L		
8691101	Acidity (pH 4.5)	2017/07/10					<0.50	mg/L	NC	20
8691101	Acidity (pH 8.3)	2017/07/10			98	80 - 120	<0.50	mg/L	NC	20
8691105	Acidity (pH 4.5)	2017/07/10					<0.50	mg/L	NC	20
8691105	Acidity (pH 8.3)	2017/07/10			103	80 - 120	<0.50	mg/L	9.1	20
8691883	Dissolved Bismuth (Bi)	2017/07/13			97	80 - 120	<0.0000050	mg/L		
8691883	Dissolved Selenium (Se)	2017/07/13			100	80 - 120	<0.000040	mg/L		

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Maxxam Job #: B753882
Report Date: 2017/07/17

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8694883	Dissolved Lead (Pb)	2017/07/15	92	80 - 120	95	80 - 120	<0.0000050	mg/L	0	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) RDL raised due to sample matrix interference.

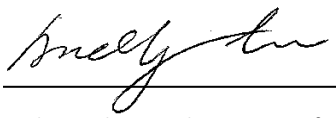
Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B753882
Report Date: 2017/07/17

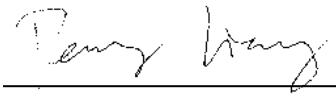
YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist



Harry (Peng) Liang, Senior Analyst



Rob Reinert, B.Sc., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

08439831

RECEIVED IN WHITEHORSE
BY: Bouchet at 1230
2017 -06- 30

SW2

TEMP: 5 5 4 / 5 1 4 / 3 4 1

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CHAIN OF CUSTODY RECORD

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5. Toll Free (800) 665-8566

COC #: 1 0 6 3 1

BBY FCD-00077/05

Page ____ of ____

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Yukon Zinc Corporation	Company Name: Adrienne Turcotte (Consulting)	Quotation #:	☒ Regular TAT 5 days (Most analyses)
Contact Name: Alex Wu	Contact Name: Adrienne Turcotte	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 1030 West Georgia Street	Address: 102-3239 W. 4th Avenue Van - BC PC: V6R1P8	Project #:	Rush TAT (Surcharges will be applied)
Vancouver PC: V6E 2Y3		Site Location:	☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3 Days
Phone: 604-684-5474	Phone: 778 772 2212	Site #:	Date Required:
Email: alex.wu@yukonzinc.com	Email: YZC Group turcotte.adrienne@gmail.com	Sampled By:	Rush Confirmation #:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water ☐ CCME (Specify) ☐ Other (Specify) ☐ Drinking Water ☐ BC Water Quality	☐ Return Cooler ☐ Ship Sample Bottles (Please Specify)

SAMPLES MUST BE KEPT COOL (10 C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	EPH	PAH	CCME-PHC	VOC/VPH	TEH	EPH/HEPH	BTEX/F1	F2 - F4	MTBE	Preserved?	Filtered?	Dissolved Metals	Dissolved Mercury	Total Metals	Total Mercury	Chloride	Fluoride	TDS	BOD	Conductivity	pH	Alkalinity	Nitrate	Ammonia	Package A	Total Phosphate and Ammonia	DOC	Total and WAD Cyanide	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	COMMENTS
	Bottle																	50 mL falcon tube		50 mL falcon tube									120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic	120 mL plastic	120 mL plastic			
	Preservative																	HNO3		HNO3									H2SO4	-	H2SO4	H2SO4	NaOH			
	Filtered																	✓		-									-	-	-	✓	-			
1	L1		28 JUN	12:00	Water													x	X	x	X								x	xx	x	x		9		
2	W1		28 JUN	10:20	Water													x		x									x	xx	x	x		7		
3	W8		28 JUN	13:10	Water													x		x									x	xx	x	X		8		
4	W9		28 JUN	12:45	Water													x		x									x	xx	x	x		7		
5	W12		28 JUN	16:30	Water													x		x									x	xx	x	X		6		
6	W14		28 JUN	17:30	Water													x		x									x	xx	x	X		6		
7	W15		27 JUN	18:40	Water													x		x									x	xx	x	X		6		
8	W16		27 JUN	15:40	Water													x		x									x	xx	x	x	x	8		
9	W21		27 JUN	09:30	Water													x		x									x	xx	x	X		6		
10	W22		27 JUN	11:05	Water													x		x									x	xx	x	X		6		
11	W31		27 JUN	15:10	Water													x		x									x	xx	x	x	x	8		
12	W40		27 JUN	10:45	Water													x		x									x	xx	x	X		6		
13	W71		27 JUN	12:10	Water													x		x									x	xx	x	X		6		
14	W72		27 JUN	12:30	Water													x		x									x	xx	x	X		6		
15	W73		27 JUN	12:55	Water													x		x									x	xx	x	X		6		
16	W80		28 JUN	16:50	Water													x		x									x	xx	x	X		6		
17	W81		27 JUN	18:15	Water													x		x									x	xx	x	X		6		
18	W82		28 JUN	15:20	Water													x		x									x	xx	x	x		7		
19	T1		29 JUN	06:55	Water													x	V	x	V								x	xx	x	X	x	7		

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
A. Turcotte	2017/06/29	08:00	Bouchet	2017/06/30	12:30	B753882

ROMMEL GODA 2017/07/04 10:15

CS - YES
ICE - YES

2,21/2,1,2
2,0,1/1,1,2
0,2,1

B753882_COC

SW19

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BY: Bouchet at 12 30
2017 -06- 30

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CHAIN OF CUSTODY RECORD

TEMP: 1 1 1 COC #:

BBY FCD-00077/05

Page ____ of ____

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Yukon Zinc Corporation	Company Name:	Quotation #:	☒ Regular TAT 5 days (Most analyses)
Contact Name: Alex Wu	Contact Name:	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 705 - 1030 West Georgia Street	Address:	Project #:	Rush TAT (Surcharges will be applied)
Vancouver PC: V6E 2Y3	PC:	Site Location:	☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3 Days
Phone: 604-684-5474	Phone:	Site #:	Date Required:
Email: alex.wu@yukonzinc.com	Email: YZC Group	Sampled By:	Rush Confirmation #:

Regulatory Criteria

☐ BC CSR Soil ☐ BC CSR Water
☐ CCME (Specify) ☐ Other (Specify)
☐ Drinking Water ☐ BC Water Quality

Special Instructions

☐ Return Cooler
☐ Ship Sample Bottles (Please Specify)

SAMPLES MUST BE KEPT COOL (10 C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	MTBE	VOC/VPH	TOH	EPH/HEPH	PAH	F2 - F4	BTEX/F1	COME-PHC	Filtered?	Dissolved Metals	Preserved?	Dissolved Mercury	Filtered?	Total Metals	Field Preserved?	Total Mercury	Chloride	Sulphate	Fluoride	TDS	COD	BOD	Conductivity	TSS	Alkalinity	pH	Nitrate	Ammonia	Package A	Total Phosphate and Ammonia	DOC	Total and WAD Cyanide	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	COMMENTS
	Bottle															50 ml Falcon tube		50 ml Falcon tube															120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic	120 mL plastic	120 mL plastic	120 mL plastic			
	Preservative															HNO3		HNO3															H2SO4	-	H2SO4	H2SO4	H2SO4	NaOH			
	Filtered															✓		-															-	-	-	✓	-			
1	WRSS		27 JUN	17:30	Water											x	X	x	X													x	xx	x	x	X	1		
2	BIO - IN		27 JUN	16:10	Water											x	X	x	X													x	xx	x	x	X	1		
3	BIO - OUT		27 JUN	16:30	Water											x	X	x	X													x	xx	x	X	X	1		
4	PORTAL		28 JUN	07:30	Water											x	X	x	X													x	xx	x	x	X	1		
5	DUP		28 JUN	12:00	Water											x	X	x	X													x	xx	x	X		1		
6	T1-2		29 JUN	07:15	Water											x	X	x	X													x	xx	x	X	X	1		
7	T1-3		29 JUN	07:40	Water											x	X	x	X													x	xx	x	X	X	1		
8	R1		29 JUN	06:30	Water											x	X	x	X													x	xx	x	x	x	1		
9					Water											x		x														x	xx	x			6		
10					Water											x		x														x	xx	x			6		
11					Water											x		x														x	xx	x	x	x	8		
12					Water											x		x														x	xx	x			6		
13					Water											x		x														x	xx	x			6		
14					Water											x		x														x	xx	x			6		
15					Water											x		x														x	xx	x			6		
16					Water											x		x														x	xx	x			6		
17					Water											x		x														x	xx	x			6		
18					Water											x		x														x	xx	x	x		7		
19					Water											x		x														x	xx	x		x	7		

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
A Turcotte	2017/06/29	08:00	Bouchet	2017/06/30	12:30	B753882

ROMMEL GODX 10:15 2,2,1 / 2,1,2
CS - YES 2,0,1 / 1,1,2
ICE - YES 0,2,1

B753882_COC

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Success Through Science®

Your C.O.C. #: 08440027

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/17
Report #: R2413805
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B755643
Received: 2017/07/06, 16:50

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	14	N/A	2017/07/11	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	14	2017/07/12	2017/07/12	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	14	N/A	2017/07/10	BBY6SOP-00011	SM 22 4500-Cl- E m
Cyanide SAD (strong acid dissociable)	2	N/A	2017/07/13	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide WAD (weak acid dissociable)	2	N/A	2017/07/13	BBY6SOP-00004	SM 22 4500-CN O m
Carbon (DOC) (1, 2)	2	N/A	2017/07/13	CAL SOP-00077	MMCW 119 1996 m
Conductance - water	14	2017/07/12	2017/07/12	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	14	N/A	2017/07/12	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3)	2	N/A	2017/07/13	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	14	N/A	2017/07/12	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	14	N/A	2017/07/12	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	2	2017/07/12	2017/07/12	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	14	N/A	2017/07/12	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	14	N/A	2017/07/12	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	14	N/A	2017/07/12	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	N/A	2017/07/13	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	2	N/A	2017/07/12	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Ammonia-N (Preserved)	14	N/A	2017/07/10	BBY6SOP-00009	SM 22 4500-NH3- G m
Nitrate+Nitrite (N) (low level)	14	N/A	2017/07/08	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	14	N/A	2017/07/08	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	14	N/A	2017/07/10	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	14	N/A	2017/07/12	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (3)	14	2017/07/12	2017/07/12	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	14	N/A	2017/07/08	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	12	N/A	2017/07/10	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	2	N/A	2017/07/11	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	9	2017/07/10	2017/07/11	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	1	2017/07/11	2017/07/12	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	2	2017/07/12	2017/07/13	BBY6SOP-00033	SM 22 2540 C m

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Your C.O.C. #: 08440027

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/17
Report #: R2413805
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B755643
Received: 2017/07/06, 16:50

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total Dissolved Solids (Filt. Residue)	2	2017/07/13	2017/07/14	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	14	2017/07/11	2017/07/11	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	13	N/A	2017/07/11	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	1	N/A	2017/07/15	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	8	2017/07/10	2017/07/11	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	6	2017/07/11	2017/07/12	BBY6SOP-00034	SM 22 2540 D
Turbidity	14	N/A	2017/07/08	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Calgary Environmental
(2) DOC present in the sample should be considered as non-purgeable DOC. Dissolved > Total Imbalance: Whenever applicable, Dissolved >Total for any parameter that falls within method uncertainty for duplicates is likely equivalent. If RPD is >20% samples were reanalyzed and confirmed.
(3) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Your C.O.C. #: 08440027

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/17
Report #: R2413805
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B755643
Received: 2017/07/06, 16:50

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B755643
Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RL6835		RL6836		RL6837		RL6838		
Sampling Date		2017/07/04 12:12		2017/07/04 13:20		2017/07/03 17:15		2017/07/03 15:52		
COC Number		08440027		08440027		08440027		08440027		
	UNITS	MW05-1A	QC Batch	MW05-1B	QC Batch	MW05-2A	QC Batch	MW05-2B	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.480	8692156	0.130	8692156	0.250	8692156	0.064	0.010	8692156
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	0.0085	8687244	<0.0020	8687244	0.0025	8687244	<0.0020	0.0020	8687244
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	124	8687240	125	8687240	207	8687240	163	0.50	8687240
Acidity (pH 4.5)	mg/L	<0.50	8692892	<0.50	8692892	<0.50	8692892	<0.50	0.50	8692892
Alkalinity (Total as CaCO3)	mg/L	105	8692933	126	8692960	170	8692965	160	0.50	8692933
Acidity (pH 8.3)	mg/L	<0.50	8692892	<0.50	8692892	<0.50	8692892	2.72	0.50	8692892
Alkalinity (PP as CaCO3)	mg/L	<0.50	8692933	1.54	8692960	3.36	8692965	2.25	0.50	8692933
Bicarbonate (HCO3)	mg/L	128	8692933	150	8692960	200	8692965	190	0.50	8692933
Carbonate (CO3)	mg/L	<0.50	8692933	1.85	8692960	4.03	8692965	2.70	0.50	8692933
Hydroxide (OH)	mg/L	<0.50	8692933	<0.50	8692960	<0.50	8692965	<0.50	0.50	8692933
Anions										
Orthophosphate (P)	mg/L	0.28	8688956	0.014	8688958	0.0079	8688956	0.0018	0.0010	8688958
Dissolved Sulphate (SO4)	mg/L	24.8	8691525	<0.50	8691529	29.9	8691525	7.23	0.50	8692334
Dissolved Chloride (Cl)	mg/L	<0.50	8691524	<0.50	8691528	<0.50	8691524	<0.50	0.50	8691524
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.371	8691153	0.393	8691153	0.0104	8691153	0.282	0.0020	8691153
Total Ammonia (N)	mg/L	0.19	8689936	0.66	8689936	0.14	8689936	0.050	0.0050	8689936
Nitrate plus Nitrite (N)	mg/L	0.0107	8688921	0.0061	8688923	0.0025	8688921	<0.0020	0.0020	8688923
Nitrite (N)	mg/L	0.0022	8688922	0.0042	8688924	<0.0020	8688922	<0.0020	0.0020	8688924
Total Phosphorus (P)	mg/L	0.334	8691155	0.425	8691155	0.0116	8696474	0.285	0.0020	8691155
Physical Properties										
Conductivity	uS/cm	249	8692935	233	8692956	363	8692963	299	1.0	8692935
pH	pH	8.29	8692938	8.34	8692944	8.42	8692962	8.37		8692938
Physical Properties										
Total Suspended Solids	mg/L	5.0	8689744	34.8	8689744	<4.0	8689735	37.0	4.0	8689735
Total Dissolved Solids	mg/L	144 (1)	8693804	140 (1)	8693943	244	8689649	176	10	8689649
Turbidity	NTU	19.0	8688719	20.3	8688719	12.1	8688719	140	0.10	8688719

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

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Maxxam Job #: B755643
Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RL6839			RL6840			RL6841		
Sampling Date		2017/07/05 12:40			2017/07/04 10:35			2017/07/04 09:45		
COC Number		08440027			08440027			08440027		
	UNITS	MW05-4B	RDL	QC Batch	MW05-6A	RDL	QC Batch	MW05-6B	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.390	0.010	8692156	0.140	0.010	8692156	0.038	0.010	8692156
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD		ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	0.0105	0.0020	8687244	0.0028	0.0020	8687244	0.276	0.0020	8687244
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	112	0.50	8687240	78.4	0.50	8687240	86.1	0.50	8687240
Acidity (pH 4.5)	mg/L	<0.50	0.50	8692892	<0.50	0.50	8692892	<0.50	0.50	8692892
Alkalinity (Total as CaCO3)	mg/L	80.3	0.50	8692960	67.6	0.50	8692965	85.0	0.50	8692960
Acidity (pH 8.3)	mg/L	0.67	0.50	8692892	<0.50	0.50	8692892	<0.50	0.50	8692892
Alkalinity (PP as CaCO3)	mg/L	<0.50	0.50	8692960	<0.50	0.50	8692965	<0.50	0.50	8692960
Bicarbonate (HCO3)	mg/L	97.9	0.50	8692960	82.5	0.50	8692965	104	0.50	8692960
Carbonate (CO3)	mg/L	<0.50	0.50	8692960	<0.50	0.50	8692965	<0.50	0.50	8692960
Hydroxide (OH)	mg/L	<0.50	0.50	8692960	<0.50	0.50	8692965	<0.50	0.50	8692960
Anions										
Orthophosphate (P)	mg/L	0.0062	0.0010	8688958	0.94 (1)	0.010	8688958	0.0047	0.0010	8688958
Dissolved Sulphate (SO4)	mg/L	39.1	0.50	8691525	16.7	0.50	8691525	6.65	0.50	8692334
Dissolved Chloride (Cl)	mg/L	0.77	0.50	8691524	<0.50	0.50	8691524	<0.50	0.50	8691524
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0091	0.0020	8691153	0.948 (1)	0.020	8691153	0.0052	0.0020	8691153
Total Ammonia (N)	mg/L	0.081	0.0050	8689936	0.051	0.0050	8689936	0.071	0.0050	8689936
Nitrate plus Nitrite (N)	mg/L	0.0139	0.0020	8688923	0.0028	0.0020	8688923	0.276	0.0020	8688923
Nitrite (N)	mg/L	0.0034	0.0020	8688924	<0.0020	0.0020	8688924	<0.0020	0.0020	8688924
Total Phosphorus (P)	mg/L	0.0087	0.0020	8691155	0.961 (1)	0.020	8691155	0.0070	0.0020	8691155
Physical Properties										
Conductivity	uS/cm	243	1.0	8692956	169	1.0	8692963	172	1.0	8692956
pH	pH	8.15		8692944	8.11		8692962	8.23		8692944
Physical Properties										
Total Suspended Solids	mg/L	<4.0	4.0	8691092	<4.0	4.0	8689744	<4.0	4.0	8689744
Total Dissolved Solids	mg/L	122	10	8689652	82	10	8689652	80	10	8689652
Turbidity	NTU	29.2	0.10	8688719	24.4	0.10	8688719	0.72	0.10	8688719

RDL = Reportable Detection Limit

(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

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Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RL6842		RL6843		RL6844		
Sampling Date		2017/07/05 14:30		2017/07/03 11:49		2017/07/03 12:00		
COC Number		08440027		08440027		08440027		
	UNITS	MW06-9S	QC Batch	MW08-13	QC Batch	DUP	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.800	8692156	0.032	8692156	0.029	0.010	8692156
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	<0.0020	8687244	0.0318	8687244	0.0280	0.0020	8687244
Misc. Inorganics								
Dissolved Hardness (CaCO3)	mg/L	128	8687240	154	8687240	156	0.50	8687240
Acidity (pH 4.5)	mg/L	<0.50	8692892	<0.50	8692892	<0.50	0.50	8692892
Alkalinity (Total as CaCO3)	mg/L	103	8692960	91.4	8692933	90.4	0.50	8692960
Acidity (pH 8.3)	mg/L	<0.50	8692892	8.31	8692892	3.76	0.50	8692892
Alkalinity (PP as CaCO3)	mg/L	0.59	8692960	<0.50	8692933	<0.50	0.50	8692960
Bicarbonate (HCO3)	mg/L	125	8692960	111	8692933	110	0.50	8692960
Carbonate (CO3)	mg/L	0.71	8692960	<0.50	8692933	<0.50	0.50	8692960
Hydroxide (OH)	mg/L	<0.50	8692960	<0.50	8692933	<0.50	0.50	8692960
Anions								
Orthophosphate (P)	mg/L	0.20	8688958	0.0036	8688958	0.0036	0.0010	8688958
Dissolved Sulphate (SO4)	mg/L	25.2	8691529	73.7	8691525	74.0	0.50	8691525
Dissolved Chloride (Cl)	mg/L	<0.50	8691528	1.3	8691524	1.3	0.50	8691524
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.224	8691153	0.0077	8691153	0.0066	0.0020	8691153
Total Ammonia (N)	mg/L	0.12	8689936	0.081	8689936	0.068	0.0050	8689936
Nitrate plus Nitrite (N)	mg/L	<0.0020	8688923	0.0318	8688921	0.0280	0.0020	8688921
Nitrite (N)	mg/L	<0.0020	8688924	<0.0020	8688922	<0.0020	0.0020	8688922
Total Phosphorus (P)	mg/L	0.228	8691155	0.210	8691155	0.0112	0.0020	8691155
Physical Properties								
Conductivity	uS/cm	248	8692956	328	8692935	326	1.0	8692956
pH	pH	8.31	8692944	8.15	8692938	8.02		8692944
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8691092	6.8	8689735	<4.0	4.0	8689735
Total Dissolved Solids	mg/L	126	8689649	240	8689649	192	10	8689652
Turbidity	NTU	3.86	8688719	17.1	8688719	1.82	0.10	8688719
RDL = Reportable Detection Limit								

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RL6845		RL6846			RL6847		
Sampling Date		2017/07/06 06:42		2017/07/06 07:05			2017/07/06 12:25		
COC Number		08440027		08440027			08440027		
	UNITS	BIO-IN	QC Batch	BIO-OUT	RDL	QC Batch	MW05-3A	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.100	8692156	0.064	0.010	8692156	0.350	0.010	8692156
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	896	8687195	755	0.50	8687195		0.50	8687195
Nitrate (N)	mg/L	0.315	8687244	0.0140	0.0020	8687244	0.120	0.0020	8687244
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8693847	<0.00050	0.00050	8693847		0.00050	8693847
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8693866	<0.00050	0.00050	8693866		0.00050	8693866
Dissolved Hardness (CaCO3)	mg/L	917	8687240	781	0.50	8687240	205	0.50	8687240
Dissolved Organic Carbon (C)	mg/L	3.8	8693487	5.8	0.50	8693487		0.50	8693487
Acidity (pH 4.5)	mg/L	<0.50	8692892	<0.50	0.50	8692892	<0.50	0.50	8692892
Alkalinity (Total as CaCO3)	mg/L	70.4	8692960	125	0.50	8692960	142	0.50	8692933
Acidity (pH 8.3)	mg/L	39.8	8692892	2.16	0.50	8692892	3.44	0.50	8692892
Alkalinity (PP as CaCO3)	mg/L	<0.50	8692960	<0.50	0.50	8692960	1.16	0.50	8692933
Bicarbonate (HCO3)	mg/L	85.8	8692960	152	0.50	8692960	170	0.50	8692933
Carbonate (CO3)	mg/L	<0.50	8692960	<0.50	0.50	8692960	1.39	0.50	8692933
Hydroxide (OH)	mg/L	<0.50	8692960	<0.50	0.50	8692960	<0.50	0.50	8692933
Anions									
Orthophosphate (P)	mg/L	0.0037	8688958	0.0013	0.0010	8688958	0.013	0.0010	8688958
Dissolved Sulphate (SO4)	mg/L	947 (1)	8691525	687 (1)	5.0	8691525	85.1	0.50	8691525
Dissolved Chloride (Cl)	mg/L	5.4	8691524	4.0	0.50	8691524	2.0	0.50	8691524
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0061	8691153	0.0109	0.0020	8691153	0.0108	0.0020	8691153
Total Ammonia (N)	mg/L	0.23	8689936	0.27	0.0050	8689936	0.062	0.0050	8689936
Nitrate plus Nitrite (N)	mg/L	0.322	8688923	0.0140	0.0020	8688923	0.125	0.0020	8688923
Nitrite (N)	mg/L	0.0068	8688924	<0.0020	0.0020	8688924	0.0051	0.0020	8688924
Total Phosphorus (P)	mg/L	0.0287	8691155	0.0168	0.0020	8691155	0.0173	0.0020	8691155
Physical Properties									
Conductivity	uS/cm	1720	8692956	1420	1.0	8692956	432	1.0	8692935
pH	pH	7.69	8692944	8.26		8692944	8.31		8692938
Physical Properties									
Total Suspended Solids	mg/L	<4.0	8691092	16.3	4.0	8691092	<4.0	4.0	8691092
Total Dissolved Solids	mg/L	1470	8689649	1140	10	8692296	276	10	8691583

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

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Report Date: 2017/07/17

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RL6845		RL6846			RL6847		
Sampling Date		2017/07/06 06:42		2017/07/06 07:05			2017/07/06 12:25		
COC Number		08440027		08440027			08440027		
	UNITS	**BIO-IN**	**QC Batch**	**BIO-OUT**	**RDL**	**QC Batch**	**MW05-3A**	**RDL**	**QC Batch**
Turbidity	NTU	2.30	8688719	57.4	0.10	8688719	17.3	0.10	8688719
RDL = Reportable Detection Limit									

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RL6848		
Sampling Date		2017/07/06 11:35		
COC Number		08440027		
	UNITS	MW05-3B	RDL	QC Batch
Misc. Inorganics				
Fluoride (F)	mg/L	0.120	0.010	8692156
Calculated Parameters				
Filter and HNO3 Preservation	N/A	FIELD		ONSITE
Nitrate (N)	mg/L	0.256	0.0020	8687244
Misc. Inorganics				
Dissolved Hardness (CaCO3)	mg/L	180	0.50	8687240
Acidity (pH 4.5)	mg/L	<0.50	0.50	8692892
Alkalinity (Total as CaCO3)	mg/L	99.5	0.50	8692933
Acidity (pH 8.3)	mg/L	10.6	0.50	8692892
Alkalinity (PP as CaCO3)	mg/L	<0.50	0.50	8692933
Bicarbonate (HCO3)	mg/L	121	0.50	8692933
Carbonate (CO3)	mg/L	<0.50	0.50	8692933
Hydroxide (OH)	mg/L	<0.50	0.50	8692933
Anions				
Orthophosphate (P)	mg/L	0.0039	0.0010	8688956
Dissolved Sulphate (SO4)	mg/L	94.4	0.50	8691525
Dissolved Chloride (Cl)	mg/L	2.0	0.50	8691524
Nutrients				
Dissolved Phosphorus (P)	mg/L	0.0035	0.0020	8691153
Total Ammonia (N)	mg/L	0.040	0.0050	8689936
Nitrate plus Nitrite (N)	mg/L	0.256	0.0020	8688921
Nitrite (N)	mg/L	<0.0020	0.0020	8688922
Total Phosphorus (P)	mg/L	0.0057	0.0020	8691155
Physical Properties				
Conductivity	uS/cm	380	1.0	8692935
pH	pH	8.09		8692938
Physical Properties				
Total Suspended Solids	mg/L	<4.0	4.0	8691092
Total Dissolved Solids	mg/L	236	10	8692296
Turbidity	NTU	1.41	0.10	8688719
RDL = Reportable Detection Limit				

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Maxxam Job #: B755643
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YUKON ZINC CORPORATION

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RL6835		RL6836	RL6837		RL6838	RL6839		
Sampling Date		2017/07/04 12:12		2017/07/04 13:20	2017/07/03 17:15		2017/07/03 15:52	2017/07/05 12:40		
COC Number		08440027		08440027	08440027		08440027	08440027		
	UNITS	MW05-1A	QC Batch	MW05-1B	MW05-2A	QC Batch	MW05-2B	MW05-4B	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	8692012	<0.010	<0.010	8691996	<0.010	<0.010	0.010	8692012
RDL = Reportable Detection Limit										

Maxxam ID		RL6840		RL6841	RL6842	RL6843		RL6844		
Sampling Date		2017/07/04 10:35		2017/07/04 09:45	2017/07/05 14:30	2017/07/03 11:49		2017/07/03 12:00		
COC Number		08440027		08440027	08440027	08440027		08440027		
	UNITS	MW05-6A	QC Batch	MW05-6B	MW06-9S	MW08-13	QC Batch	DUP	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	8692012	<0.010	<0.010	<0.010	8691996	<0.010	0.010	8692012
RDL = Reportable Detection Limit										

Maxxam ID		RL6845	RL6846	RL6847	RL6848		
Sampling Date		2017/07/06 06:42	2017/07/06 07:05	2017/07/06 12:25	2017/07/06 11:35		
COC Number		08440027	08440027	08440027	08440027		
	UNITS	BIO-IN	BIO-OUT	MW05-3A	MW05-3B	RDL	QC Batch
Elements							
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	0.010	8692012
Total Mercury (Hg)	ug/L	<0.010	<0.010			0.010	8692038
RDL = Reportable Detection Limit							

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Maxxam Job #: B755643
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YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RL6835	RL6836	RL6837	RL6838	RL6839		
Sampling Date		2017/07/04 12:12	2017/07/04 13:20	2017/07/03 17:15	2017/07/03 15:52	2017/07/05 12:40		
COC Number		08440027	08440027	08440027	08440027	08440027		
	UNITS	MW05-1A	MW05-1B	MW05-2A	MW05-2B	MW05-4B	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8692702
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00071	0.0263	0.00121	0.00235	0.00098	0.00050	8689763
Dissolved Antimony (Sb)	mg/L	<0.000020	0.000046	<0.000020	0.000046	0.000096	0.000020	8689763
Dissolved Arsenic (As)	mg/L	0.0188	0.00590	0.00126	0.0441	0.00817	0.000020	8689763
Dissolved Barium (Ba)	mg/L	0.0349	0.290	0.0460	0.203	0.0627	0.000020	8689763
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000011	<0.000010	<0.000010	0.000010	8689763
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8689763
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8689763
Dissolved Cadmium (Cd)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.00476	0.0000050	8689763
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00042	0.00020	0.00012	<0.00010	0.00010	8689763
Dissolved Cobalt (Co)	mg/L	<0.0000050	0.0000658	0.0000334	0.000238	0.00356	0.0000050	8689763
Dissolved Copper (Cu)	mg/L	<0.000050	0.000102	<0.000050	<0.000050	0.000242	0.000050	8689763
Dissolved Iron (Fe)	mg/L	1.73	4.55	0.855	21.0	2.13	0.0010	8689763
Dissolved Lead (Pb)	mg/L	0.0000406	0.000124	0.0000121	0.0000169	0.0000433	0.0000050	8689763
Dissolved Lithium (Li)	mg/L	0.00063	0.00065	0.00248	0.00058	0.00088	0.00050	8689763
Dissolved Manganese (Mn)	mg/L	0.235	1.34	0.247	1.15	3.06	0.000050	8689763
Dissolved Molybdenum (Mo)	mg/L	0.00595	0.00146	0.00356	0.00147	0.00105	0.000050	8689763
Dissolved Nickel (Ni)	mg/L	<0.000020	0.000735	0.000375	0.000199	0.00603	0.000020	8689763
Dissolved Phosphorus (P)	mg/L	0.407	0.442	0.0149	0.271	0.0080	0.0020	8689763
Dissolved Selenium (Se)	mg/L	<0.000040	0.000122	<0.000040	0.000088	<0.000040	0.000040	8689763
Dissolved Silicon (Si)	mg/L	4.77	6.09	4.33	5.58	7.39	0.050	8689763
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8689763
Dissolved Strontium (Sr)	mg/L	0.153	0.138	0.163	0.0937	0.172	0.000050	8689763
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000451	0.0000020	8689763
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8689763
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00057	<0.00050	<0.00050	<0.00050	0.00050	8689763
Dissolved Uranium (U)	mg/L	0.0000869	0.0000460	0.00681	0.000279	0.000285	0.0000020	8689763
Dissolved Vanadium (V)	mg/L	<0.00020	0.00114	<0.00020	0.00023	<0.00020	0.00020	8689763
Dissolved Zinc (Zn)	mg/L	0.00022	0.00198	0.00716	0.00212	0.230	0.00010	8689763
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00024	0.00018	<0.00010	<0.00010	0.00010	8689763
Dissolved Calcium (Ca)	mg/L	41.3	43.6	53.7	52.3	39.9	0.050	8687287
Dissolved Magnesium (Mg)	mg/L	5.18	3.82	17.7	7.80	3.00	0.050	8687287
Dissolved Potassium (K)	mg/L	1.24	1.40	1.77	0.439	1.86	0.050	8687287

RDL = Reportable Detection Limit

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Maxxam Job #: B755643
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RL6835	RL6836	RL6837	RL6838	RL6839		
Sampling Date		2017/07/04 12:12	2017/07/04 13:20	2017/07/03 17:15	2017/07/03 15:52	2017/07/05 12:40		
COC Number		08440027	08440027	08440027	08440027	08440027		
	UNITS	**MW05-1A**	**MW05-1B**	**MW05-2A**	**MW05-2B**	**MW05-4B**	**RDL**	**QC Batch**
Dissolved Sodium (Na)	mg/L	1.58	1.29	0.724	1.15	1.02	0.050	8687287
Dissolved Sulphur (S)	mg/L	10.8	<3.0	11.7	<3.0	15.7	3.0	8687287
RDL = Reportable Detection Limit								

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Maxxam Job #: B755643
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RL6840	RL6841	RL6842	RL6843	RL6844		
Sampling Date		2017/07/04 10:35	2017/07/04 09:45	2017/07/05 14:30	2017/07/03 11:49	2017/07/03 12:00		
COC Number		08440027	08440027	08440027	08440027	08440027		
	UNITS	MW05-6A	MW05-6B	MW06-9S	MW08-13	DUP	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	0.018	0.087	0.010	8692702
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00062	0.00057	0.00309	0.0156	0.0171	0.00050	8689763
Dissolved Antimony (Sb)	mg/L	0.00146	0.000029	<0.000020	0.000034	0.000034	0.000020	8689763
Dissolved Arsenic (As)	mg/L	0.00638	0.000081	0.00763	0.000129	0.000122	0.000020	8689763
Dissolved Barium (Ba)	mg/L	0.0488	0.170	0.0666	0.319	0.327	0.000020	8689763
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8689763
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8689763
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8689763
Dissolved Cadmium (Cd)	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000371	0.0000385	0.0000050	8689763
Dissolved Chromium (Cr)	mg/L	0.00011	0.00103	<0.00010	0.00048	0.00021	0.00010	8689763
Dissolved Cobalt (Co)	mg/L	0.000244	0.0000090	0.0000651	0.0000481	0.0000406	0.0000050	8689763
Dissolved Copper (Cu)	mg/L	<0.000050	0.000307	<0.000050	0.00272	0.00263	0.000050	8689763
Dissolved Iron (Fe)	mg/L	1.50	0.0025	0.794	0.0067	0.0041	0.0010	8689763
Dissolved Lead (Pb)	mg/L	0.0000081	0.0000106	<0.0000050	0.0000464	0.0000534	0.0000050	8689763
Dissolved Lithium (Li)	mg/L	<0.00050	<0.00050	0.00088	<0.00050	<0.00050	0.00050	8689763
Dissolved Manganese (Mn)	mg/L	0.122	0.000299	0.123	0.0349	0.0357	0.000050	8689763
Dissolved Molybdenum (Mo)	mg/L	0.00124	0.000285	0.00411	0.000154	0.000071	0.000050	8689763
Dissolved Nickel (Ni)	mg/L	0.00145	0.000372	0.000221	0.00203	0.00158	0.000020	8689763
Dissolved Phosphorus (P)	mg/L	1.09	0.0077	0.247	0.0107	0.0101	0.0020	8689763
Dissolved Selenium (Se)	mg/L	<0.000040	0.000763	<0.000040	0.000579	0.000608	0.000040	8689763
Dissolved Silicon (Si)	mg/L	7.55	4.57	4.64	4.36	4.40	0.050	8689763
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8689763
Dissolved Strontium (Sr)	mg/L	0.0263	0.0465	0.152	0.116	0.114	0.000050	8689763
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	0.0000022	0.0000023	0.0000020	8689763
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8689763
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8689763
Dissolved Uranium (U)	mg/L	0.000113	0.000263	0.000492	0.0000948	0.0000913	0.0000020	8689763
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8689763
Dissolved Zinc (Zn)	mg/L	0.00475	0.00137	0.00074	0.00630	0.00552	0.00010	8689763
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8689763
Dissolved Calcium (Ca)	mg/L	26.4	30.5	43.1	51.7	52.3	0.050	8687287
Dissolved Magnesium (Mg)	mg/L	3.02	2.43	4.97	6.16	6.26	0.050	8687287
Dissolved Potassium (K)	mg/L	1.08	0.726	1.08	1.19	1.20	0.050	8687287

RDL = Reportable Detection Limit

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Maxxam Job #: B755643
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RL6840	RL6841	RL6842	RL6843	RL6844		
Sampling Date		2017/07/04 10:35	2017/07/04 09:45	2017/07/05 14:30	2017/07/03 11:49	2017/07/03 12:00		
COC Number		08440027	08440027	08440027	08440027	08440027		
	UNITS	**MW05-6A**	**MW05-6B**	**MW06-9S**	**MW08-13**	**DUP**	**RDL**	**QC Batch**
Dissolved Sodium (Na)	mg/L	1.66	1.18	0.779	6.01	6.08	0.050	8687287
Dissolved Sulphur (S)	mg/L	6.9	<3.0	10.3	26.6	27.1	3.0	8687287
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RL6845	RL6846		RL6847	RL6848		
Sampling Date		2017/07/06 06:42	2017/07/06 07:05		2017/07/06 12:25	2017/07/06 11:35		
COC Number		08440027	08440027		08440027	08440027		
	UNITS	BIO-IN	BIO-OUT	RDL	MW05-3A	MW05-3B	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.050 (1)	<0.050 (1)	0.050	0.012	0.011	0.010	8692702
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.0095	0.0039	0.0025	0.00077	<0.00050	0.00050	8689763
Dissolved Antimony (Sb)	mg/L	0.00951	0.00018	0.00010	0.000230	0.000101	0.000020	8689763
Dissolved Arsenic (As)	mg/L	0.00121	0.00173	0.00010	0.000363	0.000059	0.000020	8689763
Dissolved Barium (Ba)	mg/L	0.0571	0.0634	0.00010	0.0724	0.0557	0.000020	8689763
Dissolved Beryllium (Be)	mg/L	<0.000050	<0.000050	0.000050	<0.000010	<0.000010	0.000010	8689763
Dissolved Bismuth (Bi)	mg/L	<0.000025	<0.000025	0.000025	<0.0000050	<0.0000050	0.0000050	8689763
Dissolved Boron (B)	mg/L	<0.050	<0.050	0.050	<0.010	<0.010	0.010	8689763
Dissolved Cadmium (Cd)	mg/L	0.220	0.00101	0.000025	0.0111	0.0308	0.0000050	8689763
Dissolved Chromium (Cr)	mg/L	<0.00050	<0.00050	0.00050	<0.00010	0.00015	0.00010	8689763
Dissolved Cobalt (Co)	mg/L	0.0158	0.00387	0.000025	0.000485	0.0000354	0.0000050	8689763
Dissolved Copper (Cu)	mg/L	0.0273	<0.00025	0.00025	0.000174	0.00307	0.000050	8689763
Dissolved Iron (Fe)	mg/L	0.101	6.95	0.0050	1.03	0.0031	0.0010	8689763
Dissolved Lead (Pb)	mg/L	0.0287	<0.000025	0.000025	0.000313	0.0000515	0.0000050	8689763
Dissolved Lithium (Li)	mg/L	0.0175	0.0057	0.0025	0.00144	0.00160	0.00050	8689763
Dissolved Manganese (Mn)	mg/L	3.17	5.33	0.00025	0.133	0.00577	0.000050	8689763
Dissolved Molybdenum (Mo)	mg/L	0.00300	0.00176	0.00025	0.000979	0.000401	0.000050	8689763
Dissolved Nickel (Ni)	mg/L	0.0701	0.00914	0.00010	0.00632	0.00714	0.000020	8689763
Dissolved Phosphorus (P)	mg/L	<0.010	0.013	0.010	0.0135	0.0044	0.0020	8689763
Dissolved Selenium (Se)	mg/L	0.105	0.00204	0.00020	0.00518	0.00652	0.000040	8689763
Dissolved Silicon (Si)	mg/L	4.70	6.11	0.25	5.16	5.35	0.050	8689763
Dissolved Silver (Ag)	mg/L	<0.000025	<0.000025	0.000025	<0.0000050	<0.0000050	0.0000050	8689763
Dissolved Strontium (Sr)	mg/L	1.24	0.796	0.00025	0.199	0.182	0.000050	8689763
Dissolved Thallium (Tl)	mg/L	0.00809	0.000150	0.000010	0.0000179	0.0000164	0.0000020	8689763
Dissolved Tin (Sn)	mg/L	<0.0010	<0.0010	0.0010	<0.00020	<0.00020	0.00020	8689763
Dissolved Titanium (Ti)	mg/L	<0.0025	<0.0025	0.0025	<0.00050	<0.00050	0.00050	8689763
Dissolved Uranium (U)	mg/L	0.00662	0.000475	0.000010	0.00952	0.00173	0.0000020	8689763
Dissolved Vanadium (V)	mg/L	<0.0010	<0.0010	0.0010	<0.00020	<0.00020	0.00020	8689763
Dissolved Zinc (Zn)	mg/L	28.6	1.10	0.00050	1.51	2.85	0.00010	8689763
Dissolved Zirconium (Zr)	mg/L	<0.00050	<0.00050	0.00050	<0.00010	<0.00010	0.00010	8689763
Dissolved Calcium (Ca)	mg/L	329	271	0.25	68.7	60.9	0.050	8687287
Dissolved Magnesium (Mg)	mg/L	23.4	25.2	0.25	8.26	6.70	0.050	8687287

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RL6845	RL6846		RL6847	RL6848		
Sampling Date		2017/07/06 06:42	2017/07/06 07:05		2017/07/06 12:25	2017/07/06 11:35		
COC Number		08440027	08440027		08440027	08440027		
	UNITS	BIO-IN	BIO-OUT	RDL	MW05-3A	MW05-3B	RDL	QC Batch
Dissolved Potassium (K)	mg/L	14.7	9.56	0.25	1.40	1.33	0.050	8687287
Dissolved Sodium (Na)	mg/L	40.3	34.2	0.25	4.98	4.92	0.050	8687287
Dissolved Sulphur (S)	mg/L	329	255	15	31.3	32.8	3.0	8687287
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0756	0.0093	0.0025				8690792
Total Antimony (Sb)	mg/L	0.00879	0.00021	0.00010				8690792
Total Arsenic (As)	mg/L	0.00132	0.00182	0.00010				8690792
Total Barium (Ba)	mg/L	0.0551	0.0599	0.00010				8690792
Total Beryllium (Be)	mg/L	<0.000050	<0.000050	0.000050				8690792
Total Bismuth (Bi)	mg/L	<0.000025	<0.000025	0.000025				8690792
Total Boron (B)	mg/L	<0.050	<0.050	0.050				8690792
Total Cadmium (Cd)	mg/L	0.220	0.00345	0.000025				8690792
Total Chromium (Cr)	mg/L	<0.00050	<0.00050	0.00050				8690792
Total Cobalt (Co)	mg/L	0.0154	0.00341	0.000025				8690792
Total Copper (Cu)	mg/L	0.0278	<0.00025	0.00025				8690792
Total Iron (Fe)	mg/L	0.199	6.66	0.0050				8690792
Total Lead (Pb)	mg/L	0.0315	0.000043	0.000025				8690792
Total Lithium (Li)	mg/L	0.0163	0.0052	0.0025				8690792
Total Manganese (Mn)	mg/L	3.22	5.04	0.00025				8690792
Total Molybdenum (Mo)	mg/L	0.00303	0.00178	0.00025				8690792
Total Nickel (Ni)	mg/L	0.0694	0.00817	0.00010				8690792
Total Phosphorus (P)	mg/L	0.010	0.018	0.010				8690792
Total Selenium (Se)	mg/L	0.101	0.00212	0.00020				8690792
Total Silicon (Si)	mg/L	4.55	6.20	0.25				8690792
Total Silver (Ag)	mg/L	<0.000025	<0.000025	0.000025				8690792
Total Strontium (Sr)	mg/L	1.25	0.766	0.00025				8690792
Total Thallium (Tl)	mg/L	0.00771	0.000142	0.000010				8690792
Total Tin (Sn)	mg/L	<0.0010	<0.0010	0.0010				8690792
Total Titanium (Ti)	mg/L	0.0041	<0.0025	0.0025				8690792
Total Uranium (U)	mg/L	0.00638	0.000467	0.000010				8690792
Total Vanadium (V)	mg/L	<0.0010	<0.0010	0.0010				8690792
Total Zinc (Zn)	mg/L	26.6	0.944	0.00050				8690792
Total Zirconium (Zr)	mg/L	<0.00050	<0.00050	0.00050				8690792
Total Calcium (Ca)	mg/L	321	263	0.25				8687288
Total Magnesium (Mg)	mg/L	23.1	23.9	0.25				8687288

RDL = Reportable Detection Limit

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Maxxam Job #: B755643
Report Date: 2017/07/17

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RL6845	RL6846		RL6847	RL6848		
Sampling Date		2017/07/06 06:42	2017/07/06 07:05		2017/07/06 12:25	2017/07/06 11:35		
COC Number		08440027	08440027		08440027	08440027		
	UNITS	**BIO-IN**	**BIO-OUT**	**RDL**	**MW05-3A**	**MW05-3B**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	14.0	9.61	0.25				8687288
Total Sodium (Na)	mg/L	40.1	32.0	0.25				8687288
Total Sulphur (S)	mg/L	328	252	15				8687288
RDL = Reportable Detection Limit								

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Maxxam Job #: B755643
Report Date: 2017/07/17

YUKON ZINC CORPORATION

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.3°C
Package 2	7.7°C
Package 3	6.3°C

Sample RL6835 [MW05-1A] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue).

Sample RL6836 [MW05-1B] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue).

Sample RL6837 [MW05-2A] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RL6838 [MW05-2B] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RL6840 [MW05-6A] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RL6841 [MW05-6B] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RL6843 [MW08-13] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RL6844 [DUP] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER) Comments

Sample RL6845 [BIO-IN] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RL6846 [BIO-OUT] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.

Results relate only to the items tested.

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Maxxam Job #: B755643
Report Date: 2017/07/17

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8688719	Turbidity	2017/07/08			99	80 - 120	<0.10	NTU		
8688921	Nitrate plus Nitrite (N)	2017/07/08	90	80 - 120	107	80 - 120	<0.0020	mg/L	NC	25
8688922	Nitrite (N)	2017/07/08	89	80 - 120	103	80 - 120	<0.0020	mg/L	NC	25
8688923	Nitrate plus Nitrite (N)	2017/07/08	99	80 - 120	109	80 - 120	<0.0020	mg/L	NC	25
8688924	Nitrite (N)	2017/07/08	98	80 - 120	102	80 - 120	<0.0020	mg/L	NC	25
8688956	Orthophosphate (P)	2017/07/08	104	80 - 120	93	80 - 120	<0.0010	mg/L	4.8	20
8688958	Orthophosphate (P)	2017/07/08			98	80 - 120	<0.0010	mg/L	8.8	20
8689649	Total Dissolved Solids	2017/07/11	97	80 - 120	95	80 - 120	<10	mg/L	7.0	20
8689652	Total Dissolved Solids	2017/07/11	101	80 - 120	93	80 - 120	<10	mg/L	2.5	20
8689735	Total Suspended Solids	2017/07/11	101	80 - 120	107	80 - 120	<4.0	mg/L	NC	20
8689744	Total Suspended Solids	2017/07/11	103	80 - 120	102	80 - 120	<4.0	mg/L	NC	20
8689763	Dissolved Aluminum (Al)	2017/07/12	104	80 - 120	107	80 - 120	<0.00050	mg/L	12	20
8689763	Dissolved Antimony (Sb)	2017/07/12	101	80 - 120	101	80 - 120	<0.000020	mg/L	NC	20
8689763	Dissolved Arsenic (As)	2017/07/12	NC	80 - 120	107	80 - 120	<0.000020	mg/L	1.3	20
8689763	Dissolved Barium (Ba)	2017/07/12	NC	80 - 120	103	80 - 120	<0.000020	mg/L	0.91	20
8689763	Dissolved Beryllium (Be)	2017/07/12	106	80 - 120	104	80 - 120	<0.000010	mg/L	NC	20
8689763	Dissolved Bismuth (Bi)	2017/07/12	91	80 - 120	107	80 - 120	<0.0000050	mg/L	NC	20
8689763	Dissolved Boron (B)	2017/07/12	100	80 - 120	103	80 - 120	<0.010	mg/L	NC	20
8689763	Dissolved Cadmium (Cd)	2017/07/12	103	80 - 120	105	80 - 120	<0.0000050	mg/L	NC	20
8689763	Dissolved Chromium (Cr)	2017/07/12	99	80 - 120	106	80 - 120	<0.00010	mg/L	NC	20
8689763	Dissolved Cobalt (Co)	2017/07/12	97	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20
8689763	Dissolved Copper (Cu)	2017/07/12	95	80 - 120	103	80 - 120	<0.000050	mg/L	NC	20
8689763	Dissolved Iron (Fe)	2017/07/12	NC	80 - 120	106	80 - 120	<0.0010	mg/L	1.3	20
8689763	Dissolved Lead (Pb)	2017/07/12	101	80 - 120	104	80 - 120	<0.0000050	mg/L	3.3	20
8689763	Dissolved Lithium (Li)	2017/07/12	111	80 - 120	112	80 - 120	<0.00050	mg/L	0.079	20
8689763	Dissolved Manganese (Mn)	2017/07/12	NC	80 - 120	104	80 - 120	<0.000050	mg/L	0.80	20
8689763	Dissolved Molybdenum (Mo)	2017/07/12	NC	80 - 120	103	80 - 120	<0.000050	mg/L	0.43	20
8689763	Dissolved Nickel (Ni)	2017/07/12	95	80 - 120	103	80 - 120	<0.000020	mg/L	NC	20
8689763	Dissolved Phosphorus (P)	2017/07/12					<0.0020	mg/L	1.7	20
8689763	Dissolved Selenium (Se)	2017/07/12	107	80 - 120	105	80 - 120	<0.000040	mg/L	NC	20
8689763	Dissolved Silicon (Si)	2017/07/12					<0.050	mg/L	2.4	20
8689763	Dissolved Silver (Ag)	2017/07/12	102	80 - 120	105	80 - 120	<0.0000050	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8689763	Dissolved Strontium (Sr)	2017/07/12	NC	80 - 120	102	80 - 120	<0.000050	mg/L	1.1	20
8689763	Dissolved Thallium (Tl)	2017/07/12	100	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8689763	Dissolved Tin (Sn)	2017/07/12	97	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8689763	Dissolved Titanium (Ti)	2017/07/12	99	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8689763	Dissolved Uranium (U)	2017/07/12	99	80 - 120	100	80 - 120	<0.0000020	mg/L	1.0	20
8689763	Dissolved Vanadium (V)	2017/07/12	101	80 - 120	103	80 - 120	<0.00020	mg/L	NC	20
8689763	Dissolved Zinc (Zn)	2017/07/12	102	80 - 120	108	80 - 120	<0.00010	mg/L	17	20
8689763	Dissolved Zirconium (Zr)	2017/07/12					<0.00010	mg/L	NC	20
8689936	Total Ammonia (N)	2017/07/10	107	80 - 120	101	80 - 120	<0.0050	mg/L	3.2	20
8690792	Total Aluminum (Al)	2017/07/12	103	80 - 120	104	80 - 120	<0.00050	mg/L	NC	20
8690792	Total Antimony (Sb)	2017/07/12	97	80 - 120	95	80 - 120	<0.000020	mg/L	NC	20
8690792	Total Arsenic (As)	2017/07/12	101	80 - 120	94	80 - 120	<0.000020	mg/L	NC	20
8690792	Total Barium (Ba)	2017/07/12	99	80 - 120	97	80 - 120	<0.000020	mg/L	NC	20
8690792	Total Beryllium (Be)	2017/07/12	105	80 - 120	96	80 - 120	<0.000010	mg/L	NC	20
8690792	Total Bismuth (Bi)	2017/07/12	92	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8690792	Total Boron (B)	2017/07/12	93	80 - 120	96	80 - 120	<0.010	mg/L	NC	20
8690792	Total Cadmium (Cd)	2017/07/12	110	80 - 120	103	80 - 120	<0.0000050	mg/L	NC	20
8690792	Total Chromium (Cr)	2017/07/12	97	80 - 120	101	80 - 120	<0.00010	mg/L	NC	20
8690792	Total Cobalt (Co)	2017/07/12	98	80 - 120	101	80 - 120	<0.0000050	mg/L	NC	20
8690792	Total Copper (Cu)	2017/07/12	99	80 - 120	101	80 - 120	<0.000050	mg/L	NC	20
8690792	Total Iron (Fe)	2017/07/12	97	80 - 120	105	80 - 120	<0.0010	mg/L	NC	20
8690792	Total Lead (Pb)	2017/07/12	97	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8690792	Total Lithium (Li)	2017/07/12	100	80 - 120	99	80 - 120	<0.00050	mg/L	NC	20
8690792	Total Manganese (Mn)	2017/07/12	92	80 - 120	94	80 - 120	<0.000050	mg/L	NC	20
8690792	Total Molybdenum (Mo)	2017/07/12	88	80 - 120	94	80 - 120	<0.000050	mg/L	NC	20
8690792	Total Nickel (Ni)	2017/07/12	100	80 - 120	99	80 - 120	<0.000020	mg/L	NC	20
8690792	Total Phosphorus (P)	2017/07/12					<0.0020	mg/L	NC	20
8690792	Total Selenium (Se)	2017/07/12	117	80 - 120	98	80 - 120	<0.000040	mg/L	NC	20
8690792	Total Silicon (Si)	2017/07/12					<0.050	mg/L	NC	20
8690792	Total Silver (Ag)	2017/07/12	99	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20
8690792	Total Strontium (Sr)	2017/07/12	90	80 - 120	92	80 - 120	<0.000050	mg/L	NC	20
8690792	Total Thallium (Tl)	2017/07/12	93	80 - 120	97	80 - 120	<0.0000020	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8690792	Total Tin (Sn)	2017/07/12	94	80 - 120	98	80 - 120	<0.00020	mg/L	NC	20
8690792	Total Titanium (Ti)	2017/07/12	99	80 - 120	97	80 - 120	<0.00050	mg/L	NC	20
8690792	Total Uranium (U)	2017/07/12	95	80 - 120	97	80 - 120	<0.0000020	mg/L	NC	20
8690792	Total Vanadium (V)	2017/07/12	98	80 - 120	99	80 - 120	<0.00020	mg/L	NC	20
8690792	Total Zinc (Zn)	2017/07/12	114	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20
8690792	Total Zirconium (Zr)	2017/07/12					<0.00010	mg/L	NC	20
8691092	Total Suspended Solids	2017/07/12	93	80 - 120	94	80 - 120	<4.0	mg/L		
8691153	Dissolved Phosphorus (P)	2017/07/11	95	80 - 120	97	80 - 120	<0.0020	mg/L	13	20
8691155	Total Phosphorus (P)	2017/07/11	90	80 - 120	95	80 - 120	<0.0020	mg/L	16	20
8691524	Dissolved Chloride (Cl)	2017/07/10	104	80 - 120	98	80 - 120	<0.50	mg/L		
8691525	Dissolved Sulphate (SO4)	2017/07/10	NC	80 - 120	93	80 - 120	0.51, RDL=0.50	mg/L		
8691528	Dissolved Chloride (Cl)	2017/07/10	NC	80 - 120	98	80 - 120	<0.50	mg/L	0.54	20
8691529	Dissolved Sulphate (SO4)	2017/07/10	108	80 - 120	92	80 - 120	<0.50	mg/L	0.81	20
8691583	Total Dissolved Solids	2017/07/12	99	80 - 120	103	80 - 120	<10	mg/L		
8691996	Dissolved Mercury (Hg)	2017/07/12	88	80 - 120	88	80 - 120	<0.010	ug/L	NC	20
8692012	Dissolved Mercury (Hg)	2017/07/12	98	80 - 120	98	80 - 120	<0.010	ug/L	NC	20
8692038	Total Mercury (Hg)	2017/07/12	92	80 - 120	94	80 - 120	<0.010	ug/L	NC	20
8692156	Fluoride (F)	2017/07/12	108	80 - 120	102	80 - 120	0.014, RDL=0.010	mg/L	6.9	20
8692296	Total Dissolved Solids	2017/07/13	95	80 - 120	90	80 - 120	<10	mg/L	0.55	20
8692334	Dissolved Sulphate (SO4)	2017/07/11	114	80 - 120	101	80 - 120	<0.50	mg/L		
8692702	Bromide (Br)	2017/07/12	NC	78 - 120	95	80 - 120	<0.010	mg/L	0.92	20
8692892	Acidity (pH 4.5)	2017/07/11					<0.50	mg/L		
8692892	Acidity (pH 8.3)	2017/07/11			98	80 - 120	<0.50	mg/L		
8692933	Alkalinity (PP as CaCO3)	2017/07/12					<0.50	mg/L		
8692933	Alkalinity (Total as CaCO3)	2017/07/12	NC	80 - 120	103	80 - 120	<0.50	mg/L		
8692933	Bicarbonate (HCO3)	2017/07/12					<0.50	mg/L		
8692933	Carbonate (CO3)	2017/07/12					<0.50	mg/L		
8692933	Hydroxide (OH)	2017/07/12					<0.50	mg/L		
8692935	Conductivity	2017/07/12			102	80 - 120	<1.0	uS/cm		
8692938	pH	2017/07/12			102	97 - 103				
8692944	pH	2017/07/12			102	97 - 103			0.36	N/A
8692956	Conductivity	2017/07/12			101	80 - 120	<1.0	uS/cm	0.77	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8692960	Alkalinity (PP as CaCO3)	2017/07/12					<0.50	mg/L	0.59	20
8692960	Alkalinity (Total as CaCO3)	2017/07/12			94	80 - 120	<0.50	mg/L	0.95	20
8692960	Bicarbonate (HCO3)	2017/07/12					<0.50	mg/L	0.99	20
8692960	Carbonate (CO3)	2017/07/12					<0.50	mg/L	0.59	20
8692960	Hydroxide (OH)	2017/07/12					<0.50	mg/L	NC	20
8692962	pH	2017/07/12			102	97 - 103				
8692963	Conductivity	2017/07/12			101	80 - 120	<1.0	uS/cm		
8692965	Alkalinity (PP as CaCO3)	2017/07/12					<0.50	mg/L		
8692965	Alkalinity (Total as CaCO3)	2017/07/12			101	80 - 120	<0.50	mg/L		
8692965	Bicarbonate (HCO3)	2017/07/12					<0.50	mg/L		
8692965	Carbonate (CO3)	2017/07/12					<0.50	mg/L		
8692965	Hydroxide (OH)	2017/07/12					<0.50	mg/L		
8693487	Dissolved Organic Carbon (C)	2017/07/13	106	80 - 120	108	80 - 120	<0.50	mg/L	2.7	20
8693804	Total Dissolved Solids	2017/07/14	100	80 - 120	98	80 - 120	<10	mg/L		
8693847	Strong Acid Dissoc. Cyanide (CN)	2017/07/13	106	80 - 120	102	80 - 120	<0.00050	mg/L	NC	20
8693866	Weak Acid Dissoc. Cyanide (CN)	2017/07/13			102	80 - 120	<0.00050	mg/L		
8693943	Total Dissolved Solids	2017/07/14	98	80 - 120	91	80 - 120	<10	mg/L	6.9	20
8696474	Total Phosphorus (P)	2017/07/15	90	80 - 120	95	80 - 120	<0.0020	mg/L	1.3	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

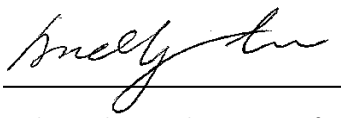
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Maxxam Job #: B755643
Report Date: 2017/07/17

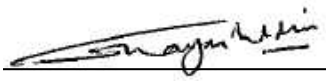
YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist



Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Page _____ of _____

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Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Yukon Zinc Corporation	Company Name: Adrienne Turcotte Consulting	Quotation #:	☒ Regular TAT 5 days (Most analyses)
Contact Name: Alex Wu	Contact Name: Adrienne Turcotte	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 705 - 1030 West Georgia Street	Address: 102-3839 W 4th Avenue	Project #:	Rush TAT (Surcharges will be applied)
Vancouver PC: V6E 2Y3	Vancouver BC PC: V6R 1P8	Site Location:	☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3 Days
Phone: 604-684-5474	Phone: 778-772-2212	Site #:	Date Required:
Email: alex.wu@yukonzinc.com	Email: YZC Group turcotte.adrienne@gmail.com	Sampled By:	Rush Confirmation #:

Regulatory Criteria

☐ BC CSR Soil ☐ BC CSR Water
☐ CCME (Specify) ☐ Other (Specify)
☐ Drinking Water ☐ BC Water Quality

Special Instructions

☐ Return Cooler
☐ Ship Sample Bottles (Please Specify)

Analysis Requested

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	MTBE	VOC/VPH	TEH	EPH/HEPH	F2 - F4	BTEX/F1	BTEX/VPH	EPH	PAH	CCME-PHC	Preserved?	Preserved?	Field Preserved?	Field Preserved?	Sulphate	ECD	Alkalinity	Ammonia	Nitrate	Package A	Total Phosphate and Ammonia	Total and WAD Cyanide	DOC	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	COMMENTS
	Bottle															Filtered?	Filtered?	Field Preserved?	Field Preserved?	Fluoride	TDS	Conductivity	pH	Nitrate	Total Mercury	Chloride						
	Preservative															Dissolved Metals	Dissolved Mercury	Total Metals	Total Mercury												
	Filtered															50 mL fabricated	50 mL fabricated	50 mL fabricated	50 mL fabricated	120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic	120 mL plastic	120 mL plastic							
																HNO3	HCl	HNO3	HCl	H2SO4	-	H2SO4	NaOH	H2SO4							
																✓	✓	-	-	-	-	-	-	✓							
1	MW05-1A		17-07-04	12:12	Water											x	x						x		xx	x					
2	MW05-1B		17-07-04	13:20	Water											x	x						x		xx	x					
3	MW05-2A		17-07-03	17:15	Water											x	x						x		xx	x					
4	MW05-2B		17-07-03	15:52	Water											x	x						x		xx	x					
8	MW05-4B		17-07-05	12:40	Water											x	x						x		xx	x					
11	MW05-6A		17-07-04	10:35	Water											x	x						x		xx	x					
12	MW05-6B		17-07-04	9:45	Water											x	x						x		xx	x					
17	MW06-9S		17-07-05	14:30	Water											x	x						x		xx	x					
18	MW08-13		17-07-03	11:49	Water											x	x						x		xx	x					
19	DUP		17-07-03	12:00	Water											x	x						x		xx	x					
20	BIO-IN		17-07-06	6:42	Water											x	x	x	x				x		xx	x	x	x			
21	BIO-OUT		17-07-06	7:05	Water											x	x	x	x				x		xx	x	x	x			
22	MW05-3A		17-07-06	12:25	"											x	x						x	x	xx	x					
23	MW05-3B		17-07-06	11:35	"											x	x						x	x	xx	x					

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Adrienne Turcotte	17-07-06	12:00	[illegible]	2017/07/07	13:40	B755643

B755643_COC

RECEIVED IN WHITEHORSE
BY: [illegible] Williamson
2017 -07- 06 @ 4:50pm

TEMP: 13 / 11 / 13
6/7/10
5/7/17

Your C.O.C. #: 08440141, 08440142

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/25
Report #: R2418287
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B757212
Received: 2017/07/11, 16:15

Sample Matrix: Water
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	27	N/A	2017/07/14	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	26	2017/07/15	2017/07/16	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	1	2017/07/15	2017/07/19	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	25	N/A	2017/07/13	BBY6SOP-00011	SM 22 4500-Cl- E m
Chloride by Automated Colourimetry	2	N/A	2017/07/14	BBY6SOP-00011	SM 22 4500-Cl- E m
Cyanide SAD (strong acid dissociable)	9	N/A	2017/07/13	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide SAD (strong acid dissociable)	1	N/A	2017/07/17	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide WAD (weak acid dissociable)	9	N/A	2017/07/13	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide WAD (weak acid dissociable)	1	N/A	2017/07/17	BBY6SOP-00004	SM 22 4500-CN O m
Carbon (DOC) (1, 2)	15	N/A	2017/07/17	CAL SOP-00077	MMCW 119 1996 m
Carbon (DOC) (1, 2)	12	N/A	2017/07/18	CAL SOP-00077	MMCW 119 1996 m
Conductance - water	26	2017/07/15	2017/07/16	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	1	2017/07/15	2017/07/19	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	10	N/A	2017/07/14	BBY6SOP-00048	SM 22 4500-F C m
Fluoride - Mining Clients	17	N/A	2017/07/18	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3)	11	N/A	2017/07/17	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3)	1	N/A	2017/07/18	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3)	15	N/A	2017/07/19	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	7	N/A	2017/07/18	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	20	N/A	2017/07/19	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	24	N/A	2017/07/18	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Dissolved) by CVAF	3	N/A	2017/07/19	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	27	2017/07/18	2017/07/18	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	27	N/A	2017/07/16	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	7	N/A	2017/07/18	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	20	N/A	2017/07/19	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	27	N/A	2017/07/18	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Digested LL (total)	11	2017/07/14	2017/07/18	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	11	N/A	2017/07/17	BBY7SOP-00003,	BCLM2005,EPA6020bR2m

Your C.O.C. #: 08440141, 08440142

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/25
Report #: R2418287
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B757212
Received: 2017/07/11, 16:15

Sample Matrix: Water
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2017/07/18	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	15	N/A	2017/07/19	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	11	N/A	2017/07/15	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	5	N/A	2017/07/19	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Ammonia-N (Preserved)	27	N/A	2017/07/14	BBY6SOP-00009	SM 22 4500-NH3- G m
Nitrate+Nitrite (N) (low level)	27	N/A	2017/07/13	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	27	N/A	2017/07/13	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	27	N/A	2017/07/14	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	27	N/A	2017/07/14	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (3)	26	2017/07/15	2017/07/16	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (3)	1	2017/07/15	2017/07/19	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	23	N/A	2017/07/13	BBY6SOP-00013	SM 22 4500-P E m
Orthophosphate by Konelab (low level)	4	N/A	2017/07/21	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	21	N/A	2017/07/13	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	6	N/A	2017/07/14	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	10	2017/07/13	2017/07/14	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	9	2017/07/14	2017/07/16	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	5	2017/07/17	2017/07/18	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	3	2017/07/24	2017/07/25	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	26	2017/07/14	2017/07/14	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - FF/FP	1	2017/07/21	2017/07/21	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	27	N/A	2017/07/14	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	12	2017/07/13	2017/07/14	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	10	2017/07/14	2017/07/16	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	5	2017/07/17	2017/07/18	BBY6SOP-00034	SM 22 2540 D
Turbidity	27	N/A	2017/07/13	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

Your C.O.C. #: 08440141, 08440142

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/25
Report #: R2418287
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B757212
Received: 2017/07/11, 16:15

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Calgary Environmental
(2) DOC present in the sample should be considered as non-purgeable DOC. Dissolved > Total Imbalance: Whenever applicable, Dissolved >Total for any parameter that falls within method uncertainty for duplicates is likely equivalent. If RPD is >20% samples were reanalyzed and confirmed.
(3) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5020		RM5021		RM5022		RM5023		
Sampling Date		2017/07/09 10:20		2017/07/09 09:15		2017/07/09 10:50		2017/07/09 11:05		
COC Number		08440141		08440141		08440141		08440141		
	UNITS	L1	QC Batch	W1	QC Batch	W8	QC Batch	W9	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.075	8694996	0.120	8694996	0.037	8694996	0.110	0.010	8694996
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	47.1	8692269	79.0	8692269	77.4	8692269	131	0.50	8692269
Nitrate (N)	mg/L	0.27	8692325	0.30	8692325	0.26	8692325	<0.20	0.20	8692325
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	48.3	8692030	78.7	8692030	76.0	8692030	129	0.50	8692030
Dissolved Organic Carbon (C)	mg/L	4.3	8697344	5.8	8697344	2.9	8697344	3.4	0.50	8697344
Acidity (pH 4.5)	mg/L	<0.50	8695787	<0.50	8695786	<0.50	8695786	<0.50	0.50	8695786
Alkalinity (Total as CaCO3)	mg/L	43.9	8696419	72.0	8696419	66.7 (1)	8696419	96.4	0.50	8696419
Acidity (pH 8.3)	mg/L	0.53	8695787	<0.50	8695786	<0.50	8695786	0.62	0.50	8695786
Alkalinity (PP as CaCO3)	mg/L	<0.50	8696419	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696419
Bicarbonate (HCO3)	mg/L	53.6	8696419	87.8	8696419	81.4	8696419	118	0.50	8696419
Carbonate (CO3)	mg/L	<0.50	8696419	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696419
Hydroxide (OH)	mg/L	<0.50	8696419	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696419
Anions										
Orthophosphate (P)	mg/L	0.0045	8694264	0.032	8694264	0.0031	8694264	0.0033	0.0010	8694264
Dissolved Sulphate (SO4)	mg/L	10.6	8694805	12.3	8694805	15.3	8694805	41.1	0.50	8694796
Dissolved Chloride (Cl)	mg/L	0.54	8694803	0.54	8694803	<0.50	8694803	0.60	0.50	8694795
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0071	8695807	0.0400	8695807	0.0029	8695807	0.0041	0.0020	8695807
Total Ammonia (N)	mg/L	0.12	8694986	0.053	8694986	0.32	8694987	0.57	0.0050	8694987
Nitrate plus Nitrite (N)	mg/L	0.27 (2)	8693913	0.30 (2)	8693911	0.26 (2)	8693911	<0.20 (2)	0.20	8693911
Nitrite (N)	mg/L	<0.20 (2)	8693915	<0.20 (2)	8693912	<0.20 (2)	8693912	<0.20 (2)	0.20	8693912
Total Phosphorus (P)	mg/L	0.0173	8695801	0.0590	8695801	0.0045	8695804	0.0055	0.0020	8695804
Physical Properties										
Conductivity	uS/cm	106	8696424	161	8696424	160	8696424	269	1.0	8696424
pH	pH	7.92	8696422	8.12	8696422	8.13 (3)	8696422	8.21		8696422
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8693443	<4.0	8693443	<4.0	8693446	<4.0	4.0	8693446

RDL = Reportable Detection Limit

(1) Duplicate result for Alkalinity (Total as CaCO3) was 67.33 mg/L, Alkalinity (PP as CaCO3) was 0 mg/L, Bicarbonate (HCO3) was 82.14 mg/L, Carbonate (CO3) was 0 mg/L, and Hydroxide (OH) was 0 mg/L.

(2) RDL raised due to sample matrix interference.

(3) Duplicate pH result was 8.12 pH units.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5020		RM5021		RM5022		RM5023		
Sampling Date		2017/07/09 10:20		2017/07/09 09:15		2017/07/09 10:50		2017/07/09 11:05		
COC Number		08440141		08440141		08440141		08440141		
	UNITS	**L1**	**QC Batch**	**W1**	**QC Batch**	**W8**	**QC Batch**	**W9**	**RDL**	**QC Batch**
Total Dissolved Solids	mg/L	82	8693804	90 (1)	8704422	112	8693804	166	10	8693804
Turbidity	NTU	0.62	8694377	1.09	8694377	0.12	8694377	0.36	0.10	8694377

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5024		RM5025		RM5026		RM5027		
Sampling Date		2017/07/10 11:35		2017/07/10 11:10		2017/07/10 16:40		2017/07/10 17:10		
COC Number		08440141		08440141		08440141		08440141		
	UNITS	W12	QC Batch	W14	QC Batch	W15	QC Batch	W16	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.040	8694996	0.056	8694996	0.025	8694996	0.032	0.010	8694996
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	67.7	8692269	54.8	8692269	49.4	8692269	63.6	0.50	8692269
Nitrate (N)	mg/L	<0.20	8692325	0.27	8692325	<0.20	8692325	<0.20	0.20	8692325
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L						8693847	<0.00050	0.00050	8693847
Weak Acid Dissoc. Cyanide (CN)	mg/L						8693866	<0.00050	0.00050	8693866
Dissolved Hardness (CaCO3)	mg/L	68.2	8692030	53.9	8692030	47.2	8692030	62.6	0.50	8692030
Dissolved Organic Carbon (C)	mg/L	2.8	8697344	3.3	8697344	2.1	8697344	3.6	0.50	8697344
Acidity (pH 4.5)	mg/L	<0.50	8695786	<0.50	8695787	<0.50	8695787	<0.50	0.50	8695786
Alkalinity (Total as CaCO3)	mg/L	60.1	8696409	43.4	8696419	43.2	8696419	58.2	0.50	8696409
Acidity (pH 8.3)	mg/L	<0.50	8695786	<0.50	8695787	<0.50	8695787	<0.50	0.50	8695786
Alkalinity (PP as CaCO3)	mg/L	<0.50	8696409	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696409
Bicarbonate (HCO3)	mg/L	73.3	8696409	53.0	8696419	52.8	8696419	71.1	0.50	8696409
Carbonate (CO3)	mg/L	<0.50	8696409	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696409
Hydroxide (OH)	mg/L	<0.50	8696409	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696409
Anions										
Orthophosphate (P)	mg/L	0.0034	8694263	0.0018	8694264	0.0020	8694264	0.0065 (1)	0.0010	8703007
Dissolved Sulphate (SO4)	mg/L	13.7	8694796	14.0	8694805	8.40	8694805	9.97	0.50	8697285
Dissolved Chloride (Cl)	mg/L	<0.50	8694795	<0.50	8694803	<0.50	8694803	<0.50	0.50	8694795
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0036	8695807	0.0034	8695807	0.0021	8703043	0.0048	0.0020	8695807
Total Ammonia (N)	mg/L	0.15	8694987	0.058	8694984	0.049	8694984	0.052	0.0050	8694986
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8693911	0.27 (2)	8693913	<0.20 (2)	8693913	<0.20 (2)	0.20	8693911
Nitrite (N)	mg/L	<0.20 (2)	8693912	<0.20 (2)	8693915	<0.20 (2)	8693915	<0.20 (2)	0.20	8693912
Total Phosphorus (P)	mg/L	0.0071	8695804	0.0039	8695798	0.0061	8695801	0.0174	0.0020	8695801
Physical Properties										
Conductivity	uS/cm	143	8696412	118	8696424	106	8696424	132	1.0	8696412
pH	pH	8.03	8696411	7.92	8696422	7.95	8696422	8.04		8696411

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

(2) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5024		RM5025		RM5026		RM5027		
Sampling Date		2017/07/10 11:35		2017/07/10 11:10		2017/07/10 16:40		2017/07/10 17:10		
COC Number		08440141		08440141		08440141		08440141		
	UNITS	W12	QC Batch	W14	QC Batch	W15	QC Batch	W16	RDL	QC Batch
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8695112	<4.0	8695112	<4.0	8695701	14.0	4.0	8695701
Total Dissolved Solids	mg/L	98	8695095	70 (1)	8704422	66	8695095	84	10	8695095
Turbidity	NTU	0.49	8694377	0.33	8694377	0.38	8694377	5.71	0.10	8694377

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5028		RM5029			RM5031		
Sampling Date		2017/07/09 14:45		2017/07/09 15:55			2017/07/10 09:40		
COC Number		08440141		08440141			08440141		
	UNITS	W21	QC Batch	W22	RDL	QC Batch	W31	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.110	8694996	0.067	0.010	8694996	0.024	0.010	8698537
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	85.7	8692269	79.9	0.50	8692269	54.7	0.50	8692269
Nitrate (N)	mg/L	<0.20	8692325	<0.20	0.20	8692325	0.23	0.20	8692325
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L		8693847		0.00050	8693847	<0.00050	0.00050	8693847
Weak Acid Dissoc. Cyanide (CN)	mg/L		8693866		0.00050	8693866	<0.00050	0.00050	8693866
Dissolved Hardness (CaCO3)	mg/L	85.2	8692030	78.1	0.50	8692030	54.5	0.50	8692030
Dissolved Organic Carbon (C)	mg/L	5.7	8697344	3.3	0.50	8697344	2.8	0.50	8697344
Acidity (pH 4.5)	mg/L	<0.50	8695786	<0.50	0.50	8695786	<0.50	0.50	8695786
Alkalinity (Total as CaCO3)	mg/L	77.8	8696409	64.5	0.50	8696409	54.7	0.50	8696419
Acidity (pH 8.3)	mg/L	<0.50	8695786	<0.50	0.50	8695786	<0.50	0.50	8695786
Alkalinity (PP as CaCO3)	mg/L	<0.50	8696409	<0.50	0.50	8696409	<0.50	0.50	8696419
Bicarbonate (HCO3)	mg/L	94.9	8696409	78.7	0.50	8696409	66.7	0.50	8696419
Carbonate (CO3)	mg/L	<0.50	8696409	<0.50	0.50	8696409	<0.50	0.50	8696419
Hydroxide (OH)	mg/L	<0.50	8696409	<0.50	0.50	8696409	<0.50	0.50	8696419
Anions									
Orthophosphate (P)	mg/L	0.021	8694263	0.0030	0.0010	8694263	0.0032	0.0010	8694264
Dissolved Sulphate (SO4)	mg/L	14.3	8694796	20.7	0.50	8694796	6.55	0.50	8694796
Dissolved Chloride (Cl)	mg/L	<0.50	8694795	<0.50	0.50	8694795	<0.50	0.50	8694795
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0256	8695807	0.0029	0.0020	8695807	0.0022	0.0020	8695807
Total Ammonia (N)	mg/L	0.061	8694988	0.64	0.0050	8694987	1.7 (1)	0.025	8694987
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8693911	<0.20 (2)	0.20	8693911	0.23 (2)	0.20	8693911
Nitrite (N)	mg/L	<0.20 (2)	8693912	<0.20 (2)	0.20	8693912	<0.20 (2)	0.20	8693912
Total Phosphorus (P)	mg/L	0.0438	8695804	0.0063	0.0020	8695804	0.0041	0.0020	8695804
Physical Properties									
Conductivity	uS/cm	178	8696412	168	1.0	8696412	118	1.0	8696424
pH	pH	8.15	8696411	8.07		8696411	8.04		8696422
Physical Properties									
Total Suspended Solids	mg/L	13.5	8693446	<4.0	4.0	8693446	<4.0	4.0	8695701

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5028		RM5029			RM5031		
Sampling Date		2017/07/09 14:45		2017/07/09 15:55			2017/07/10 09:40		
COC Number		08440141		08440141			08440141		
	UNITS	W21	QC Batch	W22	RDL	QC Batch	W31	RDL	QC Batch
Total Dissolved Solids	mg/L	110	8693804	110 (1)	10	8704422	104	10	8695095
Turbidity	NTU	2.73	8694377	1.05	0.10	8694377	0.30	0.10	8694377

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5032		RM5033		RM5034		RM5035		
Sampling Date		2017/07/09 15:40		2017/07/09 16:40		2017/07/09 15:00		2017/07/09 17:30		
COC Number		08440141		08440141		08440141		08440141		
	UNITS	W40	QC Batch	W71	QC Batch	W72	QC Batch	W73	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.067	8698537	0.560	8698537	0.130	8698537	0.041	0.010	8698537
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	80.3	8692269	296	8692269	140	8692269	85.5	0.50	8692269
Nitrate (N)	mg/L	<0.20	8692325	0.42	8692325	<0.20	8692325	<0.20	0.20	8692325
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	78.8	8692030	288	8692030	141	8692030	84.0	0.50	8692030
Dissolved Organic Carbon (C)	mg/L	3.5	8697344	5.4	8697344	7.0	8697344	3.8	0.50	8697344
Acidity (pH 4.5)	mg/L	<0.50	8695786	<0.50	8695786	<0.50	8695786	<0.50	0.50	8695786
Alkalinity (Total as CaCO3)	mg/L	62.2	8696409	218	8696409	100	8696409	74.4	0.50	8699149
Acidity (pH 8.3)	mg/L	0.72	8695786	<0.50	8695786	<0.50	8695786	<0.50	0.50	8695786
Alkalinity (PP as CaCO3)	mg/L	<0.50	8696409	6.49	8696409	<0.50	8696409	<0.50	0.50	8699149
Bicarbonate (HCO3)	mg/L	75.9	8696409	251	8696409	122	8696409	90.7	0.50	8699149
Carbonate (CO3)	mg/L	<0.50	8696409	7.79	8696409	<0.50	8696409	<0.50	0.50	8699149
Hydroxide (OH)	mg/L	<0.50	8696409	<0.50	8696409	<0.50	8696409	<0.50	0.50	8699149
Anions										
Orthophosphate (P)	mg/L	0.0025	8694264	0.0098	8694264	0.014	8694263	0.0038	0.0010	8694263
Dissolved Sulphate (SO4)	mg/L	22.0	8697285	83.3	8697285	43.0	8694796	15.9	0.50	8697285
Dissolved Chloride (Cl)	mg/L	0.79	8694795	0.50	8694795	<0.50	8694795	<0.50	0.50	8694795
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0035	8695807	0.0112	8695807	0.0144	8695807	0.0030	0.0020	8695807
Total Ammonia (N)	mg/L	0.074	8694984	0.043	8694986	0.040	8694984	0.069	0.0050	8694988
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8693911	0.42 (1)	8693911	<0.20 (1)	8693911	<0.20 (1)	0.20	8693911
Nitrite (N)	mg/L	<0.20 (1)	8693912	<0.20 (1)	8693912	<0.20 (1)	8693912	<0.20 (1)	0.20	8693912
Total Phosphorus (P)	mg/L	0.0049	8695801	0.0218	8695801	0.0209	8695798	0.0043	0.0020	8695804
Physical Properties										
Conductivity	uS/cm	169	8696412	523	8696412	278	8696412	174	1.0	8699154
pH	pH	8.03	8696411	8.49	8696411	8.22	8696411	8.13		8699153
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8693446	<4.0	8693446	<4.0	8693446	<4.0	4.0	8693446
Total Dissolved Solids	mg/L	94	8693804	326	8693804	194	8693804	96	10	8693804
Turbidity	NTU	0.65	8694377	0.74	8694377	0.52	8694377	0.57	0.10	8694377

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5036		RM5037		RM5038		
Sampling Date		2017/07/10 12:30		2017/07/10 15:50		2017/07/09 11:50		
COC Number		08440141		08440141		08440141		
	UNITS	W80	QC Batch	W81	QC Batch	W82	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.037	8698537	0.027	8698537	0.093	0.010	8698537
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	65.4	8692269	54.9	8692269	119	0.50	8692269
Nitrate (N)	mg/L	0.44	8692325	0.34	8692325	0.45	0.20	8692325
Misc. Inorganics								
Dissolved Hardness (CaCO3)	mg/L	65.3	8692030	56.0	8692030	121	0.50	8692030
Dissolved Organic Carbon (C)	mg/L	2.6	8698107	2.7	8698107	2.1	0.50	8698107
Acidity (pH 4.5)	mg/L	<0.50	8695787	<0.50	8695787	<0.50	0.50	8695786
Alkalinity (Total as CaCO3)	mg/L	56.8	8696419	53.2	8696419	83.5	0.50	8696419
Acidity (pH 8.3)	mg/L	<0.50	8695787	0.68	8695787	1.76	0.50	8695786
Alkalinity (PP as CaCO3)	mg/L	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696419
Bicarbonate (HCO3)	mg/L	69.3	8696419	64.9	8696419	102	0.50	8696419
Carbonate (CO3)	mg/L	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696419
Hydroxide (OH)	mg/L	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696419
Anions								
Orthophosphate (P)	mg/L	0.0038	8694264	0.0036	8694264	0.0057	0.0010	8694264
Dissolved Sulphate (SO4)	mg/L	13.6	8694805	9.96	8697285	42.0	0.50	8694796
Dissolved Chloride (Cl)	mg/L	<0.50	8694803	0.92	8694803	0.60	0.50	8694795
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0037	8695807	0.0039	8695806	0.0069	0.0020	8695807
Total Ammonia (N)	mg/L	0.049	8694986	0.045	8694986	0.21	0.0050	8694988
Nitrate plus Nitrite (N)	mg/L	0.44 (1)	8693913	0.34 (1)	8693913	0.45 (1)	0.20	8693911
Nitrite (N)	mg/L	<0.20 (1)	8693915	<0.20 (1)	8693915	<0.20 (1)	0.20	8693912
Total Phosphorus (P)	mg/L	0.0084	8695801	0.0080	8695801	0.0132	0.0020	8695804
Physical Properties								
Conductivity	uS/cm	142	8696424	122	8696424	257	1.0	8696424
pH	pH	8.03	8696422	7.99	8696422	8.17		8696422
Physical Properties								
Total Suspended Solids	mg/L	4.8 (2)	8695701	8.0	8695701	<4.0	4.0	8693446
Total Dissolved Solids	mg/L	76	8695095	84	8695095	156	10	8693804
Turbidity	NTU	0.89	8694377	1.29	8694377	0.48	0.10	8694377

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.
(2) Duplicate result was 4.8 mg/L.

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5039		RM5107		RM5108		
Sampling Date		2017/07/11 10:00		2017/07/10 17:55		2017/07/11 09:00		
COC Number		08440141		08440142		08440142		
	UNITS	T1	QC Batch	WRSS	QC Batch	BIO-IN	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.130	8698537	0.068	8698537	0.079	0.010	8698537
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	896	8692269	856	8692269	560	0.50	8692269
Nitrate (N)	mg/L	0.22	8692325	7.15	8692325	2.05	0.20	8692325
Misc. Inorganics								
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00399	8693859	0.00087	8693859	0.00055	0.00050	8693859
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8693866	0.00065	8693925	<0.00050	0.00050	8693925
Dissolved Hardness (CaCO3)	mg/L	924	8692030	858	8692030	597	0.50	8692030
Dissolved Organic Carbon (C)	mg/L	16	8698107	1.6	8698107	2.8	0.50	8698107
Acidity (pH 4.5)	mg/L	10.2	8695786	<0.50	8695786	<0.50	0.50	8695786
Alkalinity (Total as CaCO3)	mg/L	<0.50	8696409	115	8696409	63.2	0.50	8696409
Acidity (pH 8.3)	mg/L	23.3	8695786	4.31	8695786	26.1	0.50	8695786
Alkalinity (PP as CaCO3)	mg/L	<0.50	8696409	<0.50	8696409	<0.50	0.50	8696409
Bicarbonate (HCO3)	mg/L	<0.50	8696409	141	8696409	77.1	0.50	8696409
Carbonate (CO3)	mg/L	<0.50	8696409	<0.50	8696409	<0.50	0.50	8696409
Hydroxide (OH)	mg/L	<0.50	8696409	<0.50	8696409	<0.50	0.50	8696409
Anions								
Orthophosphate (P)	mg/L	0.079 (1)	8703007	0.0018 (1)	8703007	0.0014 (1)	0.0010	8703007
Dissolved Sulphate (SO4)	mg/L	1110 (2)	8694796	791 (2)	8694796	592 (2)	5.0	8694796
Dissolved Chloride (Cl)	mg/L	130	8697275	2.4	8694795	3.3	0.50	8694795
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0631	8695807	0.0034	8695807	0.0050	0.0020	8695806
Total Ammonia (N)	mg/L	0.43	8694988	0.094	8694987	0.60	0.0050	8694988
Nitrate plus Nitrite (N)	mg/L	0.22 (3)	8693911	7.15 (3)	8693911	2.05 (3)	0.20	8693911
Nitrite (N)	mg/L	<0.20 (3)	8693912	<0.20 (3)	8693912	<0.20 (3)	0.20	8693912
Total Phosphorus (P)	mg/L	0.0742	8695804	0.0242	8695804	0.0189	0.0020	8695804
Physical Properties								
Conductivity	uS/cm	2200	8696412	1680	8696412	1200	1.0	8696412
pH	pH	3.78	8696411	8.15	8696411	7.82		8696411

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

(2) Detection limits raised due to dilution to bring analyte within the calibrated range.

(3) RDL raised due to sample matrix interference.

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5039		RM5107		RM5108		
Sampling Date		2017/07/11 10:00		2017/07/10 17:55		2017/07/11 09:00		
COC Number		08440141		08440142		08440142		
	UNITS	T1	QC Batch	WRSS	QC Batch	BIO-IN	RDL	QC Batch
Physical Properties								
Total Suspended Solids	mg/L	5.8 (1)	8697249	20.3	8695701	10.5	4.0	8697249
Total Dissolved Solids	mg/L	1840	8697230	1350	8695095	946	10	8697230
Turbidity	NTU	68.9	8694377	15.7	8694377	7.23	0.10	8694378

RDL = Reportable Detection Limit
(1) Duplicate result was 5.3 mg/L.

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5109			RM5110			RM5111		
Sampling Date		2017/07/11 09:20			2017/07/10 08:50			2017/07/09 11:10		
COC Number		08440142			08440142			08440142		
	UNITS	BIO-OUT	RDL	QC Batch	PORTAL	RDL	QC Batch	DUP	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.065	0.010	8698537	0.200	0.010	8698537	0.130	0.010	8698537
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	654	0.50	8692269	447	0.50	8692269	138	0.50	8692269
Nitrate (N)	mg/L	<0.20	0.20	8692325	<0.20	0.20	8692325	<0.20	0.20	8692325
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00062	0.00050	8693859	0.00100	0.00050	8693859		0.00050	8693859
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	0.00050	8693925	<0.00050	0.00050	8693925		0.00050	8693925
Dissolved Hardness (CaCO3)	mg/L	685	0.50	8692030	481	0.50	8692030	142	0.50	8692030
Dissolved Organic Carbon (C)	mg/L	5.3	0.50	8698107	1.1	0.50	8698107	7.5	0.50	8698107
Acidity (pH 4.5)	mg/L	<0.50	0.50	8695786	<0.50	0.50	8695781	<0.50	0.50	8695781
Alkalinity (Total as CaCO3)	mg/L	116	0.50	8696409	79.2	0.50	8696409	101	0.50	8696409
Acidity (pH 8.3)	mg/L	11.1	0.50	8695786	3.98	0.50	8695781	<0.50	0.50	8695781
Alkalinity (PP as CaCO3)	mg/L	<0.50	0.50	8696409	<0.50	0.50	8696409	<0.50	0.50	8696409
Bicarbonate (HCO3)	mg/L	142	0.50	8696409	96.6	0.50	8696409	123	0.50	8696409
Carbonate (CO3)	mg/L	<0.50	0.50	8696409	<0.50	0.50	8696409	<0.50	0.50	8696409
Hydroxide (OH)	mg/L	<0.50	0.50	8696409	<0.50	0.50	8696409	<0.50	0.50	8696409
Anions										
Orthophosphate (P)	mg/L	0.0030	0.0010	8694263	0.0035	0.0010	8694263	0.013	0.0010	8694263
Dissolved Sulphate (SO4)	mg/L	654 (1)	5.0	8694796	501 (1)	5.0	8694796	46.0	0.50	8697285
Dissolved Chloride (Cl)	mg/L	5.6	0.50	8694795	2.9	0.50	8694795	0.64	0.50	8694795
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0092	0.0020	8695806	0.0086	0.0020	8695806	0.0157	0.0020	8695806
Total Ammonia (N)	mg/L	0.19	0.0050	8694984	1.1 (1)	0.010	8694986	0.16	0.0050	8694988
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	0.20	8693911	<0.20 (2)	0.20	8693911	<0.20 (2)	0.20	8693911
Nitrite (N)	mg/L	<0.20 (2)	0.20	8693912	<0.20 (2)	0.20	8693912	<0.20 (2)	0.20	8693912
Total Phosphorus (P)	mg/L	0.0162	0.0020	8695798	0.0377	0.0020	8695801	0.0182	0.0020	8695804
Physical Properties										
Conductivity	uS/cm	1370	1.0	8696412	1130	1.0	8696412	278	1.0	8696412
pH	pH	8.04		8696411	8.04		8696411	8.22		8696411
Physical Properties										
Total Suspended Solids	mg/L	14.5	4.0	8697249	41.5	4.0	8695701	<4.0	4.0	8693446

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5109			RM5110			RM5111		
Sampling Date		2017/07/11 09:20			2017/07/10 08:50			2017/07/09 11:10		
COC Number		08440142			08440142			08440142		
	UNITS	**BIO-OUT**	**RDL**	**QC Batch**	**PORTAL**	**RDL**	**QC Batch**	**DUP**	**RDL**	**QC Batch**
Total Dissolved Solids	mg/L	1100	10	8697230	860	10	8695095	162	10	8693804
Turbidity	NTU	51.7	0.10	8694378	80.9	0.10	8694378	0.59	0.10	8694378
RDL = Reportable Detection Limit										

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5112			RM5113			RM5114		
Sampling Date		2017/07/10 17:30			2017/07/11 10:15			2017/07/11 10:50		
COC Number		08440142			08440142			08440142		
	UNITS	R1	RDL	QC Batch	T1-2	RDL	QC Batch	T1-3	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.036	0.010	8698537	0.220	0.010	8698537	0.300	0.010	8698537
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	151	0.50	8692269	1520	0.50	8692269	2020	0.50	8692269
Nitrate (N)	mg/L	<0.20	0.20	8692325	0.22	0.20	8692325	0.44	0.20	8692325
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00082	0.00050	8693859	0.0223	0.00050	8693859	0.318 (1)	0.0050	8697437
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.00072	0.00050	8693925	<0.00050	0.00050	8693925	0.0212 (2)	0.0050	8697441
Dissolved Hardness (CaCO3)	mg/L	162	0.50	8692030	1610	0.50	8692030	2070	0.50	8692030
Dissolved Organic Carbon (C)	mg/L	3.8	0.50	8698107	27 (1)	1.0	8698107	44 (3)	1.0	8698107
Acidity (pH 4.5)	mg/L	<0.50	0.50	8695787	<0.50	0.50	8695787	<0.50	0.50	8695786
Alkalinity (Total as CaCO3)	mg/L	52.3	0.50	8696419	0.70	0.50	8696419	2.30	0.50	8696409
Acidity (pH 8.3)	mg/L	0.76	0.50	8695787	14.0	0.50	8695787	13.9	0.50	8695786
Alkalinity (PP as CaCO3)	mg/L	<0.50	0.50	8696419	<0.50	0.50	8696419	<0.50	0.50	8696409
Bicarbonate (HCO3)	mg/L	63.7	0.50	8696419	0.85	0.50	8696419	2.81	0.50	8696409
Carbonate (CO3)	mg/L	<0.50	0.50	8696419	<0.50	0.50	8696419	<0.50	0.50	8696409
Hydroxide (OH)	mg/L	<0.50	0.50	8696419	<0.50	0.50	8696419	<0.50	0.50	8696409
Anions										
Orthophosphate (P)	mg/L	0.014	0.0010	8694264	0.016	0.0010	8694264	0.19	0.0010	8694264
Dissolved Sulphate (SO4)	mg/L	121	0.50	8694805	1660 (1)	5.0	8694805	1650 (1)	5.0	8694796
Dissolved Chloride (Cl)	mg/L	1.6	0.50	8694803	290 (1)	5.0	8694803	1200 (1)	5.0	8697275
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0184	0.0020	8695807	0.111	0.0020	8695806	0.153	0.0020	8695806
Total Ammonia (N)	mg/L	0.21	0.0050	8694988	0.49	0.0050	8694987	4.1 (1)	0.050	8694987
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	0.20	8693913	0.22 (2)	0.20	8693913	0.44 (2)	0.20	8693911
Nitrite (N)	mg/L	<0.20 (2)	0.20	8693915	<0.20 (2)	0.20	8693915	<0.20 (2)	0.20	8693912
Total Phosphorus (P)	mg/L	0.0297	0.0020	8695804	0.139	0.0020	8695801	0.191	0.0020	8695804
Physical Properties										
Conductivity	uS/cm	371	1.0	8696424	3390	1.0	8696424	4510	1.0	8696412
pH	pH	7.89		8696422	5.27		8696422	5.86		8696411

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.
(3) Detection limits raised due to sample matrix.

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5112			RM5113			RM5114		
Sampling Date		2017/07/10 17:30			2017/07/11 10:15			2017/07/11 10:50		
COC Number		08440142			08440142			08440142		
	UNITS	R1	RDL	QC Batch	T1-2	RDL	QC Batch	T1-3	RDL	QC Batch
Physical Properties										
Total Suspended Solids	mg/L	4.3	4.0	8695701	<4.0	4.0	8697249	<4.0	4.0	8697249
Total Dissolved Solids	mg/L	226	10	8695095	3150	10	8697230	4480 (1)	50	8697230
Turbidity	NTU	3.55	0.10	8694378	1.45	0.10	8694378	2.20	0.10	8694378

RDL = Reportable Detection Limit
(1) RDL raised due to high concentration of solids in the sample.

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MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RM5020	RM5021	RM5022	RM5023		RM5024	RM5025		
Sampling Date		2017/07/09 10:20	2017/07/09 09:15	2017/07/09 10:50	2017/07/09 11:05		2017/07/10 11:35	2017/07/10 11:10		
COC Number		08440141	08440141	08440141	08440141		08440141	08440141		
	UNITS	L1	W1	W8	W9	QC Batch	W12	W14	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	8698175	<0.010	<0.010	0.010	8698520
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	8698482	<0.010	<0.010	0.010	8698482
RDL = Reportable Detection Limit										

Maxxam ID		RM5026	RM5027	RM5028	RM5029	RM5031	RM5032	RM5033		
Sampling Date		2017/07/10 16:40	2017/07/10 17:10	2017/07/09 14:45	2017/07/09 15:55	2017/07/10 09:40	2017/07/09 15:40	2017/07/09 16:40		
COC Number		08440141	08440141	08440141	08440141	08440141	08440141	08440141		
	UNITS	W15	W16	W21	W22	W31	W40	W71	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8698520
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8698482
RDL = Reportable Detection Limit										

Maxxam ID		RM5034	RM5035	RM5036	RM5037	RM5038	RM5039	RM5107		
Sampling Date		2017/07/09 15:00	2017/07/09 17:30	2017/07/10 12:30	2017/07/10 15:50	2017/07/09 11:50	2017/07/11 10:00	2017/07/10 17:55		
COC Number		08440141	08440141	08440141	08440141	08440141	08440141	08440142		
	UNITS	W72	W73	W80	W81	W82	T1	WRSS	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8698520
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8698482
RDL = Reportable Detection Limit										

Maxxam ID		RM5108	RM5109	RM5110	RM5111		RM5112	RM5113		
Sampling Date		2017/07/11 09:00	2017/07/11 09:20	2017/07/10 08:50	2017/07/09 11:10		2017/07/10 17:30	2017/07/11 10:15		
COC Number		08440142	08440142	08440142	08440142		08440142	08440142		
	UNITS	BIO-IN	BIO-OUT	PORTAL	DUP	QC Batch	R1	T1-2	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	8698520	<0.010	<0.010	0.010	8699567
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	8698493	<0.010	<0.010	0.010	8698493
RDL = Reportable Detection Limit										

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RM5114		
Sampling Date		2017/07/11 10:50		
COC Number		08440142		
	UNITS	**T1-3**	**RDL**	**QC Batch**
Elements				
Dissolved Mercury (Hg)	ug/L	<0.010	0.010	8699567
Total Mercury (Hg)	ug/L	<0.010	0.010	8698493
RDL = Reportable Detection Limit				

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5020			RM5021	RM5022		
Sampling Date		2017/07/09 10:20			2017/07/09 09:15	2017/07/09 10:50		
COC Number		08440141			08440141	08440141		
	UNITS	L1	RDL	QC Batch	W1	W8	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	0.010	8696748	<0.010	<0.010	0.010	8696742
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.0172	0.00050	8693291	0.00939	0.0102	0.00050	8693291
Dissolved Antimony (Sb)	mg/L	0.000040	0.000020	8693291	0.000074	0.000059	0.000020	8693291
Dissolved Arsenic (As)	mg/L	0.000913	0.000020	8693291	0.00297	0.000115	0.000020	8693291
Dissolved Barium (Ba)	mg/L	0.0414	0.000020	8693291	0.0364	0.0434	0.000020	8693291
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8693291	<0.000010	<0.000010	0.000010	8693291
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8693291	<0.0000050	<0.0000050	0.0000050	8693291
Dissolved Boron (B)	mg/L	<0.010	0.010	8693291	<0.010	<0.010	0.010	8693291
Dissolved Cadmium (Cd)	mg/L	0.0000197	0.0000050	8693291	0.0000093	0.0000246	0.0000050	8693291
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8693291	<0.00010	0.00012	0.00010	8693291
Dissolved Cobalt (Co)	mg/L	0.0000145	0.0000050	8693291	0.0000197	0.0000221	0.0000050	8693291
Dissolved Copper (Cu)	mg/L	0.000581	0.000050	8693291	0.000591	0.00129	0.000050	8693291
Dissolved Iron (Fe)	mg/L	0.0281	0.0010	8693291	0.0228	0.0078	0.0010	8693291
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	8693291	<0.0000050	0.0000419 (1)	0.0000050	8693291
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	8693291	0.00135	<0.00050	0.00050	8693291
Dissolved Manganese (Mn)	mg/L	0.00591	0.000050	8693291	0.00430	0.000433	0.000050	8693291
Dissolved Molybdenum (Mo)	mg/L	0.000940	0.000050	8693291	0.00112	0.000429	0.000050	8693291
Dissolved Nickel (Ni)	mg/L	0.000564	0.000020	8693291	0.00135	0.000582	0.000020	8693291
Dissolved Phosphorus (P)	mg/L	0.0091	0.0020	8693291	0.0422	0.0051	0.0020	8693291
Dissolved Selenium (Se)	mg/L	0.000438	0.000040	8693291	0.000449	0.000531	0.000040	8693291
Dissolved Silicon (Si)	mg/L	2.57	0.050	8693291	2.47	2.89	0.050	8693291
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8693291	<0.0000050	<0.0000050	0.0000050	8693291
Dissolved Strontium (Sr)	mg/L	0.0372	0.000050	8693291	0.0717	0.0548	0.000050	8693291
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8693291	<0.0000020	<0.0000020	0.0000020	8693291
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8693291	<0.00020	<0.00020	0.00020	8693291
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8693291	<0.00050	<0.00050	0.00050	8693291
Dissolved Uranium (U)	mg/L	0.000495	0.0000020	8693291	0.00110	0.000351	0.0000020	8693291
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8693291	0.00026	<0.00020	0.00020	8693291
Dissolved Zinc (Zn)	mg/L	0.00279	0.00010	8693291	0.00068	0.00553 (1)	0.00010	8693291
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8693291	<0.00010	<0.00010	0.00010	8693291
Dissolved Calcium (Ca)	mg/L	14.3	0.050	8692031	20.2	25.7	0.050	8692031
Dissolved Magnesium (Mg)	mg/L	3.07	0.050	8692031	6.84	2.86	0.050	8692031

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5020			RM5021	RM5022		
Sampling Date		2017/07/09 10:20			2017/07/09 09:15	2017/07/09 10:50		
COC Number		08440141			08440141	08440141		
	UNITS	L1	RDL	QC Batch	W1	W8	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.593	0.050	8692031	1.01	0.257	0.050	8692031
Dissolved Sodium (Na)	mg/L	0.847	0.050	8692031	1.09	0.966	0.050	8692031
Dissolved Sulphur (S)	mg/L	3.5	3.0	8692031	4.6	5.5	3.0	8692031
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0257	0.0030	8694850	0.0175	0.0169	0.00050	8693643
Total Antimony (Sb)	mg/L	0.000058	0.000020	8694850	0.000060	0.000042	0.000020	8693643
Total Arsenic (As)	mg/L	0.000896	0.000020	8694850	0.00308	0.000098	0.000020	8693643
Total Barium (Ba)	mg/L	0.0378	0.000050	8694850	0.0370	0.0382	0.000020	8693643
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8694850	<0.000010	<0.000010	0.000010	8693643
Total Bismuth (Bi)	mg/L	<0.000010	0.000010	8694850	<0.0000050	<0.0000050	0.0000050	8693643
Total Boron (B)	mg/L	<0.010	0.010	8694850	<0.010	<0.010	0.010	8693643
Total Cadmium (Cd)	mg/L	0.0000274	0.0000050	8694850	0.0000140	0.0000240	0.0000050	8693643
Total Chromium (Cr)	mg/L	0.00011	0.00010	8694850	<0.00010	0.00012	0.00010	8693643
Total Cobalt (Co)	mg/L	0.000025	0.000010	8694850	0.0000260	0.0000260	0.0000050	8693643
Total Copper (Cu)	mg/L	0.00073	0.00010	8694850	0.000602	0.00123	0.000050	8693643
Total Iron (Fe)	mg/L	0.0617	0.0050	8694850	0.0658	0.0167	0.0010	8693643
Total Lead (Pb)	mg/L	0.000027	0.000020	8694850	0.0000110	0.0000210	0.0000050	8693643
Total Lithium (Li)	mg/L	<0.00050	0.00050	8694850	0.00130	<0.00050	0.00050	8693643
Total Manganese (Mn)	mg/L	0.0173	0.00010	8694850	0.0211	0.000758	0.000050	8693643
Total Molybdenum (Mo)	mg/L	0.000864	0.000050	8694850	0.00117	0.000427	0.000050	8693643
Total Nickel (Ni)	mg/L	0.00057	0.00010	8694850	0.00132	0.000570	0.000020	8693643
Total Phosphorus (P)	mg/L	0.0343	0.0050	8694850	0.0595	0.0034	0.0020	8693643
Total Selenium (Se)	mg/L	0.000359	0.000040	8694850	0.000400	0.000519	0.000040	8693643
Total Silicon (Si)	mg/L	2.25	0.050	8694850	2.27	2.78	0.050	8693643
Total Silver (Ag)	mg/L	<0.000010	0.000010	8694850	<0.0000050	<0.0000050	0.0000050	8693643
Total Strontium (Sr)	mg/L	0.0365	0.000050	8694850	0.0736	0.0556	0.000050	8693643
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8694850	<0.0000020	<0.0000020	0.0000020	8693643
Total Tin (Sn)	mg/L	<0.00020	0.00020	8694850	<0.00020	<0.00020	0.00020	8693643
Total Titanium (Ti)	mg/L	<0.0020	0.0020	8694850	<0.00050	<0.00050	0.00050	8693643
Total Uranium (U)	mg/L	0.000490	0.0000050	8694850	0.00104	0.000312	0.0000020	8693643
Total Vanadium (V)	mg/L	<0.00020	0.00020	8694850	0.00025	<0.00020	0.00020	8693643
Total Zinc (Zn)	mg/L	0.0033	0.0010	8694850	0.00122	0.00276	0.00010	8693643
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8694850	<0.00010	<0.00010	0.00010	8693643
Total Calcium (Ca)	mg/L	13.9	0.25	8692272	20.3	26.2	0.050	8692272
Total Magnesium (Mg)	mg/L	2.97	0.25	8692272	6.91	2.94	0.050	8692272
RDL = Reportable Detection Limit								

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5020			RM5021	RM5022		
Sampling Date		2017/07/09 10:20			2017/07/09 09:15	2017/07/09 10:50		
COC Number		08440141			08440141	08440141		
	UNITS	L1	RDL	QC Batch	W1	W8	RDL	QC Batch
Total Potassium (K)	mg/L	0.53	0.25	8692272	1.02	0.255	0.050	8692272
Total Sodium (Na)	mg/L	0.86	0.25	8692272	1.22	1.03	0.050	8692272
Total Sulphur (S)	mg/L	3.2	3.0	8692272	4.4	4.9	3.0	8692272
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5023	RM5024		RM5025	RM5026		
Sampling Date		2017/07/09 11:05	2017/07/10 11:35		2017/07/10 11:10	2017/07/10 16:40		
COC Number		08440141	08440141		08440141	08440141		
	UNITS	W9	W12	QC Batch	W14	W15	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	8696742	<0.010	<0.010	0.010	8696748
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00451	0.0183	8693291	0.0170	0.00984	0.00050	8693291
Dissolved Antimony (Sb)	mg/L	0.000193	0.000036	8693291	0.000031	<0.000020	0.000020	8693291
Dissolved Arsenic (As)	mg/L	0.000213	0.000197	8693291	0.000143	0.000121	0.000020	8693291
Dissolved Barium (Ba)	mg/L	0.114	0.0547	8693291	0.0422	0.0152	0.000020	8693291
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	8693291	0.000011	<0.000010	0.000010	8693291
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	8693291	<0.0000050	<0.0000050	0.0000050	8693291
Dissolved Boron (B)	mg/L	<0.010	<0.010	8693291	<0.010	<0.010	0.010	8693291
Dissolved Cadmium (Cd)	mg/L	0.00143	0.0000183	8693291	0.0000587	<0.0000050	0.0000050	8693291
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8693291	0.00012	0.00014	0.00010	8693291
Dissolved Cobalt (Co)	mg/L	0.0000150	0.0000419	8693291	0.0000254	0.0000228	0.0000050	8693291
Dissolved Copper (Cu)	mg/L	0.00142	0.000945	8693291	0.000639	0.000956	0.000050	8693291
Dissolved Iron (Fe)	mg/L	0.0039	0.0500	8693291	0.0373	0.0045	0.0010	8693291
Dissolved Lead (Pb)	mg/L	0.0000134	0.0000248	8693291	0.0000112	0.0000050	0.0000050	8693291
Dissolved Lithium (Li)	mg/L	0.00072	<0.00050	8693291	0.00101	<0.00050	0.00050	8693291
Dissolved Manganese (Mn)	mg/L	0.000114	0.00755	8693291	0.00532	0.000236	0.000050	8693291
Dissolved Molybdenum (Mo)	mg/L	0.000643	0.000327	8693291	0.000296	0.000200	0.000050	8693291
Dissolved Nickel (Ni)	mg/L	0.00405	0.000303	8693291	0.000870	0.000152	0.000020	8693291
Dissolved Phosphorus (P)	mg/L	0.0071	0.0069	8693291	0.0043	0.0032	0.0020	8693291
Dissolved Selenium (Se)	mg/L	0.00327	0.000778	8693291	0.000363	0.000247	0.000040	8693291
Dissolved Silicon (Si)	mg/L	3.47	3.06	8693291	3.58	2.63	0.050	8693291
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	8693291	<0.0000050	<0.0000050	0.0000050	8693291
Dissolved Strontium (Sr)	mg/L	0.116	0.0406	8693291	0.0388	0.0259	0.000050	8693291
Dissolved Thallium (Tl)	mg/L	0.0000024	<0.0000020	8693291	<0.0000020	<0.0000020	0.0000020	8693291
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	8693291	<0.00020	<0.00020	0.00020	8693291
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00053	8693291	<0.00050	<0.00050	0.00050	8693291
Dissolved Uranium (U)	mg/L	0.00117	0.000223	8693291	0.000574	0.0000433	0.0000020	8693291
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	8693291	<0.00020	0.00023	0.00020	8693291
Dissolved Zinc (Zn)	mg/L	0.144	0.00102	8693291	0.0117	0.00039	0.00010	8693291
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	8693291	<0.00010	<0.00010	0.00010	8693291
Dissolved Calcium (Ca)	mg/L	38.5	21.8	8692031	15.8	17.1	0.050	8692031
Dissolved Magnesium (Mg)	mg/L	7.98	3.35	8692031	3.49	1.11	0.050	8692031
Dissolved Potassium (K)	mg/L	0.807	0.405	8692031	0.543	0.253	0.050	8692031

RDL = Reportable Detection Limit

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5023	RM5024		RM5025	RM5026		
Sampling Date		2017/07/09 11:05	2017/07/10 11:35		2017/07/10 11:10	2017/07/10 16:40		
COC Number		08440141	08440141		08440141	08440141		
	UNITS	W9	W12	QC Batch	W14	W15	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	0.918	0.880	8692031	0.969	0.792	0.050	8692031
Dissolved Sulphur (S)	mg/L	14.1	4.9	8692031	5.4	3.2	3.0	8692031
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0114	0.0363	8693643	0.0450	0.0327	0.00050	8693643
Total Antimony (Sb)	mg/L	0.000197	0.000044	8693643	0.000021	<0.000020	0.000020	8693643
Total Arsenic (As)	mg/L	0.000215	0.000196	8693643	0.000138	0.000133	0.000020	8693643
Total Barium (Ba)	mg/L	0.111	0.0544	8693643	0.0424	0.0164	0.000020	8693643
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	8693643	0.000011	<0.000010	0.000010	8693643
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	8693643	<0.0000050	<0.0000050	0.0000050	8693643
Total Boron (B)	mg/L	<0.010	<0.010	8693643	<0.010	<0.010	0.010	8693643
Total Cadmium (Cd)	mg/L	0.00137	0.0000210	8693643	0.0000680	0.0000060	0.0000050	8693643
Total Chromium (Cr)	mg/L	<0.00010	0.00021	8693643	0.00012	0.00017	0.00010	8693643
Total Cobalt (Co)	mg/L	0.0000240	0.0000580	8693643	0.0000530	0.0000460	0.0000050	8693643
Total Copper (Cu)	mg/L	0.00140	0.00101	8693643	0.000707	0.00107	0.000050	8693643
Total Iron (Fe)	mg/L	0.0218	0.0965	8693643	0.105	0.0343	0.0010	8693643
Total Lead (Pb)	mg/L	0.0000540	0.0000470	8693643	0.0000270	0.0000420	0.0000050	8693643
Total Lithium (Li)	mg/L	0.00068	<0.00050	8693643	0.00106	<0.00050	0.00050	8693643
Total Manganese (Mn)	mg/L	0.00265	0.0123	8693643	0.0103	0.00162	0.000050	8693643
Total Molybdenum (Mo)	mg/L	0.000680	0.000343	8693643	0.000311	0.000200	0.000050	8693643
Total Nickel (Ni)	mg/L	0.00425	0.000464	8693643	0.000943	0.000239	0.000020	8693643
Total Phosphorus (P)	mg/L	0.0078	0.0095	8693643	0.0055	0.0042	0.0020	8693643
Total Selenium (Se)	mg/L	0.00311	0.000745	8693643	0.000338	0.000222	0.000040	8693643
Total Silicon (Si)	mg/L	3.18	2.93	8693643	3.18	2.44	0.050	8693643
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	8693643	<0.0000050	<0.0000050	0.0000050	8693643
Total Strontium (Sr)	mg/L	0.123	0.0425	8693643	0.0386	0.0270	0.000050	8693643
Total Thallium (Tl)	mg/L	0.0000030	<0.0000020	8693643	0.0000020	<0.0000020	0.0000020	8693643
Total Tin (Sn)	mg/L	<0.00020	<0.00020	8693643	<0.00020	<0.00020	0.00020	8693643
Total Titanium (Ti)	mg/L	<0.00050	0.00116	8693643	0.00120	0.00108	0.00050	8693643
Total Uranium (U)	mg/L	0.00111	0.000215	8693643	0.000540	0.0000440	0.0000020	8693643
Total Vanadium (V)	mg/L	<0.00020	<0.00020	8693643	<0.00020	0.00031	0.00020	8693643
Total Zinc (Zn)	mg/L	0.147	0.00095	8693643	0.0131	0.00060	0.00010	8693643
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	8693643	<0.00010	<0.00010	0.00010	8693643
Total Calcium (Ca)	mg/L	39.5	21.5	8692272	15.9	17.9	0.050	8692272
Total Magnesium (Mg)	mg/L	7.97	3.37	8692272	3.68	1.18	0.050	8692272
Total Potassium (K)	mg/L	0.829	0.385	8692272	0.559	0.276	0.050	8692272

RDL = Reportable Detection Limit

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5023	RM5024		RM5025	RM5026		
Sampling Date		2017/07/09 11:05	2017/07/10 11:35		2017/07/10 11:10	2017/07/10 16:40		
COC Number		08440141	08440141		08440141	08440141		
	UNITS	W9	W12	QC Batch	W14	W15	RDL	QC Batch
Total Sodium (Na)	mg/L	1.03	0.953	8692272	1.07	0.893	0.050	8692272
Total Sulphur (S)	mg/L	13.1	4.4	8692272	5.0	3.0	3.0	8692272
RDL = Reportable Detection Limit								

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5027	RM5028			RM5029		
Sampling Date		2017/07/10 17:10	2017/07/09 14:45			2017/07/09 15:55		
COC Number		08440141	08440141			08440141		
	UNITS	W16	W21	RDL	QC Batch	W22	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	0.010	8696742	<0.010	0.010	8696742
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.0117	0.00940	0.00050	8693291	0.0116	0.00050	8693291
Dissolved Antimony (Sb)	mg/L	0.000114	0.000085	0.000020	8693291	0.000048	0.000020	8693291
Dissolved Arsenic (As)	mg/L	0.000157	0.00196	0.000020	8693291	0.000188	0.000020	8693291
Dissolved Barium (Ba)	mg/L	0.0554	0.0420	0.000020	8693291	0.0491	0.000020	8693291
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000010	8693291	<0.000010	0.000010	8693291
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	0.0000050	8693291	<0.0000050	0.0000050	8693291
Dissolved Boron (B)	mg/L	<0.010	<0.010	0.010	8693291	<0.010	0.010	8693291
Dissolved Cadmium (Cd)	mg/L	0.0000631	0.0000116	0.0000050	8693291	0.0000156	0.0000050	8693291
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00016	0.00010	8693291	0.00018	0.00010	8693291
Dissolved Cobalt (Co)	mg/L	0.0000363	0.0000229	0.0000050	8693291	0.0000207	0.0000050	8693291
Dissolved Copper (Cu)	mg/L	0.00125	0.000806	0.000050	8693291	0.000797	0.000050	8693291
Dissolved Iron (Fe)	mg/L	0.0239	0.0379	0.0010	8693291	0.0187	0.0010	8693291
Dissolved Lead (Pb)	mg/L	0.0000902	0.0000265	0.0000050	8693291	0.0000073	0.0000050	8693291
Dissolved Lithium (Li)	mg/L	<0.00050	0.00126	0.00050	8693291	0.00150	0.00050	8693291
Dissolved Manganese (Mn)	mg/L	0.00687	0.00519	0.000050	8693291	0.00151	0.000050	8693291
Dissolved Molybdenum (Mo)	mg/L	0.000384	0.00111	0.000050	8693291	0.000469	0.000050	8693291
Dissolved Nickel (Ni)	mg/L	0.000388	0.00193	0.000020	8693291	0.00105	0.000020	8693291
Dissolved Phosphorus (P)	mg/L	0.0064	0.0255	0.0020	8693291	0.0041	0.0020	8693291
Dissolved Selenium (Se)	mg/L	0.000669	0.000445	0.000040	8693291	0.000451	0.000040	8693291
Dissolved Silicon (Si)	mg/L	3.01	2.93	0.050	8693291	3.83	0.050	8693291
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	0.0000050	8693291	<0.0000050	0.0000050	8693291
Dissolved Strontium (Sr)	mg/L	0.0419	0.0823	0.000050	8693291	0.0828	0.000050	8693291
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	0.0000020	8693291	0.0000024	0.0000020	8693291
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	0.00020	8693291	<0.00020	0.00020	8693291
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	0.00050	8693291	<0.00050	0.00050	8693291
Dissolved Uranium (U)	mg/L	0.000108	0.000889	0.0000020	8693291	0.000730	0.0000020	8693291
Dissolved Vanadium (V)	mg/L	0.00020	0.00022	0.00020	8693291	<0.00020	0.00020	8693291
Dissolved Zinc (Zn)	mg/L	0.00330	0.00100	0.00010	8693291	0.00162	0.00010	8693291
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	0.00010	8693291	<0.00010	0.00010	8693291
Dissolved Calcium (Ca)	mg/L	20.9	21.8	0.050	8692031	20.6	0.050	8692031
Dissolved Magnesium (Mg)	mg/L	2.56	7.47	0.050	8692031	6.48	0.050	8692031
Dissolved Potassium (K)	mg/L	0.314	0.893	0.050	8692031	0.634	0.050	8692031
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5027	RM5028			RM5029		
Sampling Date		2017/07/10 17:10	2017/07/09 14:45			2017/07/09 15:55		
COC Number		08440141	08440141			08440141		
	UNITS	W16	W21	RDL	QC Batch	W22	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	0.865	1.11	0.050	8692031	1.18	0.050	8692031
Dissolved Sulphur (S)	mg/L	3.6	5.1	3.0	8692031	7.5	3.0	8692031
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.144	0.0706	0.0030	8694850	0.0304	0.00050	8693643
Total Antimony (Sb)	mg/L	0.000136	0.000089	0.000020	8694850	0.000053	0.000020	8693643
Total Arsenic (As)	mg/L	0.000248	0.00195	0.000020	8694850	0.000208	0.000020	8693643
Total Barium (Ba)	mg/L	0.0555	0.0406	0.000050	8694850	0.0481	0.000020	8693643
Total Beryllium (Be)	mg/L	<0.000010	0.000010	0.000010	8694850	<0.000010	0.000010	8693643
Total Bismuth (Bi)	mg/L	<0.000010	<0.000010	0.000010	8694850	<0.0000050	0.0000050	8693643
Total Boron (B)	mg/L	<0.010	<0.010	0.010	8694850	<0.010	0.010	8693643
Total Cadmium (Cd)	mg/L	0.000113	0.0000292	0.0000050	8694850	0.0000200	0.0000050	8693643
Total Chromium (Cr)	mg/L	0.00046	0.00044	0.00010	8694850	0.00019	0.00010	8693643
Total Cobalt (Co)	mg/L	0.000218	0.000121	0.000010	8694850	0.0000490	0.0000050	8693643
Total Copper (Cu)	mg/L	0.00331	0.00116	0.00010	8694850	0.000818	0.000050	8693643
Total Iron (Fe)	mg/L	0.239	0.213	0.0050	8694850	0.0727	0.0010	8693643
Total Lead (Pb)	mg/L	0.00135	0.000271	0.000020	8694850	0.0000320	0.0000050	8693643
Total Lithium (Li)	mg/L	<0.00050	0.00127	0.00050	8694850	0.00147	0.00050	8693643
Total Manganese (Mn)	mg/L	0.0214	0.0260	0.00010	8694850	0.00632	0.000050	8693643
Total Molybdenum (Mo)	mg/L	0.000377	0.00106	0.000050	8694850	0.000476	0.000050	8693643
Total Nickel (Ni)	mg/L	0.00065	0.00244	0.00010	8694850	0.00120	0.000020	8693643
Total Phosphorus (P)	mg/L	0.0378	0.0523	0.0050	8694850	0.0061	0.0020	8693643
Total Selenium (Se)	mg/L	0.000701	0.000367	0.000040	8694850	0.000418	0.000040	8693643
Total Silicon (Si)	mg/L	2.79	2.66	0.050	8694850	3.37	0.050	8693643
Total Silver (Ag)	mg/L	0.000013	<0.000010	0.000010	8694850	<0.0000050	0.0000050	8693643
Total Strontium (Sr)	mg/L	0.0408	0.0796	0.000050	8694850	0.0845	0.000050	8693643
Total Thallium (Tl)	mg/L	0.0000027	0.0000028	0.0000020	8694850	0.0000020	0.0000020	8693643
Total Tin (Sn)	mg/L	<0.00020	<0.00020	0.00020	8694850	<0.00020	0.00020	8693643
Total Titanium (Ti)	mg/L	0.0087	0.0037	0.0020	8694850	0.00111	0.00050	8693643
Total Uranium (U)	mg/L	0.000127	0.000875	0.0000050	8694850	0.000651	0.0000020	8693643
Total Vanadium (V)	mg/L	0.00053	0.00048	0.00020	8694850	<0.00020	0.00020	8693643
Total Zinc (Zn)	mg/L	0.0130	0.0030	0.0010	8694850	0.00216	0.00010	8693643
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	0.00010	8694850	<0.00010	0.00010	8693643
Total Calcium (Ca)	mg/L	21.0	21.8	0.25	8692272	20.9	0.050	8692272
Total Magnesium (Mg)	mg/L	2.68	7.59	0.25	8692272	6.74	0.050	8692272
Total Potassium (K)	mg/L	0.31	0.83	0.25	8692272	0.642	0.050	8692272
RDL = Reportable Detection Limit								

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5027	RM5028			RM5029		
Sampling Date		2017/07/10 17:10	2017/07/09 14:45			2017/07/09 15:55		
COC Number		08440141	08440141			08440141		
	UNITS	**W16**	**W21**	**RDL**	**QC Batch**	**W22**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	0.94	1.18	0.25	8692272	1.29	0.050	8692272
Total Sulphur (S)	mg/L	3.4	4.8	3.0	8692272	7.2	3.0	8692272
RDL = Reportable Detection Limit								

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5031		RM5032	RM5033	RM5034		
Sampling Date		2017/07/10 09:40		2017/07/09 15:40	2017/07/09 16:40	2017/07/09 15:00		
COC Number		08440141		08440141	08440141	08440141		
	UNITS	W31	QC Batch	W40	W71	W72	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	8696742	<0.010	<0.010	<0.010	0.010	8696742
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.0187	8693291	0.0112	0.00484	0.00714	0.00050	8693291
Dissolved Antimony (Sb)	mg/L	0.000023	8693291	0.000051	0.000352	0.000226	0.000020	8693291
Dissolved Arsenic (As)	mg/L	0.000162	8693291	0.000186	0.000289	0.00120	0.000020	8693291
Dissolved Barium (Ba)	mg/L	0.0117	8693291	0.0487	0.0478	0.0679	0.000020	8693291
Dissolved Beryllium (Be)	mg/L	<0.000010	8693291	<0.000010	<0.000010	<0.000010	0.000010	8693291
Dissolved Bismuth (Bi)	mg/L	<0.0000050	8693291	<0.0000050	<0.0000050	<0.0000050	0.0000050	8693291
Dissolved Boron (B)	mg/L	<0.010	8693291	<0.010	<0.010	<0.010	0.010	8693291
Dissolved Cadmium (Cd)	mg/L	<0.0000050	8693291	0.0000153	0.00298	0.000207	0.0000050	8693291
Dissolved Chromium (Cr)	mg/L	0.00014	8693291	0.00019	<0.00010	0.00010	0.00010	8693291
Dissolved Cobalt (Co)	mg/L	0.0000345	8693291	0.0000201	0.0000463	0.0000219	0.0000050	8693291
Dissolved Copper (Cu)	mg/L	0.00184	8693291	0.000793	0.000940	0.00114	0.000050	8693291
Dissolved Iron (Fe)	mg/L	0.0037	8693291	0.0200	0.0148	0.0476	0.0010	8693291
Dissolved Lead (Pb)	mg/L	0.0000078	8693291	<0.0000050	0.0000113	0.0000102	0.0000050	8693291
Dissolved Lithium (Li)	mg/L	<0.00050	8693291	0.00152	0.00209	0.00154	0.00050	8693291
Dissolved Manganese (Mn)	mg/L	<0.000050	8693291	0.00156	0.00555	0.0137	0.000050	8693291
Dissolved Molybdenum (Mo)	mg/L	0.000332	8693291	0.000474	0.00402	0.00174	0.000050	8693291
Dissolved Nickel (Ni)	mg/L	0.000104	8693291	0.00107	0.0297	0.00420	0.000020	8693291
Dissolved Phosphorus (P)	mg/L	0.0033	8693291	0.0041	0.0142	0.0175	0.0020	8693291
Dissolved Selenium (Se)	mg/L	0.000221	8702287	0.000470	0.00774	0.00162	0.000040	8693291
Dissolved Silicon (Si)	mg/L	2.85	8693291	3.78	3.90	3.50	0.050	8693291
Dissolved Silver (Ag)	mg/L	<0.0000050	8693291	<0.0000050	<0.0000050	<0.0000050	0.0000050	8693291
Dissolved Strontium (Sr)	mg/L	0.0137	8693291	0.0824	0.211	0.163	0.000050	8693291
Dissolved Thallium (Tl)	mg/L	<0.0000020	8693291	<0.0000020	0.0000044	<0.0000020	0.0000020	8693291
Dissolved Tin (Sn)	mg/L	<0.00020	8693291	<0.00020	<0.00020	<0.00020	0.00020	8693291
Dissolved Titanium (Ti)	mg/L	<0.00050	8693291	<0.00050	<0.00050	<0.00050	0.00050	8693291
Dissolved Uranium (U)	mg/L	0.0000132	8693291	0.000726	0.00742	0.000698	0.0000020	8693291
Dissolved Vanadium (V)	mg/L	0.00045	8693291	<0.00020	0.00026	<0.00020	0.00020	8693291
Dissolved Zinc (Zn)	mg/L	0.00030	8693291	0.00158	0.507	0.0347	0.00010	8693291
Dissolved Zirconium (Zr)	mg/L	<0.00010	8693291	<0.00010	<0.00010	<0.00010	0.00010	8693291
Dissolved Calcium (Ca)	mg/L	20.0	8692031	20.9	74.3	36.1	0.050	8692031
Dissolved Magnesium (Mg)	mg/L	1.10	8692031	6.44	24.9	12.5	0.050	8692031
Dissolved Potassium (K)	mg/L	0.322	8692031	0.626	0.548	0.474	0.050	8692031

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5031		RM5032	RM5033	RM5034		
Sampling Date		2017/07/10 09:40		2017/07/09 15:40	2017/07/09 16:40	2017/07/09 15:00		
COC Number		08440141		08440141	08440141	08440141		
	UNITS	W31	QC Batch	W40	W71	W72	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	0.905	8692031	1.15	0.770	1.10	0.050	8692031
Dissolved Sulphur (S)	mg/L	<3.0	8692031	7.5	27.0	15.1	3.0	8692031
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0222	8693643	0.0454	0.0182	0.0213	0.00050	8693643
Total Antimony (Sb)	mg/L	<0.000020	8693643	0.000053	0.000356	0.000205	0.000020	8693643
Total Arsenic (As)	mg/L	0.000156	8693643	0.000207	0.000293	0.00121	0.000020	8693643
Total Barium (Ba)	mg/L	0.0116	8693643	0.0509	0.0486	0.0668	0.000020	8693643
Total Beryllium (Be)	mg/L	<0.000010	8693643	<0.000010	<0.000010	<0.000010	0.000010	8693643
Total Bismuth (Bi)	mg/L	<0.0000050	8693643	<0.0000050	<0.0000050	<0.0000050	0.0000050	8693643
Total Boron (B)	mg/L	<0.010	8693643	<0.010	<0.010	<0.010	0.010	8693643
Total Cadmium (Cd)	mg/L	0.0000050	8693643	0.0000210	0.00296	0.000211	0.0000050	8693643
Total Chromium (Cr)	mg/L	0.00011	8693643	0.00019	<0.00010	<0.00010	0.00010	8693643
Total Cobalt (Co)	mg/L	0.0000360	8693643	0.0000430	0.0000830	0.0000300	0.0000050	8693643
Total Copper (Cu)	mg/L	0.00180	8693643	0.000798	0.00104	0.00108	0.000050	8693643
Total Iron (Fe)	mg/L	0.0083	8693643	0.0724	0.0652	0.0777	0.0010	8693643
Total Lead (Pb)	mg/L	0.0000290	8693643	0.0000280	0.0000340	0.0000190	0.0000050	8693643
Total Lithium (Li)	mg/L	<0.00050	8693643	0.00147	0.00201	0.00144	0.00050	8693643
Total Manganese (Mn)	mg/L	0.000182	8693643	0.00678	0.00966	0.0200	0.000050	8693643
Total Molybdenum (Mo)	mg/L	0.000338	8693643	0.000517	0.00393	0.00177	0.000050	8693643
Total Nickel (Ni)	mg/L	0.000139	8693643	0.00114	0.0317	0.00438	0.000020	8693643
Total Phosphorus (P)	mg/L	0.0026	8693643	0.0050	0.0176	0.0199	0.0020	8693643
Total Selenium (Se)	mg/L	0.000180	8693643	0.000406	0.00794	0.00161	0.000040	8693643
Total Silicon (Si)	mg/L	2.54	8693643	3.45	3.68	3.26	0.050	8693643
Total Silver (Ag)	mg/L	<0.0000050	8693643	<0.0000050	<0.0000050	<0.0000050	0.0000050	8693643
Total Strontium (Sr)	mg/L	0.0146	8693643	0.0864	0.220	0.169	0.000050	8693643
Total Thallium (Tl)	mg/L	<0.0000020	8693643	0.0000020	0.0000040	<0.0000020	0.0000020	8693643
Total Tin (Sn)	mg/L	<0.00020	8693643	<0.00020	<0.00020	<0.00020	0.00020	8693643
Total Titanium (Ti)	mg/L	<0.00050	8693643	0.00085	<0.00050	<0.00050	0.00050	8693643
Total Uranium (U)	mg/L	0.0000120	8693643	0.000667	0.00677	0.000616	0.0000020	8693643
Total Vanadium (V)	mg/L	0.00039	8693643	<0.00020	0.00030	<0.00020	0.00020	8693643
Total Zinc (Zn)	mg/L	0.00052	8693643	0.00221	0.526	0.0354	0.00010	8693643
Total Zirconium (Zr)	mg/L	<0.00010	8693643	<0.00010	<0.00010	<0.00010	0.00010	8693643
Total Calcium (Ca)	mg/L	20.1	8692272	21.5	76.9	35.7	0.050	8692272
Total Magnesium (Mg)	mg/L	1.11	8692272	6.43	25.2	12.5	0.050	8692272
Total Potassium (K)	mg/L	0.322	8692272	0.622	0.544	0.474	0.050	8692272

RDL = Reportable Detection Limit

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5031		RM5032	RM5033	RM5034		
Sampling Date		2017/07/10 09:40		2017/07/09 15:40	2017/07/09 16:40	2017/07/09 15:00		
COC Number		08440141		08440141	08440141	08440141		
	UNITS	W31	QC Batch	W40	W71	W72	RDL	QC Batch
Total Sodium (Na)	mg/L	1.00	8692272	1.26	0.872	1.18	0.050	8692272
Total Sulphur (S)	mg/L	<3.0	8692272	6.7	26.6	13.6	3.0	8692272
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5035		RM5036			RM5037		
Sampling Date		2017/07/09 17:30		2017/07/10 12:30			2017/07/10 15:50		
COC Number		08440141		08440141			08440141		
	UNITS	W73	QC Batch	W80	RDL	QC Batch	W81	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	<0.010	8696742	<0.010	0.010	8696748	<0.010	0.010	8696748
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.00679	8693291	0.00610	0.00050	8693291	0.0105	0.00050	8693291
Dissolved Antimony (Sb)	mg/L	0.000100	8693291	0.000052	0.000020	8693291	0.000044	0.000020	8693291
Dissolved Arsenic (As)	mg/L	0.000220	8693291	0.000193	0.000020	8693291	0.000138	0.000020	8693291
Dissolved Barium (Ba)	mg/L	0.0500	8693291	0.0509	0.000020	8693291	0.0366	0.000020	8693291
Dissolved Beryllium (Be)	mg/L	<0.000010	8693291	<0.000010	0.000010	8693291	<0.000010	0.000010	8693291
Dissolved Bismuth (Bi)	mg/L	<0.0000050	8693291	<0.0000050	0.0000050	8693291	<0.0000050	0.0000050	8693291
Dissolved Boron (B)	mg/L	<0.010	8693291	<0.010	0.010	8693291	<0.010	0.010	8693291
Dissolved Cadmium (Cd)	mg/L	0.0000065	8693291	0.0000151	0.0000050	8693291	0.0000343	0.0000050	8693291
Dissolved Chromium (Cr)	mg/L	0.00033	8693291	<0.00010	0.00010	8693291	<0.00010	0.00010	8693291
Dissolved Cobalt (Co)	mg/L	0.0000235	8693291	0.0000326	0.0000050	8693291	0.0000227	0.0000050	8693291
Dissolved Copper (Cu)	mg/L	0.00162	8693291	0.000837	0.000050	8693291	0.000999	0.000050	8693291
Dissolved Iron (Fe)	mg/L	0.0245	8693291	0.0323	0.0010	8693291	0.0148	0.0010	8693291
Dissolved Lead (Pb)	mg/L	<0.0000050	8693291	0.0000083	0.0000050	8693291	0.0000161	0.0000050	8693291
Dissolved Lithium (Li)	mg/L	<0.00050	8693291	<0.00050	0.00050	8693291	<0.00050	0.00050	8693291
Dissolved Manganese (Mn)	mg/L	0.00423	8693291	0.00896	0.000050	8693291	0.00481	0.000050	8693291
Dissolved Molybdenum (Mo)	mg/L	0.000410	8693291	0.000323	0.000050	8693291	0.000285	0.000050	8693291
Dissolved Nickel (Ni)	mg/L	0.000886	8693291	0.000254	0.000020	8693291	0.000222	0.000020	8693291
Dissolved Phosphorus (P)	mg/L	0.0034	8693291	0.0052	0.0020	8693291	0.0058	0.0020	8693291
Dissolved Selenium (Se)	mg/L	0.000643	8693291	0.000751	0.000040	8693291	0.000477	0.000040	8693291
Dissolved Silicon (Si)	mg/L	3.95	8693291	2.98	0.050	8693291	2.83	0.050	8693291
Dissolved Silver (Ag)	mg/L	<0.0000050	8693291	<0.0000050	0.0000050	8693291	<0.0000050	0.0000050	8693291
Dissolved Strontium (Sr)	mg/L	0.0760	8693291	0.0403	0.000050	8693291	0.0344	0.000050	8693291
Dissolved Thallium (Tl)	mg/L	<0.0000020	8693291	<0.0000020	0.0000020	8693291	<0.0000020	0.0000020	8693291
Dissolved Tin (Sn)	mg/L	<0.00020	8693291	<0.00020	0.00020	8693291	<0.00020	0.00020	8693291
Dissolved Titanium (Ti)	mg/L	<0.00050	8693291	<0.00050	0.00050	8693291	<0.00050	0.00050	8693291
Dissolved Uranium (U)	mg/L	0.000203	8693291	0.000222	0.0000020	8693291	0.0000831	0.0000020	8693291
Dissolved Vanadium (V)	mg/L	<0.00020	8693291	<0.00020	0.00020	8693291	<0.00020	0.00020	8693291
Dissolved Zinc (Zn)	mg/L	0.00039	8693291	0.00050	0.00010	8693291	0.00166	0.00010	8693291
Dissolved Zirconium (Zr)	mg/L	<0.00010	8693291	<0.00010	0.00010	8693291	<0.00010	0.00010	8693291
Dissolved Calcium (Ca)	mg/L	23.7	8692031	20.9	0.050	8692031	19.3	0.050	8692031
Dissolved Magnesium (Mg)	mg/L	6.06	8692031	3.21	0.050	8692031	1.91	0.050	8692031
Dissolved Potassium (K)	mg/L	0.179	8692031	0.386	0.050	8692031	0.284	0.050	8692031

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5035		RM5036			RM5037		
Sampling Date		2017/07/09 17:30		2017/07/10 12:30			2017/07/10 15:50		
COC Number		08440141		08440141			08440141		
	UNITS	W73	QC Batch	W80	RDL	QC Batch	W81	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	0.843	8692031	0.846	0.050	8692031	0.832	0.050	8692031
Dissolved Sulphur (S)	mg/L	5.5	8692031	4.9	3.0	8692031	3.4	3.0	8692031
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	0.0165	8695236	0.0409	0.00050	8695236	0.0467	0.0030	8694850
Total Antimony (Sb)	mg/L	0.000102	8695236	0.000043	0.000020	8695236	0.000071	0.000020	8694850
Total Arsenic (As)	mg/L	0.000242	8695236	0.000219	0.000020	8695236	0.000160	0.000020	8694850
Total Barium (Ba)	mg/L	0.0514	8695236	0.0536	0.000020	8695236	0.0350	0.000050	8694850
Total Beryllium (Be)	mg/L	<0.000010	8695236	<0.000010	0.000010	8695236	<0.000010	0.000010	8694850
Total Bismuth (Bi)	mg/L	<0.0000050	8695236	<0.0000050	0.0000050	8695236	<0.000010	0.000010	8694850
Total Boron (B)	mg/L	<0.010	8695236	<0.010	0.010	8695236	<0.010	0.010	8694850
Total Cadmium (Cd)	mg/L	0.0000108	8695236	0.0000230	0.0000050	8695236	0.0000422	0.0000050	8694850
Total Chromium (Cr)	mg/L	0.00034	8695236	0.00017	0.00010	8695236	0.00020	0.00010	8694850
Total Cobalt (Co)	mg/L	0.0000390	8695236	0.0000732	0.0000050	8695236	0.000074	0.000010	8694850
Total Copper (Cu)	mg/L	0.00176	8695236	0.00110	0.000050	8695236	0.00145	0.00010	8694850
Total Iron (Fe)	mg/L	0.0562	8695236	0.108	0.0010	8695236	0.0738	0.0050	8694850
Total Lead (Pb)	mg/L	0.0000167	8695236	0.0000594	0.0000050	8695236	0.000191	0.000020	8694850
Total Lithium (Li)	mg/L	<0.00050	8695236	<0.00050	0.00050	8695236	<0.00050	0.00050	8694850
Total Manganese (Mn)	mg/L	0.0101	8695236	0.0134	0.000050	8695236	0.00851	0.00010	8694850
Total Molybdenum (Mo)	mg/L	0.000417	8695236	0.000323	0.000050	8695236	0.000280	0.000050	8694850
Total Nickel (Ni)	mg/L	0.000991	8695236	0.000352	0.000020	8695236	0.00037	0.00010	8694850
Total Phosphorus (P)	mg/L	0.0061	8695236	0.0084	0.0020	8695236	0.0280	0.0050	8694850
Total Selenium (Se)	mg/L	0.000601	8695236	0.000730	0.000040	8695236	0.000406	0.000040	8694850
Total Silicon (Si)	mg/L	4.05	8695236	3.04	0.050	8695236	2.54	0.050	8694850
Total Silver (Ag)	mg/L	<0.0000050	8695236	<0.0000050	0.0000050	8695236	<0.000010	0.000010	8694850
Total Strontium (Sr)	mg/L	0.0767	8695236	0.0408	0.000050	8695236	0.0336	0.000050	8694850
Total Thallium (Tl)	mg/L	<0.0000020	8695236	<0.0000020	0.0000020	8695236	<0.0000020	0.0000020	8694850
Total Tin (Sn)	mg/L	<0.00020	8695236	<0.00020	0.00020	8695236	<0.00020	0.00020	8694850
Total Titanium (Ti)	mg/L	<0.00050	8695236	0.00136	0.00050	8695236	0.0022	0.0020	8694850
Total Uranium (U)	mg/L	0.000214	8695236	0.000230	0.0000020	8695236	0.0000920	0.0000050	8694850
Total Vanadium (V)	mg/L	<0.00020	8695236	0.00020	0.00020	8695236	0.00032	0.00020	8694850
Total Zinc (Zn)	mg/L	0.00032	8695236	0.00109	0.00010	8695236	0.0032	0.0010	8694850
Total Zirconium (Zr)	mg/L	<0.00010	8695236	<0.00010	0.00010	8695236	<0.00010	0.00010	8694850
Total Calcium (Ca)	mg/L	24.0	8692272	20.9	0.050	8692272	18.8	0.25	8692272
Total Magnesium (Mg)	mg/L	6.21	8692272	3.22	0.050	8692272	1.92	0.25	8692272
Total Potassium (K)	mg/L	0.182	8692272	0.385	0.050	8692272	0.26	0.25	8692272

RDL = Reportable Detection Limit

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5035		RM5036			RM5037		
Sampling Date		2017/07/09 17:30		2017/07/10 12:30			2017/07/10 15:50		
COC Number		08440141		08440141			08440141		
	UNITS	**W73**	**QC Batch**	**W80**	**RDL**	**QC Batch**	**W81**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	0.868	8692272	0.827	0.050	8692272	0.88	0.25	8692272
Total Sulphur (S)	mg/L	5.6	8692272	4.8	3.0	8692272	3.2	3.0	8692272
RDL = Reportable Detection Limit									

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5038			RM5039		RM5107		
Sampling Date		2017/07/09 11:50			2017/07/11 10:00		2017/07/10 17:55		
COC Number		08440141			08440141		08440142		
	UNITS	W82	RDL	QC Batch	T1	RDL	WRSS	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	<0.010	0.010	8696742	0.059 (1)	0.050	<0.050 (1)	0.050	8696742
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.00633	0.00050	8693291	0.0480	0.0050	<0.0025	0.0025	8693291
Dissolved Antimony (Sb)	mg/L	0.000270	0.000020	8693291	0.0268	0.00020	0.00200	0.00010	8693291
Dissolved Arsenic (As)	mg/L	0.000196	0.000020	8693291	0.00440	0.00020	0.00038	0.00010	8693291
Dissolved Barium (Ba)	mg/L	0.140	0.000020	8693291	0.0352	0.00020	0.0189	0.00010	8693291
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8693291	<0.00010	0.00010	<0.000050	0.000050	8693291
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8693291	<0.000050	0.000050	<0.000025	0.000025	8693291
Dissolved Boron (B)	mg/L	<0.010	0.010	8693291	<0.10	0.10	<0.050	0.050	8693291
Dissolved Cadmium (Cd)	mg/L	0.00113	0.0000050	8693291	0.0122	0.000050	0.0225	0.000025	8693291
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8693291	<0.0010	0.0010	<0.00050	0.00050	8693291
Dissolved Cobalt (Co)	mg/L	0.0000560	0.0000050	8693291	0.00148	0.000050	0.000098	0.000025	8693291
Dissolved Copper (Cu)	mg/L	0.00148	0.000050	8693291	0.185	0.00050	0.00679	0.00025	8693291
Dissolved Iron (Fe)	mg/L	0.0219	0.0010	8693291	1.02	0.010	<0.0050	0.0050	8693291
Dissolved Lead (Pb)	mg/L	0.0000434	0.0000050	8693291	0.0736	0.000050	0.000949	0.000025	8693291
Dissolved Lithium (Li)	mg/L	0.00052	0.00050	8693291	0.0075	0.0050	<0.0025	0.0025	8693291
Dissolved Manganese (Mn)	mg/L	0.0137	0.000050	8693291	0.409	0.00050	0.0569	0.00025	8693291
Dissolved Molybdenum (Mo)	mg/L	0.000345	0.000050	8693291	0.0254	0.00050	0.00057	0.00025	8693291
Dissolved Nickel (Ni)	mg/L	0.00573	0.000020	8693291	0.00654	0.00020	0.0862	0.00010	8693291
Dissolved Phosphorus (P)	mg/L	0.0085	0.0020	8693291	0.063	0.020	<0.010	0.010	8693291
Dissolved Selenium (Se)	mg/L	0.00291	0.000040	8693291	0.501	0.00040	0.0681	0.00020	8693291
Dissolved Silicon (Si)	mg/L	3.38	0.050	8693291	1.57	0.50	2.53	0.25	8693291
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8693291	0.00105	0.000050	<0.000025	0.000025	8693291
Dissolved Strontium (Sr)	mg/L	0.110	0.000050	8693291	1.39	0.00050	0.876	0.00025	8693291
Dissolved Thallium (Tl)	mg/L	0.0000053	0.0000020	8693291	0.000842	0.000020	0.000315	0.000010	8693291
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8693291	<0.0020	0.0020	<0.0010	0.0010	8693291
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8693291	<0.0050	0.0050	<0.0025	0.0025	8693291
Dissolved Uranium (U)	mg/L	0.000248	0.0000020	8693291	0.000252	0.000020	0.00555	0.000010	8693291
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8693291	<0.0020	0.0020	<0.0010	0.0010	8693291
Dissolved Zinc (Zn)	mg/L	0.163	0.00010	8693291	1.47	0.0010	2.52	0.00050	8693291
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8693291	<0.0010	0.0010	<0.00050	0.00050	8693291
Dissolved Calcium (Ca)	mg/L	42.0	0.050	8692031	366	0.50	265	0.25	8692031
Dissolved Magnesium (Mg)	mg/L	3.89	0.050	8692031	2.83	0.50	48.0	0.25	8692031

RDL = Reportable Detection Limit

(1) RDL raised due to sample matrix interference.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5038			RM5039		RM5107		
Sampling Date		2017/07/09 11:50			2017/07/11 10:00		2017/07/10 17:55		
COC Number		08440141			08440141		08440142		
	UNITS	W82	RDL	QC Batch	T1	RDL	WRSS	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.902	0.050	8692031	28.0	0.50	6.02	0.25	8692031
Dissolved Sodium (Na)	mg/L	0.998	0.050	8692031	102	0.50	60.0	0.25	8692031
Dissolved Sulphur (S)	mg/L	15.5	3.0	8692031	481	30	305	15	8692031
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	0.0154	0.00050	8695236	0.050	0.030	0.458	0.015	8694850
Total Antimony (Sb)	mg/L	0.000284	0.000020	8695236	0.0254	0.00020	0.00313	0.00010	8694850
Total Arsenic (As)	mg/L	0.000221	0.000020	8695236	0.00472	0.00020	0.00160	0.00010	8694850
Total Barium (Ba)	mg/L	0.144	0.000020	8695236	0.0357	0.00050	0.0304	0.00025	8694850
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8695236	<0.00010	0.00010	<0.000050	0.000050	8694850
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8695236	<0.00010	0.00010	0.000859	0.000050	8694850
Total Boron (B)	mg/L	<0.010	0.010	8695236	<0.10	0.10	<0.050	0.050	8694850
Total Cadmium (Cd)	mg/L	0.00120	0.0000050	8695236	0.0121	0.000050	0.0222	0.000025	8694850
Total Chromium (Cr)	mg/L	<0.00010	0.00010	8695236	<0.0010	0.0010	0.00097	0.00050	8694850
Total Cobalt (Co)	mg/L	0.0000851	0.0000050	8695236	0.00159	0.00010	0.000616	0.000050	8694850
Total Copper (Cu)	mg/L	0.00183	0.000050	8695236	0.189	0.0010	0.0233	0.00050	8694850
Total Iron (Fe)	mg/L	0.0709	0.0010	8695236	1.03	0.050	0.879	0.025	8694850
Total Lead (Pb)	mg/L	0.000288	0.0000050	8695236	0.0685	0.00020	0.0178	0.00010	8694850
Total Lithium (Li)	mg/L	0.00051	0.00050	8695236	0.0071	0.0050	<0.0025	0.0025	8694850
Total Manganese (Mn)	mg/L	0.0189	0.000050	8695236	0.394	0.0010	0.0748	0.00050	8694850
Total Molybdenum (Mo)	mg/L	0.000340	0.000050	8695236	0.0255	0.00050	0.00062	0.00025	8694850
Total Nickel (Ni)	mg/L	0.00592	0.000020	8695236	0.0073	0.0010	0.0889	0.00050	8694850
Total Phosphorus (P)	mg/L	0.0123	0.0020	8695236	0.083	0.050	0.041	0.025	8694850
Total Selenium (Se)	mg/L	0.00282	0.000040	8695236	0.542	0.00040	0.0688	0.00020	8694850
Total Silicon (Si)	mg/L	3.39	0.050	8695236	1.43	0.50	2.78	0.25	8694850
Total Silver (Ag)	mg/L	0.0000068	0.0000050	8695236	0.00283	0.00010	0.000242	0.000050	8694850
Total Strontium (Sr)	mg/L	0.108	0.000050	8695236	1.36	0.00050	0.846	0.00025	8694850
Total Thallium (Tl)	mg/L	0.0000048	0.0000020	8695236	0.000712	0.000020	0.000356	0.000010	8694850
Total Tin (Sn)	mg/L	<0.00020	0.00020	8695236	<0.0020	0.0020	<0.0010	0.0010	8694850
Total Titanium (Ti)	mg/L	<0.00050	0.00050	8695236	<0.020	0.020	0.020	0.010	8694850
Total Uranium (U)	mg/L	0.000256	0.0000020	8695236	0.000300	0.000050	0.00561	0.000025	8694850
Total Vanadium (V)	mg/L	<0.00020	0.00020	8695236	<0.0020	0.0020	<0.0010	0.0010	8694850
Total Zinc (Zn)	mg/L	0.163	0.00010	8695236	1.46	0.010	2.72	0.0050	8694850
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8695236	<0.0010	0.0010	0.00052	0.00050	8694850
Total Calcium (Ca)	mg/L	41.4	0.050	8692272	354	2.5	262	1.3	8692272
Total Magnesium (Mg)	mg/L	3.85	0.050	8692272	2.8	2.5	49.1	1.3	8692272

RDL = Reportable Detection Limit

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5038			RM5039		RM5107		
Sampling Date		2017/07/09 11:50			2017/07/11 10:00		2017/07/10 17:55		
COC Number		08440141			08440141		08440142		
	UNITS	**W82**	**RDL**	**QC Batch**	**T1**	**RDL**	**WRSS**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	0.915	0.050	8692272	25.8	2.5	5.6	1.3	8692272
Total Sodium (Na)	mg/L	0.997	0.050	8692272	105	2.5	63.8	1.3	8692272
Total Sulphur (S)	mg/L	15.3	3.0	8692272	473	30	297	15	8692272
RDL = Reportable Detection Limit									

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5108			RM5109		
Sampling Date		2017/07/11 09:00			2017/07/11 09:20		
COC Number		08440142			08440142		
	UNITS	BIO-IN	RDL	QC Batch	BIO-OUT	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.050 (1)	0.050	8696742	<0.050 (1)	0.050	8696742
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.0243	0.0025	8693276	0.0194	0.0025	8693276
Dissolved Antimony (Sb)	mg/L	0.00832	0.00010	8693276	0.00117	0.00010	8693276
Dissolved Arsenic (As)	mg/L	0.00136	0.00010	8693276	0.00138	0.00010	8693276
Dissolved Barium (Ba)	mg/L	0.0595	0.00010	8693276	0.0557	0.00010	8693276
Dissolved Beryllium (Be)	mg/L	<0.000050	0.000050	8693276	<0.000050	0.000050	8693276
Dissolved Bismuth (Bi)	mg/L	<0.000025	0.000025	8693276	<0.000025	0.000025	8693276
Dissolved Boron (B)	mg/L	<0.050	0.050	8693276	<0.050	0.050	8693276
Dissolved Cadmium (Cd)	mg/L	0.118	0.000025	8693276	0.00773	0.000025	8693276
Dissolved Chromium (Cr)	mg/L	<0.00050	0.00050	8693276	<0.00050	0.00050	8693276
Dissolved Cobalt (Co)	mg/L	0.00811	0.000025	8693276	0.00352	0.000025	8693276
Dissolved Copper (Cu)	mg/L	0.0121	0.00025	8693276	0.00031	0.00025	8693276
Dissolved Iron (Fe)	mg/L	0.0060	0.0050	8693276	5.17	0.0050	8693276
Dissolved Lead (Pb)	mg/L	0.0145	0.000025	8693276	0.000064	0.000025	8693276
Dissolved Lithium (Li)	mg/L	0.0111	0.0025	8693276	0.0056	0.0025	8693276
Dissolved Manganese (Mn)	mg/L	1.64	0.00025	8693276	4.39	0.00025	8693276
Dissolved Molybdenum (Mo)	mg/L	0.00223	0.00025	8693276	0.00167	0.00025	8693276
Dissolved Nickel (Ni)	mg/L	0.0392	0.00010	8693276	0.0120	0.00010	8693276
Dissolved Phosphorus (P)	mg/L	<0.010	0.010	8693276	<0.010	0.010	8693276
Dissolved Selenium (Se)	mg/L	0.0706	0.00020	8693276	0.00933	0.00020	8693276
Dissolved Silicon (Si)	mg/L	3.87	0.25	8693276	5.60	0.25	8693276
Dissolved Silver (Ag)	mg/L	<0.000025	0.000025	8693276	<0.000025	0.000025	8693276
Dissolved Strontium (Sr)	mg/L	0.782	0.00025	8693276	0.707	0.00025	8693276
Dissolved Thallium (Tl)	mg/L	0.00433	0.000010	8693276	0.000642	0.000010	8693276
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	8693276	<0.0010	0.0010	8693276
Dissolved Titanium (Ti)	mg/L	<0.0025	0.0025	8693276	<0.0025	0.0025	8693276
Dissolved Uranium (U)	mg/L	0.00425	0.000010	8693276	0.000957	0.000010	8693276
Dissolved Vanadium (V)	mg/L	<0.0010	0.0010	8693276	<0.0010	0.0010	8693276
Dissolved Zinc (Zn)	mg/L	15.4	0.00050	8693276	2.69	0.00050	8693276
Dissolved Zirconium (Zr)	mg/L	<0.00050	0.00050	8693276	<0.00050	0.00050	8693276
Dissolved Calcium (Ca)	mg/L	209	0.25	8692031	234	0.25	8692031
Dissolved Magnesium (Mg)	mg/L	18.5	0.25	8692031	24.5	0.25	8692031

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5108			RM5109		
Sampling Date		2017/07/11 09:00			2017/07/11 09:20		
COC Number		08440142			08440142		
	UNITS	BIO-IN	RDL	QC Batch	BIO-OUT	RDL	QC Batch
Dissolved Potassium (K)	mg/L	8.56	0.25	8692031	8.43	0.25	8692031
Dissolved Sodium (Na)	mg/L	25.5	0.25	8692031	31.9	0.25	8692031
Dissolved Sulphur (S)	mg/L	214	15	8692031	230	15	8692031
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.193	0.015	8694850	0.0168	0.0025	8695236
Total Antimony (Sb)	mg/L	0.00968	0.00010	8694850	0.00126	0.00010	8695236
Total Arsenic (As)	mg/L	0.00433	0.00010	8694850	0.00156	0.00010	8695236
Total Barium (Ba)	mg/L	0.0642	0.00025	8694850	0.0540	0.00010	8695236
Total Beryllium (Be)	mg/L	<0.000050	0.000050	8694850	<0.000050	0.000050	8695236
Total Bismuth (Bi)	mg/L	0.000308	0.000050	8694850	<0.000025	0.000025	8695236
Total Boron (B)	mg/L	<0.050	0.050	8694850	<0.050	0.050	8695236
Total Cadmium (Cd)	mg/L	0.120	0.000025	8694850	0.0189	0.000025	8695236
Total Chromium (Cr)	mg/L	0.00059	0.00050	8694850	<0.00050	0.00050	8695236
Total Cobalt (Co)	mg/L	0.00799	0.000050	8694850	0.00361	0.000025	8695236
Total Copper (Cu)	mg/L	0.0260	0.00050	8694850	0.00112	0.00025	8695236
Total Iron (Fe)	mg/L	0.543	0.025	8694850	5.47	0.0050	8695236
Total Lead (Pb)	mg/L	0.111	0.00010	8694850	0.00297	0.000025	8695236
Total Lithium (Li)	mg/L	0.0089	0.0025	8694850	0.0051	0.0025	8695236
Total Manganese (Mn)	mg/L	1.54	0.00050	8694850	4.22	0.00025	8695236
Total Molybdenum (Mo)	mg/L	0.00210	0.00025	8694850	0.00174	0.00025	8695236
Total Nickel (Ni)	mg/L	0.0385	0.00050	8694850	0.0119	0.00010	8695236
Total Phosphorus (P)	mg/L	0.039	0.025	8694850	0.014	0.010	8695236
Total Selenium (Se)	mg/L	0.0724	0.00020	8694850	0.00920	0.00020	8695236
Total Silicon (Si)	mg/L	3.92	0.25	8694850	5.69	0.25	8695236
Total Silver (Ag)	mg/L	0.000387	0.000050	8694850	<0.000025	0.000025	8695236
Total Strontium (Sr)	mg/L	0.731	0.00025	8694850	0.712	0.00025	8695236
Total Thallium (Tl)	mg/L	0.00435	0.000010	8694850	0.000644	0.000010	8695236
Total Tin (Sn)	mg/L	<0.0010	0.0010	8694850	<0.0010	0.0010	8695236
Total Titanium (Ti)	mg/L	0.021	0.010	8694850	<0.0025	0.0025	8695236
Total Uranium (U)	mg/L	0.00434	0.000025	8694850	0.000923	0.000010	8695236
Total Vanadium (V)	mg/L	<0.0010	0.0010	8694850	<0.0010	0.0010	8695236
Total Zinc (Zn)	mg/L	15.3	0.0050	8694850	2.62	0.00050	8695236
Total Zirconium (Zr)	mg/L	<0.00050	0.00050	8694850	<0.00050	0.00050	8695236
Total Calcium (Ca)	mg/L	198	1.3	8692272	226	0.25	8692272
Total Magnesium (Mg)	mg/L	15.8	1.3	8692272	21.8	0.25	8692272
RDL = Reportable Detection Limit							

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5108			RM5109		
Sampling Date		2017/07/11 09:00			2017/07/11 09:20		
COC Number		08440142			08440142		
	UNITS	BIO-IN	RDL	QC Batch	BIO-OUT	RDL	QC Batch
Total Potassium (K)	mg/L	7.4	1.3	8692272	7.77	0.25	8692272
Total Sodium (Na)	mg/L	24.2	1.3	8692272	27.8	0.25	8692272
Total Sulphur (S)	mg/L	199	15	8692272	219	15	8692272
RDL = Reportable Detection Limit							

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5110			RM5111		
Sampling Date		2017/07/10 08:50			2017/07/09 11:10		
COC Number		08440142			08440142		
	UNITS	PORTAL	RDL	QC Batch	DUP	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.050 (1)	0.050	8696742	<0.010	0.010	8696742
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00915	0.00050	8693276	0.00830	0.00050	8693276
Dissolved Antimony (Sb)	mg/L	0.00205	0.000020	8693276	0.000214	0.000020	8693276
Dissolved Arsenic (As)	mg/L	0.00139	0.000020	8693276	0.00118	0.000020	8693276
Dissolved Barium (Ba)	mg/L	0.0300	0.000020	8693276	0.0686	0.000020	8693276
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8693276	<0.000010	0.000010	8693276
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8693276	<0.0000050	0.0000050	8693276
Dissolved Boron (B)	mg/L	0.017	0.010	8693276	<0.010	0.010	8693276
Dissolved Cadmium (Cd)	mg/L	0.00847	0.0000050	8693276	0.000202	0.0000050	8693276
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8693276	<0.00010	0.00010	8693276
Dissolved Cobalt (Co)	mg/L	0.00367	0.0000050	8693276	0.0000220	0.0000050	8693276
Dissolved Copper (Cu)	mg/L	0.000348	0.000050	8693276	0.00107	0.000050	8693276
Dissolved Iron (Fe)	mg/L	4.23	0.0010	8693276	0.0483	0.0010	8693276
Dissolved Lead (Pb)	mg/L	0.00166	0.0000050	8693276	0.0000130	0.0000050	8693276
Dissolved Lithium (Li)	mg/L	0.0113	0.00050	8693276	0.00173	0.00050	8693276
Dissolved Manganese (Mn)	mg/L	0.783	0.000050	8693276	0.0133	0.000050	8693276
Dissolved Molybdenum (Mo)	mg/L	0.00826	0.000050	8693276	0.00173	0.000050	8693276
Dissolved Nickel (Ni)	mg/L	0.0154	0.000020	8693276	0.00408	0.000020	8693276
Dissolved Phosphorus (P)	mg/L	0.0093	0.0020	8693276	0.0150	0.0020	8693276
Dissolved Selenium (Se)	mg/L	0.0412	0.000040	8693276	0.00157	0.000040	8693276
Dissolved Silicon (Si)	mg/L	3.62	0.050	8693276	3.36	0.050	8693276
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8693276	<0.0000050	0.0000050	8693276
Dissolved Strontium (Sr)	mg/L	0.950	0.000050	8693276	0.159	0.000050	8693276
Dissolved Thallium (Tl)	mg/L	0.000561	0.0000020	8693276	<0.0000020	0.0000020	8693276
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8693276	<0.00020	0.00020	8693276
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8693276	<0.00050	0.00050	8693276
Dissolved Uranium (U)	mg/L	0.00266	0.0000020	8693276	0.000691	0.0000020	8693276
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8693276	<0.00020	0.00020	8693276
Dissolved Zinc (Zn)	mg/L	0.459	0.00010	8693276	0.0328	0.00010	8693276
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8693276	<0.00010	0.00010	8693276
Dissolved Calcium (Ca)	mg/L	162	0.050	8692031	35.6	0.050	8692031
Dissolved Magnesium (Mg)	mg/L	18.4	0.050	8692031	12.9	0.050	8692031

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5110			RM5111		
Sampling Date		2017/07/10 08:50			2017/07/09 11:10		
COC Number		08440142			08440142		
	UNITS	PORTAL	RDL	QC Batch	DUP	RDL	QC Batch
Dissolved Potassium (K)	mg/L	17.0	0.050	8692031	0.493	0.050	8692031
Dissolved Sodium (Na)	mg/L	40.5	0.050	8692031	1.28	0.050	8692031
Dissolved Sulphur (S)	mg/L	179	3.0	8692031	14.2	3.0	8692031
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.642	0.015	8694850	0.0173	0.00050	8695236
Total Antimony (Sb)	mg/L	0.00583	0.00010	8694850	0.000212	0.000020	8695236
Total Arsenic (As)	mg/L	0.00693	0.00010	8694850	0.00118	0.000020	8695236
Total Barium (Ba)	mg/L	0.0647	0.00025	8694850	0.0678	0.000020	8695236
Total Beryllium (Be)	mg/L	<0.000050	0.000050	8694850	<0.000010	0.000010	8695236
Total Bismuth (Bi)	mg/L	0.000602	0.000050	8694850	<0.0000050	0.0000050	8695236
Total Boron (B)	mg/L	<0.050	0.050	8694850	<0.010	0.010	8695236
Total Cadmium (Cd)	mg/L	0.0130	0.000025	8694850	0.000224	0.0000050	8695236
Total Chromium (Cr)	mg/L	0.00223	0.00050	8694850	0.00012	0.00010	8695236
Total Cobalt (Co)	mg/L	0.00442	0.000050	8694850	0.0000336	0.0000050	8695236
Total Copper (Cu)	mg/L	0.0419	0.00050	8694850	0.00114	0.000050	8695236
Total Iron (Fe)	mg/L	6.35	0.025	8694850	0.0675	0.0010	8695236
Total Lead (Pb)	mg/L	0.198	0.00010	8694850	0.0000239	0.0000050	8695236
Total Lithium (Li)	mg/L	0.0102	0.0025	8694850	0.00145	0.00050	8695236
Total Manganese (Mn)	mg/L	0.764	0.00050	8694850	0.0182	0.000050	8695236
Total Molybdenum (Mo)	mg/L	0.00775	0.00025	8694850	0.00170	0.000050	8695236
Total Nickel (Ni)	mg/L	0.0185	0.00050	8694850	0.00435	0.000020	8695236
Total Phosphorus (P)	mg/L	0.055	0.025	8694850	0.0191	0.0020	8695236
Total Selenium (Se)	mg/L	0.0459	0.00020	8694850	0.00152	0.000040	8695236
Total Silicon (Si)	mg/L	4.49	0.25	8694850	3.50	0.050	8695236
Total Silver (Ag)	mg/L	0.00169	0.000050	8694850	<0.0000050	0.0000050	8695236
Total Strontium (Sr)	mg/L	0.838	0.00025	8694850	0.159	0.000050	8695236
Total Thallium (Tl)	mg/L	0.000683	0.000010	8694850	<0.0000020	0.0000020	8695236
Total Tin (Sn)	mg/L	<0.0010	0.0010	8694850	<0.00020	0.00020	8695236
Total Titanium (Ti)	mg/L	0.029	0.010	8694850	<0.00050	0.00050	8695236
Total Uranium (U)	mg/L	0.00263	0.000025	8694850	0.000676	0.0000020	8695236
Total Vanadium (V)	mg/L	0.0018	0.0010	8694850	0.00022	0.00020	8695236
Total Zinc (Zn)	mg/L	0.981	0.0050	8694850	0.0359	0.00010	8695236
Total Zirconium (Zr)	mg/L	<0.00050	0.00050	8694850	<0.00010	0.00010	8695236
Total Calcium (Ca)	mg/L	150	1.3	8692272	35.1	0.050	8692272
Total Magnesium (Mg)	mg/L	17.5	1.3	8692272	12.2	0.050	8692272
RDL = Reportable Detection Limit							

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5110			RM5111		
Sampling Date		2017/07/10 08:50			2017/07/09 11:10		
COC Number		08440142			08440142		
	UNITS	**PORTAL**	**RDL**	**QC Batch**	**DUP**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	14.8	1.3	8692272	0.476	0.050	8692272
Total Sodium (Na)	mg/L	39.5	1.3	8692272	1.12	0.050	8692272
Total Sulphur (S)	mg/L	164	15	8692272	14.8	3.0	8692272
RDL = Reportable Detection Limit							

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5112			RM5113		
Sampling Date		2017/07/10 17:30			2017/07/11 10:15		
COC Number		08440142			08440142		
	UNITS	R1	RDL	QC Batch	T1-2	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	0.012	0.010	8696748	0.116 (1)	0.050	8696748
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00892	0.00050	8693276	0.0458	0.0025	8702287
Dissolved Antimony (Sb)	mg/L	0.000079	0.000020	8693276	0.0482	0.00010	8693276
Dissolved Arsenic (As)	mg/L	0.000569	0.000020	8693276	0.00825	0.00010	8693276
Dissolved Barium (Ba)	mg/L	0.133	0.000020	8693276	0.0619	0.00010	8693276
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8693276	<0.000050	0.000050	8693276
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8693276	<0.000025	0.000025	8693276
Dissolved Boron (B)	mg/L	<0.010	0.010	8693276	<0.050	0.050	8693276
Dissolved Cadmium (Cd)	mg/L	0.0000520	0.0000050	8693276	0.0122	0.000025	8693276
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8693276	<0.00050	0.00050	8693276
Dissolved Cobalt (Co)	mg/L	0.000194	0.0000050	8693276	0.00200	0.000025	8693276
Dissolved Copper (Cu)	mg/L	0.000701	0.000050	8693276	0.308	0.00025	8693276
Dissolved Iron (Fe)	mg/L	0.131	0.0010	8693276	1.35	0.0050	8693276
Dissolved Lead (Pb)	mg/L	0.0000760	0.0000050	8693276	0.0772	0.000025	8693276
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	8693276	0.0145	0.0025	8693276
Dissolved Manganese (Mn)	mg/L	0.189	0.000050	8693276	0.583	0.00025	8693276
Dissolved Molybdenum (Mo)	mg/L	0.000148	0.000050	8693276	0.0424	0.00025	8693276
Dissolved Nickel (Ni)	mg/L	0.00298	0.000020	8693276	0.00974	0.00010	8693276
Dissolved Phosphorus (P)	mg/L	0.0199	0.0020	8693276	0.104	0.010	8693276
Dissolved Selenium (Se)	mg/L	0.00251	0.000040	8693276	1.57	0.00020	8693276
Dissolved Silicon (Si)	mg/L	1.46	0.050	8693276	2.32	0.25	8693276
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8693276	0.00637	0.000025	8693276
Dissolved Strontium (Sr)	mg/L	0.0662	0.000050	8693276	2.61	0.00025	8693276
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8693276	0.00128	0.000010	8693276
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8693276	<0.0010	0.0010	8693276
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8693276	<0.0025	0.0025	8693276
Dissolved Uranium (U)	mg/L	0.0000330	0.0000020	8693276	0.000241	0.000010	8693276
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8693276	<0.0010	0.0010	8693276
Dissolved Zinc (Zn)	mg/L	0.00275	0.00010	8693276	1.70	0.00050	8693276
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8693276	<0.00050	0.00050	8693276
Dissolved Calcium (Ca)	mg/L	51.9	0.050	8692031	639	0.25	8692031
Dissolved Magnesium (Mg)	mg/L	7.94	0.050	8692031	3.86	0.25	8692031

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5112			RM5113		
Sampling Date		2017/07/10 17:30			2017/07/11 10:15		
COC Number		08440142			08440142		
	UNITS	R1	RDL	QC Batch	T1-2	RDL	QC Batch
Dissolved Potassium (K)	mg/L	1.06	0.050	8692031	54.6	0.25	8692031
Dissolved Sodium (Na)	mg/L	10.2	0.050	8692031	207	0.25	8692031
Dissolved Sulphur (S)	mg/L	43.8	3.0	8692031	884	15	8692031
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.115	0.0030	8694850	0.045	0.030	8694850
Total Antimony (Sb)	mg/L	0.000113	0.000020	8694850	0.0465	0.00020	8694850
Total Arsenic (As)	mg/L	0.000577	0.000020	8694850	0.00768	0.00020	8694850
Total Barium (Ba)	mg/L	0.124	0.000050	8694850	0.0562	0.00050	8694850
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8694850	<0.00010	0.00010	8694850
Total Bismuth (Bi)	mg/L	<0.000010	0.000010	8694850	<0.00010	0.00010	8694850
Total Boron (B)	mg/L	<0.010	0.010	8694850	<0.10	0.10	8694850
Total Cadmium (Cd)	mg/L	0.0000683	0.0000050	8694850	0.0122	0.000050	8694850
Total Chromium (Cr)	mg/L	0.00045	0.00010	8694850	<0.0010	0.0010	8694850
Total Cobalt (Co)	mg/L	0.000321	0.000010	8694850	0.00213	0.00010	8694850
Total Copper (Cu)	mg/L	0.00144	0.00010	8694850	0.318	0.0010	8694850
Total Iron (Fe)	mg/L	0.362	0.0050	8694850	1.34	0.050	8694850
Total Lead (Pb)	mg/L	0.000391	0.000020	8694850	0.0764	0.00020	8694850
Total Lithium (Li)	mg/L	<0.00050	0.00050	8694850	0.0123	0.0050	8694850
Total Manganese (Mn)	mg/L	0.190	0.00010	8694850	0.586	0.0010	8694850
Total Molybdenum (Mo)	mg/L	0.000154	0.000050	8694850	0.0387	0.00050	8694850
Total Nickel (Ni)	mg/L	0.00330	0.00010	8694850	0.0094	0.0010	8694850
Total Phosphorus (P)	mg/L	0.0453	0.0050	8694850	0.126	0.050	8694850
Total Selenium (Se)	mg/L	0.00240	0.000040	8694850	1.63	0.00040	8694850
Total Silicon (Si)	mg/L	1.58	0.050	8694850	2.32	0.50	8694850
Total Silver (Ag)	mg/L	<0.000010	0.000010	8694850	0.00967	0.00010	8694850
Total Strontium (Sr)	mg/L	0.0633	0.000050	8694850	2.37	0.00050	8694850
Total Thallium (Tl)	mg/L	0.0000027	0.0000020	8694850	0.00131	0.000020	8694850
Total Tin (Sn)	mg/L	<0.00020	0.00020	8694850	<0.0020	0.0020	8694850
Total Titanium (Ti)	mg/L	0.0073	0.0020	8694850	<0.020	0.020	8694850
Total Uranium (U)	mg/L	0.0000341	0.0000050	8694850	0.000320	0.000050	8694850
Total Vanadium (V)	mg/L	0.00046	0.00020	8694850	<0.0020	0.0020	8694850
Total Zinc (Zn)	mg/L	0.0055	0.0010	8694850	1.67	0.010	8694850
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8694850	<0.0010	0.0010	8694850
Total Calcium (Ca)	mg/L	49.1	0.25	8692272	603	2.5	8692272
Total Magnesium (Mg)	mg/L	6.98	0.25	8692272	3.4	2.5	8692272
RDL = Reportable Detection Limit							

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5112			RM5113		
Sampling Date		2017/07/10 17:30			2017/07/11 10:15		
COC Number		08440142			08440142		
	UNITS	**R1**	**RDL**	**QC Batch**	**T1-2**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	0.91	0.25	8692272	47.9	2.5	8692272
Total Sodium (Na)	mg/L	9.90	0.25	8692272	197	2.5	8692272
Total Sulphur (S)	mg/L	40.9	3.0	8692272	862	30	8692272
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5114		
Sampling Date		2017/07/11 10:50		
COC Number		08440142		
	UNITS	T1-3	RDL	QC Batch
ANIONS				
Bromide (Br)	mg/L	<0.050 (1)	0.050	8696742
Dissolved Metals by ICPMS				
Dissolved Aluminum (Al)	mg/L	0.0835	0.0050	8702287
Dissolved Antimony (Sb)	mg/L	0.0713	0.00020	8693276
Dissolved Arsenic (As)	mg/L	0.00824	0.00020	8693276
Dissolved Barium (Ba)	mg/L	0.0754	0.00020	8693276
Dissolved Beryllium (Be)	mg/L	<0.00010	0.00010	8693276
Dissolved Bismuth (Bi)	mg/L	<0.000050	0.000050	8693276
Dissolved Boron (B)	mg/L	<0.10	0.10	8693276
Dissolved Cadmium (Cd)	mg/L	0.00381	0.000050	8693276
Dissolved Chromium (Cr)	mg/L	<0.0010	0.0010	8693276
Dissolved Cobalt (Co)	mg/L	0.00102	0.000050	8693276
Dissolved Copper (Cu)	mg/L	0.744	0.00050	8693276
Dissolved Iron (Fe)	mg/L	1.73	0.010	8693276
Dissolved Lead (Pb)	mg/L	0.216	0.000050	8693276
Dissolved Lithium (Li)	mg/L	0.0189	0.0050	8693276
Dissolved Manganese (Mn)	mg/L	0.176	0.00050	8693276
Dissolved Molybdenum (Mo)	mg/L	0.0766	0.00050	8693276
Dissolved Nickel (Ni)	mg/L	0.0119	0.00020	8693276
Dissolved Phosphorus (P)	mg/L	0.176	0.020	8693276
Dissolved Selenium (Se)	mg/L	3.30	0.00040	8693276
Dissolved Silicon (Si)	mg/L	1.87	0.50	8693276
Dissolved Silver (Ag)	mg/L	0.000984	0.000050	8693276
Dissolved Strontium (Sr)	mg/L	3.36	0.00050	8693276
Dissolved Thallium (Tl)	mg/L	0.00108	0.000020	8693276
Dissolved Tin (Sn)	mg/L	<0.0020	0.0020	8693276
Dissolved Titanium (Ti)	mg/L	<0.0050	0.0050	8693276
Dissolved Uranium (U)	mg/L	0.000197	0.000020	8693276
Dissolved Vanadium (V)	mg/L	<0.0020	0.0020	8693276
Dissolved Zinc (Zn)	mg/L	1.04	0.0010	8693276
Dissolved Zirconium (Zr)	mg/L	<0.0010	0.0010	8693276
Dissolved Calcium (Ca)	mg/L	826	0.50	8692031
Dissolved Magnesium (Mg)	mg/L	1.73	0.50	8692031

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5114		
Sampling Date		2017/07/11 10:50		
COC Number		08440142		
	UNITS	T1-3	RDL	QC Batch
Dissolved Potassium (K)	mg/L	73.7	0.50	8692031
Dissolved Sodium (Na)	mg/L	284	0.50	8692031
Dissolved Sulphur (S)	mg/L	1020	30	8692031
Total Metals by ICPMS				
Total Aluminum (Al)	mg/L	0.071	0.030	8694850
Total Antimony (Sb)	mg/L	0.0680	0.00020	8694850
Total Arsenic (As)	mg/L	0.00949	0.00020	8694850
Total Barium (Ba)	mg/L	0.0742	0.00050	8694850
Total Beryllium (Be)	mg/L	<0.00010	0.00010	8694850
Total Bismuth (Bi)	mg/L	<0.00010	0.00010	8694850
Total Boron (B)	mg/L	<0.10	0.10	8694850
Total Cadmium (Cd)	mg/L	0.00391	0.000050	8694850
Total Chromium (Cr)	mg/L	<0.0010	0.0010	8694850
Total Cobalt (Co)	mg/L	0.00107	0.00010	8694850
Total Copper (Cu)	mg/L	0.856	0.0010	8694850
Total Iron (Fe)	mg/L	1.70	0.050	8694850
Total Lead (Pb)	mg/L	0.217	0.00020	8694850
Total Lithium (Li)	mg/L	0.0166	0.0050	8694850
Total Manganese (Mn)	mg/L	0.179	0.0010	8694850
Total Molybdenum (Mo)	mg/L	0.141	0.00050	8694850
Total Nickel (Ni)	mg/L	0.0111	0.0010	8694850
Total Phosphorus (P)	mg/L	0.209	0.050	8694850
Total Selenium (Se)	mg/L	3.19	0.00040	8694850
Total Silicon (Si)	mg/L	1.96	0.50	8694850
Total Silver (Ag)	mg/L	0.0141	0.00010	8694850
Total Strontium (Sr)	mg/L	3.26	0.00050	8694850
Total Thallium (Tl)	mg/L	0.00104	0.000020	8694850
Total Tin (Sn)	mg/L	<0.0020	0.0020	8694850
Total Titanium (Ti)	mg/L	<0.020	0.020	8694850
Total Uranium (U)	mg/L	0.000208	0.000050	8694850
Total Vanadium (V)	mg/L	<0.0020	0.0020	8694850
Total Zinc (Zn)	mg/L	1.04	0.010	8694850
Total Zirconium (Zr)	mg/L	<0.0010	0.0010	8694850
Total Calcium (Ca)	mg/L	810	2.5	8692272
Total Magnesium (Mg)	mg/L	<2.5	2.5	8692272
RDL = Reportable Detection Limit				

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5114		
Sampling Date		2017/07/11 10:50		
COC Number		08440142		
	UNITS	**T1-3**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	68.5	2.5	8692272
Total Sodium (Na)	mg/L	275	2.5	8692272
Total Sulphur (S)	mg/L	931	30	8692272
RDL = Reportable Detection Limit				

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.3°C
Package 2	3.0°C
Package 3	1.7°C
Package 4	5.3°C
Package 5	6.3°C
Package 6	2.7°C

Sample RM5020 [L1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5021 [W1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue).

Sample RM5022 [W8] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5023 [W9] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5025 [W14] : Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample RM5027 [W16] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample RM5028 [W21] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5029 [W22] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue).

Sample RM5032 [W40] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5033 [W71] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

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Sample RM5034 [W72] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5035 [W73] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5038 [W82] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5039 [T1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample RM5107 [WRSS] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample RM5108 [BIO-IN] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample RM5111 [DUP] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER) Comments

Method Blank Elements by ICPMS Digested LL (total): Method blank exceeds acceptance limits for P- 2X RDL acceptable for low level metals determination.
Sample RM5039 [T1] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RM5039 [T1] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RM5107 [WRSS] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RM5107 [WRSS] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RM5108 [BIO-IN] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RM5108 [BIO-IN] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RM5109 [BIO-OUT] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RM5109 [BIO-OUT] Elements by ICPMS Low Level (total): RDL raised due to sample matrix interference.
Sample RM5110 [PORTAL] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RM5113 [T1-2] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RM5113 [T1-2] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RM5113 [T1-2] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RM5114 [T1-3] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RM5114 [T1-3] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RM5114 [T1-3] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RM5031, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RM5113, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RM5114, Elements by ICPMS Low Level (dissolved): Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B757212
Report Date: 2017/07/25

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8693276	Dissolved Aluminum (Al)	2017/07/18	104	80 - 120	117	80 - 120	<0.00050	mg/L	1.9	20
8693276	Dissolved Antimony (Sb)	2017/07/18	97	80 - 120	98	80 - 120	<0.000020	mg/L	5.6	20
8693276	Dissolved Arsenic (As)	2017/07/18	104	80 - 120	102	80 - 120	<0.000020	mg/L	2.8	20
8693276	Dissolved Barium (Ba)	2017/07/18	103	80 - 120	105	80 - 120	<0.000020	mg/L	1.1	20
8693276	Dissolved Beryllium (Be)	2017/07/18	103	80 - 120	106	80 - 120	<0.000010	mg/L	NC	20
8693276	Dissolved Bismuth (Bi)	2017/07/18	97	80 - 120	98	80 - 120	<0.0000050	mg/L	NC	20
8693276	Dissolved Boron (B)	2017/07/18	100	80 - 120	102	80 - 120	<0.010	mg/L	NC	20
8693276	Dissolved Cadmium (Cd)	2017/07/18	97	80 - 120	97	80 - 120	<0.0000050	mg/L	15	20
8693276	Dissolved Chromium (Cr)	2017/07/18	100	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20
8693276	Dissolved Cobalt (Co)	2017/07/18	96	80 - 120	100	80 - 120	<0.0000050	mg/L	2.9	20
8693276	Dissolved Copper (Cu)	2017/07/18	95	80 - 120	99	80 - 120	<0.000050	mg/L	0.81	20
8693276	Dissolved Iron (Fe)	2017/07/18	105	80 - 120	106	80 - 120	<0.0010	mg/L	2.3	20
8693276	Dissolved Lead (Pb)	2017/07/18	101	80 - 120	101	80 - 120	<0.0000050	mg/L	4.3	20
8693276	Dissolved Lithium (Li)	2017/07/18	107	80 - 120	110	80 - 120	<0.00050	mg/L	NC	20
8693276	Dissolved Manganese (Mn)	2017/07/18	100	80 - 120	102	80 - 120	<0.000050	mg/L	15	20
8693276	Dissolved Molybdenum (Mo)	2017/07/18	104	80 - 120	100	80 - 120	<0.000050	mg/L	1.7	20
8693276	Dissolved Nickel (Ni)	2017/07/18	97	80 - 120	103	80 - 120	<0.000020	mg/L	14	20
8693276	Dissolved Phosphorus (P)	2017/07/18					<0.0020	mg/L		
8693276	Dissolved Selenium (Se)	2017/07/18	101	80 - 120	100	80 - 120	<0.000040	mg/L	8.5	20
8693276	Dissolved Silicon (Si)	2017/07/18					<0.050	mg/L	2.2	20
8693276	Dissolved Silver (Ag)	2017/07/18	101	80 - 120	103	80 - 120	<0.0000050	mg/L	NC	20
8693276	Dissolved Strontium (Sr)	2017/07/18	NC	80 - 120	102	80 - 120	<0.000050	mg/L	0.94	20
8693276	Dissolved Thallium (Tl)	2017/07/18	98	80 - 120	98	80 - 120	<0.0000020	mg/L	NC	20
8693276	Dissolved Tin (Sn)	2017/07/18	100	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8693276	Dissolved Titanium (Ti)	2017/07/18	100	80 - 120	105	80 - 120	<0.00050	mg/L	NC	20
8693276	Dissolved Uranium (U)	2017/07/18	107	80 - 120	107	80 - 120	<0.0000020	mg/L	0	20
8693276	Dissolved Vanadium (V)	2017/07/18	98	80 - 120	102	80 - 120	<0.00020	mg/L	0.25	20
8693276	Dissolved Zinc (Zn)	2017/07/18	95	80 - 120	100	80 - 120	<0.00010	mg/L	4.7	20
8693276	Dissolved Zirconium (Zr)	2017/07/18					<0.00010	mg/L	NC	20
8693291	Dissolved Aluminum (Al)	2017/07/18	102	80 - 120	104	80 - 120	<0.00050	mg/L	4.4	20
8693291	Dissolved Antimony (Sb)	2017/07/18	93	80 - 120	99	80 - 120	<0.000020	mg/L	NC	20
8693291	Dissolved Arsenic (As)	2017/07/18	102	80 - 120	105	80 - 120	<0.000020	mg/L	2.4	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8693291	Dissolved Barium (Ba)	2017/07/18	NC	80 - 120	105	80 - 120	<0.000020	mg/L	1.5	20
8693291	Dissolved Beryllium (Be)	2017/07/18	98	80 - 120	97	80 - 120	<0.000010	mg/L	NC	20
8693291	Dissolved Bismuth (Bi)	2017/07/18	97	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8693291	Dissolved Boron (B)	2017/07/18	96	80 - 120	90	80 - 120	<0.010	mg/L	NC	20
8693291	Dissolved Cadmium (Cd)	2017/07/18	100	80 - 120	103	80 - 120	<0.0000050	mg/L	9.6	20
8693291	Dissolved Chromium (Cr)	2017/07/18	98	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20
8693291	Dissolved Cobalt (Co)	2017/07/18	98	80 - 120	101	80 - 120	<0.0000050	mg/L	16	20
8693291	Dissolved Copper (Cu)	2017/07/18	95	80 - 120	98	80 - 120	<0.000050	mg/L	3.4	20
8693291	Dissolved Iron (Fe)	2017/07/18	96	80 - 120	101	80 - 120	<0.0010	mg/L	0.70	20
8693291	Dissolved Lead (Pb)	2017/07/18	100	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20
8693291	Dissolved Lithium (Li)	2017/07/18	95	80 - 120	97	80 - 120	<0.00050	mg/L	NC	20
8693291	Dissolved Manganese (Mn)	2017/07/18	94	80 - 120	104	80 - 120	<0.000050	mg/L	0.47	20
8693291	Dissolved Molybdenum (Mo)	2017/07/18	95	80 - 120	106	80 - 120	<0.000050	mg/L	3.3	20
8693291	Dissolved Nickel (Ni)	2017/07/18	95	80 - 120	102	80 - 120	<0.000020	mg/L	0.25	20
8693291	Dissolved Phosphorus (P)	2017/07/18					<0.0020	mg/L	2.0	20
8693291	Dissolved Selenium (Se)	2017/07/18	100	80 - 120	104	80 - 120	<0.000040	mg/L	3.4	20
8693291	Dissolved Silicon (Si)	2017/07/18					<0.050	mg/L	1.9	20
8693291	Dissolved Silver (Ag)	2017/07/18	101	80 - 120	103	80 - 120	<0.0000050	mg/L	NC	20
8693291	Dissolved Strontium (Sr)	2017/07/18	NC	80 - 120	102	80 - 120	<0.000050	mg/L	1.1	20
8693291	Dissolved Thallium (Tl)	2017/07/18	96	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8693291	Dissolved Tin (Sn)	2017/07/18	95	80 - 120	102	80 - 120	<0.00020	mg/L	NC	20
8693291	Dissolved Titanium (Ti)	2017/07/18	92	80 - 120	99	80 - 120	<0.00050	mg/L	NC	20
8693291	Dissolved Uranium (U)	2017/07/18	99	80 - 120	101	80 - 120	<0.0000020	mg/L	0.63	20
8693291	Dissolved Vanadium (V)	2017/07/18	98	80 - 120	103	80 - 120	<0.00020	mg/L	NC	20
8693291	Dissolved Zinc (Zn)	2017/07/18	104	80 - 120	102	80 - 120	<0.00010	mg/L	9.3	20
8693291	Dissolved Zirconium (Zr)	2017/07/18					<0.00010	mg/L	NC	20
8693443	Total Suspended Solids	2017/07/14	104	80 - 120	92	80 - 120	<4.0	mg/L		
8693446	Total Suspended Solids	2017/07/14	115	80 - 120	96	80 - 120	<4.0	mg/L		
8693643	Total Aluminum (Al)	2017/07/15	104	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8693643	Total Antimony (Sb)	2017/07/15	101	80 - 120	100	80 - 120	<0.000020	mg/L	NC	20
8693643	Total Arsenic (As)	2017/07/15	105	80 - 120	100	80 - 120	<0.000020	mg/L	NC	20
8693643	Total Barium (Ba)	2017/07/15	102	80 - 120	104	80 - 120	<0.000020	mg/L	4.3	20

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QUALITY ASSURANCE REPORT(CONT'D)

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			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8693643	Total Beryllium (Be)	2017/07/15	100	80 - 120	95	80 - 120	<0.000010	mg/L	NC	20
8693643	Total Bismuth (Bi)	2017/07/15	92	80 - 120	93	80 - 120	<0.0000050	mg/L	NC	20
8693643	Total Boron (B)	2017/07/15	101	80 - 120	98	80 - 120	<0.010	mg/L	NC	20
8693643	Total Cadmium (Cd)	2017/07/15	97	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8693643	Total Chromium (Cr)	2017/07/15	98	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20
8693643	Total Cobalt (Co)	2017/07/15	94	80 - 120	93	80 - 120	<0.0000050	mg/L	NC	20
8693643	Total Copper (Cu)	2017/07/15	96	80 - 120	93	80 - 120	<0.000050	mg/L	NC	20
8693643	Total Iron (Fe)	2017/07/15	109	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20
8693643	Total Lead (Pb)	2017/07/15	93	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8693643	Total Lithium (Li)	2017/07/15	100	80 - 120	96	80 - 120	<0.00050	mg/L	NC	20
8693643	Total Manganese (Mn)	2017/07/15	101	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8693643	Total Molybdenum (Mo)	2017/07/15	99	80 - 120	98	80 - 120	<0.000050	mg/L	NC	20
8693643	Total Nickel (Ni)	2017/07/15	103	80 - 120	101	80 - 120	<0.000020	mg/L	NC	20
8693643	Total Phosphorus (P)	2017/07/15					<0.0020	mg/L	NC	20
8693643	Total Selenium (Se)	2017/07/15	108	80 - 120	103	80 - 120	<0.000040	mg/L	NC	20
8693643	Total Silicon (Si)	2017/07/15					<0.050	mg/L	11	20
8693643	Total Silver (Ag)	2017/07/15	104	80 - 120	103	80 - 120	<0.0000050	mg/L	NC	20
8693643	Total Strontium (Sr)	2017/07/15	101	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8693643	Total Thallium (Tl)	2017/07/15	90	80 - 120	92	80 - 120	<0.0000020	mg/L	NC	20
8693643	Total Tin (Sn)	2017/07/15	101	80 - 120	101	80 - 120	<0.00020	mg/L	NC	20
8693643	Total Titanium (Ti)	2017/07/15	101	80 - 120	91	80 - 120	<0.00050	mg/L	NC	20
8693643	Total Uranium (U)	2017/07/15	98	80 - 120	97	80 - 120	<0.0000020	mg/L	NC	20
8693643	Total Vanadium (V)	2017/07/15	99	80 - 120	97	80 - 120	<0.00020	mg/L	NC	20
8693643	Total Zinc (Zn)	2017/07/15	102	80 - 120	101	80 - 120	<0.00010	mg/L	NC	20
8693643	Total Zirconium (Zr)	2017/07/15					<0.00010	mg/L	NC	20
8693804	Total Dissolved Solids	2017/07/14	100	80 - 120	98	80 - 120	<10	mg/L		
8693847	Strong Acid Dissoc. Cyanide (CN)	2017/07/13	106	80 - 120	102	80 - 120	<0.00050	mg/L	NC	20
8693859	Strong Acid Dissoc. Cyanide (CN)	2017/07/13	105	80 - 120	102	80 - 120	<0.00050	mg/L	0	20
8693866	Weak Acid Dissoc. Cyanide (CN)	2017/07/13			102	80 - 120	<0.00050	mg/L		
8693911	Nitrate plus Nitrite (N)	2017/07/13	NC	80 - 120	110	80 - 120	<0.0020	mg/L	3.4	25
8693912	Nitrite (N)	2017/07/13	103	80 - 120	109	80 - 120	<0.0020	mg/L	NC	25
8693913	Nitrate plus Nitrite (N)	2017/07/13	109	80 - 120	107	80 - 120	<0.0020	mg/L	NC	25

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QUALITY ASSURANCE REPORT(CONT'D)

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			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8693915	Nitrite (N)	2017/07/13	103	80 - 120	109	80 - 120	<0.0020	mg/L	NC	25
8693925	Weak Acid Dissoc. Cyanide (CN)	2017/07/13			103	80 - 120	<0.00050	mg/L		
8694263	Orthophosphate (P)	2017/07/13	101	80 - 120	91	80 - 120	<0.0010	mg/L		
8694264	Orthophosphate (P)	2017/07/13	85	80 - 120	104	80 - 120	<0.0010	mg/L		
8694377	Turbidity	2017/07/13			101	80 - 120	<0.10	NTU	1.9	20
8694378	Turbidity	2017/07/13			102	80 - 120	<0.10	NTU	1.9	20
8694795	Dissolved Chloride (Cl)	2017/07/13	106	80 - 120	97	80 - 120	<0.50	mg/L		
8694796	Dissolved Sulphate (SO4)	2017/07/13	NC	80 - 120	94	80 - 120	0.66, RDL=0.50	mg/L		
8694803	Dissolved Chloride (Cl)	2017/07/13	118	80 - 120	99	80 - 120	<0.50	mg/L		
8694805	Dissolved Sulphate (SO4)	2017/07/13	106	80 - 120	94	80 - 120	<0.50	mg/L		
8694850	Total Aluminum (Al)	2017/07/18	98	80 - 120	103	80 - 120	<0.0030	mg/L		
8694850	Total Antimony (Sb)	2017/07/18	93	80 - 120	94	80 - 120	<0.000020	mg/L		
8694850	Total Arsenic (As)	2017/07/18	91	80 - 120	98	80 - 120	<0.000020	mg/L		
8694850	Total Barium (Ba)	2017/07/18	NC	80 - 120	96	80 - 120	<0.000050	mg/L		
8694850	Total Beryllium (Be)	2017/07/18	95	80 - 120	96	80 - 120	<0.000010	mg/L		
8694850	Total Bismuth (Bi)	2017/07/18	97	80 - 120	98	80 - 120	<0.000010	mg/L		
8694850	Total Boron (B)	2017/07/18	94	80 - 120	94	80 - 120	<0.010	mg/L		
8694850	Total Cadmium (Cd)	2017/07/18	96	80 - 120	101	80 - 120	<0.0000050	mg/L		
8694850	Total Chromium (Cr)	2017/07/18	104	80 - 120	104	80 - 120	<0.00010	mg/L		
8694850	Total Cobalt (Co)	2017/07/18	102	80 - 120	104	80 - 120	<0.000010	mg/L		
8694850	Total Copper (Cu)	2017/07/18	99	80 - 120	104	80 - 120	<0.00010	mg/L		
8694850	Total Iron (Fe)	2017/07/18	101	80 - 120	102	80 - 120	<0.0050	mg/L		
8694850	Total Lead (Pb)	2017/07/18	98	80 - 120	100	80 - 120	<0.000020	mg/L		
8694850	Total Lithium (Li)	2017/07/18	93	80 - 120	94	80 - 120	<0.00050	mg/L		
8694850	Total Manganese (Mn)	2017/07/18	NC	80 - 120	98	80 - 120	<0.00010	mg/L		
8694850	Total Molybdenum (Mo)	2017/07/18	96	80 - 120	99	80 - 120	<0.000050	mg/L		
8694850	Total Nickel (Ni)	2017/07/18	102	80 - 120	103	80 - 120	<0.00010	mg/L		
8694850	Total Phosphorus (P)	2017/07/18					0.0086, RDL=0.0050	mg/L		
8694850	Total Selenium (Se)	2017/07/18	91	80 - 120	103	80 - 120	<0.000040	mg/L		
8694850	Total Silicon (Si)	2017/07/18					<0.050	mg/L		
8694850	Total Silver (Ag)	2017/07/18	102	80 - 120	104	80 - 120	<0.000010	mg/L		
8694850	Total Strontium (Sr)	2017/07/18	NC	80 - 120	98	80 - 120	<0.000050	mg/L		

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8694850	Total Thallium (Tl)	2017/07/18	95	80 - 120	94	80 - 120	<0.0000020	mg/L		
8694850	Total Tin (Sn)	2017/07/18	97	80 - 120	96	80 - 120	<0.00020	mg/L		
8694850	Total Titanium (Ti)	2017/07/18	97	80 - 120	98	80 - 120	<0.0020	mg/L		
8694850	Total Uranium (U)	2017/07/18	99	80 - 120	98	80 - 120	<0.0000050	mg/L		
8694850	Total Vanadium (V)	2017/07/18	103	80 - 120	104	80 - 120	<0.00020	mg/L		
8694850	Total Zinc (Zn)	2017/07/18	99	80 - 120	107	80 - 120	<0.0010	mg/L		
8694850	Total Zirconium (Zr)	2017/07/18					<0.00010	mg/L		
8694984	Total Ammonia (N)	2017/07/14	102	80 - 120	102	80 - 120	<0.0050	mg/L		
8694986	Total Ammonia (N)	2017/07/14	NC	80 - 120	97	80 - 120	<0.0050	mg/L	3.1	20
8694987	Total Ammonia (N)	2017/07/14	NC	80 - 120	101	80 - 120	<0.0050	mg/L		
8694988	Total Ammonia (N)	2017/07/14	NC	80 - 120	102	80 - 120	<0.0050	mg/L	4.2	20
8694996	Fluoride (F)	2017/07/14	100	80 - 120	104	80 - 120	<0.010	mg/L	NC	20
8695095	Total Dissolved Solids	2017/07/16	98	80 - 120	103	80 - 120	<10	mg/L	12	20
8695112	Total Suspended Solids	2017/07/16	90	80 - 120	99	80 - 120	<4.0	mg/L	NC	20
8695236	Total Aluminum (Al)	2017/07/19	100	80 - 120	105	80 - 120	<0.00050	mg/L	8.6	20
8695236	Total Antimony (Sb)	2017/07/19	98	80 - 120	99	80 - 120	<0.000020	mg/L	NC	20
8695236	Total Arsenic (As)	2017/07/19	97	80 - 120	102	80 - 120	<0.000020	mg/L	2.7	20
8695236	Total Barium (Ba)	2017/07/19	NC	80 - 120	105	80 - 120	<0.000020	mg/L	2.7	20
8695236	Total Beryllium (Be)	2017/07/19	88	80 - 120	97	80 - 120	<0.000010	mg/L	NC	20
8695236	Total Bismuth (Bi)	2017/07/19	94	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8695236	Total Boron (B)	2017/07/19	100	80 - 120	94	80 - 120	<0.010	mg/L	NC	20
8695236	Total Cadmium (Cd)	2017/07/19	95	80 - 120	102	80 - 120	<0.0000050	mg/L	3.6	20
8695236	Total Chromium (Cr)	2017/07/19	90	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20
8695236	Total Cobalt (Co)	2017/07/19	92	80 - 120	103	80 - 120	<0.0000050	mg/L	4.9	20
8695236	Total Copper (Cu)	2017/07/19	91	80 - 120	103	80 - 120	<0.000050	mg/L	15	20
8695236	Total Iron (Fe)	2017/07/19	82	80 - 120	102	80 - 120	<0.0010	mg/L	6.8	20
8695236	Total Lead (Pb)	2017/07/19	98	80 - 120	106	80 - 120	<0.0000050	mg/L	7.1	20
8695236	Total Lithium (Li)	2017/07/19	NC	80 - 120	98	80 - 120	<0.00050	mg/L	0.74	20
8695236	Total Manganese (Mn)	2017/07/19	NC	80 - 120	100	80 - 120	<0.000050	mg/L	2.8	20
8695236	Total Molybdenum (Mo)	2017/07/19	93	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8695236	Total Nickel (Ni)	2017/07/19	94	80 - 120	103	80 - 120	<0.000020	mg/L	13	20
8695236	Total Phosphorus (P)	2017/07/19					<0.0020	mg/L		

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8695236	Total Selenium (Se)	2017/07/19	91	80 - 120	101	80 - 120	<0.000040	mg/L	2.2	20
8695236	Total Silicon (Si)	2017/07/19					<0.050	mg/L	2.5	20
8695236	Total Silver (Ag)	2017/07/19	97	80 - 120	108	80 - 120	<0.0000050	mg/L	NC	20
8695236	Total Strontium (Sr)	2017/07/19	NC	80 - 120	100	80 - 120	<0.000050	mg/L	1.3	20
8695236	Total Thallium (Tl)	2017/07/19	94	80 - 120	101	80 - 120	<0.0000020	mg/L	2.1	20
8695236	Total Tin (Sn)	2017/07/19	71 (1)	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8695236	Total Titanium (Ti)	2017/07/19	96	80 - 120	101	80 - 120	<0.00050	mg/L	NC	20
8695236	Total Uranium (U)	2017/07/19	93	80 - 120	101	80 - 120	<0.0000020	mg/L	2.3	20
8695236	Total Vanadium (V)	2017/07/19	96	80 - 120	102	80 - 120	<0.00020	mg/L	NC	20
8695236	Total Zinc (Zn)	2017/07/19	NC	80 - 120	102	80 - 120	<0.00010	mg/L	5.7	20
8695236	Total Zirconium (Zr)	2017/07/19					<0.00010	mg/L	NC	20
8695701	Total Suspended Solids	2017/07/16	109	80 - 120	98	80 - 120	<4.0	mg/L		
8695781	Acidity (pH 4.5)	2017/07/14					<0.50	mg/L		
8695781	Acidity (pH 8.3)	2017/07/14			103	80 - 120	<0.50	mg/L		
8695786	Acidity (pH 4.5)	2017/07/14					<0.50	mg/L		
8695786	Acidity (pH 8.3)	2017/07/14			102	80 - 120	<0.50	mg/L		
8695787	Acidity (pH 4.5)	2017/07/14					<0.50	mg/L		
8695787	Acidity (pH 8.3)	2017/07/14			106	80 - 120	<0.50	mg/L		
8695798	Total Phosphorus (P)	2017/07/14	103	80 - 120	111	80 - 120	<0.0020	mg/L	9.0	20
8695801	Total Phosphorus (P)	2017/07/14	86	80 - 120	100	80 - 120	<0.0020	mg/L		
8695804	Total Phosphorus (P)	2017/07/14	84	80 - 120	89	80 - 120	<0.0020	mg/L		
8695806	Dissolved Phosphorus (P)	2017/07/14	89	80 - 120	106	80 - 120	<0.0020	mg/L	5.2	20
8695807	Dissolved Phosphorus (P)	2017/07/14	89	80 - 120	97	80 - 120	<0.0020	mg/L		
8696409	Alkalinity (PP as CaCO3)	2017/07/16					<0.50	mg/L	NC	20
8696409	Alkalinity (Total as CaCO3)	2017/07/16	NC	80 - 120	102	80 - 120	<0.50	mg/L	1.2	20
8696409	Bicarbonate (HCO3)	2017/07/16					<0.50	mg/L	1.2	20
8696409	Carbonate (CO3)	2017/07/16					<0.50	mg/L	NC	20
8696409	Hydroxide (OH)	2017/07/16					<0.50	mg/L	NC	20
8696411	pH	2017/07/16			102	97 - 103			0.78	N/A
8696412	Conductivity	2017/07/16			102	80 - 120	<1.0	uS/cm		
8696419	Alkalinity (PP as CaCO3)	2017/07/16					<0.50	mg/L		
8696419	Alkalinity (Total as CaCO3)	2017/07/16	NC	80 - 120	97	80 - 120	<0.50	mg/L		

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8696419	Bicarbonate (HCO3)	2017/07/16					<0.50	mg/L		
8696419	Carbonate (CO3)	2017/07/16					<0.50	mg/L		
8696419	Hydroxide (OH)	2017/07/16					<0.50	mg/L		
8696422	pH	2017/07/16			102	97 - 103				
8696424	Conductivity	2017/07/16			101	80 - 120	<1.0	uS/cm		
8696742	Bromide (Br)	2017/07/16	104	78 - 120	95	80 - 120	<0.010	mg/L		
8696748	Bromide (Br)	2017/07/16	98	78 - 120	93	80 - 120	<0.010	mg/L	1.9	20
8697230	Total Dissolved Solids	2017/07/18	106	80 - 120	103	80 - 120	<10	mg/L	3.1	20
8697249	Total Suspended Solids	2017/07/18	112	80 - 120	102	80 - 120	<4.0	mg/L		
8697275	Dissolved Chloride (Cl)	2017/07/14			103	80 - 120	<0.50	mg/L		
8697285	Dissolved Sulphate (SO4)	2017/07/14	116	80 - 120	101	80 - 120	<0.50	mg/L	0.38	20
8697344	Dissolved Organic Carbon (C)	2017/07/17	109	80 - 120	107	80 - 120	<0.50	mg/L	1.1	20
8697437	Strong Acid Dissoc. Cyanide (CN)	2017/07/17	97	80 - 120	103	80 - 120	<0.00050	mg/L	1.1	20
8697441	Weak Acid Dissoc. Cyanide (CN)	2017/07/17	102	80 - 120	102	80 - 120	<0.00050	mg/L	1.0	20
8698107	Dissolved Organic Carbon (C)	2017/07/18	111	80 - 120	106	80 - 120	<0.50	mg/L	NC	20
8698175	Dissolved Mercury (Hg)	2017/07/18	93	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8698482	Total Mercury (Hg)	2017/07/18	96	80 - 120	97	80 - 120	<0.010	ug/L		
8698493	Total Mercury (Hg)	2017/07/18	83	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8698520	Dissolved Mercury (Hg)	2017/07/18	103	80 - 120	101	80 - 120	<0.010	ug/L		
8698537	Fluoride (F)	2017/07/18	97	80 - 120	100	80 - 120	0.012, RDL=0.010	mg/L		
8699149	Alkalinity (PP as CaCO3)	2017/07/19					<0.50	mg/L	8.4	20
8699149	Alkalinity (Total as CaCO3)	2017/07/19	86	80 - 120	95	80 - 120	<0.50	mg/L	0.22	20
8699149	Bicarbonate (HCO3)	2017/07/19					<0.50	mg/L	0.19	20
8699149	Carbonate (CO3)	2017/07/19					<0.50	mg/L	8.4	20
8699149	Hydroxide (OH)	2017/07/19					<0.50	mg/L	NC	20
8699153	pH	2017/07/19			102	97 - 103			0.48	N/A
8699154	Conductivity	2017/07/19			100	80 - 120	<1.0	uS/cm	0.65	20
8699567	Dissolved Mercury (Hg)	2017/07/19	100	80 - 120	107	80 - 120	<0.010	ug/L	NC	20
8702287	Dissolved Aluminum (Al)	2017/07/21			113	80 - 120	<0.00050	mg/L		
8702287	Dissolved Selenium (Se)	2017/07/21			103	80 - 120	<0.000040	mg/L		
8703007	Orthophosphate (P)	2017/07/21	91	80 - 120	109	80 - 120	<0.0010	mg/L	NC	20
8703043	Dissolved Phosphorus (P)	2017/07/21			91	80 - 120	<0.0020	mg/L		

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Maxxam Job #: B757212
Report Date: 2017/07/25

YUKON ZINC CORPORATION

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8704422	Total Dissolved Solids	2017/07/25	101	80 - 120	89	80 - 120	<10	mg/L	11	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

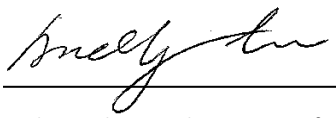
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Maxxam Job #: B757212
Report Date: 2017/07/25

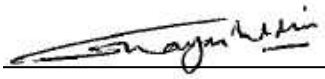
YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

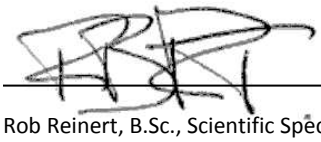
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist



Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics



Rob Reinert, B.Sc., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Page ____ of ____

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Yukon Zinc Corporation	Company Name: Adrienne Turcotte Consulting	Quotation #:	☒ Regular TAT 5 days (Most analyses)
Contact Name: Alex Wu	Contact Name: Adrienne Turcotte	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 705 - 1030 West Georgia Street	Address: 102-3839 W.4th Avenue	Project #:	Rush TAT (Surcharges will be applied)
Vancouver PC: V6E 2Y3	Vancouver BC PC: V6R 1P8	Site Location:	☐ Same Day ☐ 2 Days
Phone: 604-684-5474	Phone: 778-772-2212	Site #:	☐ 1 Day ☐ 3 Days
Email: alex.wu@yukonzinc.com	Email: YZC Group turcotte.adrienne@gmail.com	Sampled By:	Date Required:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water	☐ Return Cooler
☐ CCME (Specify) ☐ Other (Specify)	☐ Ship Sample Bottles (Please Specify)
☐ Drinking Water ☐ BC Water Quality	

Rush Confirmation #:

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH (M18)	EPH	PAH	CCME-PHC	BTEX/F1	F2 - F4	Dissolved Metals Preserved?	Dissolved Mercury Preserved?	Total Metals Preserved?	Total Mercury Preserved?	Chloride	TSS	pH	Alkalinity	Nitrate	Ammonia	Package A	Total Phosphate and Ammonia	DOC	Total and WAD Cyanide	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE
	Bottle																				120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic	120 mL plastic	120 mL plastic		
	Preservative											HNO3	HCl	HNO3	HCl						HNO3	-	HNO3	H2SO4	NaOH		
	Filtered											✓	✓	-	-						-	-	-	✓	-		
1	✓ L1		9 JUL	10:20	Water							x	x	x	x						x	xx	x	x			
2	✓ W1		9 JUL	09:15	Water							x	x	x	x						x	xx	x	x			
3	✓ W8		9 JUL	10:50	Water							x	x	x	x						x	xx	x	x			
4	✓ W9		9 JUL	11:05	Water							x	x	x	x						x	xx	x	x			
5	✓ W12		10 JUL	11:35	Water							x	x	x	x						x	xx	x	x			
6	✓ W14		10 JUL	11:10	Water							x	x	x	x						x	xx	x	x			
7	✓ W15		10 JUL	16:40	Water							x	x	x	x						x	xx	x	x			
8	✓ W16		10 JUL	17:10	Water							x	x	x	x						x	xx	x	x	x		
9	✓ W21		9 JUL	14:45	Water							x	x	x	x						x	xx	x	x			
10	✓ W22		9 JUL	15:55	Water							x	x	x	x						x	xx	x	x			
11	✓ W31		10 JUL	09:40	Water							x	x	x	x						x	xx	x	x	x		
12	✓ W40		9 JUL	15:40	Water							x	x	x	x						x	xx	x	x			
13	✓ W71		9 JUL	16:40	Water							x	x	x	x						x	xx	x	x			
14	✓ W72		9 JUL	15:00	Water							x	x	x	x						x	xx	x	x			
15	✓ W73		9 JUL	17:30	Water							x	x	x	x						x	xx	x	x			
16	✓ W80		10 JUL	12:30	Water							x	x	x	x						x	xx	x	x			
17	✓ W81		10 JUL	15:50	Water							x	x	x	x						x	xx	x	x			
18	✓ W82		9 JUL	11:50	Water							x	x	x	x						x	xx	x	x			
19	✓ T1		11 JUL	10:00	Water							x	x	x	x						x	xx	x	x	x		

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Adrienne Turcotte	2017/07/11	14:00	[illegible]	2017/07/12	14:00	

RECEIVED IN WHITEHORSE

BY: Veronica de Guzman

2017 -07- 11 24:15 pm

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6, 5, 5
7, 6, 6
5, 1, 2

B757212_COC

Surface water

Maxxam — A Bureau Veritas Group Company

CHAIN OF CUSTODY

08440142

BBY FCD-00077/05

Page ____ of ____

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5. Toll Free (800) 665-8566

Invoice Information	Report Information (if differs from invoice)	Project Information
Company Name: Yukon Zinc Corporation	Company Name: Adrienne Turcotte Consulting	Quotation #:
Contact Name: Alex Wu	Contact Name: Adrienne Turcotte	P.O. #/ AFE#:
Address: 705 - 1030 West Georgia Street	Address: 102-3839 W.4th Avenue	Project #:
Vancouver PC: V6E 2Y3	Vancouver BC PC: V6R 1P8	Site Location:
Phone: 604-684-5474	Phone: 778-772-2212	Site #:
Email: alex.wu@yukonzinc.com	Email: K2C Group turcotte.adrienne@gmail.com	Sampled By:

☒ Regular TAT 5 days (Most analyses)

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Rush TAT (Surcharges will be applied)
☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3 Days

Date Required:

Rush Confirmation #:

Regulatory Criteria
☐ BC CSR Soil ☐ BC CSR Water ☐ CCME (Specify) ☐ Other (Specify) ☐ Drinking Water ☐ BC Water Quality

Special Instructions
☐ Return Cooler ☐ Ship Sample Bottles (Please Specify)

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	EPH	PAH	CCME PHC	Dissolved Metals	Dissolved Mercury	Total Metals	Total Mercury	Chloride	TSS	pH	Nitrate	Package A	Total Phosphate and Ammonia	DOC	Total and WAD Cyanide	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE
	Bottle									50 mL falcon tube	50 mL falcon tube	50 mL falcon tube	50 mL falcon tube				120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic	120 mL plastic	120 mL plastic		
	Preservative									HNO3	HCl	HNO3	HCl				H2SO4	-	H2SO4	H2SO4	NaOH		
	Filtered									✓	✓	-	-				-	-	-	✓	-		
1	✓ WRSS		10 JUL	17:55	Water					x	x	x	x				x	xx	x	x	x		
2	✓ BIO-IN		11 JUL	09:00	Water					x	x	x	x				x	xx	x	x	x		
3	✓ BIO-OUT		11 JUL	09:20	Water					x	x	x	x				x	xx	x	x	x		
4	✓ PORTAL		10 JUL	08:50	Water					x	x	x	x				x	xx	x	x	x		
5	✓ DUP		9 JUL	17:10	Water					x	x	x	x				x	xx	x	x	x		
6	✓ R1		10 JUL	17:30	Water					x	x	x	x				x	xx	x	x	x		
7	✓ T1-2		11 JUL	10:15	Water					x	x	x	x				x	xx	x	x	x		
8	✓ T1-3		11 JUL	10:50	Water					x	x	x	x				x	xx	x	x	x		
11					Water																		
12					Water																		
13					Water																		
14					Water																		
15					Water																		
16					Water																		
17					Water																		
18					Water																		
19					Water																		

LABORATORY USE ONLY
CUSTODY SEAL: Y / N
COOLER TEMPERATURES
Present | Initial
Y Y 3.4 4.1 6.2 3
Y Y 5.4 3/4.4 4
Y Y 3.5 4/2.2 0
COOLING MEDIA PRESENT: ice / ice packs / none

COMMENTS

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Adrienne Turcotte	2017/07/11	14:00	[illegible]	2017/07/12	14:00	

RECEIVED IN WHITEHORSE
BY: Veronica de Guzman
2017-07-11 @ 4:15 pm

TEMP: 5 16 15 . 6,5,5 / 2,2,5 / 7,6,6 / 2,2,1 / 5,1,2

B757212_COC

Maxxam
A Bureau Veritas Group Company

Success Through Science®

Your C.O.C. #: 08440143

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/19
Report #: R2415161
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B757218
Received: 2017/07/11, 16:15

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	3	N/A	2017/07/14	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	3	2017/07/15	2017/07/16	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	3	N/A	2017/07/13	BBY6SOP-00011	SM 22 4500-Cl- E m
Conductance - water	3	2017/07/15	2017/07/16	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	3	N/A	2017/07/18	BBY6SOP-00048	SM 22 4500-F C m
Hardness (calculated as CaCO3)	3	N/A	2017/07/18	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	2	N/A	2017/07/18	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Dissolved) by CVAF	1	N/A	2017/07/19	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	3	N/A	2017/07/16	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	3	N/A	2017/07/18	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	3	N/A	2017/07/18	BBY7SOP-00002	EPA 6020B R2 m
Ammonia-N (Preserved)	3	N/A	2017/07/14	BBY6SOP-00009	SM 22 4500-NH3- G m
Nitrate+Nitrite (N) (low level)	3	N/A	2017/07/13	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	3	N/A	2017/07/13	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	3	N/A	2017/07/14	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	3	N/A	2017/07/14	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (1)	3	2017/07/15	2017/07/16	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	3	N/A	2017/07/13	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	2	N/A	2017/07/13	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	1	N/A	2017/07/14	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	2	2017/07/13	2017/07/14	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	1	2017/07/13	2017/07/16	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	3	2017/07/14	2017/07/14	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	3	N/A	2017/07/14	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	3	2017/07/13	2017/07/14	BBY6SOP-00034	SM 22 2540 D
Turbidity	3	N/A	2017/07/13	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

Your C.O.C. #: 08440143

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/07/19
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CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B757218
Received: 2017/07/11, 16:15

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B757218
Report Date: 2017/07/19

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RM5212		RM5213		RM5214		
Sampling Date		2017/07/07 10:10		2017/07/08 12:30		2017/07/06 15:35		
COC Number		08440143		08440143		08440143		
	UNITS	MW05-5A	QC Batch	MW05-10S	QC Batch	MW05-11S	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	2.00	8698537	0.230	8698537	2.80	0.010	8698539
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	0.21	8692325	<0.20	8692325	<0.20	0.20	8692325
Misc. Inorganics								
Dissolved Hardness (CaCO3)	mg/L	259	8692030	142	8692030	250	0.50	8692030
Acidity (pH 4.5)	mg/L	<0.50	8695787	<0.50	8695787	<0.50	0.50	8695786
Alkalinity (Total as CaCO3)	mg/L	223	8696419	119	8696419	203	0.50	8696419
Acidity (pH 8.3)	mg/L	<0.50	8695787	<0.50	8695787	<0.50	0.50	8695786
Alkalinity (PP as CaCO3)	mg/L	7.14	8696419	0.91	8696419	2.45	0.50	8696419
Bicarbonate (HCO3)	mg/L	255	8696419	143	8696419	242	0.50	8696419
Carbonate (CO3)	mg/L	8.57	8696419	1.09	8696419	2.94	0.50	8696419
Hydroxide (OH)	mg/L	<0.50	8696419	<0.50	8696419	<0.50	0.50	8696419
Anions								
Orthophosphate (P)	mg/L	0.0038	8694264	0.0082	8694264	0.015	0.0010	8694264
Dissolved Sulphate (SO4)	mg/L	34.3	8694805	27.5	8694805	36.5	0.50	8697285
Dissolved Chloride (Cl)	mg/L	<0.50	8694803	<0.50	8694803	<0.50	0.50	8694803
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0089	8695806	0.0164	8695806	0.0165	0.0020	8695806
Total Ammonia (N)	mg/L	0.11	8694984	0.079	8694984	0.32	0.0050	8694984
Nitrate plus Nitrite (N)	mg/L	0.21 (1)	8693913	<0.20 (1)	8693913	0.39 (1)	0.20	8693913
Nitrite (N)	mg/L	<0.20 (1)	8693915	<0.20 (1)	8693915	0.25 (1)	0.20	8693915
Total Phosphorus (P)	mg/L	0.0079	8695798	0.0176	8695801	0.0201	0.0020	8695801
Physical Properties								
Conductivity	uS/cm	469	8696424	282	8696424	433	1.0	8696424
pH	pH	8.51	8696422	8.32	8696422	8.33		8696422
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8693441	<4.0	8693443	7.8	4.0	8693441
Total Dissolved Solids	mg/L	278	8693804	152	8693804	274	10	8695095
Turbidity	NTU	1.03	8694378	3.27	8694378	10.9	0.10	8694378

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B757218
Report Date: 2017/07/19

YUKON ZINC CORPORATION

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RM5212	RM5213		RM5214		
Sampling Date		2017/07/07 10:10	2017/07/08 12:30		2017/07/06 15:35		
COC Number		08440143	08440143		08440143		
	UNITS	MW05-5A	MW05-10S	QC Batch	MW05-11S	RDL	QC Batch
Elements							
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	8698175	<0.010	0.010	8699567
RDL = Reportable Detection Limit							

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Maxxam Job #: B757218
Report Date: 2017/07/19

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5212	RM5213	RM5214		
Sampling Date		2017/07/07 10:10	2017/07/08 12:30	2017/07/06 15:35		
COC Number		08440143	08440143	08440143		
	UNITS	MW05-5A	MW05-10S	MW05-11S	RDL	QC Batch
ANIONS						
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	0.010	8696748
Dissolved Metals by ICPMS						
Dissolved Aluminum (Al)	mg/L	0.00598	0.00190	0.00321	0.00050	8693276
Dissolved Antimony (Sb)	mg/L	0.00299	0.000459	0.000047	0.000020	8693276
Dissolved Arsenic (As)	mg/L	0.00281	0.00531	0.00383	0.000020	8693276
Dissolved Barium (Ba)	mg/L	0.0657	0.0261	0.0459	0.000020	8693276
Dissolved Beryllium (Be)	mg/L	0.000023	<0.000010	<0.000010	0.000010	8693276
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000050	8693276
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	0.010	8693276
Dissolved Cadmium (Cd)	mg/L	0.000410	<0.0000050	<0.0000050	0.0000050	8693276
Dissolved Chromium (Cr)	mg/L	0.00014	0.00011	0.00021	0.00010	8693276
Dissolved Cobalt (Co)	mg/L	0.000719	0.0000950	0.000257	0.0000050	8693276
Dissolved Copper (Cu)	mg/L	0.000281	<0.000050	<0.000050	0.000050	8693276
Dissolved Iron (Fe)	mg/L	0.309	0.348	1.22	0.0010	8693276
Dissolved Lead (Pb)	mg/L	0.000187	0.0000070	0.0000050	0.0000050	8693276
Dissolved Lithium (Li)	mg/L	0.00297	0.00130	0.00152	0.00050	8693276
Dissolved Manganese (Mn)	mg/L	0.143	0.112	0.0692	0.000050	8693276
Dissolved Molybdenum (Mo)	mg/L	0.00651	0.00114	0.0132	0.000050	8693276
Dissolved Nickel (Ni)	mg/L	0.00729	0.000807	0.000930	0.000020	8693276
Dissolved Phosphorus (P)	mg/L	0.0083	0.0162	0.0162	0.0020	8693276
Dissolved Selenium (Se)	mg/L	0.000049	<0.000040	<0.000040	0.000040	8693276
Dissolved Silicon (Si)	mg/L	3.91	3.57	4.79	0.050	8693276
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000050	8693276
Dissolved Strontium (Sr)	mg/L	0.120	0.179	0.113	0.000050	8693276
Dissolved Thallium (Tl)	mg/L	0.0000130	<0.0000020	<0.0000020	0.0000020	8693276
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	0.00020	8693276
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	0.00050	8693276
Dissolved Uranium (U)	mg/L	0.0301	0.00841	0.00701	0.0000020	8693276
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	0.00020	8693276
Dissolved Zinc (Zn)	mg/L	0.105	0.00482	0.00144	0.00010	8693276
Dissolved Zirconium (Zr)	mg/L	0.00068	<0.00010	0.00021	0.00010	8693276
Dissolved Calcium (Ca)	mg/L	66.5	48.6	66.7	0.050	8692031
Dissolved Magnesium (Mg)	mg/L	22.5	4.96	20.1	0.050	8692031
Dissolved Potassium (K)	mg/L	1.75	1.16	1.50	0.050	8692031
RDL = Reportable Detection Limit						

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Maxxam Job #: B757218
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YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RM5212	RM5213	RM5214		
Sampling Date		2017/07/07 10:10	2017/07/08 12:30	2017/07/06 15:35		
COC Number		08440143	08440143	08440143		
	UNITS	**MW05-5A**	**MW05-10S**	**MW05-11S**	**RDL**	**QC Batch**
Dissolved Sodium (Na)	mg/L	0.315	1.39	1.24	0.050	8692031
Dissolved Sulphur (S)	mg/L	11.9	9.7	11.7	3.0	8692031
RDL = Reportable Detection Limit						

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Maxxam Job #: B757218
Report Date: 2017/07/19

YUKON ZINC CORPORATION

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.3°C
Package 2	3.0°C
Package 3	1.7°C
Package 4	5.3°C
Package 5	6.3°C
Package 6	2.7°C

Sample RM5212 [MW05-5A] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5213 [MW05-10S] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Sample RM5214 [MW05-11S] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity.

Results relate only to the items tested.

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Maxxam Job #: B757218
Report Date: 2017/07/19

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8693276	Dissolved Aluminum (Al)	2017/07/18	104	80 - 120	117	80 - 120	<0.00050	mg/L	1.9	20
8693276	Dissolved Antimony (Sb)	2017/07/18	97	80 - 120	98	80 - 120	<0.000020	mg/L	5.6	20
8693276	Dissolved Arsenic (As)	2017/07/18	104	80 - 120	102	80 - 120	<0.000020	mg/L	2.8	20
8693276	Dissolved Barium (Ba)	2017/07/18	103	80 - 120	105	80 - 120	<0.000020	mg/L	1.1	20
8693276	Dissolved Beryllium (Be)	2017/07/18	103	80 - 120	106	80 - 120	<0.000010	mg/L	NC	20
8693276	Dissolved Bismuth (Bi)	2017/07/18	97	80 - 120	98	80 - 120	<0.0000050	mg/L	NC	20
8693276	Dissolved Boron (B)	2017/07/18	100	80 - 120	102	80 - 120	<0.010	mg/L	NC	20
8693276	Dissolved Cadmium (Cd)	2017/07/18	97	80 - 120	97	80 - 120	<0.0000050	mg/L	15	20
8693276	Dissolved Chromium (Cr)	2017/07/18	100	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20
8693276	Dissolved Cobalt (Co)	2017/07/18	96	80 - 120	100	80 - 120	<0.0000050	mg/L	2.9	20
8693276	Dissolved Copper (Cu)	2017/07/18	95	80 - 120	99	80 - 120	<0.000050	mg/L	0.81	20
8693276	Dissolved Iron (Fe)	2017/07/18	105	80 - 120	106	80 - 120	<0.0010	mg/L	2.3	20
8693276	Dissolved Lead (Pb)	2017/07/18	101	80 - 120	101	80 - 120	<0.0000050	mg/L	4.3	20
8693276	Dissolved Lithium (Li)	2017/07/18	107	80 - 120	110	80 - 120	<0.00050	mg/L	NC	20
8693276	Dissolved Manganese (Mn)	2017/07/18	100	80 - 120	102	80 - 120	<0.000050	mg/L	15	20
8693276	Dissolved Molybdenum (Mo)	2017/07/18	104	80 - 120	100	80 - 120	<0.000050	mg/L	1.7	20
8693276	Dissolved Nickel (Ni)	2017/07/18	97	80 - 120	103	80 - 120	<0.000020	mg/L	14	20
8693276	Dissolved Phosphorus (P)	2017/07/18					<0.0020	mg/L		
8693276	Dissolved Selenium (Se)	2017/07/18	101	80 - 120	100	80 - 120	<0.000040	mg/L	8.5	20
8693276	Dissolved Silicon (Si)	2017/07/18					<0.050	mg/L	2.2	20
8693276	Dissolved Silver (Ag)	2017/07/18	101	80 - 120	103	80 - 120	<0.0000050	mg/L	NC	20
8693276	Dissolved Strontium (Sr)	2017/07/18	NC	80 - 120	102	80 - 120	<0.000050	mg/L	0.94	20
8693276	Dissolved Thallium (Tl)	2017/07/18	98	80 - 120	98	80 - 120	<0.0000020	mg/L	NC	20
8693276	Dissolved Tin (Sn)	2017/07/18	100	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8693276	Dissolved Titanium (Ti)	2017/07/18	100	80 - 120	105	80 - 120	<0.00050	mg/L	NC	20
8693276	Dissolved Uranium (U)	2017/07/18	107	80 - 120	107	80 - 120	<0.0000020	mg/L	0	20
8693276	Dissolved Vanadium (V)	2017/07/18	98	80 - 120	102	80 - 120	<0.00020	mg/L	0.25	20
8693276	Dissolved Zinc (Zn)	2017/07/18	95	80 - 120	100	80 - 120	<0.00010	mg/L	4.7	20
8693276	Dissolved Zirconium (Zr)	2017/07/18					<0.00010	mg/L	NC	20
8693441	Total Suspended Solids	2017/07/14	98	80 - 120	94	80 - 120	<4.0	mg/L	NC	20
8693443	Total Suspended Solids	2017/07/14	104	80 - 120	92	80 - 120	<4.0	mg/L		
8693804	Total Dissolved Solids	2017/07/14	100	80 - 120	98	80 - 120	<10	mg/L		

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B757218
Report Date: 2017/07/19

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8693913	Nitrate plus Nitrite (N)	2017/07/13	109	80 - 120	107	80 - 120	<0.0020	mg/L	NC	25
8693915	Nitrite (N)	2017/07/13	103	80 - 120	109	80 - 120	<0.0020	mg/L	NC	25
8694264	Orthophosphate (P)	2017/07/13	85	80 - 120	104	80 - 120	<0.0010	mg/L	3.7	20
8694378	Turbidity	2017/07/13			102	80 - 120	<0.10	NTU	1.9	20
8694803	Dissolved Chloride (Cl)	2017/07/13	118	80 - 120	99	80 - 120	<0.50	mg/L		
8694805	Dissolved Sulphate (SO4)	2017/07/13	106	80 - 120	94	80 - 120	<0.50	mg/L		
8694984	Total Ammonia (N)	2017/07/14	102	80 - 120	102	80 - 120	<0.0050	mg/L		
8695095	Total Dissolved Solids	2017/07/16	98	80 - 120	103	80 - 120	<10	mg/L	12	20
8695786	Acidity (pH 4.5)	2017/07/14					<0.50	mg/L		
8695786	Acidity (pH 8.3)	2017/07/14			102	80 - 120	<0.50	mg/L		
8695787	Acidity (pH 4.5)	2017/07/14					<0.50	mg/L		
8695787	Acidity (pH 8.3)	2017/07/14			106	80 - 120	<0.50	mg/L		
8695798	Total Phosphorus (P)	2017/07/14	103	80 - 120	111	80 - 120	<0.0020	mg/L	9.0	20
8695801	Total Phosphorus (P)	2017/07/14	86	80 - 120	100	80 - 120	<0.0020	mg/L		
8695806	Dissolved Phosphorus (P)	2017/07/14	89	80 - 120	106	80 - 120	<0.0020	mg/L	5.2	20
8696419	Alkalinity (PP as CaCO3)	2017/07/16					<0.50	mg/L		
8696419	Alkalinity (Total as CaCO3)	2017/07/16	NC	80 - 120	97	80 - 120	<0.50	mg/L		
8696419	Bicarbonate (HCO3)	2017/07/16					<0.50	mg/L		
8696419	Carbonate (CO3)	2017/07/16					<0.50	mg/L		
8696419	Hydroxide (OH)	2017/07/16					<0.50	mg/L		
8696422	pH	2017/07/16			102	97 - 103				
8696424	Conductivity	2017/07/16			101	80 - 120	<1.0	uS/cm		
8696748	Bromide (Br)	2017/07/16	98	78 - 120	93	80 - 120	<0.010	mg/L	1.9	20
8697285	Dissolved Sulphate (SO4)	2017/07/14	116	80 - 120	101	80 - 120	<0.50	mg/L	0.38	20
8698175	Dissolved Mercury (Hg)	2017/07/18	93	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8698537	Fluoride (F)	2017/07/18	97	80 - 120	100	80 - 120	0.012, RDL=0.010	mg/L		
8698539	Fluoride (F)	2017/07/18	NC	80 - 120	102	80 - 120	<0.010	mg/L	7.4	20

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Maxxam Job #: B757218
Report Date: 2017/07/19

YUKON ZINC CORPORATION

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8699567	Dissolved Mercury (Hg)	2017/07/19	100	80 - 120	107	80 - 120	<0.010	ug/L	NC	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

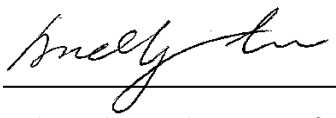
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Maxxam Job #: B757218
Report Date: 2017/07/19

YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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round water

B757218_COC

Maxxam
A Bureau Veritas Group Company

CHAIN OF CUSTODY

08440143

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5, Toll Free (800) 665-8566

BBY FCD-00077/05

Page ____ of ____

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required
Company Name:	Yukon Zinc Corporation	Company Name:	Adrienne Turcotte Consulting	Quotation #:		☒ Regular TAT 5 days (Most analyses)
Contact Name:	Alex Wu	Contact Name:	Adrienne Turcotte	P.O. #/ AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	705 - 1030 West Georgia Street	Address:	102-3839 W 4th Avenue	Project #:		Rush TAT (Surcharges will be applied)
	Vancouver PC: V6E 2Y3		Vancouver BC PC: V6R 1P8	Site Location:		☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3 Days
Phone:	604-684-5474	Phone:	778-772-2212	Site #:		
Email:	alex.wu@yukonzinc.com	Email:	KFC Group turcotte.adrienne@gmail.com	Sampled By:		Date Required:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water ☐ CCME (Specify) ☐ Other (Specify) ☐ Drinking Water ☐ BC Water Quality	☐ Return Cooler ☐ Ship Sample Bottles (Please Specify)

Rush Confirmation #:

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested: VOC/VPH; MTBE; BTEX/VPH; TCH; EPH/HEPH; PAH; BTEX/F3; CCME PHC; F2 - F4; Preserved?; Filtered?; Dissolved Metals; Dissolved Mercury; Field Preserved?; Field Preserved?; Total Metals; Total Mercury; Chloride; TDS; Sulphate; COD; Alkalinity; pH; Conductivity; Ammonia; Nitrate; Package A; Total Phosphate and Ammonia; # OF CONTAINERS SUBMITTED; HOLD - DO NOT ANALYZE

LABORATORY USE ONLY: CUSTODY SEAL (Present, Intact); COOLER TEMPERATURES; DRINKING WATER TRACE METALS; COMMENTS

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix
	Bottle				
	Preservative				
	Filtered				
9	✓ MW05-5A *		7 JUL	10:10	Water
19	✓ MW06-10S *		8 JUL	12:30	Water
22	✓ MW06-11S *		6 JUL	15:35	Water

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Adrienne Turcotte	17-07-11	14:00	[illegible]	2017/07/12	14:00	

RECEIVED IN WHITEHORSE
BY: Veronica de Guzman
2017-07-11 @ 4:15 pm

TEMP: 5 1 6 1 5 5,1,2
2 1 2 1 5
2, 2, 1
6, 5, 5
7, 6, 6

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Success Through Science®

Your C.O.C. #: 08442656

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/01
Report #: R2438422
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B770851
Received: 2017/08/21, 11:30

Sample Matrix: Water
Samples Received: 22

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	22	N/A	2017/08/22	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	20	2017/08/22	2017/08/22	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	2	2017/08/22	2017/08/23	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	2	N/A	2017/08/29	BBY6SOP-00011	SM 22 4500-Cl- E m
Chloride by Automated Colourimetry (1)	20	N/A	2017/08/25	AB SOP-00020	SM 22-4500-Cl-E m
Cyanide SAD (strong acid dissociable)	7	N/A	2017/08/23	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide WAD (weak acid dissociable)	7	N/A	2017/08/23	BBY6SOP-00004	SM 22 4500-CN O m
Carbon (DOC) (1, 2)	20	N/A	2017/08/24	CAL SOP-00077	MMCW 119 1996 m
Carbon (DOC) (1, 2)	1	N/A	2017/08/25	CAL SOP-00077	MMCW 119 1996 m
Conductance - water	20	2017/08/22	2017/08/22	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	2	2017/08/22	2017/08/23	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	22	N/A	2017/08/22	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3)	21	N/A	2017/08/24	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3)	1	N/A	2017/08/31	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	1	N/A	2017/08/24	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	18	N/A	2017/08/25	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	2	N/A	2017/08/31	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	20	N/A	2017/08/23	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Dissolved) by CVAF	1	N/A	2017/08/25	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	22	2017/08/24	2017/08/24	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	22	N/A	2017/08/22	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	1	N/A	2017/08/24	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	19	N/A	2017/08/25	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	1	N/A	2017/08/31	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	1	N/A	2017/08/24	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	20	N/A	2017/08/25	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Digested LL (total)	5	2017/08/22	2017/08/23	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	22	N/A	2017/08/24	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	16	N/A	2017/08/23	BBY7SOP-00003,	BCLM2005,EPA6020bR2m

Your C.O.C. #: 08442656

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/01
Report #: R2438422
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B770851
Received: 2017/08/21, 11:30

Sample Matrix: Water
Samples Received: 22

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS Low Level (total)	1	N/A	2017/08/24	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Ammonia-N (Preserved)	22	N/A	2017/08/25	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	22	N/A	2017/08/22	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	22	N/A	2017/08/22	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	22	N/A	2017/08/24	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	1	N/A	2017/08/24	BBY7 WI-00004	BCMOE Reqs 08/14
Filter and HNO3 Preserve for Metals	20	N/A	2017/08/25	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (3)	20	2017/08/22	2017/08/22	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (3)	2	2017/08/22	2017/08/23	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	20	N/A	2017/08/22	BBY6SOP-00013	SM 22 4500-P E m
Orthophosphate by Konelab (low level)	2	N/A	2017/08/26	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	2	N/A	2017/08/29	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry (1)	20	N/A	2017/08/25	AB SOP-00018	SM 22 4500-SO4 E m
Total Dissolved Solids (Filt. Residue)	1	2017/08/22	2017/08/23	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	21	2017/08/24	2017/08/25	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	20	2017/08/22	2017/08/22	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - FF/FP	1	2017/08/26	2017/08/26	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	21	N/A	2017/08/22	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	1	N/A	2017/08/26	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	2	2017/08/22	2017/08/23	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	12	2017/08/23	2017/08/23	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	8	2017/08/23	2017/08/24	BBY6SOP-00034	SM 22 2540 D
Turbidity	22	N/A	2017/08/21	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All

Your C.O.C. #: 08442656

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/01
Report #: R2438422
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B770851
Received: 2017/08/21, 11:30

data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Calgary Environmental
(2) DOC present in the sample should be considered as non-purgeable DOC. Dissolved > Total Imbalance: Whenever applicable, Dissolved >Total for any parameter that falls within method uncertainty for duplicates is likely equivalent. If RPD is >20% samples were reanalyzed and confirmed.
(3) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0547		RU0548		RU0549		RU0550		
Sampling Date		2017/08/18 11:30		2017/08/18 10:10		2017/08/18 13:25		2017/08/18 12:00		
COC Number		08442656		08442656		08442656		08442656		
	UNITS	L1	QC Batch	W1	QC Batch	W8	QC Batch	W9	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.071	8734640	0.100	8734640	0.047	8734640	0.110	0.020	8734640
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	54.6	8733222	72.9	8733222	93.2	8733222	130	0.50	8733222
Nitrate (N)	mg/L	<0.20	8733557	0.31	8733557	<0.20	8733557	<0.20	0.20	8733557
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	53.9	8733111	73.4	8733111	92.0	8733111	131	0.50	8733111
Dissolved Organic Carbon (C)	mg/L	3.9	8737013	5.2	8737013	2.2	8737013	2.5	0.50	8737013
Acidity (pH 4.5)	mg/L	<1.0	8737682	<1.0	8737682	<1.0	8737682	<1.0	1.0	8737682
Alkalinity (Total as CaCO3)	mg/L	47.7	8734999	64.7	8734999	78.2	8734999	96.7	1.0	8734999
Acidity (pH 8.3)	mg/L	<1.0	8737682	<1.0	8737682	<1.0	8737682	<1.0	1.0	8737682
Alkalinity (PP as CaCO3)	mg/L	<1.0	8734999	<1.0	8734999	<1.0	8734999	<1.0	1.0	8734999
Bicarbonate (HCO3)	mg/L	58.2	8734999	78.9	8734999	95.4	8734999	118	1.0	8734999
Carbonate (CO3)	mg/L	<1.0	8734999	<1.0	8734999	<1.0	8734999	<1.0	1.0	8734999
Hydroxide (OH)	mg/L	<1.0	8734999	<1.0	8734999	<1.0	8734999	<1.0	1.0	8734999
Anions										
Orthophosphate (P)	mg/L	0.0057	8734738	0.011	8734738	<0.0010	8734738	0.0052	0.0010	8734738
Dissolved Sulphate (SO4)	mg/L	12	8738315	27	8738416	23	8738315	42.7	1.0	8742258
Dissolved Chloride (Cl)	mg/L	<1.0	8738331	<1.0	8738412	<1.0	8738331	<1.0	1.0	8742257
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0103	8735150	0.0157	8735150	0.0031	8735150	0.0048	0.0020	8735150
Total Ammonia (N)	mg/L	<0.020	8738971	<0.020	8738970	<0.020	8738970	<0.020	0.020	8738970
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8735722	0.31 (1)	8735722	<0.20 (1)	8735722	<0.20 (1)	0.20	8735722
Nitrite (N)	mg/L	<0.20 (1)	8735738	<0.20 (1)	8735738	<0.20 (1)	8735738	<0.20 (1)	0.20	8735738
Total Phosphorus (P)	mg/L	0.0151	8735148	0.0278	8735148	0.0036	8735148	0.0060	0.0020	8735148
Physical Properties										
Conductivity	uS/cm	117	8735004	154	8735004	193	8735004	273	2.0	8735004
pH	pH	7.86	8735005	7.99	8735005	8.07	8735005	8.15		8735005
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8734328	<4.0	8734328	<4.0	8736085	<4.0	4.0	8736085
Total Dissolved Solids	mg/L	62	8737309	86	8737309	110	8737309	202	10	8737309
Turbidity	NTU	0.58	8733745	0.96	8733745	0.22	8733745	0.27	0.10	8733745

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0551		RU0552		RU0553		RU0554		
Sampling Date		2017/08/19 09:35		2017/08/17 09:35		2017/08/17 11:20		2017/08/18 16:20		
COC Number		08442656		08442656		08442656		08442656		
	UNITS	W15	QC Batch	W21	QC Batch	W22	QC Batch	W31	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.028	8734640	0.095	8734640	0.072	8734640	0.026	0.020	8734701
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	56.5	8733222	91.3	8733222	108	8733222	65.2	0.50	8733222
Nitrate (N)	mg/L	<0.20	8733557	<0.20	8733557	<0.20	8733557	<0.20	0.20	8733557
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L							<0.00050	0.00050	8735721
Weak Acid Dissoc. Cyanide (CN)	mg/L							<0.00050	0.00050	8735724
Dissolved Hardness (CaCO3)	mg/L	57.0	8733111	89.6	8733111	106	8733111	64.9	0.50	8733111
Dissolved Organic Carbon (C)	mg/L	1.2	8737013	5.3	8737013	2.5	8737013	1.6	0.50	8737013
Acidity (pH 4.5)	mg/L	<1.0	8737682	<1.0	8737682	<1.0	8737682	<1.0	1.0	8737682
Alkalinity (Total as CaCO3)	mg/L	50.6	8734999	79.8	8734999	85.1	8734999	63.4	1.0	8734999
Acidity (pH 8.3)	mg/L	<1.0	8737682	<1.0	8737682	<1.0	8737682	<1.0	1.0	8737682
Alkalinity (PP as CaCO3)	mg/L	<1.0	8734999	<1.0	8734999	<1.0	8734999	<1.0	1.0	8734999
Bicarbonate (HCO3)	mg/L	61.8	8734999	97.3	8734999	104	8734999	77.3	1.0	8734999
Carbonate (CO3)	mg/L	<1.0	8734999	<1.0	8734999	<1.0	8734999	<1.0	1.0	8734999
Hydroxide (OH)	mg/L	<1.0	8734999	<1.0	8734999	<1.0	8734999	<1.0	1.0	8734999
Anions										
Orthophosphate (P)	mg/L	<0.0010	8734738	0.0085	8734738	0.0017	8734738	0.0029	0.0010	8734738
Dissolved Sulphate (SO4)	mg/L	12	8738315	19	8738788	28.3	8742258	9.0	1.0	8738788
Dissolved Chloride (Cl)	mg/L	<1.0	8738331	1.0	8738787	<1.0	8742257	<1.0	1.0	8738787
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0025	8739697	0.0130	8735150	0.0027	8735150	0.0028	0.0020	8735150
Total Ammonia (N)	mg/L	<0.020	8738971	<0.020	8738970	<0.020	8738971	<0.020	0.020	8738971
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8735722	<0.20 (1)	8735722	<0.20 (1)	8735722	<0.20 (1)	0.20	8735739
Nitrite (N)	mg/L	<0.20 (1)	8735738	<0.20 (1)	8735738	<0.20 (1)	8735738	<0.20 (1)	0.20	8735744
Total Phosphorus (P)	mg/L	0.0031	8739698	0.0233	8735148	0.0032	8735148	0.0033	0.0020	8735148
Physical Properties										
Conductivity	uS/cm	125	8735004	190	8735004	221	8735004	139	2.0	8735004
pH	pH	7.90	8735005	8.08	8735005	8.08	8735005	7.99		8735005
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8736085	16.5	8735630	<4.0	8735630	<4.0	4.0	8735630

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0551		RU0552		RU0553		RU0554		
Sampling Date		2017/08/19 09:35		2017/08/17 09:35		2017/08/17 11:20		2017/08/18 16:20		
COC Number		08442656		08442656		08442656		08442656		
	UNITS	**W15**	**QC Batch**	**W21**	**QC Batch**	**W22**	**QC Batch**	**W31**	**RDL**	**QC Batch**
Total Dissolved Solids	mg/L	56	8737309	104	8736856	118	8736856	66	10	8736856
Turbidity	NTU	0.13	8733745	1.39	8733745	0.38	8733745	0.11	0.10	8733745
RDL = Reportable Detection Limit										

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0555		RU0556		RU0557		RU0558		
Sampling Date		2017/08/17 11:00		2017/08/17 12:20		2017/08/17 12:40		2017/08/17 13:15		
COC Number		08442656		08442656		08442656		08442656		
	UNITS	W40	QC Batch	W71	QC Batch	W72	QC Batch	W73	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.074	8734701	0.620	8734701	0.140	8734701	0.049	0.020	8734701
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	105	8733222	258	8742650	173	8733222	105	0.50	8733222
Nitrate (N)	mg/L	0.28	8733557	<0.20	8733557	<0.20	8733557	<0.20	0.20	8733557
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	107	8733111	330	8742651	174	8733111	107	0.50	8733111
Dissolved Organic Carbon (C)	mg/L	2.6	8737013	3.1	8737013	4.0	8737013	2.7	0.50	8737013
Acidity (pH 4.5)	mg/L	<1.0	8737682	<1.0	8737682	<1.0	8737682	<1.0	1.0	8737683
Alkalinity (Total as CaCO3)	mg/L	85.7	8734999	236	8734999	128	8734999	91.4	1.0	8734999
Acidity (pH 8.3)	mg/L	<1.0	8737682	<1.0	8737682	<1.0	8737682	<1.0	1.0	8737683
Alkalinity (PP as CaCO3)	mg/L	<1.0	8734999	3.1	8734999	<1.0	8734999	<1.0	1.0	8734999
Bicarbonate (HCO3)	mg/L	105	8734999	280	8734999	156	8734999	112	1.0	8734999
Carbonate (CO3)	mg/L	<1.0	8734999	3.7	8734999	<1.0	8734999	<1.0	1.0	8734999
Hydroxide (OH)	mg/L	<1.0	8734999	<1.0	8734999	<1.0	8734999	<1.0	1.0	8734999
Anions										
Orthophosphate (P)	mg/L	0.0010	8734738	0.011	8734738	0.015	8734754	0.0017	0.0010	8734754
Dissolved Sulphate (SO4)	mg/L	31	8738315	120	8738416	52	8738416	21	1.0	8738788
Dissolved Chloride (Cl)	mg/L	<1.0	8738331	1.1	8738412	1.1	8738412	<1.0	1.0	8738787
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0027	8735150	0.0140	8735150	0.0134	8735150	0.0035	0.0020	8735150
Total Ammonia (N)	mg/L	<0.020	8738971	<0.020	8738971	<0.020	8738970	<0.020	0.020	8738970
Nitrate plus Nitrite (N)	mg/L	0.28 (1)	8735722	<0.20 (1)	8735722	<0.20 (1)	8735739	<0.20 (1)	0.20	8735739
Nitrite (N)	mg/L	<0.20 (1)	8735738	<0.20 (1)	8735738	<0.20 (1)	8735744	<0.20 (1)	0.20	8735744
Total Phosphorus (P)	mg/L	0.0037	8735148	0.0225	8735148	0.0184	8735148	0.0098	0.0020	8735148
Physical Properties										
Conductivity	uS/cm	221	8735004	627	8735004	337	8735004	210	2.0	8735004
pH	pH	8.12	8735005	8.37	8735005	8.24	8735005	8.15		8735005
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8735630	9.3	8735630	<4.0	8735630	<4.0	4.0	8735630
Total Dissolved Solids	mg/L	122	8736856	400	8736856	200	8736856	94	10	8734393
Turbidity	NTU	0.35	8733745	2.05	8733745	0.98	8733745	0.45	0.10	8733745

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0559		RU0560			RU0561		
Sampling Date		2017/08/19 09:00		2017/08/19 08:20			2017/08/17 16:50		
COC Number		08442656		08442656			08442656		
	UNITS	W81	QC Batch	W82	RDL	QC Batch	BIO-OUT	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.032	8734701	0.100	0.020	8734701	0.068	0.020	8734701
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	68.8	8733222	122	0.50	8733222	825	0.50	8733222
Nitrate (N)	mg/L	<0.20	8733557	0.44	0.20	8733557	<0.20	0.20	8733557
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L				0.00050	8735721	0.00067	0.00050	8735721
Weak Acid Dissoc. Cyanide (CN)	mg/L				0.00050	8735724	0.00069	0.00050	8735724
Dissolved Hardness (CaCO3)	mg/L	68.0	8733111	121	0.50	8733111	814	0.50	8733111
Dissolved Organic Carbon (C)	mg/L	1.7	8737013	2.1	0.50	8737013	5.7	0.50	8737013
Acidity (pH 4.5)	mg/L	<1.0	8737683	<1.0	1.0	8737682	<1.0	1.0	8737683
Alkalinity (Total as CaCO3)	mg/L	61.8	8734999	86.8	1.0	8734999	138	1.0	8735012
Acidity (pH 8.3)	mg/L	<1.0	8737683	1.4	1.0	8737682	7.5	1.0	8737683
Alkalinity (PP as CaCO3)	mg/L	<1.0	8734999	<1.0	1.0	8734999	<1.0	1.0	8735012
Bicarbonate (HCO3)	mg/L	75.4	8734999	106	1.0	8734999	169	1.0	8735012
Carbonate (CO3)	mg/L	<1.0	8734999	<1.0	1.0	8734999	<1.0	1.0	8735012
Hydroxide (OH)	mg/L	<1.0	8734999	<1.0	1.0	8734999	<1.0	1.0	8735012
Anions									
Orthophosphate (P)	mg/L	0.0024	8734754	0.0054	0.0010	8734738	0.0028	0.0010	8734754
Dissolved Sulphate (SO4)	mg/L	13	8738315	45	1.0	8738416	790 (1)	5.0	8738315
Dissolved Chloride (Cl)	mg/L	<1.0	8738331	1.2	1.0	8738412	6.7	1.0	8738331
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0026	8735150	0.0053	0.0020	8735150	0.0099	0.0020	8735150
Total Ammonia (N)	mg/L	<0.020	8738970	<0.020	0.020	8738970	0.13	0.020	8738970
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8735739	0.44 (2)	0.20	8735739	<0.20 (2)	0.20	8735739
Nitrite (N)	mg/L	<0.20 (2)	8735744	<0.20 (2)	0.20	8735744	<0.20 (2)	0.20	8735744
Total Phosphorus (P)	mg/L	0.0040	8735148	0.0089	0.0020	8735148	0.0225	0.0020	8735146
Physical Properties									
Conductivity	uS/cm	145	8735004	262	2.0	8735004	1570	2.0	8735014
pH	pH	7.99	8735005	8.01		8735005	7.96		8735015

RDL = Reportable Detection Limit

(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

(2) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0559		RU0560			RU0561		
Sampling Date		2017/08/19 09:00		2017/08/19 08:20			2017/08/17 16:50		
COC Number		08442656		08442656			08442656		
	UNITS	**W81**	**QC Batch**	**W82**	**RDL**	**QC Batch**	**BIO-OUT**	**RDL**	**QC Batch**
Physical Properties									
Total Suspended Solids	mg/L	<4.0	8736085	<4.0	4.0	8736085	24.8	4.0	8735630
Total Dissolved Solids	mg/L	86	8737309	166	10	8737309	1270	10	8736856
Turbidity	NTU	0.35	8733745	0.41	0.10	8733745	57.4	0.10	8733745
RDL = Reportable Detection Limit									

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0562			RU0563			RU0564		
Sampling Date		2017/08/18 17:00			2017/08/18 16:20			2017/08/17 15:40		
COC Number		08442656			08442656			08442656		
	UNITS	PORTAL	RDL	QC Batch	DUP	RDL	QC Batch	T1-2	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.220	0.020	8734701	0.024	0.020	8734701	0.180	0.020	8734701
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	515	0.50	8733222	65.3	0.50	8733222	1370	0.50	8733222
Nitrate (N)	mg/L	<0.20	0.20	8733557	<0.20	0.20	8733557	0.23	0.20	8733557
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L		0.00050	8735721	0.00051	0.00050	8735721	0.0116	0.00050	8735721
Weak Acid Dissoc. Cyanide (CN)	mg/L		0.00050	8735724	0.00062	0.00050	8735724	<0.00050	0.00050	8735724
Dissolved Hardness (CaCO3)	mg/L	510	0.50	8733111	65.0	0.50	8733111	1330	0.50	8733111
Dissolved Organic Carbon (C)	mg/L	1.0	0.50	8737013	1.5	0.50	8737013	23	0.50	8737013
Acidity (pH 4.5)	mg/L	<1.0	1.0	8737683	<1.0	1.0	8737682	4.5	1.0	8737682
Alkalinity (Total as CaCO3)	mg/L	96.9	1.0	8734999	61.8	1.0	8734999	<1.0	1.0	8734999
Acidity (pH 8.3)	mg/L	4.5	1.0	8737683	<1.0	1.0	8737682	20.5	1.0	8737682
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8734999	<1.0	1.0	8734999	<1.0	1.0	8734999
Bicarbonate (HCO3)	mg/L	118	1.0	8734999	75.4	1.0	8734999	<1.0	1.0	8734999
Carbonate (CO3)	mg/L	<1.0	1.0	8734999	<1.0	1.0	8734999	<1.0	1.0	8734999
Hydroxide (OH)	mg/L	<1.0	1.0	8734999	<1.0	1.0	8734999	<1.0	1.0	8734999
Anions										
Orthophosphate (P)	mg/L	0.0016	0.0010	8734754	0.0020	0.0010	8734738	0.039	0.0010	8739623
Dissolved Sulphate (SO4)	mg/L	580 (1)	5.0	8738788	9.1	1.0	8738315	1700 (1)	20	8738416
Dissolved Chloride (Cl)	mg/L	3.9	1.0	8738787	<1.0	1.0	8738331	200 (1)	2.0	8738412
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0114	0.0020	8735150	<0.0020	0.0020	8735150	0.0979	0.0020	8735150
Total Ammonia (N)	mg/L	1.5	0.020	8738970	<0.020	0.020	8738971	0.60	0.020	8738971
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	0.20	8735739	<0.20 (2)	0.20	8735739	0.23 (2)	0.20	8735722
Nitrite (N)	mg/L	<0.20 (2)	0.20	8735744	<0.20 (2)	0.20	8735744	<0.20 (2)	0.20	8735738
Total Phosphorus (P)	mg/L	0.0155	0.0020	8735146	0.0040	0.0020	8735148	0.104	0.0020	8735148
Physical Properties										
Conductivity	uS/cm	1240	2.0	8735004	140	2.0	8735004	2930	2.0	8735004
pH	pH	7.83		8735005	7.99		8735005	4.15		8735005

RDL = Reportable Detection Limit

(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

(2) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0562			RU0563			RU0564		
Sampling Date		2017/08/18 17:00			2017/08/18 16:20			2017/08/17 15:40		
COC Number		08442656			08442656			08442656		
	UNITS	PORTAL	RDL	QC Batch	DUP	RDL	QC Batch	T1-2	RDL	QC Batch
Physical Properties										
Total Suspended Solids	mg/L	16.0	4.0	8736085	<4.0	4.0	8736085	<4.0	4.0	8735630
Total Dissolved Solids	mg/L	840	10	8737309	84	10	8737309	2460	10	8736856
Turbidity	NTU	56.6	0.10	8733745	0.25	0.10	8733745	30.2	0.10	8733745
RDL = Reportable Detection Limit										

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0565			RU0566		RU0567		
Sampling Date		2017/08/17 16:10					2017/08/17 09:35		
COC Number		08442656			08442656		08442656		
	UNITS	T1-3	RDL	QC Batch	TRAVEL BLANK	QC Batch	FIELD BLANK	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.280	0.020	8734701	<0.020	8734701	<0.020	0.020	8734701
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD		ONSITE		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	2080	0.50	8733222	<0.50	8733222	<0.50	0.50	8733222
Nitrate (N)	mg/L	0.25	0.20	8733557	<0.20	8733557	<0.20	0.20	8733557
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.320 (1)	0.0050	8735721	<0.00050	8735721		0.00050	8735721
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0301 (2)	0.00050	8735724	<0.00050	8735724		0.00050	8735724
Dissolved Hardness (CaCO3)	mg/L	2080	0.50	8742651		8742651	<0.50	0.50	8733111
Dissolved Organic Carbon (C)	mg/L	43 (3)	1.0	8737013		8737013	<0.50	0.50	8737013
Acidity (pH 4.5)	mg/L	<1.0	1.0	8737683	<1.0	8737683	<1.0	1.0	8737682
Alkalinity (Total as CaCO3)	mg/L	2.8	1.0	8734999	<1.0	8734983	<1.0	1.0	8734983
Acidity (pH 8.3)	mg/L	14.1	1.0	8737683	<1.0	8737683	<1.0	1.0	8737682
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8734999	<1.0	8734983	<1.0	1.0	8734983
Bicarbonate (HCO3)	mg/L	3.4	1.0	8734999	<1.0	8734983	<1.0	1.0	8734983
Carbonate (CO3)	mg/L	<1.0	1.0	8734999	<1.0	8734983	<1.0	1.0	8734983
Hydroxide (OH)	mg/L	<1.0	1.0	8734999	<1.0	8734983	<1.0	1.0	8734983
Anions									
Orthophosphate (P)	mg/L	1.5 (4)	0.010	8739623	<0.0010	8734754	0.0014	0.0010	8734738
Dissolved Sulphate (SO4)	mg/L	1900 (1)	20	8738315	<1.0	8738416	<1.0	1.0	8738416
Dissolved Chloride (Cl)	mg/L	1100 (1)	10	8738331	<1.0	8738412	<1.0	1.0	8738412
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.162	0.0020	8735150			0.0023	0.0020	8735154
Total Ammonia (N)	mg/L	1.9	0.020	8738970	<0.020	8738970	<0.020	0.020	8738970
Nitrate plus Nitrite (N)	mg/L	0.25 (2)	0.20	8735739	<0.20 (2)	8735739	<0.20 (2)	0.20	8735739
Nitrite (N)	mg/L	<0.20 (2)	0.20	8735744	<0.20 (2)	8735744	<0.20 (2)	0.20	8735744
Total Phosphorus (P)	mg/L	0.192	0.0020	8735148	<0.0020	8735148	0.0021	0.0020	8735148
Physical Properties									
Conductivity	uS/cm	4460	2.0	8735004	<2.0	8734984	<2.0	2.0	8734984

RDL = Reportable Detection Limit

(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

(2) RDL raised due to sample matrix interference.

(3) Detection limits raised due to sample matrix.

(4) Detection limits raised due to dilution to bring analyte within the calibrated range.Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0565			RU0566		RU0567		
Sampling Date		2017/08/17 16:10					2017/08/17 09:35		
COC Number		08442656			08442656		08442656		
	UNITS	T1-3	RDL	QC Batch	TRAVEL BLANK	QC Batch	FIELD BLANK	RDL	QC Batch
pH	pH	5.66		8735005	5.22	8734985	5.26		8734985
Physical Properties									
Total Suspended Solids	mg/L	<4.0	4.0	8735630	<4.0	8736085	<4.0	4.0	8735630
Total Dissolved Solids	mg/L	4110 (1)	13	8736856	<10	8737309	<10	10	8736856
Turbidity	NTU	1.98	0.10	8733745	<0.10	8733747	<0.10	0.10	8733747

RDL = Reportable Detection Limit
(1) RDL raised due to high concentration of solids in the sample.

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0568		
Sampling Date		2017/08/17 15:20		
COC Number		08442656		
	UNITS	T1	RDL	QC Batch
Misc. Inorganics				
Fluoride (F)	mg/L	0.130	0.020	8734701
Calculated Parameters				
Filter and HNO3 Preservation	N/A	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	931	0.50	8733222
Nitrate (N)	mg/L	<0.20	0.20	8733557
Misc. Inorganics				
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00253	0.00050	8735721
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	0.00050	8735724
Dissolved Hardness (CaCO3)	mg/L	883	0.50	8733111
Dissolved Organic Carbon (C)	mg/L	15	0.50	8737409
Acidity (pH 4.5)	mg/L	24.5	1.0	8737683
Alkalinity (Total as CaCO3)	mg/L	<1.0	1.0	8735012
Acidity (pH 8.3)	mg/L	36.2	1.0	8737683
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8735012
Bicarbonate (HCO3)	mg/L	<1.0	1.0	8735012
Carbonate (CO3)	mg/L	<1.0	1.0	8735012
Hydroxide (OH)	mg/L	<1.0	1.0	8735012
Anions				
Orthophosphate (P)	mg/L	0.066	0.0010	8734754
Dissolved Sulphate (SO4)	mg/L	1100 (1)	10	8738315
Dissolved Chloride (Cl)	mg/L	97	1.0	8738331
Nutrients				
Dissolved Phosphorus (P)	mg/L	0.0579	0.0020	8735150
Total Ammonia (N)	mg/L	0.45	0.020	8738971
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	0.20	8735739
Nitrite (N)	mg/L	<0.20 (2)	0.20	8735744
Total Phosphorus (P)	mg/L	0.0683	0.0020	8735148
Physical Properties				
Conductivity	uS/cm	2160	2.0	8735014
pH	pH	3.49 (3)		8735015

RDL = Reportable Detection Limit

(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

(2) RDL raised due to sample matrix interference.

(3) "Sample pH value outside pH calibration range 4 to 10, verified using pH 1.68 buffer."

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YUKON ZINC CORPORATION
Sampler Initials: AT

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU0568		
Sampling Date		2017/08/17 15:20		
COC Number		08442656		
	UNITS	T1	RDL	QC Batch
Physical Properties				
Total Suspended Solids	mg/L	<4.0	4.0	8735630
Total Dissolved Solids	mg/L	1630	10	8736856
Turbidity	NTU	35.5	0.10	8733747
RDL = Reportable Detection Limit				

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RU0547		RU0548	RU0549	RU0550	RU0551	RU0552		
Sampling Date		2017/08/18 11:30		2017/08/18 10:10	2017/08/18 13:25	2017/08/18 12:00	2017/08/19 09:35	2017/08/17 09:35		
COC Number		08442656		08442656	08442656	08442656	08442656	08442656		
	UNITS	L1	QC Batch	W1	W8	W9	W15	W21	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	8738109	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8735632
Total Mercury (Hg)	ug/L	<0.010	8736815	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8736815
RDL = Reportable Detection Limit										

Maxxam ID		RU0553	RU0554	RU0555	RU0556	RU0557	RU0558	RU0559		
Sampling Date		2017/08/17 11:20	2017/08/18 16:20	2017/08/17 11:00	2017/08/17 12:20	2017/08/17 12:40	2017/08/17 13:15	2017/08/19 09:00		
COC Number		08442656	08442656	08442656	08442656	08442656	08442656	08442656		
	UNITS	W22	W31	W40	W71	W72	W73	W81	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8735632
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8736815
RDL = Reportable Detection Limit										

Maxxam ID		RU0560	RU0561	RU0562	RU0563	RU0564	RU0565	RU0566		
Sampling Date		2017/08/19 08:20	2017/08/17 16:50	2017/08/18 17:00	2017/08/18 16:20	2017/08/17 15:40	2017/08/17 16:10			
COC Number		08442656	08442656	08442656	08442656	08442656	08442656	08442656		
	UNITS	W82	BIO-OUT	PORTAL	DUP	T1-2	T1-3	TRAVEL BLANK	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		0.010	8735632
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8736815
RDL = Reportable Detection Limit										

Maxxam ID		RU0567	RU0568		
Sampling Date		2017/08/17 09:35	2017/08/17 15:20		
COC Number		08442656	08442656		
	UNITS	FIELD BLANK	T1	RDL	QC Batch
Elements					
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	0.010	8735632
Total Mercury (Hg)	ug/L	<0.010	<0.010	0.010	8737217
RDL = Reportable Detection Limit					

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0547	RU0548	RU0549		RU0550		
Sampling Date		2017/08/18 11:30	2017/08/18 10:10	2017/08/18 13:25		2017/08/18 12:00		
COC Number		08442656	08442656	08442656		08442656		
	UNITS	L1	W1	W8	QC Batch	W9	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	8734159	<0.010	0.010	8734159
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.0127	0.0168	0.00663	8734703	0.00386	0.00050	8734703
Dissolved Antimony (Sb)	mg/L	0.000055	0.000053	0.000073	8734703	0.000186	0.000020	8734703
Dissolved Arsenic (As)	mg/L	0.00113	0.00176	0.000156	8734703	0.000192	0.000020	8743477
Dissolved Barium (Ba)	mg/L	0.0452	0.0360	0.0509	8734703	0.123	0.000020	8734703
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	8734703	<0.000010	0.000010	8734703
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	8734703	<0.0000050	0.0000050	8734703
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	8734703	<0.010	0.010	8734703
Dissolved Cadmium (Cd)	mg/L	0.0000260	0.0000140	0.0000570	8734703	0.00146	0.0000050	8734703
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	<0.00010	8734703	<0.00010	0.00010	8734703
Dissolved Cobalt (Co)	mg/L	0.0000130	0.0000180	0.0000500	8734703	0.0000210	0.0000050	8734703
Dissolved Copper (Cu)	mg/L	0.000515	0.000639	0.000847	8734703	0.00110	0.000050	8734703
Dissolved Iron (Fe)	mg/L	0.0461	0.0364	0.0127	8734703	0.0025	0.0010	8734703
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	<0.0000050	8734703	0.0000120	0.0000050	8734703
Dissolved Lithium (Li)	mg/L	<0.00050	0.00140	<0.00050	8734703	0.00067	0.00050	8734703
Dissolved Manganese (Mn)	mg/L	0.00753	0.00660	0.00278	8734703	0.000229	0.000050	8734703
Dissolved Molybdenum (Mo)	mg/L	0.000980	0.00106	0.000528	8734703	0.000660	0.000050	8734703
Dissolved Nickel (Ni)	mg/L	0.000561	0.00125	0.00107	8734703	0.00390	0.000020	8734703
Dissolved Phosphorus (P)	mg/L	0.0104	0.0177	0.0081	8734703	0.0052	0.0020	8743477
Dissolved Selenium (Se)	mg/L	0.000478	0.000423	0.000959	8734703	0.00305	0.000040	8734703
Dissolved Silicon (Si)	mg/L	2.87	2.63	3.27	8734703	3.47	0.050	8734703
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	8734703	<0.0000050	0.0000050	8734703
Dissolved Strontium (Sr)	mg/L	0.0445	0.0680	0.0692	8734703	0.128	0.000050	8734703
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	8734703	0.0000030	0.0000020	8734703
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	8734703	<0.00020	0.00020	8734703
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	8734703	<0.00050	0.00050	8734703
Dissolved Uranium (U)	mg/L	0.000484	0.000936	0.000596	8734703	0.00109	0.0000020	8734703
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	8734703	<0.00020	0.00020	8734703
Dissolved Zinc (Zn)	mg/L	0.00318	0.00138	0.00681	8734703	0.150	0.00010	8734703
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	8734703	<0.00010	0.00010	8734703
Dissolved Calcium (Ca)	mg/L	16.2	19.2	30.6	8733434	40.4	0.050	8733434
Dissolved Magnesium (Mg)	mg/L	3.27	6.19	3.77	8733434	7.36	0.050	8733434

RDL = Reportable Detection Limit

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0547	RU0548	RU0549		RU0550		
Sampling Date		2017/08/18 11:30	2017/08/18 10:10	2017/08/18 13:25		2017/08/18 12:00		
COC Number		08442656	08442656	08442656		08442656		
	UNITS	L1	W1	W8	QC Batch	W9	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.584	1.03	0.351	8733434	0.981	0.050	8733434
Dissolved Sodium (Na)	mg/L	0.880	1.13	1.07	8733434	1.03	0.050	8733434
Dissolved Sulphur (S)	mg/L	3.3	4.1	6.6	8733434	13.2	3.0	8733434
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0219	0.0182	0.0135	8734880	0.00680	0.00050	8734880
Total Antimony (Sb)	mg/L	0.000051	0.000057	0.000074	8734880	0.000182	0.000020	8734880
Total Arsenic (As)	mg/L	0.00123	0.00190	0.000139	8734880	0.000198	0.000020	8734880
Total Barium (Ba)	mg/L	0.0450	0.0363	0.0509	8734880	0.122	0.000020	8734880
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	8734880	<0.000010	0.000010	8734880
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	8734880	<0.0000050	0.0000050	8734880
Total Boron (B)	mg/L	<0.010	<0.010	<0.010	8734880	<0.010	0.010	8734880
Total Cadmium (Cd)	mg/L	0.0000320	0.0000180	0.0000540	8734880	0.00148	0.0000050	8734880
Total Chromium (Cr)	mg/L	<0.00010	0.00010	0.00010	8734880	<0.00010	0.00010	8734880
Total Cobalt (Co)	mg/L	0.0000160	0.0000220	0.0000490	8734880	0.0000160	0.0000050	8734880
Total Copper (Cu)	mg/L	0.000556	0.000627	0.000899	8734880	0.00113	0.000050	8734880
Total Iron (Fe)	mg/L	0.0817	0.0711	0.0245	8734880	0.0105	0.0010	8734880
Total Lead (Pb)	mg/L	0.0000160	0.0000070	0.0000160	8734880	0.0000440	0.0000050	8734880
Total Lithium (Li)	mg/L	<0.00050	0.00135	<0.00050	8734880	0.00071	0.00050	8734880
Total Manganese (Mn)	mg/L	0.0162	0.0180	0.00295	8734880	0.000928	0.000050	8734880
Total Molybdenum (Mo)	mg/L	0.000979	0.00108	0.000527	8734880	0.000660	0.000050	8734880
Total Nickel (Ni)	mg/L	0.000604	0.00124	0.00115	8734880	0.00397	0.000020	8734880
Total Phosphorus (P)	mg/L	0.0144	0.0271	0.0050	8734880	0.0046	0.0020	8734880
Total Selenium (Se)	mg/L	0.000507	0.000431	0.000869	8734880	0.00297	0.000040	8734880
Total Silicon (Si)	mg/L	2.73	2.50	3.16	8734880	3.33	0.050	8734880
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	8734880	<0.0000050	0.0000050	8734880
Total Strontium (Sr)	mg/L	0.0439	0.0660	0.0682	8734880	0.125	0.000050	8734880
Total Thallium (Tl)	mg/L	0.0000020	<0.0000020	<0.0000020	8734880	0.0000040	0.0000020	8734880
Total Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	8734880	<0.00020	0.00020	8734880
Total Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	8734880	<0.00050	0.00050	8734880
Total Uranium (U)	mg/L	0.000484	0.000921	0.000614	8734880	0.00109	0.0000020	8734880
Total Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	8734880	<0.00020	0.00020	8734880
Total Zinc (Zn)	mg/L	0.00425	0.00144	0.00697	8734880	0.144	0.00010	8734880
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	8734880	<0.00010	0.00010	8734880
Total Calcium (Ca)	mg/L	16.1	18.8	30.9	8733674	39.7	0.050	8733674
RDL = Reportable Detection Limit								

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0547	RU0548	RU0549		RU0550		
Sampling Date		2017/08/18 11:30	2017/08/18 10:10	2017/08/18 13:25		2017/08/18 12:00		
COC Number		08442656	08442656	08442656		08442656		
	UNITS	**L1**	**W1**	**W8**	**QC Batch**	**W9**	**RDL**	**QC Batch**
Total Magnesium (Mg)	mg/L	3.48	6.31	3.92	8733674	7.55	0.050	8733674
Total Potassium (K)	mg/L	0.598	0.989	0.357	8733674	0.934	0.050	8733674
Total Sodium (Na)	mg/L	0.919	1.12	1.12	8733674	0.980	0.050	8733674
Total Sulphur (S)	mg/L	3.6	4.0	6.2	8733674	13.0	3.0	8733674
RDL = Reportable Detection Limit								

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0551			RU0552		
Sampling Date		2017/08/19 09:35			2017/08/17 09:35		
COC Number		08442656			08442656		
	UNITS	W15	RDL	QC Batch	W21	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	0.010	8734159	<0.010	0.010	8734159
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00440	0.00050	8734703	0.00911	0.00050	8734703
Dissolved Antimony (Sb)	mg/L	0.000023	0.000020	8734703	0.000078	0.000020	8734703
Dissolved Arsenic (As)	mg/L	0.000088	0.000020	8743477	0.00146	0.000020	8734703
Dissolved Barium (Ba)	mg/L	0.0186	0.000020	8734703	0.0447	0.000020	8734703
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8734703	<0.000010	0.000010	8734703
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8734703	<0.0000050	0.0000050	8734703
Dissolved Boron (B)	mg/L	<0.010	0.010	8734703	<0.010	0.010	8734703
Dissolved Cadmium (Cd)	mg/L	0.0000060	0.0000050	8734703	0.0000150	0.0000050	8734703
Dissolved Chromium (Cr)	mg/L	0.00012	0.00010	8734703	0.00014	0.00010	8734703
Dissolved Cobalt (Co)	mg/L	0.0000200	0.0000050	8734703	0.0000270	0.0000050	8734703
Dissolved Copper (Cu)	mg/L	0.000520	0.000050	8734703	0.000715	0.000050	8734703
Dissolved Iron (Fe)	mg/L	0.0023	0.0010	8734703	0.0557	0.0010	8734703
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	8734703	0.0000100	0.0000050	8734703
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	8734703	0.00128	0.00050	8734703
Dissolved Manganese (Mn)	mg/L	0.000198	0.000050	8734703	0.00901	0.000050	8734703
Dissolved Molybdenum (Mo)	mg/L	0.000219	0.000050	8734703	0.00111	0.000050	8734703
Dissolved Nickel (Ni)	mg/L	0.000116	0.000020	8734703	0.00174	0.000020	8734703
Dissolved Phosphorus (P)	mg/L	0.0024	0.0020	8743477	0.0235	0.0020	8734703
Dissolved Selenium (Se)	mg/L	0.000310	0.000040	8734703	0.000487	0.000040	8734703
Dissolved Silicon (Si)	mg/L	2.94	0.050	8734703	3.19	0.050	8734703
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8734703	<0.0000050	0.0000050	8734703
Dissolved Strontium (Sr)	mg/L	0.0345	0.000050	8734703	0.0929	0.000050	8734703
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8734703	0.0000020	0.0000020	8734703
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8734703	<0.00020	0.00020	8734703
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8734703	0.00099	0.00050	8734703
Dissolved Uranium (U)	mg/L	0.0000770	0.0000020	8734703	0.000848	0.0000020	8734703
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8734703	<0.00020	0.00020	8734703
Dissolved Zinc (Zn)	mg/L	0.00015	0.00010	8734703	0.00080	0.00010	8734703
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8734703	<0.00010	0.00010	8734703
Dissolved Calcium (Ca)	mg/L	20.7	0.050	8733434	23.1	0.050	8733434
Dissolved Magnesium (Mg)	mg/L	1.29	0.050	8733434	7.74	0.050	8733434
RDL = Reportable Detection Limit							

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0551			RU0552		
Sampling Date		2017/08/19 09:35			2017/08/17 09:35		
COC Number		08442656			08442656		
	UNITS	W15	RDL	QC Batch	W21	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.314	0.050	8733434	0.891	0.050	8733434
Dissolved Sodium (Na)	mg/L	0.901	0.050	8733434	1.16	0.050	8733434
Dissolved Sulphur (S)	mg/L	3.2	3.0	8733434	5.1	3.0	8733434
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.00638	0.00050	8734880	0.0526	0.0030	8734728
Total Antimony (Sb)	mg/L	0.000023	0.000020	8734880	0.000085	0.000020	8734728
Total Arsenic (As)	mg/L	0.000103	0.000020	8734880	0.00158	0.000020	8734728
Total Barium (Ba)	mg/L	0.0183	0.000020	8734880	0.0473	0.000050	8734728
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8734880	<0.000010	0.000010	8734728
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8734880	<0.000010	0.000010	8734728
Total Boron (B)	mg/L	<0.010	0.010	8734880	<0.010	0.010	8734728
Total Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8734880	0.0000210	0.0000050	8734728
Total Chromium (Cr)	mg/L	0.00011	0.00010	8734880	0.00028	0.00010	8734728
Total Cobalt (Co)	mg/L	0.0000170	0.0000050	8734880	0.000079	0.000010	8734728
Total Copper (Cu)	mg/L	0.000754	0.000050	8734880	0.00094	0.00010	8734728
Total Iron (Fe)	mg/L	0.0039	0.0010	8734880	0.177	0.0050	8734728
Total Lead (Pb)	mg/L	<0.0000050	0.0000050	8734880	0.000096	0.000020	8734728
Total Lithium (Li)	mg/L	<0.00050	0.00050	8734880	0.00137	0.00050	8734728
Total Manganese (Mn)	mg/L	0.000377	0.000050	8734880	0.0223	0.00010	8734728
Total Molybdenum (Mo)	mg/L	0.000214	0.000050	8734880	0.00110	0.000050	8734728
Total Nickel (Ni)	mg/L	0.000119	0.000020	8734880	0.00218	0.00010	8734728
Total Phosphorus (P)	mg/L	0.0025	0.0020	8734880	0.0290	0.0050	8734728
Total Selenium (Se)	mg/L	0.000297	0.000040	8734880	0.000449	0.000040	8734728
Total Silicon (Si)	mg/L	2.87	0.050	8734880	3.18	0.050	8734728
Total Silver (Ag)	mg/L	<0.0000050	0.0000050	8734880	<0.000010	0.000010	8734728
Total Strontium (Sr)	mg/L	0.0333	0.000050	8734880	0.0933	0.000050	8734728
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8734880	0.0000020	0.0000020	8734728
Total Tin (Sn)	mg/L	<0.00020	0.00020	8734880	<0.00020	0.00020	8734728
Total Titanium (Ti)	mg/L	<0.00050	0.00050	8734880	0.0023	0.0020	8734728
Total Uranium (U)	mg/L	0.0000730	0.0000020	8734880	0.000881	0.0000050	8734728
Total Vanadium (V)	mg/L	0.00023	0.00020	8734880	0.00028	0.00020	8734728
Total Zinc (Zn)	mg/L	0.00020	0.00010	8734880	0.0021	0.0010	8734728
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8734880	0.00015	0.00010	8734728
Total Calcium (Ca)	mg/L	20.3	0.050	8733674	23.4	0.25	8733674
RDL = Reportable Detection Limit							

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0551			RU0552		
Sampling Date		2017/08/19 09:35			2017/08/17 09:35		
COC Number		08442656			08442656		
	UNITS	W15	RDL	QC Batch	W21	RDL	QC Batch
Total Magnesium (Mg)	mg/L	1.40	0.050	8733674	7.96	0.25	8733674
Total Potassium (K)	mg/L	0.326	0.050	8733674	0.90	0.25	8733674
Total Sodium (Na)	mg/L	0.955	0.050	8733674	1.20	0.25	8733674
Total Sulphur (S)	mg/L	3.5	3.0	8733674	5.4	3.0	8733674
RDL = Reportable Detection Limit							

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0553		RU0554		RU0555		
Sampling Date		2017/08/17 11:20		2017/08/18 16:20		2017/08/17 11:00		
COC Number		08442656		08442656		08442656		
	UNITS	W22	QC Batch	W31	QC Batch	W40	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	8734159	<0.010	8734159	<0.010	0.010	8734159
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00817	8734703	0.0112	8734703	0.00823	0.00050	8734703
Dissolved Antimony (Sb)	mg/L	0.000061	8734703	<0.000020	8734703	0.000069	0.000020	8734703
Dissolved Arsenic (As)	mg/L	0.000222	8743477	0.000178	8734703	0.000287	0.000020	8734703
Dissolved Barium (Ba)	mg/L	0.0629	8734703	0.0138	8734703	0.0654	0.000020	8734703
Dissolved Beryllium (Be)	mg/L	<0.000010	8734703	<0.000010	8734703	<0.000010	0.000010	8734703
Dissolved Bismuth (Bi)	mg/L	<0.0000050	8734703	<0.0000050	8734703	<0.0000050	0.0000050	8734703
Dissolved Boron (B)	mg/L	<0.010	8734703	<0.010	8734703	<0.010	0.010	8734703
Dissolved Cadmium (Cd)	mg/L	0.0000330	8734703	0.0000070	8734703	0.0000350	0.0000050	8734703
Dissolved Chromium (Cr)	mg/L	0.00021	8734703	<0.00010	8734703	0.00020	0.00010	8734703
Dissolved Cobalt (Co)	mg/L	0.0000270	8734703	0.0000250	8734703	0.0000260	0.0000050	8734703
Dissolved Copper (Cu)	mg/L	0.000571	8734703	0.00116	8734703	0.000583	0.000050	8734703
Dissolved Iron (Fe)	mg/L	0.0216	8734703	0.0015	8734703	0.0219	0.0010	8734703
Dissolved Lead (Pb)	mg/L	<0.0000050	8734703	0.0000060	8734703	0.0000080	0.0000050	8734703
Dissolved Lithium (Li)	mg/L	0.00181	8734703	<0.00050	8734703	0.00190	0.00050	8734703
Dissolved Manganese (Mn)	mg/L	0.00284	8734703	0.000064	8734703	0.00288	0.000050	8734703
Dissolved Molybdenum (Mo)	mg/L	0.000599	8734703	0.000344	8734703	0.000635	0.000050	8734703
Dissolved Nickel (Ni)	mg/L	0.00122	8734703	0.000088	8734703	0.00119	0.000020	8734703
Dissolved Phosphorus (P)	mg/L	0.0026	8743477	<0.0020	8743477	0.0027	0.0020	8743477
Dissolved Selenium (Se)	mg/L	0.000615	8734703	0.000246	8734703	0.000686	0.000040	8734703
Dissolved Silicon (Si)	mg/L	4.11	8734703	2.91	8734703	4.80	0.050	8734703
Dissolved Silver (Ag)	mg/L	<0.0000050	8734703	<0.0000050	8734703	<0.0000050	0.0000050	8734703
Dissolved Strontium (Sr)	mg/L	0.124	8734703	0.0168	8734703	0.137	0.000050	8734703
Dissolved Thallium (Tl)	mg/L	0.0000020	8734703	<0.0000020	8734703	0.0000020	0.0000020	8734703
Dissolved Tin (Sn)	mg/L	<0.00020	8734703	<0.00020	8734703	<0.00020	0.00020	8734703
Dissolved Titanium (Ti)	mg/L	0.00055	8734703	<0.00050	8734703	<0.00050	0.00050	8734703
Dissolved Uranium (U)	mg/L	0.000949	8734703	0.0000150	8734703	0.000966	0.0000020	8734703
Dissolved Vanadium (V)	mg/L	<0.00020	8734703	0.00047	8734703	<0.00020	0.00020	8734703
Dissolved Zinc (Zn)	mg/L	0.00414	8734703	0.00021	8734703	0.00386	0.00010	8743477
Dissolved Zirconium (Zr)	mg/L	<0.00010	8734703	<0.00010	8734703	<0.00010	0.00010	8734703
Dissolved Calcium (Ca)	mg/L	28.1	8733434	23.8	8733434	28.2	0.050	8733434
Dissolved Magnesium (Mg)	mg/L	8.77	8733434	1.33	8733434	8.77	0.050	8733434
RDL = Reportable Detection Limit								

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0553		RU0554		RU0555		
Sampling Date		2017/08/17 11:20		2017/08/18 16:20		2017/08/17 11:00		
COC Number		08442656		08442656		08442656		
	UNITS	W22	QC Batch	W31	QC Batch	W40	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.772	8733434	0.391	8733434	0.775	0.050	8733434
Dissolved Sodium (Na)	mg/L	1.48	8733434	1.10	8733434	1.41	0.050	8733434
Dissolved Sulphur (S)	mg/L	8.5	8733434	<3.0	8733434	9.5	3.0	8733434
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0187	8734880	0.0127	8734880	0.0134	0.00050	8734880
Total Antimony (Sb)	mg/L	0.000072	8734880	<0.000020	8734880	0.000065	0.000020	8734880
Total Arsenic (As)	mg/L	0.000232	8734880	0.000161	8734880	0.000242	0.000020	8734880
Total Barium (Ba)	mg/L	0.0660	8734880	0.0137	8734880	0.0635	0.000020	8734880
Total Beryllium (Be)	mg/L	<0.000010	8734880	<0.000010	8734880	<0.000010	0.000010	8734880
Total Bismuth (Bi)	mg/L	<0.0000050	8734880	<0.0000050	8734880	<0.0000050	0.0000050	8734880
Total Boron (B)	mg/L	<0.010	8734880	<0.010	8734880	<0.010	0.010	8734880
Total Cadmium (Cd)	mg/L	0.0000320	8734880	<0.0000050	8734880	0.0000330	0.0000050	8734880
Total Chromium (Cr)	mg/L	0.00021	8734880	0.00010	8734880	0.00020	0.00010	8734880
Total Cobalt (Co)	mg/L	0.0000300	8734880	0.0000230	8734880	0.0000290	0.0000050	8734880
Total Copper (Cu)	mg/L	0.000603	8734880	0.00112	8734880	0.000575	0.000050	8734880
Total Iron (Fe)	mg/L	0.0473	8734880	0.0023	8734880	0.0366	0.0010	8734880
Total Lead (Pb)	mg/L	0.0000190	8734880	0.0000060	8734880	0.0000110	0.0000050	8734880
Total Lithium (Li)	mg/L	0.00182	8734880	<0.00050	8734880	0.00185	0.00050	8734880
Total Manganese (Mn)	mg/L	0.00454	8734880	0.000076	8734880	0.00428	0.000050	8734880
Total Molybdenum (Mo)	mg/L	0.000623	8734880	0.000338	8734880	0.000598	0.000050	8734880
Total Nickel (Ni)	mg/L	0.00120	8734880	0.000093	8734880	0.00122	0.000020	8734880
Total Phosphorus (P)	mg/L	0.0030	8734880	0.0044	8734880	0.0031	0.0020	8734880
Total Selenium (Se)	mg/L	0.000629	8734880	0.000202	8734880	0.000599	0.000040	8734880
Total Silicon (Si)	mg/L	4.35	8734880	3.02	8734880	4.18	0.050	8734880
Total Silver (Ag)	mg/L	<0.0000050	8734880	<0.0000050	8734880	<0.0000050	0.0000050	8734880
Total Strontium (Sr)	mg/L	0.124	8734880	0.0170	8734880	0.121	0.000050	8734880
Total Thallium (Tl)	mg/L	0.0000020	8734880	<0.0000020	8734880	0.0000020	0.0000020	8734880
Total Tin (Sn)	mg/L	<0.00020	8734880	<0.00020	8734880	<0.00020	0.00020	8734880
Total Titanium (Ti)	mg/L	<0.00050	8734880	<0.00050	8734880	<0.00050	0.00050	8734880
Total Uranium (U)	mg/L	0.000991	8734880	0.0000150	8734880	0.000973	0.0000020	8734880
Total Vanadium (V)	mg/L	<0.00020	8734880	0.00045	8734880	<0.00020	0.00020	8734880
Total Zinc (Zn)	mg/L	0.00438	8734880	0.00022	8734880	0.00431	0.00010	8734880
Total Zirconium (Zr)	mg/L	<0.00010	8734880	<0.00010	8734880	<0.00010	0.00010	8734880
Total Calcium (Ca)	mg/L	28.3	8733674	23.7	8733674	27.1	0.050	8733674
RDL = Reportable Detection Limit								

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0553		RU0554		RU0555		
Sampling Date		2017/08/17 11:20		2017/08/18 16:20		2017/08/17 11:00		
COC Number		08442656		08442656		08442656		
	UNITS	**W22**	**QC Batch**	**W31**	**QC Batch**	**W40**	**RDL**	**QC Batch**
Total Magnesium (Mg)	mg/L	9.03	8733674	1.44	8733674	9.13	0.050	8733674
Total Potassium (K)	mg/L	0.743	8733674	0.390	8733674	0.737	0.050	8733674
Total Sodium (Na)	mg/L	1.41	8733674	1.11	8733674	1.42	0.050	8733674
Total Sulphur (S)	mg/L	8.2	8733674	<3.0	8733674	8.8	3.0	8733674
RDL = Reportable Detection Limit								

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0556			RU0557	RU0558		
Sampling Date		2017/08/17 12:20			2017/08/17 12:40	2017/08/17 13:15		
COC Number		08442656			08442656	08442656		
	UNITS	W71	RDL	QC Batch	W72	W73	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	0.010	8734159	<0.010	<0.010	0.010	8734159
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00357	0.00050	8743477	0.00432	0.00374	0.00050	8734703
Dissolved Antimony (Sb)	mg/L	0.000417	0.000020	8743477	0.000284	0.000104	0.000020	8734703
Dissolved Arsenic (As)	mg/L	0.000391	0.000020	8743477	0.00130	0.000249	0.000020	8734703
Dissolved Barium (Ba)	mg/L	0.0584 (1)	0.000020	8743477	0.0867	0.0688	0.000020	8734703
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8743477	<0.000010	<0.000010	0.000010	8734703
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8743477	<0.0000050	<0.0000050	0.0000050	8734703
Dissolved Boron (B)	mg/L	<0.010	0.010	8734703	<0.010	<0.010	0.010	8734703
Dissolved Cadmium (Cd)	mg/L	0.00364 (1)	0.0000050	8743477	0.000299	0.0000080	0.0000050	8734703
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8743477	<0.00010	0.00024	0.00010	8734703
Dissolved Cobalt (Co)	mg/L	0.000236	0.0000050	8743477	0.0000300	0.0000150	0.0000050	8734703
Dissolved Copper (Cu)	mg/L	0.000595	0.000050	8734703	0.000646	0.000953	0.000050	8734703
Dissolved Iron (Fe)	mg/L	0.0607	0.0010	8743477	0.0308	0.0349	0.0010	8734703
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	8743477	0.0000080	<0.0000050	0.0000050	8734703
Dissolved Lithium (Li)	mg/L	0.00239	0.00050	8743477	0.00173	0.00056	0.00050	8734703
Dissolved Manganese (Mn)	mg/L	0.0278	0.000050	8743477	0.0367	0.00576	0.000050	8734703
Dissolved Molybdenum (Mo)	mg/L	0.00473 (1)	0.000050	8743477	0.00215	0.000460	0.000050	8734703
Dissolved Nickel (Ni)	mg/L	0.0321 (1)	0.000020	8734703	0.00399	0.000700	0.000020	8734703
Dissolved Phosphorus (P)	mg/L	0.0123	0.0020	8743477	0.0205	0.0040	0.0020	8734703
Dissolved Selenium (Se)	mg/L	0.00838 (1)	0.000040	8743477	0.00237	0.000727	0.000040	8734703
Dissolved Silicon (Si)	mg/L	4.21 (1)	0.050	8743477	4.83	5.07	0.050	8734703
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8743477	<0.0000050	<0.0000050	0.0000050	8734703
Dissolved Strontium (Sr)	mg/L	0.259 (1)	0.000050	8743477	0.228	0.111	0.000050	8734703
Dissolved Thallium (Tl)	mg/L	0.0000060	0.0000020	8743477	0.0000020	<0.0000020	0.0000020	8734703
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8743477	<0.00020	<0.00020	0.00020	8734703
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8743477	<0.00050	<0.00050	0.00050	8734703
Dissolved Uranium (U)	mg/L	0.00869 (1)	0.0000020	8743477	0.00114	0.000331	0.0000020	8734703
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8734703	<0.00020	<0.00020	0.00020	8734703
Dissolved Zinc (Zn)	mg/L	0.543	0.00010	8743477	0.0433	0.00043	0.00010	8734703
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8743477	<0.00010	<0.00010	0.00010	8734703
Dissolved Calcium (Ca)	mg/L	86.2 (1)	0.050	8742654	44.9	29.7	0.050	8733434

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0556			RU0557	RU0558		
Sampling Date		2017/08/17 12:20			2017/08/17 12:40	2017/08/17 13:15		
COC Number		08442656			08442656	08442656		
	UNITS	W71	RDL	QC Batch	W72	W73	RDL	QC Batch
Dissolved Magnesium (Mg)	mg/L	27.9 (1)	0.050	8742654	15.1	7.91	0.050	8733434
Dissolved Potassium (K)	mg/L	0.610 (1)	0.050	8742654	0.567	0.235	0.050	8733434
Dissolved Sodium (Na)	mg/L	0.854 (1)	0.050	8742654	1.32	1.02	0.050	8733434
Dissolved Sulphur (S)	mg/L	38.8 (1)	3.0	8742654	17.2	6.1	3.0	8733434
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0290	0.0030	8744124	0.0211	0.0120	0.00050	8734880
Total Antimony (Sb)	mg/L	0.000352	0.000020	8744124	0.000279	0.000107	0.000020	8734880
Total Arsenic (As)	mg/L	0.000363	0.000020	8744124	0.00140	0.000260	0.000020	8734880
Total Barium (Ba)	mg/L	0.0459	0.000050	8744124	0.0829	0.0678	0.000020	8734880
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8744124	<0.000010	<0.000010	0.000010	8734880
Total Bismuth (Bi)	mg/L	<0.000010	0.000010	8744124	<0.0000050	<0.0000050	0.0000050	8734880
Total Boron (B)	mg/L	<0.010	0.010	8744124	<0.010	<0.010	0.010	8734880
Total Cadmium (Cd)	mg/L	0.00288	0.0000050	8734728	0.000318	0.0000080	0.0000050	8734880
Total Chromium (Cr)	mg/L	<0.00010	0.00010	8744124	0.00014	0.00030	0.00010	8734880
Total Cobalt (Co)	mg/L	0.000217	0.000010	8744124	0.0000500	0.0000250	0.0000050	8734880
Total Copper (Cu)	mg/L	0.00079	0.00010	8744124	0.000833	0.00111	0.000050	8734880
Total Iron (Fe)	mg/L	0.128	0.0050	8744124	0.0749	0.0733	0.0010	8734880
Total Lead (Pb)	mg/L	0.000102	0.000020	8744124	0.0000520	0.0000190	0.0000050	8734880
Total Lithium (Li)	mg/L	0.00173	0.00050	8744124	0.00170	0.00057	0.00050	8734880
Total Manganese (Mn)	mg/L	0.0250	0.00010	8744124	0.0432	0.0115	0.000050	8734880
Total Molybdenum (Mo)	mg/L	0.00358	0.000050	8744124	0.00213	0.000448	0.000050	8734880
Total Nickel (Ni)	mg/L	0.0258	0.00010	8744124	0.00436	0.000893	0.000020	8734880
Total Phosphorus (P)	mg/L	0.0236	0.0050	8744124	0.0202	0.0051	0.0020	8734880
Total Selenium (Se)	mg/L	0.00625	0.000040	8744124	0.00231	0.000720	0.000040	8734880
Total Silicon (Si)	mg/L	3.09	0.050	8744124	4.05	4.31	0.050	8734880
Total Silver (Ag)	mg/L	0.000011	0.000010	8744124	<0.0000050	<0.0000050	0.0000050	8734880
Total Strontium (Sr)	mg/L	0.201	0.000050	8734728	0.200	0.0990	0.000050	8734880
Total Thallium (Tl)	mg/L	0.0000060	0.0000020	8744124	0.0000020	<0.0000020	0.0000020	8734880
Total Tin (Sn)	mg/L	<0.00020	0.00020	8744124	<0.00020	<0.00020	0.00020	8734880
Total Titanium (Ti)	mg/L	<0.0020	0.0020	8744124	0.00062	<0.00050	0.00050	8734880
Total Uranium (U)	mg/L	0.00691	0.0000050	8744124	0.00112	0.000323	0.0000020	8734880
Total Vanadium (V)	mg/L	0.00035	0.00020	8744124	0.00024	<0.00020	0.00020	8734880
Total Zinc (Zn)	mg/L	0.457	0.0010	8744124	0.0427	0.00060	0.00010	8734880

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0556			RU0557	RU0558		
Sampling Date		2017/08/17 12:20			2017/08/17 12:40	2017/08/17 13:15		
COC Number		08442656			08442656	08442656		
	UNITS	**W71**	**RDL**	**QC Batch**	**W72**	**W73**	**RDL**	**QC Batch**
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8744124	<0.00010	<0.00010	0.00010	8734880
Total Calcium (Ca)	mg/L	66.9	0.25	8742655	44.3	28.9	0.050	8733674
Total Magnesium (Mg)	mg/L	22.1	0.25	8733674	15.2	8.10	0.050	8733674
Total Potassium (K)	mg/L	0.48	0.25	8742655	0.543	0.228	0.050	8733674
Total Sodium (Na)	mg/L	0.68	0.25	8742655	1.43	1.02	0.050	8733674
Total Sulphur (S)	mg/L	29.2	3.0	8742655	16.3	5.6	3.0	8733674
RDL = Reportable Detection Limit								

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0559	RU0560		RU0561		
Sampling Date		2017/08/19 09:00	2017/08/19 08:20		2017/08/17 16:50		
COC Number		08442656	08442656		08442656		
	UNITS	W81	W82	RDL	BIO-OUT	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	<0.010	0.010	<0.050	0.050	8734159
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00519	0.0231	0.00050	0.00375	0.00050	8734703
Dissolved Antimony (Sb)	mg/L	0.000039	0.000209	0.000020	0.000132	0.000020	8734703
Dissolved Arsenic (As)	mg/L	0.000131	0.000151	0.000020	0.00186	0.000020	8734703
Dissolved Barium (Ba)	mg/L	0.0488	0.137	0.000020	0.0833	0.000020	8734703
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000010	<0.000010	0.000010	8734703
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	0.0000050	<0.0000050	0.0000050	8734703
Dissolved Boron (B)	mg/L	<0.010	<0.010	0.010	<0.010	0.010	8734703
Dissolved Cadmium (Cd)	mg/L	0.0000320	0.00311	0.0000050	0.000668	0.0000050	8734703
Dissolved Chromium (Cr)	mg/L	0.00012	<0.00010	0.00010	<0.00010	0.00010	8734703
Dissolved Cobalt (Co)	mg/L	0.0000280	0.000584	0.0000050	0.00184	0.0000050	8734703
Dissolved Copper (Cu)	mg/L	0.000575	0.00346	0.000050	<0.000050	0.000050	8734703
Dissolved Iron (Fe)	mg/L	0.0180	0.0363	0.0010	10.6	0.0010	8734703
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000390	0.0000050	0.0000140	0.0000050	8734703
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	0.00050	0.00563	0.00050	8734703
Dissolved Manganese (Mn)	mg/L	0.0100	0.0815	0.000050	5.76	0.000050	8734703
Dissolved Molybdenum (Mo)	mg/L	0.000305	0.000314	0.000050	0.00148	0.000050	8734703
Dissolved Nickel (Ni)	mg/L	0.000193	0.0170	0.000020	0.00314	0.000020	8734703
Dissolved Phosphorus (P)	mg/L	0.0044	0.0070	0.0020	0.0134	0.0020	8734703
Dissolved Selenium (Se)	mg/L	0.000469	0.00272	0.000040	0.00258	0.000040	8734703
Dissolved Silicon (Si)	mg/L	3.17	3.11	0.050	6.29	0.050	8734703
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	0.0000050	<0.0000050	0.0000050	8734703
Dissolved Strontium (Sr)	mg/L	0.0460	0.122	0.000050	0.970	0.000050	8734703
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000050	0.0000020	0.0000830	0.0000020	8734703
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	0.00020	<0.00020	0.00020	8734703
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	0.00050	<0.00050	0.00050	8734703
Dissolved Uranium (U)	mg/L	0.000149	0.000267	0.0000020	0.000444	0.0000020	8734703
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	0.00020	<0.00020	0.00020	8734703
Dissolved Zinc (Zn)	mg/L	0.00143	0.312	0.00010	0.338	0.00010	8734703
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	0.00010	<0.00010	0.00010	8734703
Dissolved Calcium (Ca)	mg/L	23.5	42.0	0.050	284	0.050	8733434
Dissolved Magnesium (Mg)	mg/L	2.28	4.00	0.050	25.6	0.050	8733434
RDL = Reportable Detection Limit							

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0559	RU0560		RU0561		
Sampling Date		2017/08/19 09:00	2017/08/19 08:20		2017/08/17 16:50		
COC Number		08442656	08442656		08442656		
	UNITS	W81	W82	RDL	BIO-OUT	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.415	1.14	0.050	9.45	0.050	8733434
Dissolved Sodium (Na)	mg/L	1.04	1.03	0.050	33.7	0.050	8733434
Dissolved Sulphur (S)	mg/L	3.4	13.3	3.0	244	3.0	8733434
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.0116	0.0375	0.00050	0.00501	0.00050	8734880
Total Antimony (Sb)	mg/L	0.000039	0.000226	0.000020	0.000155	0.000020	8734880
Total Arsenic (As)	mg/L	0.000146	0.000191	0.000020	0.00203	0.000020	8734880
Total Barium (Ba)	mg/L	0.0499	0.142	0.000020	0.0859	0.000020	8734880
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000010	<0.000010	0.000010	8734880
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	0.0000050	<0.0000050	0.0000050	8734880
Total Boron (B)	mg/L	<0.010	<0.010	0.010	<0.010	0.010	8734880
Total Cadmium (Cd)	mg/L	0.0000360	0.00329	0.0000050	0.00175	0.0000050	8734880
Total Chromium (Cr)	mg/L	0.00012	<0.00010	0.00010	<0.00010	0.00010	8734880
Total Cobalt (Co)	mg/L	0.0000320	0.000627	0.0000050	0.00184	0.0000050	8734880
Total Copper (Cu)	mg/L	0.000639	0.00503	0.000050	0.000165	0.000050	8734880
Total Iron (Fe)	mg/L	0.0317	0.0903	0.0010	10.9	0.0010	8734880
Total Lead (Pb)	mg/L	0.0000080	0.000239	0.0000050	0.000115	0.0000050	8734880
Total Lithium (Li)	mg/L	<0.00050	0.00052	0.00050	0.00561	0.00050	8734880
Total Manganese (Mn)	mg/L	0.0109	0.0824	0.000050	5.70	0.000050	8734880
Total Molybdenum (Mo)	mg/L	0.000308	0.000323	0.000050	0.00153	0.000050	8734880
Total Nickel (Ni)	mg/L	0.000187	0.0169	0.000020	0.00320	0.000020	8734880
Total Phosphorus (P)	mg/L	0.0046	0.0104	0.0020	0.0207	0.0020	8734880
Total Selenium (Se)	mg/L	0.000523	0.00281	0.000040	0.00284	0.000040	8734880
Total Silicon (Si)	mg/L	2.95	2.94	0.050	6.17	0.050	8734880
Total Silver (Ag)	mg/L	<0.0000050	0.0000060	0.0000050	0.0000050	0.0000050	8734880
Total Strontium (Sr)	mg/L	0.0445	0.118	0.000050	0.981	0.000050	8734880
Total Thallium (Tl)	mg/L	<0.0000020	0.0000060	0.0000020	0.000130	0.0000020	8734880
Total Tin (Sn)	mg/L	<0.00020	<0.00020	0.00020	<0.00020	0.00020	8734880
Total Titanium (Ti)	mg/L	<0.00050	<0.00050	0.00050	0.00050	0.00050	8734880
Total Uranium (U)	mg/L	0.000155	0.000277	0.0000020	0.000463	0.0000020	8734880
Total Vanadium (V)	mg/L	<0.00020	<0.00020	0.00020	<0.00020	0.00020	8734880
Total Zinc (Zn)	mg/L	0.00175	0.307	0.00010	0.375	0.00010	8734880
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	0.00010	<0.00010	0.00010	8734880
Total Calcium (Ca)	mg/L	23.5	42.1	0.050	286	0.050	8733674
RDL = Reportable Detection Limit							

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0559	RU0560		RU0561		
Sampling Date		2017/08/19 09:00	2017/08/19 08:20		2017/08/17 16:50		
COC Number		08442656	08442656		08442656		
	UNITS	**W81**	**W82**	**RDL**	**BIO-OUT**	**RDL**	**QC Batch**
Total Magnesium (Mg)	mg/L	2.47	4.16	0.050	26.9	0.050	8733674
Total Potassium (K)	mg/L	0.420	1.13	0.050	9.42	0.050	8733674
Total Sodium (Na)	mg/L	1.08	1.06	0.050	35.3	0.050	8733674
Total Sulphur (S)	mg/L	3.5	13.6	3.0	255	3.0	8733674
RDL = Reportable Detection Limit							

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0562	RU0563			RU0564		
Sampling Date		2017/08/18 17:00	2017/08/18 16:20			2017/08/17 15:40		
COC Number		08442656	08442656			08442656		
	UNITS	PORTAL	DUP	RDL	QC Batch	T1-2	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	0.020	<0.010	0.010	8734159	0.100	0.050	8734159
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.0108	0.0115	0.00050	8734703	0.0828	0.0025	8734703
Dissolved Antimony (Sb)	mg/L	0.000363	<0.000020	0.000020	8734703	0.0412	0.00010	8734703
Dissolved Arsenic (As)	mg/L	0.00308	0.000140	0.000020	8734703	0.00842	0.00010	8734703
Dissolved Barium (Ba)	mg/L	0.0267	0.0140	0.000020	8734703	0.0506	0.00010	8734703
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000010	8734703	<0.000050	0.000050	8734703
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	0.0000050	8734703	<0.000025	0.000025	8734703
Dissolved Boron (B)	mg/L	0.014	<0.010	0.010	8734703	<0.050	0.050	8734703
Dissolved Cadmium (Cd)	mg/L	0.00135	<0.0000050	0.0000050	8734703	0.0126	0.000025	8734703
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	0.00010	8734703	<0.00050	0.00050	8734703
Dissolved Cobalt (Co)	mg/L	0.00608	0.0000250	0.0000050	8734703	0.00184	0.000025	8734703
Dissolved Copper (Cu)	mg/L	0.000054	0.00112	0.000050	8734703	0.232	0.00025	8734703
Dissolved Iron (Fe)	mg/L	7.59	0.0018	0.0010	8734703	1.91	0.0050	8734703
Dissolved Lead (Pb)	mg/L	0.0000170	0.0000060	0.0000050	8734703	0.114	0.000025	8734703
Dissolved Lithium (Li)	mg/L	0.0117	<0.00050	0.00050	8734703	0.0113	0.0025	8734703
Dissolved Manganese (Mn)	mg/L	1.11	0.000074	0.000050	8734703	0.550	0.00025	8734703
Dissolved Molybdenum (Mo)	mg/L	0.00995	0.000346	0.000050	8734703	0.0366	0.00025	8734703
Dissolved Nickel (Ni)	mg/L	0.0283	0.000081	0.000020	8734703	0.00895	0.00010	8734703
Dissolved Phosphorus (P)	mg/L	0.0140	0.0023	0.0020	8734703	0.107	0.010	8734703
Dissolved Selenium (Se)	mg/L	0.00274	0.000206	0.000040	8734703	1.16	0.00020	8734703
Dissolved Silicon (Si)	mg/L	4.70	3.02	0.050	8734703	2.21	0.25	8734703
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	0.0000050	8734703	0.00521	0.000025	8734703
Dissolved Strontium (Sr)	mg/L	1.26	0.0171	0.000050	8734703	2.31	0.00025	8734703
Dissolved Thallium (Tl)	mg/L	0.000320	<0.0000020	0.0000020	8734703	0.00106	0.000010	8734703
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	0.00020	8734703	<0.0010	0.0010	8734703
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	0.00050	8734703	<0.0025	0.0025	8734703
Dissolved Uranium (U)	mg/L	0.00368	0.0000160	0.0000020	8734703	0.000264	0.000010	8734703
Dissolved Vanadium (V)	mg/L	<0.00020	0.00045	0.00020	8734703	<0.0010	0.0010	8734703
Dissolved Zinc (Zn)	mg/L	0.570	0.00030	0.00010	8734703	1.70	0.00050	8734703
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	0.00010	8734703	<0.00050	0.00050	8734703
Dissolved Calcium (Ca)	mg/L	169	23.9	0.050	8733434	527	0.25	8733434
Dissolved Magnesium (Mg)	mg/L	21.4	1.31	0.050	8733434	3.55	0.25	8733434

RDL = Reportable Detection Limit

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0562	RU0563			RU0564		
Sampling Date		2017/08/18 17:00	2017/08/18 16:20			2017/08/17 15:40		
COC Number		08442656	08442656			08442656		
	UNITS	PORTAL	DUP	RDL	QC Batch	T1-2	RDL	QC Batch
Dissolved Potassium (K)	mg/L	21.1	0.388	0.050	8733434	42.9	0.25	8733434
Dissolved Sodium (Na)	mg/L	47.7	1.08	0.050	8733434	156	0.25	8733434
Dissolved Sulphur (S)	mg/L	182	<3.0	3.0	8733434	726	15	8733434
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0657	0.0126	0.00050	8734880	0.163	0.015	8734728
Total Antimony (Sb)	mg/L	0.000854	<0.000020	0.000020	8734880	0.0444	0.00010	8734728
Total Arsenic (As)	mg/L	0.00537	0.000153	0.000020	8734880	0.00844	0.00010	8734728
Total Barium (Ba)	mg/L	0.0283	0.0135	0.000020	8734880	0.0550	0.00025	8734728
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000010	8734880	<0.000050	0.000050	8734728
Total Bismuth (Bi)	mg/L	0.0000110	<0.0000050	0.0000050	8734880	<0.000050	0.000050	8734728
Total Boron (B)	mg/L	0.015	<0.010	0.010	8734880	<0.050	0.050	8734728
Total Cadmium (Cd)	mg/L	0.00296	<0.0000050	0.0000050	8734880	0.0131	0.000025	8734728
Total Chromium (Cr)	mg/L	<0.00010	<0.00010	0.00010	8734880	<0.00050	0.00050	8734728
Total Cobalt (Co)	mg/L	0.00616	0.0000200	0.0000050	8734880	0.00181	0.000050	8734728
Total Copper (Cu)	mg/L	0.00421	0.00111	0.000050	8734880	0.245	0.00050	8734728
Total Iron (Fe)	mg/L	8.14	0.0018	0.0010	8734880	2.01	0.025	8734728
Total Lead (Pb)	mg/L	0.00414	<0.0000050	0.0000050	8734880	0.123	0.00010	8734728
Total Lithium (Li)	mg/L	0.0115	<0.00050	0.00050	8734880	0.0117	0.0025	8734728
Total Manganese (Mn)	mg/L	1.09	0.000079	0.000050	8734880	0.535	0.00050	8734728
Total Molybdenum (Mo)	mg/L	0.00986	0.000342	0.000050	8734880	0.0378	0.00025	8734728
Total Nickel (Ni)	mg/L	0.0286	0.000095	0.000020	8734880	0.00913	0.00050	8734728
Total Phosphorus (P)	mg/L	0.0160	<0.0020	0.0020	8734880	0.106	0.025	8734728
Total Selenium (Se)	mg/L	0.00325	0.000201	0.000040	8734880	1.17	0.00020	8734728
Total Silicon (Si)	mg/L	4.23	2.97	0.050	8734880	2.29	0.25	8734728
Total Silver (Ag)	mg/L	0.0000160	<0.0000050	0.0000050	8734880	0.00691	0.000050	8734728
Total Strontium (Sr)	mg/L	1.27	0.0168	0.000050	8734880	2.30	0.00025	8734728
Total Thallium (Tl)	mg/L	0.000364	<0.0000020	0.0000020	8734880	0.00118	0.000010	8734728
Total Tin (Sn)	mg/L	<0.00020	<0.00020	0.00020	8734880	<0.0010	0.0010	8734728
Total Titanium (Ti)	mg/L	<0.00050	<0.00050	0.00050	8734880	<0.010	0.010	8734728
Total Uranium (U)	mg/L	0.00375	0.0000140	0.0000020	8734880	0.000378	0.000025	8734728
Total Vanadium (V)	mg/L	<0.00020	0.00043	0.00020	8734880	<0.0010	0.0010	8734728
Total Zinc (Zn)	mg/L	0.624	0.00026	0.00010	8734880	1.69	0.0050	8734728
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	0.00010	8734880	<0.00050	0.00050	8734728
Total Calcium (Ca)	mg/L	169	23.9	0.050	8733674	544	1.3	8733674

RDL = Reportable Detection Limit

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0562	RU0563			RU0564		
Sampling Date		2017/08/18 17:00	2017/08/18 16:20			2017/08/17 15:40		
COC Number		08442656	08442656			08442656		
	UNITS	PORTAL	DUP	RDL	QC Batch	T1-2	RDL	QC Batch
Total Magnesium (Mg)	mg/L	22.8	1.38	0.050	8733674	3.7	1.3	8733674
Total Potassium (K)	mg/L	21.2	0.374	0.050	8733674	43.5	1.3	8733674
Total Sodium (Na)	mg/L	47.3	1.07	0.050	8733674	155	1.3	8733674
Total Sulphur (S)	mg/L	179	<3.0	3.0	8733674	732	15	8733674
RDL = Reportable Detection Limit								

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0565			RU0566		RU0567		
Sampling Date		2017/08/17 16:10					2017/08/17 09:35		
COC Number		08442656			08442656		08442656		
	UNITS	T1-3	RDL	QC Batch	TRAVEL BLANK	QC Batch	FIELD BLANK	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	0.171	0.050	8734159	<0.010	8734159	<0.010	0.010	8734242
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.0855	0.0050	8734703		8734703	0.00056	0.00050	8734703
Dissolved Antimony (Sb)	mg/L	0.0742	0.00020	8734703		8734703	<0.000020	0.000020	8734703
Dissolved Arsenic (As)	mg/L	0.00530	0.00020	8734703		8734703	<0.000020	0.000020	8734703
Dissolved Barium (Ba)	mg/L	0.0806	0.00020	8734703		8734703	<0.000020	0.000020	8734703
Dissolved Beryllium (Be)	mg/L	<0.00010	0.00010	8734703		8734703	<0.000010	0.000010	8734703
Dissolved Bismuth (Bi)	mg/L	<0.000050	0.000050	8734703		8734703	<0.0000050	0.0000050	8734703
Dissolved Boron (B)	mg/L	<0.10	0.10	8734703		8734703	<0.010	0.010	8734703
Dissolved Cadmium (Cd)	mg/L	0.00401	0.000050	8734703		8734703	<0.0000050	0.0000050	8734703
Dissolved Chromium (Cr)	mg/L	<0.0010	0.0010	8734703		8734703	<0.00010	0.00010	8734703
Dissolved Cobalt (Co)	mg/L	0.00105	0.000050	8734703		8734703	<0.0000050	0.0000050	8734703
Dissolved Copper (Cu)	mg/L	0.515	0.00050	8734703		8734703	<0.000050	0.000050	8734703
Dissolved Iron (Fe)	mg/L	1.87	0.010	8734703		8734703	<0.0010	0.0010	8734703
Dissolved Lead (Pb)	mg/L	0.223	0.000050	8734703		8734703	<0.0000050	0.0000050	8734703
Dissolved Lithium (Li)	mg/L	0.0179	0.0050	8734703		8734703	<0.00050	0.00050	8734703
Dissolved Manganese (Mn)	mg/L	0.197	0.00050	8734703		8734703	<0.000050	0.000050	8734703
Dissolved Molybdenum (Mo)	mg/L	0.0740	0.00050	8734703		8734703	<0.000050	0.000050	8734703
Dissolved Nickel (Ni)	mg/L	0.0123	0.00020	8734703		8734703	<0.000020	0.000020	8734703
Dissolved Phosphorus (P)	mg/L	0.164	0.020	8734703		8734703	<0.0020	0.0020	8734703
Dissolved Selenium (Se)	mg/L	3.80	0.00040	8734703		8734703	<0.000040	0.000040	8734703
Dissolved Silicon (Si)	mg/L	2.27	0.50	8734703		8734703	<0.050	0.050	8734703
Dissolved Silver (Ag)	mg/L	0.00305	0.000050	8734703		8734703	<0.0000050	0.0000050	8734703
Dissolved Strontium (Sr)	mg/L	3.79	0.00050	8734703		8734703	<0.000050	0.000050	8734703
Dissolved Thallium (Tl)	mg/L	0.00106	0.000020	8734703		8734703	<0.0000020	0.0000020	8734703
Dissolved Tin (Sn)	mg/L	<0.0020	0.0020	8734703		8734703	<0.00020	0.00020	8734703
Dissolved Titanium (Ti)	mg/L	<0.0050	0.0050	8734703		8734703	<0.00050	0.00050	8734703
Dissolved Uranium (U)	mg/L	0.000163	0.000020	8734703		8734703	<0.0000020	0.0000020	8734703
Dissolved Vanadium (V)	mg/L	<0.0020	0.0020	8734703		8734703	<0.00020	0.00020	8734703
Dissolved Zinc (Zn)	mg/L	1.14	0.0010	8734703		8734703	<0.00010	0.00010	8734703
Dissolved Zirconium (Zr)	mg/L	<0.0010	0.0010	8734703		8734703	<0.00010	0.00010	8734703
Dissolved Calcium (Ca)	mg/L	831	0.25	8742654		8742654	<0.050	0.050	8733434
Dissolved Magnesium (Mg)	mg/L	1.83	0.25	8742654		8742654	<0.050	0.050	8733434

RDL = Reportable Detection Limit

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0565			RU0566		RU0567		
Sampling Date		2017/08/17 16:10					2017/08/17 09:35		
COC Number		08442656			08442656		08442656		
	UNITS	T1-3	RDL	QC Batch	TRAVEL BLANK	QC Batch	FIELD BLANK	RDL	QC Batch
Dissolved Potassium (K)	mg/L	77.0	0.25	8742654		8742654	<0.050	0.050	8733434
Dissolved Sodium (Na)	mg/L	281	0.25	8742654		8742654	<0.050	0.050	8733434
Dissolved Sulphur (S)	mg/L	1290 (1)	15	8733434		8733434	<3.0	3.0	8733434
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	0.082	0.015	8734728	<0.00050	8734880	<0.00050	0.00050	8734880
Total Antimony (Sb)	mg/L	0.0696	0.00010	8734728	<0.000020	8734880	<0.000020	0.000020	8734880
Total Arsenic (As)	mg/L	0.00582	0.00010	8734728	<0.000020	8734880	<0.000020	0.000020	8734880
Total Barium (Ba)	mg/L	0.0800	0.00025	8734728	<0.000020	8734880	<0.000020	0.000020	8734880
Total Beryllium (Be)	mg/L	<0.000050	0.000050	8734728	<0.000010	8734880	<0.000010	0.000010	8734880
Total Bismuth (Bi)	mg/L	<0.000050	0.000050	8734728	<0.0000050	8734880	<0.0000050	0.0000050	8734880
Total Boron (B)	mg/L	<0.050	0.050	8734728	<0.010	8734880	<0.010	0.010	8734880
Total Cadmium (Cd)	mg/L	0.00399	0.000025	8734728	<0.0000050	8734880	<0.0000050	0.0000050	8734880
Total Chromium (Cr)	mg/L	<0.00050	0.00050	8734728	<0.00010	8734880	<0.00010	0.00010	8734880
Total Cobalt (Co)	mg/L	0.00103	0.000050	8734728	<0.0000050	8734880	<0.0000050	0.0000050	8734880
Total Copper (Cu)	mg/L	0.536	0.00050	8734728	<0.000050	8734880	<0.000050	0.000050	8734880
Total Iron (Fe)	mg/L	1.81	0.025	8734728	<0.0010	8734880	<0.0010	0.0010	8734880
Total Lead (Pb)	mg/L	0.224	0.00010	8734728	<0.0000050	8734880	0.0000060	0.0000050	8734880
Total Lithium (Li)	mg/L	0.0171	0.0025	8734728	<0.00050	8734880	<0.00050	0.00050	8734880
Total Manganese (Mn)	mg/L	0.189	0.00050	8734728	<0.000050	8734880	<0.000050	0.000050	8734880
Total Molybdenum (Mo)	mg/L	0.0942	0.00025	8734728	<0.000050	8734880	<0.000050	0.000050	8734880
Total Nickel (Ni)	mg/L	0.0118	0.00050	8734728	<0.000020	8734880	<0.000020	0.000020	8734880
Total Phosphorus (P)	mg/L	0.171	0.025	8734728	<0.0020	8734880	<0.0020	0.0020	8734880
Total Selenium (Se)	mg/L	3.56	0.00020	8734728	<0.000040	8734880	<0.000040	0.000040	8734880
Total Silicon (Si)	mg/L	1.98	0.25	8734728	<0.050	8734880	<0.050	0.050	8734880
Total Silver (Ag)	mg/L	0.0118	0.000050	8734728	<0.0000050	8734880	<0.0000050	0.0000050	8734880
Total Strontium (Sr)	mg/L	3.93	0.00025	8734728	<0.000050	8734880	<0.000050	0.000050	8734880
Total Thallium (Tl)	mg/L	0.00115	0.000010	8734728	<0.0000020	8734880	<0.0000020	0.0000020	8734880
Total Tin (Sn)	mg/L	<0.0010	0.0010	8734728	<0.00020	8734880	<0.00020	0.00020	8734880
Total Titanium (Ti)	mg/L	<0.010	0.010	8734728	<0.00050	8734880	<0.00050	0.00050	8734880
Total Uranium (U)	mg/L	0.000222	0.000025	8734728	<0.0000020	8734880	<0.0000020	0.0000020	8734880
Total Vanadium (V)	mg/L	<0.0010	0.0010	8734728	<0.00020	8734880	<0.00020	0.00020	8734880
Total Zinc (Zn)	mg/L	1.04	0.0050	8734728	<0.00010	8734880	0.00013	0.00010	8734880
Total Zirconium (Zr)	mg/L	<0.00050	0.00050	8734728	<0.00010	8734880	<0.00010	0.00010	8734880

RDL = Reportable Detection Limit
(1) Dissolved greater than total. Reanalysis yields similar results.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0565			RU0566		RU0567		
Sampling Date		2017/08/17 16:10					2017/08/17 09:35		
COC Number		08442656			08442656		08442656		
	UNITS	T1-3	RDL	QC Batch	TRAVEL BLANK	QC Batch	FIELD BLANK	RDL	QC Batch
Total Calcium (Ca)	mg/L	829	1.3	8733674	<0.050	8733674	<0.050	0.050	8733674
Total Magnesium (Mg)	mg/L	1.7	1.3	8733674	<0.050	8733674	<0.050	0.050	8733674
Total Potassium (K)	mg/L	73.7	1.3	8733674	<0.050	8733674	<0.050	0.050	8733674
Total Sodium (Na)	mg/L	271	1.3	8733674	<0.050	8733674	<0.050	0.050	8733674
Total Sulphur (S)	mg/L	929	15	8733674	<3.0	8733674	<3.0	3.0	8733674
RDL = Reportable Detection Limit									

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0568		
Sampling Date		2017/08/17 15:20		
COC Number		08442656		
	UNITS	T1	RDL	QC Batch
ANIONS				
Bromide (Br)	mg/L	0.064	0.050	8734242
Dissolved Metals by ICPMS				
Dissolved Aluminum (Al)	mg/L	0.103	0.0025	8734698
Dissolved Antimony (Sb)	mg/L	0.0269	0.00010	8734698
Dissolved Arsenic (As)	mg/L	0.00618	0.00010	8734698
Dissolved Barium (Ba)	mg/L	0.0354	0.00010	8734698
Dissolved Beryllium (Be)	mg/L	<0.000050	0.000050	8734698
Dissolved Bismuth (Bi)	mg/L	<0.000025	0.000025	8734698
Dissolved Boron (B)	mg/L	<0.050	0.050	8734698
Dissolved Cadmium (Cd)	mg/L	0.0137	0.000025	8734698
Dissolved Chromium (Cr)	mg/L	<0.00050	0.00050	8734698
Dissolved Cobalt (Co)	mg/L	0.00166	0.000025	8734698
Dissolved Copper (Cu)	mg/L	0.162	0.00025	8734698
Dissolved Iron (Fe)	mg/L	1.79	0.0050	8734698
Dissolved Lead (Pb)	mg/L	0.121	0.000025	8734698
Dissolved Lithium (Li)	mg/L	0.0076	0.0025	8734698
Dissolved Manganese (Mn)	mg/L	0.446	0.00025	8734698
Dissolved Molybdenum (Mo)	mg/L	0.0219	0.00025	8734698
Dissolved Nickel (Ni)	mg/L	0.00865	0.00010	8734698
Dissolved Phosphorus (P)	mg/L	0.057	0.010	8734698
Dissolved Selenium (Se)	mg/L	0.425	0.00020	8734698
Dissolved Silicon (Si)	mg/L	1.71	0.25	8734698
Dissolved Silver (Ag)	mg/L	0.000255	0.000025	8734698
Dissolved Strontium (Sr)	mg/L	1.44	0.00025	8734698
Dissolved Thallium (Tl)	mg/L	0.000851	0.000010	8734698
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	8734698
Dissolved Titanium (Ti)	mg/L	<0.0025	0.0025	8734698
Dissolved Uranium (U)	mg/L	0.000446	0.000010	8734698
Dissolved Vanadium (V)	mg/L	<0.0010	0.0010	8734698
Dissolved Zinc (Zn)	mg/L	1.65	0.00050	8734698
Dissolved Zirconium (Zr)	mg/L	<0.00050	0.00050	8734698
Dissolved Calcium (Ca)	mg/L	347	0.25	8733434
Dissolved Magnesium (Mg)	mg/L	4.06	0.25	8733434
RDL = Reportable Detection Limit				

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0568		
Sampling Date		2017/08/17 15:20		
COC Number		08442656		
	UNITS	T1	RDL	QC Batch
Dissolved Potassium (K)	mg/L	27.2	0.25	8733434
Dissolved Sodium (Na)	mg/L	96.7	0.25	8733434
Dissolved Sulphur (S)	mg/L	461	15	8733434
Total Metals by ICPMS				
Total Aluminum (Al)	mg/L	0.124	0.015	8734728
Total Antimony (Sb)	mg/L	0.0282	0.00010	8734728
Total Arsenic (As)	mg/L	0.00654	0.00010	8734728
Total Barium (Ba)	mg/L	0.0415	0.00025	8734728
Total Beryllium (Be)	mg/L	<0.000050	0.000050	8734728
Total Bismuth (Bi)	mg/L	<0.000050	0.000050	8734728
Total Boron (B)	mg/L	<0.050	0.050	8734728
Total Cadmium (Cd)	mg/L	0.0144	0.000025	8734728
Total Chromium (Cr)	mg/L	<0.00050	0.00050	8734728
Total Cobalt (Co)	mg/L	0.00182	0.000050	8734728
Total Copper (Cu)	mg/L	0.173	0.00050	8734728
Total Iron (Fe)	mg/L	1.92	0.025	8734728
Total Lead (Pb)	mg/L	0.128	0.00010	8734728
Total Lithium (Li)	mg/L	0.0078	0.0025	8734728
Total Manganese (Mn)	mg/L	0.481	0.00050	8734728
Total Molybdenum (Mo)	mg/L	0.0240	0.00025	8734728
Total Nickel (Ni)	mg/L	0.00961	0.00050	8734728
Total Phosphorus (P)	mg/L	0.068	0.025	8734728
Total Selenium (Se)	mg/L	0.452	0.00020	8734728
Total Silicon (Si)	mg/L	1.68	0.25	8734728
Total Silver (Ag)	mg/L	0.00149	0.000050	8734728
Total Strontium (Sr)	mg/L	1.58	0.00025	8734728
Total Thallium (Tl)	mg/L	0.000899	0.000010	8734728
Total Tin (Sn)	mg/L	<0.0010	0.0010	8734728
Total Titanium (Ti)	mg/L	<0.010	0.010	8734728
Total Uranium (U)	mg/L	0.000504	0.000025	8734728
Total Vanadium (V)	mg/L	<0.0010	0.0010	8734728
Total Zinc (Zn)	mg/L	1.78	0.0050	8734728
Total Zirconium (Zr)	mg/L	<0.00050	0.00050	8734728
Total Calcium (Ca)	mg/L	366	1.3	8733674
RDL = Reportable Detection Limit				

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU0568		
Sampling Date		2017/08/17 15:20		
COC Number		08442656		
	UNITS	**T1**	**RDL**	**QC Batch**
Total Magnesium (Mg)	mg/L	4.4	1.3	8733674
Total Potassium (K)	mg/L	29.6	1.3	8733674
Total Sodium (Na)	mg/L	102	1.3	8733674
Total Sulphur (S)	mg/L	489	15	8733674
RDL = Reportable Detection Limit				

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.0°C
Package 2	3.0°C
Package 3	3.7°C
Package 4	4.3°C
Package 5	3.0°C

Sample RU0547 [L1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0548 [W1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0549 [W8] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0550 [W9] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0552 [W21] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0553 [W22] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0554 [W31] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0555 [W40] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0556 [W71] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for

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Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0557 [W72] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0558 [W73] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0561 [BIO-OUT] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0562 [PORTAL] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0563 [DUP] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0564 [T1-2] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0565 [T1-3] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Orthophosphate is greater than total Phosphorus, reanalysis yields similar results.

Sample RU0567 [FIELD BLANK] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample RU0568 [T1] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for

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Maxxam Job #: B770851
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Sampler Initials: AT

Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER) Comments

Matrix Spike Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Method Blank Elements by ICPMS Digested LL (total): Tungsten blank outside acceptance criteria, detection limit adjusted accordingly.
Method Blank Elements by ICPMS Digested LL (total): Method Blank exceeds acceptance limits for (Tungsten) - 2X RDL acceptable for low level metals determination.
Sample RU0561 [BIO-OUT] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample RU0564 [T1-2] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample RU0564 [T1-2] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RU0564 [T1-2] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RU0565 [T1-3] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample RU0565 [T1-3] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RU0565 [T1-3] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Matrix Spike Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample RU0568 [T1] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample RU0568 [T1] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RU0568 [T1] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.

Sample RU0550, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RU0551, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RU0553, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RU0554, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RU0555, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RU0556, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample RU0556, Elements by ICPMS Digested LL (total): Test repeated.
Sample RU0556, Na, K, Ca, Mg, S by CRC ICPMS (total): Test repeated.
Sample RU0565, Na, K, Ca, Mg, S by CRC ICPMS (diss.): Test repeated.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION
Sampler Initials: AT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8733745	Turbidity	2017/08/21			101	80 - 120	<0.10	NTU	0.51	20
8733747	Turbidity	2017/08/21			101	80 - 120	<0.10	NTU	13	20
8734159	Bromide (Br)	2017/08/22	NC	78 - 120	99	80 - 120	<0.010	mg/L	2.8	20
8734242	Bromide (Br)	2017/08/22	NC	78 - 120	98	80 - 120	<0.010	mg/L	0.41	20
8734328	Total Suspended Solids	2017/08/23	105	80 - 120	98	80 - 120	<4.0	mg/L	NC	20
8734393	Total Dissolved Solids	2017/08/23	102	80 - 120	85	80 - 120	<10	mg/L	6.7	20
8734640	Fluoride (F)	2017/08/22	NC	80 - 120	100	80 - 120	<0.020	mg/L	2.1	20
8734698	Dissolved Aluminum (Al)	2017/08/24	109	80 - 120	109	80 - 120	<0.00050	mg/L	3.3	20
8734698	Dissolved Antimony (Sb)	2017/08/24	98	80 - 120	96	80 - 120	<0.000020	mg/L	4.7	20
8734698	Dissolved Arsenic (As)	2017/08/24	103	80 - 120	100	80 - 120	<0.000020	mg/L	1.9	20
8734698	Dissolved Barium (Ba)	2017/08/24	NC	80 - 120	103	80 - 120	<0.000020	mg/L	0.34	20
8734698	Dissolved Beryllium (Be)	2017/08/24	96	80 - 120	96	80 - 120	<0.000010	mg/L	NC	20
8734698	Dissolved Bismuth (Bi)	2017/08/24	103	80 - 120	101	80 - 120	<0.0000050	mg/L	NC	20
8734698	Dissolved Boron (B)	2017/08/24	94	80 - 120	92	80 - 120	<0.010	mg/L	1.6	20
8734698	Dissolved Cadmium (Cd)	2017/08/24	96	80 - 120	96	80 - 120	<0.0000050	mg/L	13	20
8734698	Dissolved Chromium (Cr)	2017/08/24	93	80 - 120	89	80 - 120	<0.00010	mg/L	NC	20
8734698	Dissolved Cobalt (Co)	2017/08/24	94	80 - 120	91	80 - 120	<0.0000050	mg/L	0.94	20
8734698	Dissolved Copper (Cu)	2017/08/24	89	80 - 120	90	80 - 120	<0.000050	mg/L	1.3	20
8734698	Dissolved Iron (Fe)	2017/08/24	104	80 - 120	103	80 - 120	<0.0010	mg/L	1.4	20
8734698	Dissolved Lead (Pb)	2017/08/24	105	80 - 120	102	80 - 120	<0.0000050	mg/L	0	20
8734698	Dissolved Lithium (Li)	2017/08/24	95	80 - 120	97	80 - 120	<0.00050	mg/L	1.2	20
8734698	Dissolved Manganese (Mn)	2017/08/24	NC	80 - 120	93	80 - 120	<0.000050	mg/L	1.2	20
8734698	Dissolved Molybdenum (Mo)	2017/08/24	NC	80 - 120	98	80 - 120	<0.000050	mg/L	0.38	20
8734698	Dissolved Nickel (Ni)	2017/08/24	93	80 - 120	93	80 - 120	<0.000020	mg/L	2.8	20
8734698	Dissolved Phosphorus (P)	2017/08/24					<0.0020	mg/L		
8734698	Dissolved Selenium (Se)	2017/08/24	98	80 - 120	98	80 - 120	<0.000040	mg/L	19	20
8734698	Dissolved Silicon (Si)	2017/08/24					<0.050	mg/L	2.7	20
8734698	Dissolved Silver (Ag)	2017/08/24	105	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20
8734698	Dissolved Strontium (Sr)	2017/08/24	NC	80 - 120	101	80 - 120	<0.000050	mg/L	2.5	20
8734698	Dissolved Thallium (Tl)	2017/08/24	99	80 - 120	100	80 - 120	<0.0000020	mg/L	15	20
8734698	Dissolved Tin (Sn)	2017/08/24	95	80 - 120	94	80 - 120	<0.00020	mg/L	1.9	20
8734698	Dissolved Titanium (Ti)	2017/08/24	95	80 - 120	92	80 - 120	<0.00050	mg/L	NC	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B770851
Report Date: 2017/09/01

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: AT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8734698	Dissolved Uranium (U)	2017/08/24	102	80 - 120	100	80 - 120	<0.0000020	mg/L	1.2	20
8734698	Dissolved Vanadium (V)	2017/08/24	97	80 - 120	94	80 - 120	<0.00020	mg/L	2.9	20
8734698	Dissolved Zinc (Zn)	2017/08/24	94	80 - 120	94	80 - 120	<0.00010	mg/L	1.1	20
8734698	Dissolved Zirconium (Zr)	2017/08/24					<0.00010	mg/L	NC	20
8734701	Fluoride (F)	2017/08/22	103	80 - 120	104	80 - 120	<0.020	mg/L	2.7	20
8734703	Dissolved Aluminum (Al)	2017/08/25	109	80 - 120	110	80 - 120	<0.00050	mg/L	9.0	20
8734703	Dissolved Antimony (Sb)	2017/08/25	98	80 - 120	97	80 - 120	<0.000020	mg/L	NC	20
8734703	Dissolved Arsenic (As)	2017/08/25	102	80 - 120	97	80 - 120	<0.000020	mg/L	NC	20
8734703	Dissolved Barium (Ba)	2017/08/25	NC	80 - 120	103	80 - 120	<0.000020	mg/L	NC	20
8734703	Dissolved Beryllium (Be)	2017/08/25	99	80 - 120	102	80 - 120	<0.000010	mg/L	NC	20
8734703	Dissolved Bismuth (Bi)	2017/08/25	92	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8734703	Dissolved Boron (B)	2017/08/25	93	80 - 120	96	80 - 120	<0.010	mg/L	NC	20
8734703	Dissolved Cadmium (Cd)	2017/08/25	98	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8734703	Dissolved Chromium (Cr)	2017/08/25	94	80 - 120	96	80 - 120	<0.00010	mg/L	NC	20
8734703	Dissolved Cobalt (Co)	2017/08/25	91	80 - 120	95	80 - 120	<0.0000050	mg/L	NC	20
8734703	Dissolved Copper (Cu)	2017/08/25	88	80 - 120	93	80 - 120	<0.000050	mg/L	NC	20
8734703	Dissolved Iron (Fe)	2017/08/25	103	80 - 120	101	80 - 120	<0.0010	mg/L	NC	20
8734703	Dissolved Lead (Pb)	2017/08/25	99	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8734703	Dissolved Lithium (Li)	2017/08/25	101	80 - 120	103	80 - 120	<0.00050	mg/L	NC	20
8734703	Dissolved Manganese (Mn)	2017/08/25	99	80 - 120	99	80 - 120	<0.000050	mg/L	NC	20
8734703	Dissolved Molybdenum (Mo)	2017/08/25	100	80 - 120	98	80 - 120	<0.000050	mg/L	NC	20
8734703	Dissolved Nickel (Ni)	2017/08/25	91	80 - 120	95	80 - 120	<0.000020	mg/L	NC	20
8734703	Dissolved Phosphorus (P)	2017/08/25					<0.0020	mg/L	NC	20
8734703	Dissolved Selenium (Se)	2017/08/25	101	80 - 120	98	80 - 120	<0.000040	mg/L	NC	20
8734703	Dissolved Silicon (Si)	2017/08/25					<0.050	mg/L	NC	20
8734703	Dissolved Silver (Ag)	2017/08/25	102	80 - 120	105	80 - 120	<0.0000050	mg/L	NC	20
8734703	Dissolved Strontium (Sr)	2017/08/25	NC	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8734703	Dissolved Thallium (Tl)	2017/08/25	96	80 - 120	96	80 - 120	<0.0000020	mg/L	NC	20
8734703	Dissolved Tin (Sn)	2017/08/25	91	80 - 120	95	80 - 120	<0.00020	mg/L	NC	20
8734703	Dissolved Titanium (Ti)	2017/08/25	93	80 - 120	110	80 - 120	<0.00050	mg/L	NC	20
8734703	Dissolved Uranium (U)	2017/08/25	98	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8734703	Dissolved Vanadium (V)	2017/08/25	95	80 - 120	98	80 - 120	<0.00020	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: AT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8734703	Dissolved Zinc (Zn)	2017/08/25	105	80 - 120	100	80 - 120	<0.00010	mg/L	NC	20
8734703	Dissolved Zirconium (Zr)	2017/08/25					<0.00010	mg/L	NC	20
8734728	Total Aluminum (Al)	2017/08/23	106	80 - 120	108	80 - 120	<0.0030	mg/L		
8734728	Total Antimony (Sb)	2017/08/23	102	80 - 120	98	80 - 120	<0.000020	mg/L		
8734728	Total Arsenic (As)	2017/08/23	106	80 - 120	97	80 - 120	<0.000020	mg/L		
8734728	Total Barium (Ba)	2017/08/23	NC	80 - 120	100	80 - 120	<0.000050	mg/L		
8734728	Total Beryllium (Be)	2017/08/23	100	80 - 120	97	80 - 120	<0.000010	mg/L		
8734728	Total Bismuth (Bi)	2017/08/23	99	80 - 120	100	80 - 120	<0.000010	mg/L		
8734728	Total Boron (B)	2017/08/23	93	80 - 120	93	80 - 120	<0.010	mg/L		
8734728	Total Cadmium (Cd)	2017/08/23	101	80 - 120	97	80 - 120	<0.0000050	mg/L	3.1	20
8734728	Total Chromium (Cr)	2017/08/23	93	80 - 120	88	80 - 120	<0.00010	mg/L		
8734728	Total Cobalt (Co)	2017/08/23	91	80 - 120	90	80 - 120	<0.000010	mg/L		
8734728	Total Copper (Cu)	2017/08/23	88	80 - 120	90	80 - 120	<0.00010	mg/L		
8734728	Total Iron (Fe)	2017/08/23	NC	80 - 120	102	80 - 120	<0.0050	mg/L		
8734728	Total Lead (Pb)	2017/08/23	102	80 - 120	100	80 - 120	<0.000020	mg/L		
8734728	Total Lithium (Li)	2017/08/23	100	80 - 120	97	80 - 120	<0.00050	mg/L		
8734728	Total Manganese (Mn)	2017/08/23	NC	80 - 120	91	80 - 120	<0.00010	mg/L		
8734728	Total Molybdenum (Mo)	2017/08/23	NC	80 - 120	97	80 - 120	<0.000050	mg/L		
8734728	Total Nickel (Ni)	2017/08/23	NC	80 - 120	93	80 - 120	<0.00010	mg/L		
8734728	Total Phosphorus (P)	2017/08/23					<0.0050	mg/L		
8734728	Total Selenium (Se)	2017/08/23	103	80 - 120	98	80 - 120	<0.000040	mg/L		
8734728	Total Silicon (Si)	2017/08/23					<0.050	mg/L		
8734728	Total Silver (Ag)	2017/08/23	103	80 - 120	102	80 - 120	<0.000010	mg/L		
8734728	Total Strontium (Sr)	2017/08/23	NC	80 - 120	96	80 - 120	<0.000050	mg/L	1.4	20
8734728	Total Thallium (Tl)	2017/08/23	103	80 - 120	99	80 - 120	<0.0000020	mg/L		
8734728	Total Tin (Sn)	2017/08/23	98	80 - 120	96	80 - 120	<0.00020	mg/L		
8734728	Total Titanium (Ti)	2017/08/23	97	80 - 120	91	80 - 120	<0.0020	mg/L		
8734728	Total Uranium (U)	2017/08/23	104	80 - 120	99	80 - 120	<0.0000050	mg/L		
8734728	Total Vanadium (V)	2017/08/23	97	80 - 120	91	80 - 120	<0.00020	mg/L		
8734728	Total Zinc (Zn)	2017/08/23	NC	80 - 120	99	80 - 120	<0.0010	mg/L		
8734728	Total Zirconium (Zr)	2017/08/23					<0.00010	mg/L		
8734738	Orthophosphate (P)	2017/08/22			98	80 - 120	<0.0010	mg/L		

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: AT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8734754	Orthophosphate (P)	2017/08/22			97	80 - 120	<0.0010	mg/L		
8734880	Total Aluminum (Al)	2017/08/23	105	80 - 120	106	80 - 120	<0.00050	mg/L	2.0	20
8734880	Total Antimony (Sb)	2017/08/23	99	80 - 120	98	80 - 120	<0.000020	mg/L	3.5	20
8734880	Total Arsenic (As)	2017/08/23	103	80 - 120	99	80 - 120	<0.000020	mg/L	2.2	20
8734880	Total Barium (Ba)	2017/08/23	NC	80 - 120	102	80 - 120	<0.000020	mg/L	1.1	20
8734880	Total Beryllium (Be)	2017/08/23	96	80 - 120	95	80 - 120	<0.000010	mg/L	NC	20
8734880	Total Bismuth (Bi)	2017/08/23	95	80 - 120	99	80 - 120	<0.0000050	mg/L	NC	20
8734880	Total Boron (B)	2017/08/23	NC	80 - 120	98	80 - 120	<0.010	mg/L	0.89	20
8734880	Total Cadmium (Cd)	2017/08/23	94	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8734880	Total Chromium (Cr)	2017/08/23	90	80 - 120	92	80 - 120	<0.00010	mg/L	NC	20
8734880	Total Cobalt (Co)	2017/08/23	90	80 - 120	95	80 - 120	<0.0000050	mg/L	2.0	20
8734880	Total Copper (Cu)	2017/08/23	84	80 - 120	93	80 - 120	<0.000050	mg/L	2.1	20
8734880	Total Iron (Fe)	2017/08/23	97	80 - 120	101	80 - 120	<0.0010	mg/L	2.6	20
8734880	Total Lead (Pb)	2017/08/23	97	80 - 120	101	80 - 120	<0.0000050	mg/L	NC	20
8734880	Total Lithium (Li)	2017/08/23	NC	80 - 120	97	80 - 120	<0.00050	mg/L	0.77	20
8734880	Total Manganese (Mn)	2017/08/23	NC	80 - 120	98	80 - 120	<0.000050	mg/L	2.3	20
8734880	Total Molybdenum (Mo)	2017/08/23	NC	80 - 120	98	80 - 120	<0.000050	mg/L	3.0	20
8734880	Total Nickel (Ni)	2017/08/23	87	80 - 120	95	80 - 120	<0.000020	mg/L	0.074	20
8734880	Total Phosphorus (P)	2017/08/23					<0.0020	mg/L		
8734880	Total Selenium (Se)	2017/08/23	100	80 - 120	96	80 - 120	<0.000040	mg/L	NC	20
8734880	Total Silicon (Si)	2017/08/23					<0.050	mg/L	0.68	20
8734880	Total Silver (Ag)	2017/08/23	98	80 - 120	103	80 - 120	<0.0000050	mg/L	NC	20
8734880	Total Strontium (Sr)	2017/08/23	NC	80 - 120	113	80 - 120	<0.000050	mg/L	1.6	20
8734880	Total Thallium (Tl)	2017/08/23	99	80 - 120	98	80 - 120	<0.0000020	mg/L	NC	20
8734880	Total Tin (Sn)	2017/08/23	93	80 - 120	95	80 - 120	<0.00020	mg/L	NC	20
8734880	Total Titanium (Ti)	2017/08/23	97	80 - 120	99	80 - 120	<0.00050	mg/L	NC	20
8734880	Total Uranium (U)	2017/08/23	103	80 - 120	98	80 - 120	<0.0000020	mg/L	0.29	20
8734880	Total Vanadium (V)	2017/08/23	97	80 - 120	95	80 - 120	<0.00020	mg/L	1.5	20
8734880	Total Zinc (Zn)	2017/08/23	90	80 - 120	93	80 - 120	<0.00010	mg/L	5.5	20
8734880	Total Zirconium (Zr)	2017/08/23					<0.00010	mg/L	0.71	20
8734983	Alkalinity (PP as CaCO3)	2017/08/22					<1.0	mg/L		
8734983	Alkalinity (Total as CaCO3)	2017/08/22			99	80 - 120	<1.0	mg/L		

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Maxxam Job #: B770851
Report Date: 2017/09/01

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: AT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8734983	Bicarbonate (HCO3)	2017/08/22					<1.0	mg/L		
8734983	Carbonate (CO3)	2017/08/22					<1.0	mg/L		
8734983	Hydroxide (OH)	2017/08/22					<1.0	mg/L		
8734984	Conductivity	2017/08/22			100	80 - 120	<2.0	uS/cm		
8734985	pH	2017/08/22			101	97 - 103				
8734999	Alkalinity (PP as CaCO3)	2017/08/22					<1.0	mg/L	NC	20
8734999	Alkalinity (Total as CaCO3)	2017/08/22	NC	80 - 120	96	80 - 120	<1.0	mg/L	0.87	20
8734999	Bicarbonate (HCO3)	2017/08/22					<1.0	mg/L	0.87	20
8734999	Carbonate (CO3)	2017/08/22					<1.0	mg/L	NC	20
8734999	Hydroxide (OH)	2017/08/22					<1.0	mg/L	NC	20
8735004	Conductivity	2017/08/22			102	80 - 120	<2.0	uS/cm	0.82	20
8735005	pH	2017/08/22			102	97 - 103			0.24	20
8735012	Alkalinity (PP as CaCO3)	2017/08/23					<1.0	mg/L	NC	20
8735012	Alkalinity (Total as CaCO3)	2017/08/23	NC	80 - 120	98	80 - 120	<1.0	mg/L	0.59	20
8735012	Bicarbonate (HCO3)	2017/08/23					<1.0	mg/L	0.59	20
8735012	Carbonate (CO3)	2017/08/23					<1.0	mg/L	NC	20
8735012	Hydroxide (OH)	2017/08/23					<1.0	mg/L	NC	20
8735014	Conductivity	2017/08/22			101	80 - 120	<2.0	uS/cm		
8735015	pH	2017/08/23			102	97 - 103				
8735146	Total Phosphorus (P)	2017/08/22	96	80 - 120	101	80 - 120	<0.0020	mg/L	2.7	20
8735148	Total Phosphorus (P)	2017/08/22	96	80 - 120	110	80 - 120	<0.0020	mg/L		
8735150	Dissolved Phosphorus (P)	2017/08/22	109	80 - 120	96	80 - 120	<0.0020	mg/L	8.4	20
8735154	Dissolved Phosphorus (P)	2017/08/22	97	80 - 120	94	80 - 120	<0.0020	mg/L	NC	20
8735630	Total Suspended Solids	2017/08/23	107	80 - 120	98	80 - 120	<4.0	mg/L	NC	20
8735632	Dissolved Mercury (Hg)	2017/08/23	95	80 - 120	97	80 - 120	<0.010	ug/L	NC	20
8735721	Strong Acid Dissoc. Cyanide (CN)	2017/08/23	105	80 - 120	97	80 - 120	<0.00050	mg/L	4.3	20
8735722	Nitrate plus Nitrite (N)	2017/08/22			106	80 - 120	<0.0020	mg/L		
8735724	Weak Acid Dissoc. Cyanide (CN)	2017/08/23			98	80 - 120	<0.00050	mg/L		
8735738	Nitrite (N)	2017/08/22			101	80 - 120	<0.0020	mg/L		
8735739	Nitrate plus Nitrite (N)	2017/08/22	102	80 - 120	106	80 - 120	<0.0020	mg/L	NC	25
8735744	Nitrite (N)	2017/08/22	98	80 - 120	100	80 - 120	<0.0020	mg/L	NC	25
8736085	Total Suspended Solids	2017/08/24	101	80 - 120	107	80 - 120	<4.0	mg/L	NC	20

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Maxxam Job #: B770851
Report Date: 2017/09/01

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: AT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8736815	Total Mercury (Hg)	2017/08/24	94	80 - 120	97	80 - 120	<0.010	ug/L	NC	20
8736856	Total Dissolved Solids	2017/08/25	85	80 - 120	83	80 - 120	<10	mg/L	3.7	20
8737013	Dissolved Organic Carbon (C)	2017/08/24	103	80 - 120	107	80 - 120	<0.50	mg/L	3.4	20
8737217	Total Mercury (Hg)	2017/08/24	92	80 - 120	94	80 - 120	<0.010	ug/L	NC	20
8737309	Total Dissolved Solids	2017/08/25	NC	80 - 120	98	80 - 120	<10	mg/L	1.7	20
8737409	Dissolved Organic Carbon (C)	2017/08/25	107	80 - 120	109	80 - 120	<0.50	mg/L	3.2	20
8737682	Acidity (pH 4.5)	2017/08/22					<1.0	mg/L		
8737682	Acidity (pH 8.3)	2017/08/22			98	80 - 120	<1.0	mg/L		
8737683	Acidity (pH 4.5)	2017/08/22					<1.0	mg/L	NC	20
8737683	Acidity (pH 8.3)	2017/08/22			97	80 - 120	<1.0	mg/L	5.9	20
8738109	Dissolved Mercury (Hg)	2017/08/25	90	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8738315	Dissolved Sulphate (SO4)	2017/08/25	108	80 - 120	106	80 - 120	<1.0	mg/L	0.49	20
8738331	Dissolved Chloride (Cl)	2017/08/25	101	80 - 120	102	80 - 120	<1.0	mg/L	NC	20
8738412	Dissolved Chloride (Cl)	2017/08/25	NC	80 - 120	104	80 - 120	<1.0	mg/L	1.2	20
8738416	Dissolved Sulphate (SO4)	2017/08/25	171 (1)	80 - 120	104	80 - 120	<1.0	mg/L	NC	20
8738787	Dissolved Chloride (Cl)	2017/08/25	80	80 - 120	102	80 - 120	<1.0	mg/L	1.4	20
8738788	Dissolved Sulphate (SO4)	2017/08/25	NC	80 - 120	102	80 - 120	<1.0	mg/L	0.76	20
8738970	Total Ammonia (N)	2017/08/25	NC	80 - 120	109	80 - 120	<0.020	mg/L		
8738971	Total Ammonia (N)	2017/08/25	96	80 - 120	97	80 - 120	<0.020	mg/L	NC	20
8739623	Orthophosphate (P)	2017/08/26			92	80 - 120	<0.0010	mg/L		
8739697	Dissolved Phosphorus (P)	2017/08/26			107	80 - 120	<0.0020	mg/L		
8739698	Total Phosphorus (P)	2017/08/26			107	80 - 120	<0.0020	mg/L		
8741484	Dissolved Sulphate (SO4)	2017/08/29							NC	20
8742257	Dissolved Chloride (Cl)	2017/08/29			105	80 - 120	<1.0	mg/L		
8742258	Dissolved Sulphate (SO4)	2017/08/29			106	80 - 120	<1.0	mg/L		
8743477	Dissolved Aluminum (Al)	2017/08/31			107	80 - 120	<0.00050	mg/L		
8743477	Dissolved Antimony (Sb)	2017/08/31			99	80 - 120	<0.000020	mg/L		
8743477	Dissolved Arsenic (As)	2017/08/31			100	80 - 120	<0.000020	mg/L		
8743477	Dissolved Barium (Ba)	2017/08/31			101	80 - 120	<0.000020	mg/L		
8743477	Dissolved Beryllium (Be)	2017/08/31			103	80 - 120	<0.000010	mg/L		
8743477	Dissolved Bismuth (Bi)	2017/08/31			96	80 - 120	<0.0000050	mg/L		
8743477	Dissolved Cadmium (Cd)	2017/08/31			100	80 - 120	<0.0000050	mg/L		

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: AT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8743477	Dissolved Chromium (Cr)	2017/08/31			97	80 - 120	<0.00010	mg/L		
8743477	Dissolved Cobalt (Co)	2017/08/31			95	80 - 120	<0.0000050	mg/L		
8743477	Dissolved Iron (Fe)	2017/08/31			102	80 - 120	<0.0010	mg/L		
8743477	Dissolved Lead (Pb)	2017/08/31			99	80 - 120	<0.0000050	mg/L		
8743477	Dissolved Lithium (Li)	2017/08/31			103	80 - 120	<0.00050	mg/L		
8743477	Dissolved Manganese (Mn)	2017/08/31			98	80 - 120	<0.000050	mg/L		
8743477	Dissolved Molybdenum (Mo)	2017/08/31			100	80 - 120	<0.000050	mg/L		
8743477	Dissolved Phosphorus (P)	2017/08/31					<0.0020	mg/L		
8743477	Dissolved Selenium (Se)	2017/08/31			102	80 - 120	<0.000040	mg/L		
8743477	Dissolved Silicon (Si)	2017/08/31					<0.050	mg/L		
8743477	Dissolved Silver (Ag)	2017/08/31			105	80 - 120	<0.0000050	mg/L		
8743477	Dissolved Strontium (Sr)	2017/08/31			100	80 - 120	<0.000050	mg/L		
8743477	Dissolved Thallium (Tl)	2017/08/31			97	80 - 120	<0.0000020	mg/L		
8743477	Dissolved Tin (Sn)	2017/08/31			93	80 - 120	<0.00020	mg/L		
8743477	Dissolved Titanium (Ti)	2017/08/31			93	80 - 120	<0.00050	mg/L		
8743477	Dissolved Uranium (U)	2017/08/31			99	80 - 120	<0.0000020	mg/L		
8743477	Dissolved Zinc (Zn)	2017/08/31			100	80 - 120	<0.00010	mg/L		
8743477	Dissolved Zirconium (Zr)	2017/08/31					<0.00010	mg/L		
8744124	Total Aluminum (Al)	2017/08/31	NC	80 - 120	107	80 - 120	<0.0030	mg/L	2.0	20
8744124	Total Antimony (Sb)	2017/08/31	107	80 - 120	104	80 - 120	<0.000020	mg/L	3.5	20
8744124	Total Arsenic (As)	2017/08/31	111	80 - 120	101	80 - 120	<0.000020	mg/L	0.31	20
8744124	Total Barium (Ba)	2017/08/31	NC	80 - 120	104	80 - 120	<0.000050	mg/L	0.48	20
8744124	Total Beryllium (Be)	2017/08/31	101	80 - 120	99	80 - 120	<0.000010	mg/L	NC	20
8744124	Total Bismuth (Bi)	2017/08/31	97	80 - 120	99	80 - 120	<0.000010	mg/L	NC	20
8744124	Total Boron (B)	2017/08/31	NC	80 - 120	100	80 - 120	<0.010	mg/L	8.1	20
8744124	Total Chromium (Cr)	2017/08/31	98	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20
8744124	Total Cobalt (Co)	2017/08/31	96	80 - 120	99	80 - 120	<0.000010	mg/L	6.4	20
8744124	Total Copper (Cu)	2017/08/31	94	80 - 120	100	80 - 120	<0.00010	mg/L	NC	20
8744124	Total Iron (Fe)	2017/08/31	103	80 - 120	104	80 - 120	<0.0050	mg/L	1.8	20
8744124	Total Lead (Pb)	2017/08/31	101	80 - 120	103	80 - 120	<0.000020	mg/L	NC	20
8744124	Total Lithium (Li)	2017/08/31	NC	80 - 120	100	80 - 120	<0.00050	mg/L	2.6	20
8744124	Total Manganese (Mn)	2017/08/31	NC	80 - 120	101	80 - 120	<0.00010	mg/L	2.9	20

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Maxxam Job #: B770851
Report Date: 2017/09/01

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: AT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8744124	Total Molybdenum (Mo)	2017/08/31	NC	80 - 120	103	80 - 120	<0.000050	mg/L	1.6	20
8744124	Total Nickel (Ni)	2017/08/31	95	80 - 120	104	80 - 120	<0.00010	mg/L	3.0	20
8744124	Total Phosphorus (P)	2017/08/31					<0.0050	mg/L		
8744124	Total Selenium (Se)	2017/08/31	103	80 - 120	102	80 - 120	<0.000040	mg/L	9.8	20
8744124	Total Silicon (Si)	2017/08/31					<0.050	mg/L	0.41	20
8744124	Total Silver (Ag)	2017/08/31	104	80 - 120	108	80 - 120	<0.000010	mg/L	NC	20
8744124	Total Thallium (Tl)	2017/08/31	99	80 - 120	100	80 - 120	<0.0000020	mg/L	NC	20
8744124	Total Tin (Sn)	2017/08/31	101	80 - 120	106	80 - 120	<0.00020	mg/L	NC	20
8744124	Total Titanium (Ti)	2017/08/31	95	80 - 120	98	80 - 120	<0.0020	mg/L	NC	20
8744124	Total Uranium (U)	2017/08/31	105	80 - 120	105	80 - 120	<0.0000050	mg/L	1.6	20
8744124	Total Vanadium (V)	2017/08/31	102	80 - 120	100	80 - 120	<0.00020	mg/L	5.4	20
8744124	Total Zinc (Zn)	2017/08/31	110	80 - 120	103	80 - 120	<0.0010	mg/L	NC	20
8744124	Total Zirconium (Zr)	2017/08/31					<0.00010	mg/L	1.1	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

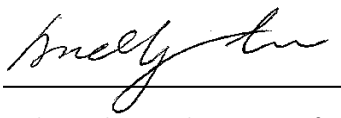
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Maxxam Job #: B770851
Report Date: 2017/09/01

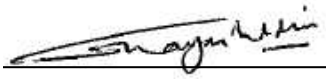
YUKON ZINC CORPORATION
Sampler Initials: AT

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist



Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Page ____ of ____

Invoice Information		Report Information (if differs from invoice)		Project Info	
Company Name:	Yukon Zinc Corporation	Company Name:	Adrienne Turcotte Consulting	Quotation #:	
Contact Name:	Alex Wu	Contact Name:	Adrienne Turcotte	P.O. #/ AFE#:	
Address:	705 - 1030 West Georgia Street	Address:	102-3839 W.4th Avenue	Project #:	
	Vancouver PC: V6E 2Y3		Vancouver BC PC: V6R 1P8	Site Location:	
Phone:	604-684-5474	Phone:	778-772-2212	Site #:	
Email:	alex.wu@yukonzinc.com	Email:	YZC Group turcotte.adrienne@gmail.com	Sampled By:	

Regular TAT 5 days (Most analyses)

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Rush TAT (Surcharges will be applied)

☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3 Days

Date Required:

Rush Confirmation #:

Regulatory Criteria

☐ BC CSR Soil ☐ BC CSR Water ☐ CCME (Specify) ☐ Other (Specify) ☐ Drinking Water ☐ BC Water Quality

Special Instructions

☐ Return Cooler ☐ Ship Sample Bottles (Please Specify)

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	EPH	PAH	CCME-PHC	Dissolved Metals Filtered?	Dissolved Mercury Filtered?	Total Metals Field Preserved?	Total Mercury Field Preserved?	Chloride	TSS	pH	Nitrite	Package A	Total Phosphate and Ammonia	DOC	Total and WAD Cyanide	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYSE	COMMENTS
Bottle									50 mL falcon tube	50 mL falcon tube	50 mL falcon tube	50 mL falcon tube				120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic	120 mL plastic	120 mL plastic			
Preservative									HNO3	HCl	HNO3	HCl				H2SO4	-	H2SO4	H2SO4	NaOH			
Filtered									✓	✓	-	-				-	-	-	✓	-			
1	L1		18-Aug-17	11:30	Water					x	x	x	x				x	xx	x	x	11		
2	W1		18-Aug-17	10:10	Water					x	x	x	x				x	xx	x	x	11		
3	W8		18-Aug-17	13:25	Water					x	x	x	x				x	xx	x	x	11		
4	W9		18-Aug-17	12:00	Water					x	x	x	x				x	xx	x	x	11		
5	W15		19-Aug-17	9:35	Water					x	x	x	x				x	xx	x	x	11		
6	W21		17-Aug-17	9:35	Water					x	x	x	x				x	xx	x	x	11		
7	W22		17-Aug-17	11:20	Water					x	x	x	x				x	xx	x	x	11		
8	W31		18-Aug-17	16:20	Water					x	x	x	x				x	xx	x	x	11		
9	W40		17-Aug-17	11:00	Water					x	x	x	x				x	xx	x	x	11		
10	W71		17-Aug-17	12:20	Water					x	x	x	x				x	xx	x	x	11		
11	W72		17-Aug-17	12:40	Water					x	x	x	x				x	xx	x	x	11		
12	W73		17-Aug-17	13:15	Water					x	x	x	x				x	xx	x	x	11		
13	W81		19-Aug-17	9:00	Water					x	x	x	x				x	xx	x	x	11		
14	W82		19-Aug-17	8:20	Water					x	x	x	x				x	xx	x	x	11		
1	BIO-OUT		17-Aug-17	16:50	Water					x	x	x	x				x	xx	x	x	x	12		
2	PORTAL		18-Aug-17	17:00	Water					x	x	x	x				x	xx	x	x	11		
3	DUP		18-Aug-17	16:20	Water					x	x	x	x				x	xx	x	x	x	12		
4	T1-2		17-Aug-17	15:40	Water					x	x	x	x				x	xx	x	x	x	12		
5	T1-3		17-Aug-17	16:10	Water					x	x	x	x				x	xx	x	x	x	12		
6	Travel Blank		-	-	Water							x	x				x	xx	x		x	8		Dissolved bottles removed from set
7	Field Blank		17-Aug-17	9:35	Water					x	x	x	x				x	xx	x	x	11		
15	T1		17-Aug-17	15:20	Water					x	x	x	x				x	xx	x	x	x	12		

LABORATORY USE ONLY

CUSTODY SEAL Y / N

COOLER TEMPERATURES

Present	Intact	
NA		3.54/3.23
NA		4.34/3.55
NA		0.42

COOLING MEDIA PRESENT

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Adrienne Turcotte	17-08-19	12:00	Mo Laurel Bellhouse	2017/08/21	11:30	B770851

B770851_COC

Your C.O.C. #: 08442809

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/06
Report #: R2439636
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772636
Received: 2017/08/25, 10:50

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	6	N/A	2017/08/28	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	3	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	3	2017/08/28	2017/08/29	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	6	N/A	2017/08/28	BBY6SOP-00011	SM 22 4500-Cl- E m
Conductance - water	3	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	3	2017/08/28	2017/08/29	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	6	N/A	2017/08/29	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3)	6	N/A	2017/08/30	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	6	N/A	2017/08/31	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	1	N/A	2017/08/29	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Dissolved) by CVAF	5	N/A	2017/08/30	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	6	2017/08/30	2017/08/30	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	6	N/A	2017/08/28	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	6	N/A	2017/08/31	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	6	N/A	2017/08/30	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	6	N/A	2017/08/30	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	6	N/A	2017/08/29	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Ammonia-N (Preserved)	6	N/A	2017/08/31	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	6	N/A	2017/08/26	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	6	N/A	2017/08/26	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	6	N/A	2017/08/29	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	5	N/A	2017/08/30	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (2)	3	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (2)	3	2017/08/28	2017/08/29	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	6	N/A	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	5	N/A	2017/08/28	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	1	N/A	2017/08/29	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	1	2017/08/29	2017/08/30	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	5	2017/08/30	2017/08/31	BBY6SOP-00033	SM 22 2540 C m

Your C.O.C. #: 08442809

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/06
Report #: R2439636
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772636
Received: 2017/08/25, 10:50

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Phosphorus-P (LL Tot, dissolved) - FF/FP	6	2017/08/29	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	6	N/A	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	1	2017/08/28	2017/08/29	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	5	2017/08/30	2017/08/30	BBY6SOP-00034	SM 22 2540 D
Turbidity	6	N/A	2017/08/28	BBY6SOP-00027	SM 22 2130 B m
Radium 226 in Water Subcontract (1)	5	N/A	2017/09/06		

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Maxxam Kitimat (From Burnaby)
(2) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Your C.O.C. #: 08442809

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/06
Report #: R2439636
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772636
Received: 2017/08/25, 10:50

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU8996		RU8997		RU8998		
Sampling Date		2017/08/23 18:30		2017/08/23 12:50		2017/08/23 14:00		
COC Number		08442809		08442809		08442809		
	UNITS	W16	QC Batch	W12	QC Batch	W13	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.038	8742181	0.047	8742181	0.039	0.020	8742181
Parameter								
Subcontract Parameter	N/A	ATTACHED	8749293	ATTACHED	8749293	ATTACHED	N/A	8749293
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	79.5	8738933	79.0	8738933	62.2	0.50	8738933
Nitrate (N)	mg/L	0.27	8738420	<0.20	8738420	<0.20	0.20	8738420
Misc. Inorganics								
Dissolved Hardness (CaCO3)	mg/L	80.9	8738935	84.9	8738935	64.8	0.50	8738935
Acidity (pH 4.5)	mg/L	<1.0	8740524	<1.0	8740527	<1.0	1.0	8740524
Alkalinity (Total as CaCO3)	mg/L	73.7	8740988	69.4	8740988	64.5	1.0	8740988
Acidity (pH 8.3)	mg/L	<1.0	8740524	<1.0	8740527	<1.0	1.0	8740524
Alkalinity (PP as CaCO3)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8740988
Bicarbonate (HCO3)	mg/L	89.9	8740988	84.6	8740988	78.7	1.0	8740988
Carbonate (CO3)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8740988
Hydroxide (OH)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8740988
Anions								
Orthophosphate (P)	mg/L	0.0020	8742309	0.0024	8742309	0.0017	0.0010	8742309
Dissolved Sulphate (SO4)	mg/L	12.2	8742363	15.5	8741087	2.5	1.0	8741085
Dissolved Chloride (Cl)	mg/L	<1.0	8741084	<1.0	8741086	<1.0	1.0	8741084
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0043	8742351	0.0046	8742351	0.0038	0.0020	8742351
Total Ammonia (N)	mg/L	<0.020	8744851	<0.020	8744851	0.045	0.020	8744851
Nitrate plus Nitrite (N)	mg/L	0.48 (1)	8739690	<0.20 (1)	8739690	<0.20 (1)	0.20	8739690
Nitrite (N)	mg/L	0.20 (1)	8739691	<0.20 (1)	8739691	<0.20 (1)	0.20	8739691
Total Phosphorus (P)	mg/L	0.0057	8742358	0.0072	8742358	0.0042	0.0020	8742358
Physical Properties								
Conductivity	uS/cm	168	8740996	164	8740996	129	2.0	8740996
pH	pH	8.08	8740995	8.06	8740995	8.01		8740995
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8742704	<4.0	8742704	<4.0	4.0	8742704
Total Dissolved Solids	mg/L	92	8742757	104	8742757	90	10	8742757

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU8996		RU8997		RU8998		
Sampling Date		2017/08/23 18:30		2017/08/23 12:50		2017/08/23 14:00		
COC Number		08442809		08442809		08442809		
	UNITS	**W16**	**QC Batch**	**W12**	**QC Batch**	**W13**	**RDL**	**QC Batch**
Turbidity	NTU	0.39	8740677	0.30	8740677	0.38	0.10	8740677
RDL = Reportable Detection Limit								

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Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU8999		RU9770		RU9000		
Sampling Date		2017/08/22 12:55		2017/08/23 19:00		2017/08/25 10:50		
COC Number		08442809		08442809		08442809		
	UNITS	W76	QC Batch	DUP	QC Batch	TRAVEL BLANK	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.049	8742181	0.039	8742274	<0.020	0.020	8742181
Parameter								
Subcontract Parameter	N/A	ATTACHED	8749293	ATTACHED	8749293		N/A	
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE			
Total Hardness (CaCO3)	mg/L	109	8738933	80.4	8738933	<0.50	0.50	8738933
Nitrate (N)	mg/L	<0.20	8738420	<0.20	8738420	<0.20	0.20	8738420
Misc. Inorganics								
Dissolved Hardness (CaCO3)	mg/L	116	8738935	84.6	8738935	<0.50	0.50	8738935
Acidity (pH 4.5)	mg/L	<1.0	8740524	<1.0	8740527	<1.0	1.0	8740527
Alkalinity (Total as CaCO3)	mg/L	96.0	8740988	74.5	8740988	<1.0	1.0	8741002
Acidity (pH 8.3)	mg/L	<1.0	8740524	<1.0	8740527	<1.0	1.0	8740527
Alkalinity (PP as CaCO3)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8741002
Bicarbonate (HCO3)	mg/L	117	8740988	90.9	8740988	<1.0	1.0	8741002
Carbonate (CO3)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8741002
Hydroxide (OH)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8741002
Anions								
Orthophosphate (P)	mg/L	0.0021	8742309	0.0022	8742309	0.0012	0.0010	8742309
Dissolved Sulphate (SO4)	mg/L	18.7	8741085	12.2	8741087	<1.0	1.0	8741087
Dissolved Chloride (Cl)	mg/L	<1.0	8741084	<1.0	8741086	<1.0	1.0	8741086
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0044	8742351	0.0043	8742351	<0.0020	0.0020	8742351
Total Ammonia (N)	mg/L	<0.020	8744851	<0.020	8744851	<0.020	0.020	8744851
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8739690	<0.20 (1)	8739690	<0.20 (1)	0.20	8739690
Nitrite (N)	mg/L	<0.20 (1)	8739691	<0.20 (1)	8739691	<0.20 (1)	0.20	8739691
Total Phosphorus (P)	mg/L	0.0048	8742358	0.0054	8742358	0.0055	0.0020	8742358
Physical Properties								
Conductivity	uS/cm	218	8740996	167	8740996	<2.0	2.0	8741005
pH	pH	8.16	8740995	8.07	8740995	5.51		8741004
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8740936	<4.0	8742704	<4.0	4.0	8742704
Total Dissolved Solids	mg/L	108	8741598	106	8742757	<10	10	8742763
Turbidity	NTU	0.48	8740677	0.45	8740682	<0.10	0.10	8740677

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RU8996	RU8997		RU8998		RU8999		RU9770		
Sampling Date		2017/08/23 18:30	2017/08/23 12:50		2017/08/23 14:00		2017/08/22 12:55		2017/08/23 19:00		
COC Number		08442809	08442809		08442809		08442809		08442809		
	UNITS	W16	W12	QC Batch	W13	QC Batch	W76	QC Batch	DUP	RDL	QC Batch
Elements											
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	8742496	<0.010	8741218	<0.010	8742496	<0.010	0.010	8742603
Total Mercury (Hg)	ug/L	<0.010	<0.010	8742477	<0.010	8742477	<0.010	8742477	<0.010	0.010	8742604
RDL = Reportable Detection Limit											

Maxxam ID		RU9000		
Sampling Date		2017/08/25 10:50		
COC Number		08442809		
	UNITS	TRAVEL BLANK	RDL	QC Batch
Elements				
Dissolved Mercury (Hg)	ug/L	<0.010	0.010	8742496
Total Mercury (Hg)	ug/L	<0.010	0.010	8742477
RDL = Reportable Detection Limit				

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU8996	RU8997	RU8998	RU8999	RU9770		
Sampling Date		2017/08/23 18:30	2017/08/23 12:50	2017/08/23 14:00	2017/08/22 12:55	2017/08/23 19:00		
COC Number		08442809	08442809	08442809	08442809	08442809		
	UNITS	W16	W12	W13	W76	DUP	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8740819
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00560	0.00501	0.00703	0.00349	0.00578	0.00050	8740288
Dissolved Antimony (Sb)	mg/L	0.000055	0.000046	0.000027	0.000108	0.000054	0.000020	8740288
Dissolved Arsenic (As)	mg/L	0.000141	0.000237	0.000122	0.000241	0.000134	0.000020	8740288
Dissolved Barium (Ba)	mg/L	0.0723	0.0670	0.0602	0.0712	0.0768	0.000020	8740288
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8740288
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8740288
Dissolved Cadmium (Cd)	mg/L	0.0000680	0.0000130	0.0000120	0.0000050	0.0000640	0.0000050	8740288
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	0.00016	0.00027	<0.00010	0.00010	8740288
Dissolved Cobalt (Co)	mg/L	0.0000360	0.0000300	0.0000150	0.0000160	0.0000350	0.0000050	8740288
Dissolved Copper (Cu)	mg/L	0.000652	0.000669	0.000447	0.00100	0.000652	0.000050	8740288
Dissolved Iron (Fe)	mg/L	0.0259	0.0495	0.0017	0.0335	0.0260	0.0010	8740288
Dissolved Lead (Pb)	mg/L	0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Lithium (Li)	mg/L	<0.00050	<0.00050	<0.00050	0.00065	<0.00050	0.00050	8740288
Dissolved Manganese (Mn)	mg/L	0.0142	0.0141	<0.000050	0.00579	0.0145	0.000050	8740288
Dissolved Molybdenum (Mo)	mg/L	0.000413	0.000375	0.000270	0.000462	0.000415	0.000050	8740288
Dissolved Nickel (Ni)	mg/L	0.000240	0.000318	0.000290	0.000747	0.000267	0.000020	8740288
Dissolved Phosphorus (P)	mg/L	0.0053	0.0052	0.0026	0.0043	0.0042	0.0020	8740288
Dissolved Selenium (Se)	mg/L	0.000736	0.000707	0.000225	0.000767	0.000726	0.000040	8740288
Dissolved Silicon (Si)	mg/L	3.04	3.35	4.81	4.04	3.06	0.050	8740288
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Strontium (Sr)	mg/L	0.0534	0.0528	0.0226	0.115	0.0544	0.000050	8740288
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000020	8740288
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8740288
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8740288
Dissolved Uranium (U)	mg/L	0.000229	0.000303	0.000124	0.000369	0.000236	0.0000020	8740288
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	0.00038	<0.00020	<0.00020	0.00020	8740288
Dissolved Zinc (Zn)	mg/L	0.00278	0.00043	0.00031	0.00025	0.00287	0.00010	8740288
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8740288
Dissolved Calcium (Ca)	mg/L	26.9	26.0	19.8	31.1	28.3	0.050	8738650
Dissolved Magnesium (Mg)	mg/L	3.32	4.83	3.70	9.21	3.41	0.050	8738650
Dissolved Potassium (K)	mg/L	0.521	0.629	0.515	0.261	0.544	0.050	8738650

RDL = Reportable Detection Limit

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Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU8996	RU8997	RU8998	RU8999	RU9770		
Sampling Date		2017/08/23 18:30	2017/08/23 12:50	2017/08/23 14:00	2017/08/22 12:55	2017/08/23 19:00		
COC Number		08442809	08442809	08442809	08442809	08442809		
	UNITS	W16	W12	W13	W76	DUP	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	1.16	1.16	1.25	1.14	1.20	0.050	8738650
Dissolved Sulphur (S)	mg/L	4.0	5.5	<3.0	6.3	3.7	3.0	8738650
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0143	0.0230	0.0105	0.00795	0.0161	0.00050	8740644
Total Antimony (Sb)	mg/L	0.000053	0.000045	0.000025	0.000106	0.000054	0.000020	8740644
Total Arsenic (As)	mg/L	0.000145	0.000229	0.000111	0.000257	0.000145	0.000020	8740644
Total Barium (Ba)	mg/L	0.0734	0.0662	0.0599	0.0688	0.0760	0.000020	8740644
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8740644
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740644
Total Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8740644
Total Cadmium (Cd)	mg/L	0.0000690	0.0000200	0.0000140	0.0000090	0.0000690	0.0000050	8740644
Total Chromium (Cr)	mg/L	<0.00010	0.00011	0.00017	0.00028	0.00010	0.00010	8740644
Total Cobalt (Co)	mg/L	0.0000440	0.0000550	0.0000190	0.0000220	0.0000470	0.0000050	8740644
Total Copper (Cu)	mg/L	0.000744	0.000806	0.000466	0.00105	0.000716	0.000050	8740644
Total Iron (Fe)	mg/L	0.0441	0.103	0.0064	0.0629	0.0456	0.0010	8740644
Total Lead (Pb)	mg/L	0.0000100	0.0000340	<0.0000050	0.0000080	0.0000090	0.0000050	8740644
Total Lithium (Li)	mg/L	<0.00050	<0.00050	<0.00050	0.00064	<0.00050	0.00050	8740644
Total Manganese (Mn)	mg/L	0.0164	0.0206	0.000301	0.0111	0.0163	0.000050	8740644
Total Molybdenum (Mo)	mg/L	0.000412	0.000371	0.000268	0.000451	0.000408	0.000050	8740644
Total Nickel (Ni)	mg/L	0.000281	0.000362	0.000279	0.000765	0.000259	0.000020	8740644
Total Phosphorus (P)	mg/L	0.0059	0.0057	0.0038	0.0032	0.0058	0.0020	8740644
Total Selenium (Se)	mg/L	0.000733	0.000693	0.000202	0.000725	0.000730	0.000040	8740644
Total Silicon (Si)	mg/L	3.07	3.32	4.88	4.52	3.08	0.050	8740644
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740644
Total Strontium (Sr)	mg/L	0.0531	0.0494	0.0225	0.104	0.0534	0.000050	8740644
Total Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000020	8740644
Total Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8740644
Total Titanium (Ti)	mg/L	0.00052	0.00053	<0.00050	<0.00050	<0.00050	0.00050	8740644
Total Uranium (U)	mg/L	0.000238	0.000299	0.000129	0.000369	0.000234	0.0000020	8740644
Total Vanadium (V)	mg/L	<0.00020	<0.00020	0.00039	<0.00020	<0.00020	0.00020	8740644
Total Zinc (Zn)	mg/L	0.00312	0.00078	0.00031	0.00029	0.00294	0.00010	8740644
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8740644
Total Calcium (Ca)	mg/L	26.1	24.6	19.0	29.1	26.8	0.050	8738937
Total Magnesium (Mg)	mg/L	3.46	4.27	3.57	8.78	3.28	0.050	8738937
Total Potassium (K)	mg/L	0.549	0.562	0.497	0.243	0.533	0.050	8738937

RDL = Reportable Detection Limit

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Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU8996	RU8997	RU8998	RU8999	RU9770		
Sampling Date		2017/08/23 18:30	2017/08/23 12:50	2017/08/23 14:00	2017/08/22 12:55	2017/08/23 19:00		
COC Number		08442809	08442809	08442809	08442809	08442809		
	UNITS	**W16**	**W12**	**W13**	**W76**	**DUP**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	1.19	1.03	1.23	1.10	1.20	0.050	8738937
Total Sulphur (S)	mg/L	4.0	5.2	<3.0	6.3	4.0	3.0	8738937
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9000		
Sampling Date		2017/08/25 10:50		
COC Number		08442809		
	UNITS	TRAVEL BLANK	RDL	QC Batch
ANIONS				
Bromide (Br)	mg/L	<0.010	0.010	8740819
Dissolved Metals by ICPMS				
Dissolved Aluminum (Al)	mg/L	<0.00050	0.00050	8740288
Dissolved Antimony (Sb)	mg/L	<0.000020	0.000020	8740288
Dissolved Arsenic (As)	mg/L	<0.000020	0.000020	8740288
Dissolved Barium (Ba)	mg/L	<0.000020	0.000020	8740288
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8740288
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Boron (B)	mg/L	<0.010	0.010	8740288
Dissolved Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8740288
Dissolved Cobalt (Co)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Copper (Cu)	mg/L	<0.000050	0.000050	8740288
Dissolved Iron (Fe)	mg/L	<0.0010	0.0010	8740288
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	8740288
Dissolved Manganese (Mn)	mg/L	<0.000050	0.000050	8740288
Dissolved Molybdenum (Mo)	mg/L	<0.000050	0.000050	8740288
Dissolved Nickel (Ni)	mg/L	<0.000020	0.000020	8740288
Dissolved Phosphorus (P)	mg/L	<0.0020	0.0020	8740288
Dissolved Selenium (Se)	mg/L	<0.000040	0.000040	8740288
Dissolved Silicon (Si)	mg/L	<0.050	0.050	8740288
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Strontium (Sr)	mg/L	<0.000050	0.000050	8740288
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8740288
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8740288
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8740288
Dissolved Uranium (U)	mg/L	<0.0000020	0.0000020	8740288
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8740288
Dissolved Zinc (Zn)	mg/L	<0.00010	0.00010	8740288
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8740288
Dissolved Calcium (Ca)	mg/L	<0.050	0.050	8738650
Dissolved Magnesium (Mg)	mg/L	<0.050	0.050	8738650
Dissolved Potassium (K)	mg/L	<0.050	0.050	8738650
RDL = Reportable Detection Limit				

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9000		
Sampling Date		2017/08/25 10:50		
COC Number		08442809		
	UNITS	TRAVEL BLANK	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	<0.050	0.050	8738650
Dissolved Sulphur (S)	mg/L	<3.0	3.0	8738650
Total Metals by ICPMS				
Total Aluminum (Al)	mg/L	<0.00050	0.00050	8740644
Total Antimony (Sb)	mg/L	<0.000020	0.000020	8740644
Total Arsenic (As)	mg/L	<0.000020	0.000020	8740644
Total Barium (Ba)	mg/L	<0.000020	0.000020	8740644
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8740644
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8740644
Total Boron (B)	mg/L	<0.010	0.010	8740644
Total Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8740644
Total Chromium (Cr)	mg/L	<0.00010	0.00010	8740644
Total Cobalt (Co)	mg/L	<0.0000050	0.0000050	8740644
Total Copper (Cu)	mg/L	<0.000050	0.000050	8740644
Total Iron (Fe)	mg/L	<0.0010	0.0010	8740644
Total Lead (Pb)	mg/L	<0.0000050	0.0000050	8740644
Total Lithium (Li)	mg/L	<0.00050	0.00050	8740644
Total Manganese (Mn)	mg/L	<0.000050	0.000050	8740644
Total Molybdenum (Mo)	mg/L	<0.000050	0.000050	8740644
Total Nickel (Ni)	mg/L	<0.000020	0.000020	8740644
Total Phosphorus (P)	mg/L	<0.0020	0.0020	8740644
Total Selenium (Se)	mg/L	<0.000040	0.000040	8740644
Total Silicon (Si)	mg/L	<0.050	0.050	8740644
Total Silver (Ag)	mg/L	<0.0000050	0.0000050	8740644
Total Strontium (Sr)	mg/L	<0.000050	0.000050	8740644
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8740644
Total Tin (Sn)	mg/L	<0.00020	0.00020	8740644
Total Titanium (Ti)	mg/L	<0.00050	0.00050	8740644
Total Uranium (U)	mg/L	<0.0000020	0.0000020	8740644
Total Vanadium (V)	mg/L	<0.00020	0.00020	8740644
Total Zinc (Zn)	mg/L	<0.00010	0.00010	8740644
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8740644
Total Calcium (Ca)	mg/L	<0.050	0.050	8738937
Total Magnesium (Mg)	mg/L	<0.050	0.050	8738937
Total Potassium (K)	mg/L	<0.050	0.050	8738937
RDL = Reportable Detection Limit				

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Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9000		
Sampling Date		2017/08/25 10:50		
COC Number		08442809		
	UNITS	**TRAVEL BLANK**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	<0.050	0.050	8738937
Total Sulphur (S)	mg/L	<3.0	3.0	8738937
RDL = Reportable Detection Limit				

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.7°C

Sample RU8996 [W16] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU8997 [W12] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU8998 [W13] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU8999 [W76] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU9000 [TRAVEL BLANK] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample RU9770 [DUP] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Results relate only to the items tested.

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Maxxam Job #: B772636
Report Date: 2017/09/06

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8739690	Nitrate plus Nitrite (N)	2017/08/26	NC	80 - 120	103	80 - 120	<0.0020	mg/L	NC	25
8739691	Nitrite (N)	2017/08/26	NC	80 - 120	97	80 - 120	<0.0020	mg/L	1.9	25
8740288	Dissolved Aluminum (Al)	2017/08/30	106	80 - 120	109	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Antimony (Sb)	2017/08/30	99	80 - 120	97	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Arsenic (As)	2017/08/30	103	80 - 120	101	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Barium (Ba)	2017/08/30	NC	80 - 120	99	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Beryllium (Be)	2017/08/30	104	80 - 120	100	80 - 120	<0.000010	mg/L	NC	20
8740288	Dissolved Bismuth (Bi)	2017/08/30	97	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Boron (B)	2017/08/30	104	80 - 120	103	80 - 120	<0.010	mg/L	NC	20
8740288	Dissolved Cadmium (Cd)	2017/08/30	102	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Chromium (Cr)	2017/08/30	97	80 - 120	96	80 - 120	<0.00010	mg/L	NC	20
8740288	Dissolved Cobalt (Co)	2017/08/30	94	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Copper (Cu)	2017/08/30	94	80 - 120	96	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Iron (Fe)	2017/08/30	104	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20
8740288	Dissolved Lead (Pb)	2017/08/30	99	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Lithium (Li)	2017/08/30	106	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Manganese (Mn)	2017/08/30	NC	80 - 120	97	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Molybdenum (Mo)	2017/08/30	105	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Nickel (Ni)	2017/08/30	96	80 - 120	98	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Phosphorus (P)	2017/08/30					<0.0020	mg/L	NC	20
8740288	Dissolved Selenium (Se)	2017/08/30	107	80 - 120	106	80 - 120	<0.000040	mg/L	NC	20
8740288	Dissolved Silicon (Si)	2017/08/30					<0.050	mg/L	NC	20
8740288	Dissolved Silver (Ag)	2017/08/30	105	80 - 120	106	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Strontium (Sr)	2017/08/30	NC	80 - 120	101	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Thallium (Tl)	2017/08/30	100	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20
8740288	Dissolved Tin (Sn)	2017/08/30	96	80 - 120	94	80 - 120	<0.00020	mg/L	NC	20
8740288	Dissolved Titanium (Ti)	2017/08/30	112	80 - 120	92	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Uranium (U)	2017/08/30	105	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8740288	Dissolved Vanadium (V)	2017/08/30	98	80 - 120	97	80 - 120	<0.00020	mg/L	NC	20
8740288	Dissolved Zinc (Zn)	2017/08/30	99	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20
8740288	Dissolved Zirconium (Zr)	2017/08/30					<0.00010	mg/L	NC	20
8740524	Acidity (pH 4.5)	2017/08/28					<1.0	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8740524	Acidity (pH 8.3)	2017/08/28			93	80 - 120	<1.0	mg/L	0.87	20
8740527	Acidity (pH 4.5)	2017/08/28					<1.0	mg/L	NC	20
8740527	Acidity (pH 8.3)	2017/08/28			95	80 - 120	<1.0	mg/L	7.7	20
8740644	Total Aluminum (Al)	2017/08/29	109	80 - 120	112	80 - 120	<0.00050	mg/L	NC	20
8740644	Total Antimony (Sb)	2017/08/29	100	80 - 120	98	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Arsenic (As)	2017/08/29	101	80 - 120	103	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Barium (Ba)	2017/08/29	NC	80 - 120	104	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Beryllium (Be)	2017/08/29	107	80 - 120	104	80 - 120	<0.000010	mg/L	NC	20
8740644	Total Bismuth (Bi)	2017/08/29	95	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Boron (B)	2017/08/29	108	80 - 120	106	80 - 120	<0.010	mg/L	NC	20
8740644	Total Cadmium (Cd)	2017/08/29	98	80 - 120	99	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Chromium (Cr)	2017/08/29	101	80 - 120	103	80 - 120	<0.00010	mg/L	NC	20
8740644	Total Cobalt (Co)	2017/08/29	100	80 - 120	101	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Copper (Cu)	2017/08/29	98	80 - 120	103	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Iron (Fe)	2017/08/29	96	80 - 120	101	80 - 120	<0.0010	mg/L	NC	20
8740644	Total Lead (Pb)	2017/08/29	102	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Lithium (Li)	2017/08/29	109	80 - 120	108	80 - 120	<0.00050	mg/L	NC	20
8740644	Total Manganese (Mn)	2017/08/29	NC	80 - 120	101	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Molybdenum (Mo)	2017/08/29	100	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Nickel (Ni)	2017/08/29	99	80 - 120	102	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Phosphorus (P)	2017/08/29					<0.0020	mg/L	NC	20
8740644	Total Selenium (Se)	2017/08/29	98	80 - 120	101	80 - 120	<0.000040	mg/L	NC	20
8740644	Total Silicon (Si)	2017/08/29					<0.050	mg/L	NC	20
8740644	Total Silver (Ag)	2017/08/29	104	80 - 120	108	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Strontium (Sr)	2017/08/29	NC	80 - 120	103	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Thallium (Tl)	2017/08/29	98	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20
8740644	Total Tin (Sn)	2017/08/29	96	80 - 120	98	80 - 120	<0.00020	mg/L	NC	20
8740644	Total Titanium (Ti)	2017/08/29	100	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8740644	Total Uranium (U)	2017/08/29	105	80 - 120	104	80 - 120	<0.0000020	mg/L	NC	20
8740644	Total Vanadium (V)	2017/08/29	103	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8740644	Total Zinc (Zn)	2017/08/29	102	80 - 120	106	80 - 120	<0.00010	mg/L	NC	20
8740644	Total Zirconium (Zr)	2017/08/29					<0.00010	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8740677	Turbidity	2017/08/28			103	80 - 120	<0.10	NTU	3.7	20
8740682	Turbidity	2017/08/28			103	80 - 120	<0.10	NTU	7.3	20
8740819	Bromide (Br)	2017/08/28	NC	78 - 120	97	80 - 120	<0.010	mg/L	0.46	20
8740936	Total Suspended Solids	2017/08/29	108	80 - 120	97	80 - 120	<4.0	mg/L	4.5	20
8740988	Alkalinity (PP as CaCO3)	2017/08/28					<1.0	mg/L	NC	20
8740988	Alkalinity (Total as CaCO3)	2017/08/28	NC	80 - 120	98	80 - 120	<1.0	mg/L	0.90	20
8740988	Bicarbonate (HCO3)	2017/08/28					<1.0	mg/L	0.90	20
8740988	Carbonate (CO3)	2017/08/28					<1.0	mg/L	NC	20
8740988	Hydroxide (OH)	2017/08/28					<1.0	mg/L	NC	20
8740995	pH	2017/08/28			102	97 - 103			0.36	20
8740996	Conductivity	2017/08/28			101	80 - 120	<2.0	uS/cm	0.62	20
8741002	Alkalinity (PP as CaCO3)	2017/08/29					<1.0	mg/L	NC	20
8741002	Alkalinity (Total as CaCO3)	2017/08/29	NC	80 - 120	99	80 - 120	<1.0	mg/L	NC	20
8741002	Bicarbonate (HCO3)	2017/08/29					<1.0	mg/L	NC	20
8741002	Carbonate (CO3)	2017/08/29					<1.0	mg/L	NC	20
8741002	Hydroxide (OH)	2017/08/29					<1.0	mg/L	NC	20
8741004	pH	2017/08/29			102	97 - 103			4.6	20
8741005	Conductivity	2017/08/29			102	80 - 120	<2.0	uS/cm	NC	20
8741084	Dissolved Chloride (Cl)	2017/08/28	95	80 - 120	98	80 - 120	<1.0	mg/L	NC	20
8741085	Dissolved Sulphate (SO4)	2017/08/28	100	80 - 120	95	80 - 120	<1.0	mg/L	6.2	20
8741086	Dissolved Chloride (Cl)	2017/08/28	NC	80 - 120	96	80 - 120	<1.0	mg/L	1.4	20
8741087	Dissolved Sulphate (SO4)	2017/08/28	NC	80 - 120	95	80 - 120	<1.0	mg/L	2.5	20
8741218	Dissolved Mercury (Hg)	2017/08/29	100	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8741598	Total Dissolved Solids	2017/08/30	96	80 - 120	91	80 - 120	<10	mg/L	4.3	20
8742181	Fluoride (F)	2017/08/29	102	80 - 120	104	80 - 120	<0.020	mg/L	4.3	20
8742274	Fluoride (F)	2017/08/29	104	80 - 120	106	80 - 120	<0.020	mg/L	0	20
8742309	Orthophosphate (P)	2017/08/29	105	80 - 120	100	80 - 120	<0.0010	mg/L	3.9	20
8742351	Dissolved Phosphorus (P)	2017/08/29	93	80 - 120	103	80 - 120	<0.0020	mg/L	9.9	20
8742358	Total Phosphorus (P)	2017/08/29	100	80 - 120	102	80 - 120	<0.0020	mg/L	2.4	20
8742363	Dissolved Sulphate (SO4)	2017/08/29	NC	80 - 120	101	80 - 120	<1.0	mg/L	1.6	20
8742477	Total Mercury (Hg)	2017/08/30	98	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8742496	Dissolved Mercury (Hg)	2017/08/30	94	80 - 120	98	80 - 120	<0.010	ug/L	NC	20

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Maxxam Job #: B772636
Report Date: 2017/09/06

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8742603	Dissolved Mercury (Hg)	2017/08/30	96	80 - 120	95	80 - 120	<0.010	ug/L	NC	20
8742604	Total Mercury (Hg)	2017/08/30	103	80 - 120	105	80 - 120	<0.010	ug/L	NC	20
8742704	Total Suspended Solids	2017/08/30	116	80 - 120	95	80 - 120	<4.0	mg/L	NC	20
8742757	Total Dissolved Solids	2017/08/31	102	80 - 120	98	80 - 120	<10	mg/L	5.4	20
8742763	Total Dissolved Solids	2017/08/31	106	80 - 120	90	80 - 120	<10	mg/L	7.8	20
8744851	Total Ammonia (N)	2017/08/31	96	80 - 120	112	80 - 120	<0.020	mg/L	NC	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

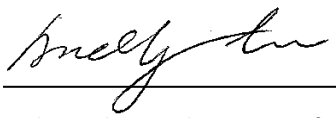
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Maxxam Job #: B772636
Report Date: 2017/09/06

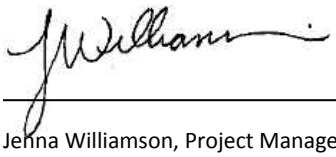
YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist



Jenna Williamson, Project Manager 1

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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BENTHICS

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BBY FCD-00077/05

Page ____ of ____

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5, Toll Free (800) 665-8566

Invoice Information

Company Name: Yukon Zinc Corporation
Contact Name: Alex Wu
Address: 705 - 1030 West Georgia Street
Vancouver PC: V6E 2Y3
Phone: 604-684-5474
Email: alex.wu@yukonzinc.com

Report Information (if differs from invoice)

Company Name: Adrienne Turcotte Consulting
Contact Name: Adrienne Turcotte
Address: 102-8832 W.4th Avenue
Vancouver BC PC: V6R 1P8
Phone: 778-772-2222
Email: YZC Group turcotte.adrienne@gmail.com

Project Information

Quotation #:
P.O. #/ AFE#:
Project #:
Site Location:
Site #:
Sampled By:

Turnaround Time (TAT) Required

☒ Regular TAT 5 days (Most analyses)

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Rush TAT (Surcharges will be applied)
☐ Same Day ☐ 2 Days
☐ 1 Day ☐ 3 Days

Date Required:

Rush Confirmation #:

Regulatory Criteria

☐ BC CSA Soil ☐ BC CSR Water
☐ CCME (Specify) ☐ Other (Specify)
☐ Drinking Water ☐ BC Water Quality

Special Instructions

☐ Return Cooler
☐ Ship Sample Bottles (Please Specify)

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	EPH	PAH	CCME PHC	Dissolved Metals	Dissolved Mercury	Total Metals	Total Mercury	Chloride	TDS	pH	Nitrate	Package A	Total Phosphate and Ammonia	Radium 226	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	COMMENTS
	Bottle									50 mL falcon tube	50 mL falcon tube	50 mL falcon tube	50 mL falcon tube				120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic	1L plastic			
	Preservative									HNO3	Hcl	HNO3	HCl				NONE	-	NONE	HNO3			
	Filtered									✓	✓	-	-				-	-	-				
1	W16		17-08-23	18:30	Water					X	X	X	X		X	X	X	XX	X	X			
2	W12		17-08-23	12:50	Water					X	X	X	X		X	X	X	XX	X	X			
3	W13		17-08-23	14:00	Water					X	X	X	X		X	X	X	XX	X	X			
4	W76		17-08-22	12:55	Water					X	X	X	X		X	X	X	XX	X	X			
5	DUP		17-08-23	18:00	Water					X	X	X	X		X	X	X	XX	X	X			
6	Travel Blank				Water					X	X	X	X		X	X	X	XX	X	X			

[LABORATORY USE ONLY]
CUSTODY SEAL
ICE/ICE PACKS
TEMPERATURES
Present: Intact:
4.4.3
COOLING MEDIA PRESENT:

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Adrienne Turcotte	17-08-24	9:00	Laurel Beaver	2017/08/25	10:50

B772636_COC

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Success Through Science®

Your Project #: QUARTERLY GROUNDWATER
Your C.O.C. #: 08442811

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/01
Report #: R2438474
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772721
Received: 2017/08/25, 10:50

Sample Matrix: Water
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	9	N/A	2017/08/28	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	6	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	2	2017/08/28	2017/08/29	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	1	2017/08/29	2017/08/30	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	9	N/A	2017/08/28	BBY6SOP-00011	SM 22 4500-Cl- E m
Conductance - water	6	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	2	2017/08/28	2017/08/29	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	1	2017/08/28	2017/08/30	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	9	N/A	2017/08/29	BBY6SOP-00048	SM 22 4500-F C m
Hardness (calculated as CaCO3)	9	N/A	2017/08/31	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	1	N/A	2017/08/28	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Dissolved) by CVAF	5	N/A	2017/08/29	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Dissolved) by CVAF	3	N/A	2017/08/30	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	9	N/A	2017/08/28	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	9	N/A	2017/08/31	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	9	N/A	2017/08/30	BBY7SOP-00002	EPA 6020B R2 m
Ammonia-N (Preserved)	9	N/A	2017/08/31	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	9	N/A	2017/08/26	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	9	N/A	2017/08/26	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	9	N/A	2017/08/29	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	9	N/A	2017/08/29	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (1)	6	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (1)	2	2017/08/28	2017/08/29	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (1)	1	2017/08/29	2017/08/28	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	9	N/A	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	8	N/A	2017/08/28	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	1	N/A	2017/08/31	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	3	2017/08/27	2017/08/28	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	4	2017/08/28	2017/08/29	BBY6SOP-00033	SM 22 2540 C m

Your Project #: QUARTERLY GROUNDWATER
Your C.O.C. #: 08442811

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/01
Report #: R2438474
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772721
Received: 2017/08/25, 10:50

Sample Matrix: Water
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total Dissolved Solids (Filt. Residue)	2	2017/08/31	2017/09/01	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	8	2017/08/29	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - FF/FP	1	2017/08/31	2017/08/31	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	8	N/A	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	1	N/A	2017/08/31	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	5	2017/08/27	2017/08/28	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	4	2017/08/28	2017/08/29	BBY6SOP-00034	SM 22 2540 D
Turbidity	9	N/A	2017/08/28	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Your Project #: QUARTERLY GROUNDWATER
Your C.O.C. #: 08442811

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/01
Report #: R2438474
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772721
Received: 2017/08/25, 10:50

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

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Maxxam Job #: B772721
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU9627		RU9628		RU9629		RU9630		
Sampling Date		2017/08/21 10:05		2017/08/21 11:25		2017/08/20 14:20		2017/08/20 16:00		
COC Number		08442811		08442811		08442811		08442811		
	UNITS	MW05-1A	QC Batch	MW05-1B	QC Batch	MW05-2A	QC Batch	MW05-2B	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.470	8742181	0.100	8742181	0.240	8742181	0.063	0.020	8742181
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	<0.20	8738420	<0.20	8738420	<0.20	8738420	<0.20	0.20	8738420
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	128	8738935	136	8738935	200	8738935	146	0.50	8738935
Acidity (pH 4.5)	mg/L	<1.0	8740527	<1.0	8740524	<1.0	8740527	<1.0	1.0	8740524
Alkalinity (Total as CaCO3)	mg/L	103	8740988	139	8740988	180	8740988	144	1.0	8740988
Acidity (pH 8.3)	mg/L	1.9	8740527	2.4	8740524	<1.0	8740527	9.0	1.0	8740524
Alkalinity (PP as CaCO3)	mg/L	<1.0	8740988	<1.0	8740988	2.9	8740988	<1.0	1.0	8740988
Bicarbonate (HCO3)	mg/L	125	8740988	170	8740988	212	8740988	176	1.0	8740988
Carbonate (CO3)	mg/L	<1.0	8740988	<1.0	8740988	3.5	8740988	<1.0	1.0	8740988
Hydroxide (OH)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	8740988	<1.0	1.0	8740988
Anions										
Orthophosphate (P)	mg/L	0.053	8742309	0.12	8742309	0.0030	8742309	0.0023	0.0010	8742309
Dissolved Sulphate (SO4)	mg/L	28.9	8741087	<1.0	8741087	30.0	8741087	7.7	1.0	8741085
Dissolved Chloride (Cl)	mg/L	<1.0	8741086	<1.0	8741086	<1.0	8741086	<1.0	1.0	8741084
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.424	8742351	0.411	8742351	0.0076	8742351	0.292	0.0020	8742351
Total Ammonia (N)	mg/L	0.14	8744851	0.55	8744852	0.11	8744852	0.035	0.020	8744852
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8739690	<0.20 (1)	8739690	<0.20 (1)	8739690	<0.20 (1)	0.20	8739690
Nitrite (N)	mg/L	<0.20 (1)	8739691	<0.20 (1)	8739691	<0.20 (1)	8739691	<0.20 (1)	0.20	8739691
Total Phosphorus (P)	mg/L	0.392	8742358	0.424	8742358	0.0099	8742358	0.281	0.0020	8742358
Physical Properties										
Conductivity	uS/cm	256	8740996	262	8740996	376	8740996	277	2.0	8740996
pH	pH	8.15	8740995	8.02	8740995	8.38	8740995	8.05		8740995
Physical Properties										
Total Suspended Solids	mg/L	6.3	8740342	12.8	8740342	<4.0	8739765	34.3	4.0	8739765
Total Dissolved Solids	mg/L	160	8740476	170	8740476	246	8739766	182	10	8739766
Turbidity	NTU	18.8	8740682	14.2	8740682	10.2	8740682	81.7	0.10	8740682

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B772721
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU9631		RU9632			RU9633		RU9634		
Sampling Date		2017/08/21 17:10		2017/08/21 14:10			2017/08/20 14:45		2017/08/20 13:40		
COC Number		08442811		08442811			08442811		08442811		
	UNITS	MW05-4A	QC Batch	MW05-4B	RDL	QC Batch	MW05-6A	RDL	MW05-6B	RDL	QC Batch
Misc. Inorganics											
Fluoride (F)	mg/L	1.10	8742181	0.390	0.020	8742181	0.140	0.020	0.036	0.020	8742181
Calculated Parameters											
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD		ONSITE	FIELD		FIELD		ONSITE
Nitrate (N)	mg/L	<0.20	8738420	<0.20	0.20	8738420	<0.20	0.20	0.22	0.20	8738420
Misc. Inorganics											
Dissolved Hardness (CaCO3)	mg/L	165	8738935	104	0.50	8738935	81.6	0.50	87.2	0.50	8738935
Acidity (pH 4.5)	mg/L	<1.0	8740524	<1.0	1.0	8740527	<1.0	1.0	<1.0	1.0	8740524
Alkalinity (Total as CaCO3)	mg/L	119	8740988	77.3	1.0	8742758	68.8	1.0	85.3	1.0	8740988
Acidity (pH 8.3)	mg/L	<1.0	8740524	4.1	1.0	8740527	2.7	1.0	<1.0	1.0	8740524
Alkalinity (PP as CaCO3)	mg/L	<1.0	8740988	<1.0	1.0	8742758	<1.0	1.0	<1.0	1.0	8740988
Bicarbonate (HCO3)	mg/L	145	8740988	94.2	1.0	8742758	83.9	1.0	104	1.0	8740988
Carbonate (CO3)	mg/L	<1.0	8740988	<1.0	1.0	8742758	<1.0	1.0	<1.0	1.0	8740988
Hydroxide (OH)	mg/L	<1.0	8740988	<1.0	1.0	8742758	<1.0	1.0	<1.0	1.0	8740988
Anions											
Orthophosphate (P)	mg/L	0.0042	8742309	0.0018	0.0010	8742309	0.89 (1)	0.010	0.0050	0.0010	8742309
Dissolved Sulphate (SO4)	mg/L	47.5	8741085	37.3	1.0	8744936	15.8	1.0	7.5	1.0	8741085
Dissolved Chloride (Cl)	mg/L	<1.0	8741084	<1.0	1.0	8741086	<1.0	1.0	<1.0	1.0	8741084
Nutrients											
Dissolved Phosphorus (P)	mg/L	0.0245	8742351	0.0063	0.0020	8744822	0.969 (1)	0.020	0.0056	0.0020	8742351
Total Ammonia (N)	mg/L	0.086	8744851	0.037	0.020	8744851	<0.020	0.020	<0.020	0.020	8744852
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8739690	<0.20 (2)	0.20	8739690	<0.20 (2)	0.20	0.22 (2)	0.20	8739690
Nitrite (N)	mg/L	<0.20 (2)	8739691	<0.20 (2)	0.20	8739691	<0.20 (2)	0.20	<0.20 (2)	0.20	8739691
Total Phosphorus (P)	mg/L	0.0266	8742358	0.0080	0.0020	8744821	0.958 (1)	0.020	0.0058	0.0020	8742358
Physical Properties											
Conductivity	uS/cm	326	8740996	236	2.0	8742803	172	2.0	180	2.0	8740996
pH	pH	8.22	8740995	7.91		8742772	7.90		8.09		8740995
Physical Properties											
Total Suspended Solids	mg/L	5.3	8740342	6.5	4.0	8740342	<4.0	4.0	<4.0	4.0	8739765
Total Dissolved Solids	mg/L	222	8740476	154	10	8740476	124 (3)	10	128 (3)	10	8744721
Turbidity	NTU	20.5	8740682	13.1	0.10	8740682	18.3	0.10	1.17	0.10	8740682

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.
(3) Sample preserved to extend hold time.

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Maxxam Job #: B772721
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU9635		
Sampling Date		2017/08/20 11:30		
COC Number		08442811		
	UNITS	**MW08-13**	**RDL**	**QC Batch**
Misc. Inorganics				
Fluoride (F)	mg/L	0.032	0.020	8742181
Calculated Parameters				
Filter and HNO3 Preservation	N/A	FIELD		ONSITE
Nitrate (N)	mg/L	<0.20	0.20	8738420
Misc. Inorganics				
Dissolved Hardness (CaCO3)	mg/L	180	0.50	8738935
Acidity (pH 4.5)	mg/L	<1.0	1.0	8740527
Alkalinity (Total as CaCO3)	mg/L	101	1.0	8740988
Acidity (pH 8.3)	mg/L	4.5	1.0	8740527
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8740988
Bicarbonate (HCO3)	mg/L	123	1.0	8740988
Carbonate (CO3)	mg/L	<1.0	1.0	8740988
Hydroxide (OH)	mg/L	<1.0	1.0	8740988
Anions				
Orthophosphate (P)	mg/L	0.0032	0.0010	8742309
Dissolved Sulphate (SO4)	mg/L	98.1	1.0	8741087
Dissolved Chloride (Cl)	mg/L	1.6	1.0	8741086
Nutrients				
Dissolved Phosphorus (P)	mg/L	0.0090	0.0020	8742351
Total Ammonia (N)	mg/L	0.084	0.020	8744852
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	0.20	8739690
Nitrite (N)	mg/L	<0.20 (1)	0.20	8739691
Total Phosphorus (P)	mg/L	0.0458	0.0020	8742358
Physical Properties				
Conductivity	uS/cm	400	2.0	8740996
pH	pH	7.55		8740995
Physical Properties				
Total Suspended Solids	mg/L	<4.0	4.0	8739765
Total Dissolved Solids	mg/L	288	10	8739766
Turbidity	NTU	0.65	0.10	8740682

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B772721
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RU9627		RU9628		RU9629		RU9630		
Sampling Date		2017/08/21 10:05		2017/08/21 11:25		2017/08/20 14:20		2017/08/20 16:00		
COC Number		08442811		08442811		08442811		08442811		
	UNITS	MW05-1A	QC Batch	MW05-1B	QC Batch	MW05-2A	QC Batch	MW05-2B	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	8742496	<0.010	8741218	<0.010	8742496	<0.010	0.010	8741218
RDL = Reportable Detection Limit										

Maxxam ID		RU9631		RU9632	RU9633	RU9634		RU9635		
Sampling Date		2017/08/21 17:10		2017/08/21 14:10	2017/08/20 14:45	2017/08/20 13:40		2017/08/20 11:30		
COC Number		08442811		08442811	08442811	08442811		08442811		
	UNITS	MW05-4A	QC Batch	MW05-4B	MW05-6A	MW05-6B	QC Batch	MW08-13	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	8740447	<0.010	<0.010	<0.010	8741218	<0.010	0.010	8742496
RDL = Reportable Detection Limit										

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Maxxam Job #: B772721
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9627	RU9628	RU9629	RU9630	RU9631		
Sampling Date		2017/08/21 10:05	2017/08/21 11:25	2017/08/20 14:20	2017/08/20 16:00	2017/08/21 17:10		
COC Number		08442811	08442811	08442811	08442811	08442811		
	UNITS	MW05-1A	MW05-1B	MW05-2A	MW05-2B	MW05-4A	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8740819
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	<0.00050	0.0296	0.00077	0.00155	<0.00050	0.00050	8740288
Dissolved Antimony (Sb)	mg/L	<0.000020	0.000045	<0.000020	<0.000020	0.000046	0.000020	8740288
Dissolved Arsenic (As)	mg/L	0.0196	0.00490	0.00109	0.0479	0.0105	0.000020	8740288
Dissolved Barium (Ba)	mg/L	0.0354	0.319	0.0440	0.190	0.0532	0.000020	8740288
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000011	<0.000010	<0.000010	0.000010	8740288
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8740288
Dissolved Cadmium (Cd)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00030	<0.00010	<0.00010	<0.00010	0.00010	8740288
Dissolved Cobalt (Co)	mg/L	<0.0000050	0.0000460	0.0000160	0.000155	<0.0000050	0.0000050	8740288
Dissolved Copper (Cu)	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000050	8740288
Dissolved Iron (Fe)	mg/L	1.70	6.06	0.806	15.3	1.91	0.0010	8740288
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000410	0.0000200	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Lithium (Li)	mg/L	0.00059	0.00068	0.00234	<0.00050	0.00101	0.00050	8740288
Dissolved Manganese (Mn)	mg/L	0.227	1.20	0.214	0.920	0.242	0.000050	8740288
Dissolved Molybdenum (Mo)	mg/L	0.00561	0.00109	0.00338	0.00191	0.00439	0.000050	8740288
Dissolved Nickel (Ni)	mg/L	<0.000020	0.000673	0.000144	0.000091	0.000040	0.000020	8740288
Dissolved Phosphorus (P)	mg/L	0.426	0.421	0.0088	0.278	0.0192	0.0020	8740288
Dissolved Selenium (Se)	mg/L	<0.000040	0.000130	<0.000040	<0.000040	<0.000040	0.000040	8740288
Dissolved Silicon (Si)	mg/L	5.18	6.04	3.85	4.75	3.73	0.050	8740288
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Strontium (Sr)	mg/L	0.157	0.157	0.160	0.0970	0.180	0.000050	8740288
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000020	8740288
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8740288
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00076	<0.00050	<0.00050	<0.00050	0.00050	8740288
Dissolved Uranium (U)	mg/L	0.000101	0.0000260	0.00683	0.000262	0.00123	0.0000020	8740288
Dissolved Vanadium (V)	mg/L	<0.00020	0.00126	<0.00020	<0.00020	<0.00020	0.00020	8740288
Dissolved Zinc (Zn)	mg/L	<0.00010	0.00040	0.00095	0.00025	0.00023	0.00010	8740288
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00026	0.00015	<0.00010	<0.00010	0.00010	8740288
Dissolved Calcium (Ca)	mg/L	42.2	47.6	52.2	45.0	59.2	0.050	8738650
Dissolved Magnesium (Mg)	mg/L	5.46	4.25	17.0	8.30	4.22	0.050	8738650

RDL = Reportable Detection Limit

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Maxxam Job #: B772721
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9627	RU9628	RU9629	RU9630	RU9631		
Sampling Date		2017/08/21 10:05	2017/08/21 11:25	2017/08/20 14:20	2017/08/20 16:00	2017/08/21 17:10		
COC Number		08442811	08442811	08442811	08442811	08442811		
	UNITS	**MW05-1A**	**MW05-1B**	**MW05-2A**	**MW05-2B**	**MW05-4A**	**RDL**	**QC Batch**
Dissolved Potassium (K)	mg/L	1.19	1.31	1.66	0.532	1.86	0.050	8738650
Dissolved Sodium (Na)	mg/L	1.57	1.27	0.685	1.12	1.07	0.050	8738650
Dissolved Sulphur (S)	mg/L	9.8	<3.0	9.7	<3.0	15.7	3.0	8738650
RDL = Reportable Detection Limit								

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Maxxam Job #: B772721
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9632	RU9633	RU9634	RU9635		
Sampling Date		2017/08/21 14:10	2017/08/20 14:45	2017/08/20 13:40	2017/08/20 11:30		
COC Number		08442811	08442811	08442811	08442811		
	UNITS	MW05-4B	MW05-6A	MW05-6B	MW08-13	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	0.020	0.010	8740819
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00080	0.00057	0.00064	0.0134	0.00050	8740288
Dissolved Antimony (Sb)	mg/L	0.000091	0.000506	0.000031	0.000036	0.000020	8740288
Dissolved Arsenic (As)	mg/L	0.00739	0.00608	0.000061	0.000178	0.000020	8740288
Dissolved Barium (Ba)	mg/L	0.0568	0.0525	0.169	0.382	0.000020	8740288
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8740288
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8740288
Dissolved Cadmium (Cd)	mg/L	0.00487	<0.0000050	<0.0000050	0.000161	0.0000050	8740288
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00046	0.00104	0.00017	0.00010	8740288
Dissolved Cobalt (Co)	mg/L	0.00292	0.000291	0.0000090	0.0000940	0.0000050	8740288
Dissolved Copper (Cu)	mg/L	0.000057	0.000061	0.000223	0.00178	0.000050	8740288
Dissolved Iron (Fe)	mg/L	1.95	1.90	0.0086	0.0174	0.0010	8740288
Dissolved Lead (Pb)	mg/L	0.0000300	<0.0000050	0.0000250	0.000120	0.0000050	8740288
Dissolved Lithium (Li)	mg/L	0.00086	<0.00050	<0.00050	<0.00050	0.00050	8740288
Dissolved Manganese (Mn)	mg/L	2.52	0.153	0.000403	2.00	0.000050	8740288
Dissolved Molybdenum (Mo)	mg/L	0.00101	0.00147	0.000259	0.000319	0.000050	8740288
Dissolved Nickel (Ni)	mg/L	0.00535	0.00134	0.000169	0.00425	0.000020	8740288
Dissolved Phosphorus (P)	mg/L	0.0061	1.05	0.0063	0.0098	0.0020	8740288
Dissolved Selenium (Se)	mg/L	<0.000040	<0.000040	0.000702	0.000725	0.000040	8740288
Dissolved Silicon (Si)	mg/L	6.89	7.23	4.42	4.05	0.050	8740288
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Strontium (Sr)	mg/L	0.152	0.0280	0.0473	0.142	0.000050	8740288
Dissolved Thallium (Tl)	mg/L	0.0000480	<0.0000020	<0.0000020	0.0000100	0.0000020	8740288
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8740288
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8740288
Dissolved Uranium (U)	mg/L	0.000279	0.0000830	0.000281	0.000145	0.0000020	8740288
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8740288
Dissolved Zinc (Zn)	mg/L	0.201	0.00089	0.00175	0.00566	0.00010	8740288
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8740288
Dissolved Calcium (Ca)	mg/L	36.8	27.0	30.2	59.7	0.050	8738650
Dissolved Magnesium (Mg)	mg/L	2.90	3.44	2.89	7.53	0.050	8738650

RDL = Reportable Detection Limit

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YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9632	RU9633	RU9634	RU9635		
Sampling Date		2017/08/21 14:10	2017/08/20 14:45	2017/08/20 13:40	2017/08/20 11:30		
COC Number		08442811	08442811	08442811	08442811		
	UNITS	MW05-4B	MW05-6A	MW05-6B	MW08-13	RDL	QC Batch
Dissolved Potassium (K)	mg/L	1.66	1.10	0.719	1.30	0.050	8738650
Dissolved Sodium (Na)	mg/L	0.998	1.90	1.33	8.79	0.050	8738650
Dissolved Sulphur (S)	mg/L	12.5	5.7	<3.0	31.7	3.0	8738650
RDL = Reportable Detection Limit							

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.7°C
Package 2	3.7°C

Sample RU9627 [MW05-1A] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU9628 [MW05-1B] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU9629 [MW05-2A] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU9630 [MW05-2B] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU9631 [MW05-4A] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU9632 [MW05-4B] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU9633 [MW05-6A] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue).

Sample RU9634 [MW05-6B] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time

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increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue).

Sample RU9635 [MW08-13] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Results relate only to the items tested.

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Maxxam Job #: B772721
Report Date: 2017/09/01

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8739690	Nitrate plus Nitrite (N)	2017/08/26	NC	80 - 120	103	80 - 120	<0.0020	mg/L	NC	25
8739691	Nitrite (N)	2017/08/26	NC	80 - 120	97	80 - 120	<0.0020	mg/L	1.9	25
8739765	Total Suspended Solids	2017/08/28	99	80 - 120	104	80 - 120	<4.0	mg/L	NC	20
8739766	Total Dissolved Solids	2017/08/28	NC	80 - 120	111	80 - 120	<10	mg/L	2.4	20
8740288	Dissolved Aluminum (Al)	2017/08/30	106	80 - 120	109	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Antimony (Sb)	2017/08/30	99	80 - 120	97	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Arsenic (As)	2017/08/30	103	80 - 120	101	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Barium (Ba)	2017/08/30	NC	80 - 120	99	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Beryllium (Be)	2017/08/30	104	80 - 120	100	80 - 120	<0.000010	mg/L	NC	20
8740288	Dissolved Bismuth (Bi)	2017/08/30	97	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Boron (B)	2017/08/30	104	80 - 120	103	80 - 120	<0.010	mg/L	NC	20
8740288	Dissolved Cadmium (Cd)	2017/08/30	102	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Chromium (Cr)	2017/08/30	97	80 - 120	96	80 - 120	<0.00010	mg/L	NC	20
8740288	Dissolved Cobalt (Co)	2017/08/30	94	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Copper (Cu)	2017/08/30	94	80 - 120	96	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Iron (Fe)	2017/08/30	104	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20
8740288	Dissolved Lead (Pb)	2017/08/30	99	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Lithium (Li)	2017/08/30	106	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Manganese (Mn)	2017/08/30	NC	80 - 120	97	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Molybdenum (Mo)	2017/08/30	105	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Nickel (Ni)	2017/08/30	96	80 - 120	98	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Phosphorus (P)	2017/08/30					<0.0020	mg/L	NC	20
8740288	Dissolved Selenium (Se)	2017/08/30	107	80 - 120	106	80 - 120	<0.000040	mg/L	NC	20
8740288	Dissolved Silicon (Si)	2017/08/30					<0.050	mg/L	NC	20
8740288	Dissolved Silver (Ag)	2017/08/30	105	80 - 120	106	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Strontium (Sr)	2017/08/30	NC	80 - 120	101	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Thallium (Tl)	2017/08/30	100	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20
8740288	Dissolved Tin (Sn)	2017/08/30	96	80 - 120	94	80 - 120	<0.00020	mg/L	NC	20
8740288	Dissolved Titanium (Ti)	2017/08/30	112	80 - 120	92	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Uranium (U)	2017/08/30	105	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8740288	Dissolved Vanadium (V)	2017/08/30	98	80 - 120	97	80 - 120	<0.00020	mg/L	NC	20
8740288	Dissolved Zinc (Zn)	2017/08/30	99	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8740288	Dissolved Zirconium (Zr)	2017/08/30					<0.00010	mg/L	NC	20
8740342	Total Suspended Solids	2017/08/29	103	80 - 120	94	80 - 120	<4.0	mg/L	3.7	20
8740447	Dissolved Mercury (Hg)	2017/08/28	97	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8740476	Total Dissolved Solids	2017/08/29	96	80 - 120	93	80 - 120	<10	mg/L	5.7	20
8740524	Acidity (pH 4.5)	2017/08/28					<1.0	mg/L	NC	20
8740524	Acidity (pH 8.3)	2017/08/28			93	80 - 120	<1.0	mg/L	0.87	20
8740527	Acidity (pH 4.5)	2017/08/28					<1.0	mg/L	NC	20
8740527	Acidity (pH 8.3)	2017/08/28			95	80 - 120	<1.0	mg/L	7.7	20
8740682	Turbidity	2017/08/28			103	80 - 120	<0.10	NTU	7.3	20
8740819	Bromide (Br)	2017/08/28	NC	78 - 120	97	80 - 120	<0.010	mg/L	0.46	20
8740988	Alkalinity (PP as CaCO3)	2017/08/28					<1.0	mg/L	NC	20
8740988	Alkalinity (Total as CaCO3)	2017/08/28	NC	80 - 120	98	80 - 120	<1.0	mg/L	0.90	20
8740988	Bicarbonate (HCO3)	2017/08/28					<1.0	mg/L	0.90	20
8740988	Carbonate (CO3)	2017/08/28					<1.0	mg/L	NC	20
8740988	Hydroxide (OH)	2017/08/28					<1.0	mg/L	NC	20
8740995	pH	2017/08/28			102	97 - 103			0.36	20
8740996	Conductivity	2017/08/28			101	80 - 120	<2.0	uS/cm	0.62	20
8741084	Dissolved Chloride (Cl)	2017/08/28	95	80 - 120	98	80 - 120	<1.0	mg/L	NC	20
8741085	Dissolved Sulphate (SO4)	2017/08/28	100	80 - 120	95	80 - 120	<1.0	mg/L	6.2	20
8741086	Dissolved Chloride (Cl)	2017/08/28	NC	80 - 120	96	80 - 120	<1.0	mg/L	1.4	20
8741087	Dissolved Sulphate (SO4)	2017/08/28	NC	80 - 120	95	80 - 120	<1.0	mg/L	2.5	20
8741218	Dissolved Mercury (Hg)	2017/08/29	100	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8742181	Fluoride (F)	2017/08/29	102	80 - 120	104	80 - 120	<0.020	mg/L	4.3	20
8742309	Orthophosphate (P)	2017/08/29	105	80 - 120	100	80 - 120	<0.0010	mg/L	3.9	20
8742351	Dissolved Phosphorus (P)	2017/08/29	93	80 - 120	103	80 - 120	<0.0020	mg/L	9.9	20
8742358	Total Phosphorus (P)	2017/08/29	100	80 - 120	102	80 - 120	<0.0020	mg/L	2.4	20
8742496	Dissolved Mercury (Hg)	2017/08/30	94	80 - 120	98	80 - 120	<0.010	ug/L	NC	20
8742758	Alkalinity (PP as CaCO3)	2017/08/30					<1.0	mg/L	NC	20
8742758	Alkalinity (Total as CaCO3)	2017/08/30	NC	80 - 120	102	80 - 120	<1.0	mg/L	0.56	20
8742758	Bicarbonate (HCO3)	2017/08/30					<1.0	mg/L	0.56	20
8742758	Carbonate (CO3)	2017/08/30					<1.0	mg/L	NC	20
8742758	Hydroxide (OH)	2017/08/30					<1.0	mg/L	NC	20

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8742772	pH	2017/08/30			101	97 - 103			0.37	20
8742803	Conductivity	2017/08/30			102	80 - 120	<2.0	uS/cm	0.31	20
8744721	Total Dissolved Solids	2017/09/01	97	80 - 120	99	80 - 120	<10	mg/L	16	20
8744821	Total Phosphorus (P)	2017/08/31			105	80 - 120	<0.0020	mg/L		
8744822	Dissolved Phosphorus (P)	2017/08/31			105	80 - 120	<0.0020	mg/L		
8744851	Total Ammonia (N)	2017/08/31	96	80 - 120	112	80 - 120	<0.020	mg/L	NC	20
8744852	Total Ammonia (N)	2017/08/31	92	80 - 120	99	80 - 120	<0.020	mg/L	2.9	20
8744936	Dissolved Sulphate (SO4)	2017/08/31			98	80 - 120	<1.0	mg/L		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

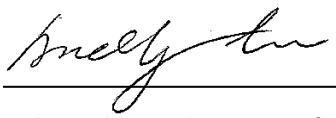
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Maxxam Job #: B772721
Report Date: 2017/09/01

YUKON ZINC CORPORATION
Client Project #: QUARTERLY GROUNDWATER

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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GROUNDWATER
(QUARTERLY)

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Page ____ of ____

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5. Toll Free (800) 665-8566

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required
Company Name:	Yukon Zinc Corporation	Company Name:	Adrienne Turcotte Consulting	Quotation #:		☒ Regular TAT 5 days (Most analyses)
Contact Name:	Alex Wu	Contact Name:	Adrienne Turcotte	P.O. #/ AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	705 - 1030 West Georgia Street	Address:	102-3839 W.4th Avenue	Project #:		Rush TAT (Surcharges will be applied)
	Vancouver PC: V6E 2Y3		Vancouver BC PC: V6R 1P8	Site Location:		☐ Same Day ☐ 2 Days
Phone:	604-684-5474	Phone:	778-772-2212	Site #:		☐ 1 Day ☐ 3 Days
Email:	alex.wu@yukonzinc.com	Email:	YZL Group turcotte.adrienne@gmail.com	Sampled By:		Date Required:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water	☐ Return Cooler
☐ CCME (Specify) ☐ Other (Specify)	☐ Ship Sample Bottles (Please Specify)
☐ Drinking Water ☐ BC Water Quality	

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

Rush Confirmation #:

LABORATORY USE ONLY

CUSTODY SEAL Y / N | COOLER TEMPERATURES

Present* | Intact

LA | 3.3.2

LA | 4.6.5

COOLER WAS FROZEN Y / N

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	TEH	PAH	CCME-PHC	Dissolved Metals 60 mL falcon tube Preserved?	Dissolved Mercury 33 mL falcon tube Preserved?	Total Metals Field Preserved?	Total Mercury Field Preserved?	Chloride Sulphate	TSS BOD	pH Alkalinity	Nitrite Ammonia	Package A 1 L plastic + 120 mL plastic	Total Phosphate and Ammonia 120 mL plastic	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	COMMENTS
	Bottle									60 mL falcon tube	33 mL falcon tube							1 L plastic + 120 mL plastic	120 mL plastic			
	Preservative									HNO3	HNO3							-	H2SO4			
	Filtered									✓	✓							✓	✓	✓		
1	MW05-1A		17-08-21	10:05	Water					x	x							x	x x	x		
2	MW05-1B		17-08-21	11:25	Water					x	x							x	x x	x		
3	MW05-2A		17-08-20	14:20	Water					x	x							x	x x	x		
4	MW05-2B		17-08-20	16:00	Water					x	x							x	x x	x		
7	MW05-4A		17-08-21	17:10	Water					x	x							x	x x	x		
8	MW05-4B		17-08-21	14:10	Water					x	x							x	x x	x		
11	MW05-6A		17-08-20	14:45	Water					x	x							x	x x	x		
12	MW05-6B		17-08-20	13:40	Water					x	x							x	x x	x		
24	MW08-13		17-08-20	11:30	Water					x	x							x	x x	x		

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Adrienne Turcotte	17-08-24	9:00	Laurel Beaulieu	2017/08/25	10:50	

B772721_COC

Maxxam
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Success Through Science®

Your Project #: MONTHLY SURFACE WATER
Your C.O.C. #: 08442810

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/08/31
Report #: R2437835
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772753
Received: 2017/08/25, 10:50

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	2	N/A	2017/08/28	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	2	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	2	N/A	2017/08/28	BBY6SOP-00011	SM 22 4500-Cl- E m
Carbon (DOC) (1, 2)	2	N/A	2017/08/30	CAL SOP-00077	MMCW 119 1996 m
Conductance - water	2	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	2	N/A	2017/08/29	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3)	2	N/A	2017/08/30	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	2	N/A	2017/08/31	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	2	N/A	2017/08/30	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	2	2017/08/30	2017/08/30	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	2	N/A	2017/08/28	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	2	N/A	2017/08/31	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	2	N/A	2017/08/30	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	N/A	2017/08/30	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	2	N/A	2017/08/29	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Ammonia-N (Preserved)	2	N/A	2017/08/31	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	2	N/A	2017/08/26	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	2	N/A	2017/08/26	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	2	N/A	2017/08/29	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	2	N/A	2017/08/29	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (3)	2	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	2	N/A	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	2	N/A	2017/08/28	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	2	2017/08/30	2017/08/31	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	2	2017/08/29	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	2	N/A	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	2	2017/08/30	2017/08/30	BBY6SOP-00034	SM 22 2540 D
Turbidity	2	N/A	2017/08/28	BBY6SOP-00027	SM 22 2130 B m

Remarks:

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Your Project #: MONTHLY SURFACE WATER
Your C.O.C. #: 08442810

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/08/31
Report #: R2437835
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772753
Received: 2017/08/25, 10:50

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Calgary Environmental
(2) DOC present in the sample should be considered as non-purgeable DOC. Dissolved > Total Imbalance: Whenever applicable, Dissolved >Total for any parameter that falls within method uncertainty for duplicates is likely equivalent. If RPD is >20% samples were reanalyzed and confirmed.
(3) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B772753
Report Date: 2017/08/31

YUKON ZINC CORPORATION
Client Project #: MONTHLY SURFACE WATER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU9788		RU9789		
Sampling Date		2017/08/23 10:05		2017/08/23 16:50		
COC Number		08442810		08442810		
	UNITS	W14	QC Batch	W80	RDL	QC Batch
Misc. Inorganics						
Fluoride (F)	mg/L	0.067	8742274	0.047	0.020	8742274
Calculated Parameters						
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	56.7	8738933	80.8	0.50	8738933
Nitrate (N)	mg/L	<0.20	8738420	<0.20	0.20	8738420
Misc. Inorganics						
Dissolved Hardness (CaCO3)	mg/L	59.5	8738935	81.1	0.50	8738935
Dissolved Organic Carbon (C)	mg/L	2.7	8742154	2.0	0.50	8742154
Acidity (pH 4.5)	mg/L	<1.0	8740524	<1.0	1.0	8740524
Alkalinity (Total as CaCO3)	mg/L	48.9	8740988	68.7	1.0	8740988
Acidity (pH 8.3)	mg/L	<1.0	8740524	<1.0	1.0	8740524
Alkalinity (PP as CaCO3)	mg/L	<1.0	8740988	<1.0	1.0	8740988
Bicarbonate (HCO3)	mg/L	59.7	8740988	83.8	1.0	8740988
Carbonate (CO3)	mg/L	<1.0	8740988	<1.0	1.0	8740988
Hydroxide (OH)	mg/L	<1.0	8740988	<1.0	1.0	8740988
Anions						
Orthophosphate (P)	mg/L	0.0026	8742309	0.0025	0.0010	8742309
Dissolved Sulphate (SO4)	mg/L	14.6	8741085	15.8	1.0	8741085
Dissolved Chloride (Cl)	mg/L	<1.0	8741084	<1.0	1.0	8741084
Nutrients						
Dissolved Phosphorus (P)	mg/L	0.0050	8742351	0.0059	0.0020	8742351
Total Ammonia (N)	mg/L	<0.020	8744851	<0.020	0.020	8744851
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8739690	<0.20 (1)	0.20	8739690
Nitrite (N)	mg/L	<0.20 (1)	8739691	<0.20 (1)	0.20	8739691
Total Phosphorus (P)	mg/L	0.0047	8742358	0.0066	0.0020	8742358
Physical Properties						
Conductivity	uS/cm	128	8740996	166	2.0	8740996
pH	pH	7.88	8740995	8.03		8740995
Physical Properties						
Total Suspended Solids	mg/L	<4.0	8742704	<4.0	4.0	8742704
Total Dissolved Solids	mg/L	66	8742757	116	10	8742757
Turbidity	NTU	0.39	8740682	0.50	0.10	8740684

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B772753
Report Date: 2017/08/31

YUKON ZINC CORPORATION
Client Project #: MONTHLY SURFACE WATER

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RU9788	RU9789		
Sampling Date		2017/08/23 10:05	2017/08/23 16:50		
COC Number		08442810	08442810		
	UNITS	W14	W80	RDL	QC Batch
Elements					
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	0.010	8742603
Total Mercury (Hg)	ug/L	<0.010	<0.010	0.010	8742604
RDL = Reportable Detection Limit					

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Maxxam Job #: B772753
Report Date: 2017/08/31

YUKON ZINC CORPORATION
Client Project #: MONTHLY SURFACE WATER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9788	RU9789		
Sampling Date		2017/08/23 10:05	2017/08/23 16:50		
COC Number		08442810	08442810		
	UNITS	W14	W80	RDL	QC Batch
ANIONS					
Bromide (Br)	mg/L	<0.010	<0.010	0.010	8740819
Dissolved Metals by ICPMS					
Dissolved Aluminum (Al)	mg/L	0.0150	0.00537	0.00050	8740288
Dissolved Antimony (Sb)	mg/L	0.000021	0.000046	0.000020	8740288
Dissolved Arsenic (As)	mg/L	0.000172	0.000228	0.000020	8740288
Dissolved Barium (Ba)	mg/L	0.0453	0.0670	0.000020	8740288
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000010	8740288
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Boron (B)	mg/L	<0.010	<0.010	0.010	8740288
Dissolved Cadmium (Cd)	mg/L	0.0000610	0.0000140	0.0000050	8740288
Dissolved Chromium (Cr)	mg/L	0.00011	<0.00010	0.00010	8740288
Dissolved Cobalt (Co)	mg/L	0.0000220	0.0000380	0.0000050	8740288
Dissolved Copper (Cu)	mg/L	0.000455	0.000606	0.000050	8740288
Dissolved Iron (Fe)	mg/L	0.0539	0.0652	0.0010	8740288
Dissolved Lead (Pb)	mg/L	0.0000070	<0.0000050	0.0000050	8740288
Dissolved Lithium (Li)	mg/L	0.00154	<0.00050	0.00050	8740288
Dissolved Manganese (Mn)	mg/L	0.00809	0.0196	0.000050	8740288
Dissolved Molybdenum (Mo)	mg/L	0.000365	0.000381	0.000050	8740288
Dissolved Nickel (Ni)	mg/L	0.000835	0.000282	0.000020	8740288
Dissolved Phosphorus (P)	mg/L	0.0047	0.0045	0.0020	8740288
Dissolved Selenium (Se)	mg/L	0.000242	0.000688	0.000040	8740288
Dissolved Silicon (Si)	mg/L	3.64	3.37	0.050	8740288
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Strontium (Sr)	mg/L	0.0432	0.0508	0.000050	8740288
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	0.0000020	8740288
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	0.00020	8740288
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	0.00050	8740288
Dissolved Uranium (U)	mg/L	0.000733	0.000315	0.0000020	8740288
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	0.00020	8740288
Dissolved Zinc (Zn)	mg/L	0.0108	0.00044	0.00010	8740288
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	0.00010	8740288
Dissolved Calcium (Ca)	mg/L	16.9	25.3	0.050	8738650
Dissolved Magnesium (Mg)	mg/L	4.18	4.34	0.050	8738650
RDL = Reportable Detection Limit					

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Maxxam Job #: B772753
Report Date: 2017/08/31

YUKON ZINC CORPORATION
Client Project #: MONTHLY SURFACE WATER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9788	RU9789		
Sampling Date		2017/08/23 10:05	2017/08/23 16:50		
COC Number		08442810	08442810		
	UNITS	**W14**	**W80**	**RDL**	**QC Batch**
Dissolved Potassium (K)	mg/L	0.744	0.560	0.050	8738650
Dissolved Sodium (Na)	mg/L	1.27	1.04	0.050	8738650
Dissolved Sulphur (S)	mg/L	5.0	5.2	3.0	8738650
Total Metals by ICPMS					
Total Aluminum (Al)	mg/L	0.0279	0.0173	0.00050	8740644
Total Antimony (Sb)	mg/L	0.000024	0.000046	0.000020	8740644
Total Arsenic (As)	mg/L	0.000192	0.000263	0.000020	8740644
Total Barium (Ba)	mg/L	0.0464	0.0670	0.000020	8740644
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000010	8740644
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	0.0000050	8740644
Total Boron (B)	mg/L	<0.010	<0.010	0.010	8740644
Total Cadmium (Cd)	mg/L	0.0000690	0.0000190	0.0000050	8740644
Total Chromium (Cr)	mg/L	0.00011	<0.00010	0.00010	8740644
Total Cobalt (Co)	mg/L	0.0000310	0.0000510	0.0000050	8740644
Total Copper (Cu)	mg/L	0.000506	0.000737	0.000050	8740644
Total Iron (Fe)	mg/L	0.0926	0.107	0.0010	8740644
Total Lead (Pb)	mg/L	0.0000250	0.0000220	0.0000050	8740644
Total Lithium (Li)	mg/L	0.00162	<0.00050	0.00050	8740644
Total Manganese (Mn)	mg/L	0.0111	0.0228	0.000050	8740644
Total Molybdenum (Mo)	mg/L	0.000360	0.000370	0.000050	8740644
Total Nickel (Ni)	mg/L	0.000817	0.000316	0.000020	8740644
Total Phosphorus (P)	mg/L	0.0038	0.0058	0.0020	8740644
Total Selenium (Se)	mg/L	0.000236	0.000674	0.000040	8740644
Total Silicon (Si)	mg/L	3.95	3.58	0.050	8740644
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	0.0000050	8740644
Total Strontium (Sr)	mg/L	0.0426	0.0504	0.000050	8740644
Total Thallium (Tl)	mg/L	0.0000020	<0.0000020	0.0000020	8740644
Total Tin (Sn)	mg/L	<0.00020	<0.00020	0.00020	8740644
Total Titanium (Ti)	mg/L	<0.00050	<0.00050	0.00050	8740644
Total Uranium (U)	mg/L	0.000767	0.000334	0.0000020	8740644
Total Vanadium (V)	mg/L	<0.00020	<0.00020	0.00020	8740644
Total Zinc (Zn)	mg/L	0.0120	0.00063	0.00010	8740644
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	0.00010	8740644
Total Calcium (Ca)	mg/L	16.0	25.2	0.050	8738937
RDL = Reportable Detection Limit					

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Maxxam Job #: B772753
Report Date: 2017/08/31

YUKON ZINC CORPORATION
Client Project #: MONTHLY SURFACE WATER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9788	RU9789		
Sampling Date		2017/08/23 10:05	2017/08/23 16:50		
COC Number		08442810	08442810		
	UNITS	**W14**	**W80**	**RDL**	**QC Batch**
Total Magnesium (Mg)	mg/L	4.04	4.33	0.050	8738937
Total Potassium (K)	mg/L	0.713	0.566	0.050	8738937
Total Sodium (Na)	mg/L	1.14	1.07	0.050	8738937
Total Sulphur (S)	mg/L	4.8	5.4	3.0	8738937
RDL = Reportable Detection Limit					

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Maxxam Job #: B772753
Report Date: 2017/08/31

YUKON ZINC CORPORATION
Client Project #: MONTHLY SURFACE WATER

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.0°C

Sample RU9788 [W14] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU9789 [W80] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Results relate only to the items tested.

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Maxxam Job #: B772753
Report Date: 2017/08/31

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION
Client Project #: MONTHLY SURFACE WATER

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8739690	Nitrate plus Nitrite (N)	2017/08/26	NC	80 - 120	103	80 - 120	<0.0020	mg/L	NC	25
8739691	Nitrite (N)	2017/08/26	NC	80 - 120	97	80 - 120	<0.0020	mg/L	1.9	25
8740288	Dissolved Aluminum (Al)	2017/08/30	106	80 - 120	109	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Antimony (Sb)	2017/08/30	99	80 - 120	97	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Arsenic (As)	2017/08/30	103	80 - 120	101	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Barium (Ba)	2017/08/30	NC	80 - 120	99	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Beryllium (Be)	2017/08/30	104	80 - 120	100	80 - 120	<0.000010	mg/L	NC	20
8740288	Dissolved Bismuth (Bi)	2017/08/30	97	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Boron (B)	2017/08/30	104	80 - 120	103	80 - 120	<0.010	mg/L	NC	20
8740288	Dissolved Cadmium (Cd)	2017/08/30	102	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Chromium (Cr)	2017/08/30	97	80 - 120	96	80 - 120	<0.00010	mg/L	NC	20
8740288	Dissolved Cobalt (Co)	2017/08/30	94	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Copper (Cu)	2017/08/30	94	80 - 120	96	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Iron (Fe)	2017/08/30	104	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20
8740288	Dissolved Lead (Pb)	2017/08/30	99	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Lithium (Li)	2017/08/30	106	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Manganese (Mn)	2017/08/30	NC	80 - 120	97	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Molybdenum (Mo)	2017/08/30	105	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Nickel (Ni)	2017/08/30	96	80 - 120	98	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Phosphorus (P)	2017/08/30					<0.0020	mg/L	NC	20
8740288	Dissolved Selenium (Se)	2017/08/30	107	80 - 120	106	80 - 120	<0.000040	mg/L	NC	20
8740288	Dissolved Silicon (Si)	2017/08/30					<0.050	mg/L	NC	20
8740288	Dissolved Silver (Ag)	2017/08/30	105	80 - 120	106	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Strontium (Sr)	2017/08/30	NC	80 - 120	101	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Thallium (Tl)	2017/08/30	100	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20
8740288	Dissolved Tin (Sn)	2017/08/30	96	80 - 120	94	80 - 120	<0.00020	mg/L	NC	20
8740288	Dissolved Titanium (Ti)	2017/08/30	112	80 - 120	92	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Uranium (U)	2017/08/30	105	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8740288	Dissolved Vanadium (V)	2017/08/30	98	80 - 120	97	80 - 120	<0.00020	mg/L	NC	20
8740288	Dissolved Zinc (Zn)	2017/08/30	99	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20
8740288	Dissolved Zirconium (Zr)	2017/08/30					<0.00010	mg/L	NC	20
8740524	Acidity (pH 4.5)	2017/08/28					<1.0	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8740524	Acidity (pH 8.3)	2017/08/28			93	80 - 120	<1.0	mg/L	0.87	20
8740644	Total Aluminum (Al)	2017/08/29	109	80 - 120	112	80 - 120	<0.00050	mg/L	NC	20
8740644	Total Antimony (Sb)	2017/08/29	100	80 - 120	98	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Arsenic (As)	2017/08/29	101	80 - 120	103	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Barium (Ba)	2017/08/29	NC	80 - 120	104	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Beryllium (Be)	2017/08/29	107	80 - 120	104	80 - 120	<0.000010	mg/L	NC	20
8740644	Total Bismuth (Bi)	2017/08/29	95	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Boron (B)	2017/08/29	108	80 - 120	106	80 - 120	<0.010	mg/L	NC	20
8740644	Total Cadmium (Cd)	2017/08/29	98	80 - 120	99	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Chromium (Cr)	2017/08/29	101	80 - 120	103	80 - 120	<0.00010	mg/L	NC	20
8740644	Total Cobalt (Co)	2017/08/29	100	80 - 120	101	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Copper (Cu)	2017/08/29	98	80 - 120	103	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Iron (Fe)	2017/08/29	96	80 - 120	101	80 - 120	<0.0010	mg/L	NC	20
8740644	Total Lead (Pb)	2017/08/29	102	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Lithium (Li)	2017/08/29	109	80 - 120	108	80 - 120	<0.00050	mg/L	NC	20
8740644	Total Manganese (Mn)	2017/08/29	NC	80 - 120	101	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Molybdenum (Mo)	2017/08/29	100	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Nickel (Ni)	2017/08/29	99	80 - 120	102	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Phosphorus (P)	2017/08/29					<0.0020	mg/L	NC	20
8740644	Total Selenium (Se)	2017/08/29	98	80 - 120	101	80 - 120	<0.000040	mg/L	NC	20
8740644	Total Silicon (Si)	2017/08/29					<0.050	mg/L	NC	20
8740644	Total Silver (Ag)	2017/08/29	104	80 - 120	108	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Strontium (Sr)	2017/08/29	NC	80 - 120	103	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Thallium (Tl)	2017/08/29	98	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20
8740644	Total Tin (Sn)	2017/08/29	96	80 - 120	98	80 - 120	<0.00020	mg/L	NC	20
8740644	Total Titanium (Ti)	2017/08/29	100	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8740644	Total Uranium (U)	2017/08/29	105	80 - 120	104	80 - 120	<0.0000020	mg/L	NC	20
8740644	Total Vanadium (V)	2017/08/29	103	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8740644	Total Zinc (Zn)	2017/08/29	102	80 - 120	106	80 - 120	<0.00010	mg/L	NC	20
8740644	Total Zirconium (Zr)	2017/08/29					<0.00010	mg/L	NC	20
8740682	Turbidity	2017/08/28			103	80 - 120	<0.10	NTU	7.3	20
8740684	Turbidity	2017/08/28			102	80 - 120	<0.10	NTU	1.2	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8740819	Bromide (Br)	2017/08/28	NC	78 - 120	97	80 - 120	<0.010	mg/L	0.46	20
8740988	Alkalinity (PP as CaCO3)	2017/08/28					<1.0	mg/L	NC	20
8740988	Alkalinity (Total as CaCO3)	2017/08/28	NC	80 - 120	98	80 - 120	<1.0	mg/L	0.90	20
8740988	Bicarbonate (HCO3)	2017/08/28					<1.0	mg/L	0.90	20
8740988	Carbonate (CO3)	2017/08/28					<1.0	mg/L	NC	20
8740988	Hydroxide (OH)	2017/08/28					<1.0	mg/L	NC	20
8740995	pH	2017/08/28			102	97 - 103			0.36	20
8740996	Conductivity	2017/08/28			101	80 - 120	<2.0	uS/cm	0.62	20
8741084	Dissolved Chloride (Cl)	2017/08/28	95	80 - 120	98	80 - 120	<1.0	mg/L	NC	20
8741085	Dissolved Sulphate (SO4)	2017/08/28	100	80 - 120	95	80 - 120	<1.0	mg/L	6.2	20
8742154	Dissolved Organic Carbon (C)	2017/08/30	111	80 - 120	106	80 - 120	<0.50	mg/L	3.4	20
8742274	Fluoride (F)	2017/08/29	104	80 - 120	106	80 - 120	<0.020	mg/L	0	20
8742309	Orthophosphate (P)	2017/08/29	105	80 - 120	100	80 - 120	<0.0010	mg/L	3.9	20
8742351	Dissolved Phosphorus (P)	2017/08/29	93	80 - 120	103	80 - 120	<0.0020	mg/L	9.9	20
8742358	Total Phosphorus (P)	2017/08/29	100	80 - 120	102	80 - 120	<0.0020	mg/L	2.4	20
8742603	Dissolved Mercury (Hg)	2017/08/30	96	80 - 120	95	80 - 120	<0.010	ug/L	NC	20
8742604	Total Mercury (Hg)	2017/08/30	103	80 - 120	105	80 - 120	<0.010	ug/L	NC	20
8742704	Total Suspended Solids	2017/08/30	116	80 - 120	95	80 - 120	<4.0	mg/L	NC	20
8742757	Total Dissolved Solids	2017/08/31	102	80 - 120	98	80 - 120	<10	mg/L	5.4	20
8744851	Total Ammonia (N)	2017/08/31	96	80 - 120	112	80 - 120	<0.020	mg/L	NC	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

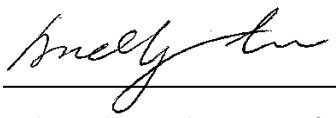
Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B772753
Report Date: 2017/08/31

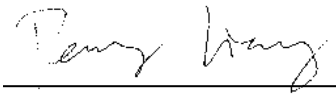
YUKON ZINC CORPORATION
Client Project #: MONTHLY SURFACE WATER

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist



Harry (Peng) Liang, Senior Analyst

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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SURFACE WATER
(MONTHLY)

MaxXam
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CHAIN OF CUST

08442810

BBY FCD-00077/05

Page ____ of ____

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5, Toll Free (800) 665-8566

Invoice Information		Report Information (if differs from invoice)		Project Infon	Turnaround Time (TAT) Required
Company Name:	Yukon Zinc Corporation	Company Name:	Adrienne Turcotte Consulting	Quotation #:	☒ Regular TAT 5 days (Most analyses)
Contact Name:	Alex Wu	Contact Name:	Adrienne Turcotte	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	705 - 1030 West Georgia Street	Address:	102-3839 W 4th Avenue	Project #:	Rush TAT (Surcharges will be applied)
	Vancouver PC: V6E 2Y3		Vancouver BC PC: V6R 1P8	Site Location:	☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3 Days
Phone:	604-664-5674	Phone:	778-772-2212	Site #:	
Email:	alex.wu@yukonzinc.com	Email:	turcotte.adrienne@gmail.com	Sampled By:	Date Required:

Regulatory Criteria	Special Instructions	Rush Confirmation #:
☐ BC CSR Soil ☐ BC CSR Water ☐ CCME (Specify) ☐ Other (Specify) ☐ Drinking Water ☐ BC Water Quality	☐ Return Cooler ☐ Ship Sample Bottles (Please Specify)	

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	EPH	PAH	CCME-PHC	BTEX/ F1	VOC/VPH	TSS	ICP/ICP/MS	F2 - F4	Dissolved Metals	Dissolved Mercury	Total Metals	Total Mercury	Chloride	Fluoride	TDS	pH	Nitrate	Package A	Total Phosphate and Ammonia	DOC	Total and WAD Cyanide	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE
	Bottle														60 mL Saturn tube	60 mL Saturn tube	60 mL Saturn tube	60 mL Saturn tube					120mL plastic	1 L plastic + 125 mL plastic	120 mL plastic	120 mL plastic	120 mL plastic		
	Preservative														HNO3	HCl	HNO3	HCl					HNO3	-	HNO3	HNO3	NaOH		
	Filtered														✓	✓	-	-					-	-	-	✓	-		
1	W14		17-08-23	10:05	Water										X	X	X	X					X	XX	X	X			
2	W80		17-08-23	16:50	Water										X	X	X	X					X	XX	X	X			

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Adrienne Turcotte	17-08-24	9:00	Laurel Bc Ahier	2017/08/25	10:50

B772753_COC

Maxxam
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Success Through Science®

Your C.O.C. #: 08442952

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/08
Report #: R2440826
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B774449
Received: 2017/08/31, 10:40

Sample Matrix: Water
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	9	N/A	2017/08/31	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	3	2017/09/01	2017/09/01	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	6	2017/09/01	2017/09/02	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	9	N/A	2017/09/01	BBY6SOP-00011	SM 22 4500-Cl- E m
Conductance - water	3	2017/09/01	2017/09/01	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	6	2017/09/01	2017/09/02	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	9	N/A	2017/09/01	BBY6SOP-00048	SM 22 4500-F C m
Hardness (calculated as CaCO3)	9	N/A	2017/09/06	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	9	N/A	2017/09/01	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	9	N/A	2017/09/05	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	9	N/A	2017/09/06	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	8	N/A	2017/09/05	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	1	N/A	2017/09/06	BBY7SOP-00002	EPA 6020B R2 m
Ammonia-N (Preserved)	9	N/A	2017/09/07	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	9	N/A	2017/08/31	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	9	N/A	2017/08/31	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	9	N/A	2017/09/01	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	9	N/A	2017/09/02	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (1)	3	2017/09/01	2017/09/01	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (1)	6	2017/09/01	2017/09/02	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	9	N/A	2017/09/01	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	9	N/A	2017/09/01	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	7	2017/09/01	2017/09/03	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	2	2017/09/05	2017/09/06	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	9	2017/09/02	2017/09/02	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	9	N/A	2017/09/02	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	1	2017/09/01	2017/09/01	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	6	2017/09/01	2017/09/03	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	2	2017/09/05	2017/09/06	BBY6SOP-00034	SM 22 2540 D

Your C.O.C. #: 08442952

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/08
Report #: R2440826
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B774449
Received: 2017/08/31, 10:40

Sample Matrix: Water
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Turbidity	9	N/A	2017/08/31	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Your C.O.C. #: 08442952

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/08
Report #: R2440826
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B774449
Received: 2017/08/31, 10:40

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

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Maxxam Job #: B774449
Report Date: 2017/09/08

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW0391		RW0392	RW0393		RW0394		
Sampling Date		2017/08/25 14:45		2017/08/27 12:30	2017/08/27 16:35		2017/08/27 16:20		
COC Number		08442952		08442952	08442952		08442952		
	UNITS	MW06-10S	QC Batch	MW06-10D	MWO5-5A	QC Batch	FIELD BLANK	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.230	8745770	1.00	2.00	8745770	<0.020	0.020	8745770
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	FIELD	ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	<0.20	8744322	<0.20	<0.20	8744322	<0.20	0.20	8744322
Misc. Inorganics									
Dissolved Hardness (CaCO3)	mg/L	141	8744420	266	262	8744420	<0.50	0.50	8744420
Acidity (pH 4.5)	mg/L	<1.0	8744867	<1.0	<1.0	8744867	<1.0	1.0	8744867
Alkalinity (Total as CaCO3)	mg/L	122	8746332	247	235	8746332	<1.0	1.0	8746299
Acidity (pH 8.3)	mg/L	2.6	8744867	8.7	8.4	8744867	<1.0	1.0	8744867
Alkalinity (PP as CaCO3)	mg/L	<1.0	8746332	2.0	2.8	8746332	<1.0	1.0	8746299
Bicarbonate (HCO3)	mg/L	149	8746332	297	280	8746332	<1.0	1.0	8746299
Carbonate (CO3)	mg/L	<1.0	8746332	2.4	3.3	8746332	<1.0	1.0	8746299
Hydroxide (OH)	mg/L	<1.0	8746332	<1.0	<1.0	8746332	<1.0	1.0	8746299
Anions									
Orthophosphate (P)	mg/L	0.012	8746246	0.0027	0.0037	8746246	0.0015	0.0010	8746246
Dissolved Sulphate (SO4)	mg/L	26.8	8746340	24.2	33.7	8746340	<1.0	1.0	8746340
Dissolved Chloride (Cl)	mg/L	<1.0	8746339	<1.0	<1.0	8746339	<1.0	1.0	8746339
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0156	8747001	0.0040	0.0075	8747001	<0.0020	0.0020	8747001
Total Ammonia (N)	mg/L	0.026	8750732	0.090	0.070	8750732	<0.020	0.020	8750732
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8745640	<0.20 (1)	<0.20 (1)	8745640	<0.20 (1)	0.20	8745640
Nitrite (N)	mg/L	<0.20 (1)	8745641	<0.20 (1)	<0.20 (1)	8745641	<0.20 (1)	0.20	8745641
Total Phosphorus (P)	mg/L	0.0155	8747000	0.0052	0.0096	8747000	<0.0020	0.0020	8747000
Physical Properties									
Conductivity	uS/cm	286	8746331	478	484	8746331	<2.0	2.0	8746298
pH	pH	8.21	8746326	8.31	8.33	8746326	5.47		8746296
Physical Properties									
Total Suspended Solids	mg/L	<4.0	8745675	6.3	4.5	8745683	<4.0	4.0	8745683
Total Dissolved Solids	mg/L	148	8745389	232	248	8745389	<10	10	8745389
Turbidity	NTU	5.14	8744603	19.4	3.85	8744603	<0.10	0.10	8744603

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B774449
Report Date: 2017/09/08

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW0395		RW0396	RW0397		RW0398		
Sampling Date		2017/08/28 12:15		2017/08/28 15:35	2017/08/28 14:40		2017/08/29 10:55		
COC Number		08442952		08442952	08442952		08442952		
	UNITS	MW06-11S	QC Batch	MW05-03B	MW05-03A	QC Batch	MW06-09S	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	2.80	8745770	0.130	0.370	8745770	0.600	0.020	8745770
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	FIELD	ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	<0.20	8744322	0.29	<0.20	8744322	<0.20	0.20	8744322
Misc. Inorganics									
Dissolved Hardness (CaCO3)	mg/L	244	8744420	176	206	8744420	126	0.50	8744420
Acidity (pH 4.5)	mg/L	<1.0	8744865	<1.0	<1.0	8744867	<1.0	1.0	8744867
Alkalinity (Total as CaCO3)	mg/L	219	8746308	103	147	8746332	113	1.0	8746332
Acidity (pH 8.3)	mg/L	5.3	8744865	25.8	17.1	8744867	2.7	1.0	8744867
Alkalinity (PP as CaCO3)	mg/L	<1.0	8746308	<1.0	<1.0	8746332	<1.0	1.0	8746332
Bicarbonate (HCO3)	mg/L	267	8746308	126	180	8746332	138	1.0	8746332
Carbonate (CO3)	mg/L	<1.0	8746308	<1.0	<1.0	8746332	<1.0	1.0	8746332
Hydroxide (OH)	mg/L	<1.0	8746308	<1.0	<1.0	8746332	<1.0	1.0	8746332
Anions									
Orthophosphate (P)	mg/L	0.0041	8746246	0.0031	0.0078	8746246	0.23	0.0010	8746246
Dissolved Sulphate (SO4)	mg/L	31.1	8746338	94.6	79.4	8746340	23.0	1.0	8747871
Dissolved Chloride (Cl)	mg/L	<1.0	8746337	2.6	2.1	8746339	<1.0	1.0	8746339
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0153	8747001	0.0027	0.0103	8747001	0.273	0.0020	8747001
Total Ammonia (N)	mg/L	0.24	8750732	<0.020	0.029	8750732	0.052	0.020	8750732
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8745640	0.29 (1)	<0.20 (1)	8745640	<0.20 (1)	0.20	8745640
Nitrite (N)	mg/L	<0.20 (1)	8745641	<0.20 (1)	<0.20 (1)	8745641	<0.20 (1)	0.20	8745641
Total Phosphorus (P)	mg/L	0.0259	8747000	0.0042	0.0123	8747000	0.274	0.0020	8747000
Physical Properties									
Conductivity	uS/cm	458	8746307	394	436	8746331	256	2.0	8746331
pH	pH	8.25	8746305	7.73	8.05	8746326	8.25		8746326
Physical Properties									
Total Suspended Solids	mg/L	15.0	8745684	<4.0	<4.0	8745684	<4.0	4.0	8747504
Total Dissolved Solids	mg/L	248	8745389	224	240	8745389	152	10	8747582
Turbidity	NTU	15.6	8744603	0.38	5.27	8744603	5.17	0.10	8744603

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B774449
Report Date: 2017/09/08

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW0399		
Sampling Date		2017/08/29 11:05		
COC Number		08442952		
	UNITS	DUP	RDL	QC Batch
Misc. Inorganics				
Fluoride (F)	mg/L	0.610	0.020	8745770
Calculated Parameters				
Filter and HNO3 Preservation	N/A	FIELD		ONSITE
Nitrate (N)	mg/L	<0.20	0.20	8744322
Misc. Inorganics				
Dissolved Hardness (CaCO3)	mg/L	125	0.50	8744420
Acidity (pH 4.5)	mg/L	<1.0	1.0	8744867
Alkalinity (Total as CaCO3)	mg/L	113	1.0	8746308
Acidity (pH 8.3)	mg/L	<1.0	1.0	8744867
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8746308
Bicarbonate (HCO3)	mg/L	138	1.0	8746308
Carbonate (CO3)	mg/L	<1.0	1.0	8746308
Hydroxide (OH)	mg/L	<1.0	1.0	8746308
Anions				
Orthophosphate (P)	mg/L	0.22	0.0010	8746246
Dissolved Sulphate (SO4)	mg/L	21.5	1.0	8746338
Dissolved Chloride (Cl)	mg/L	<1.0	1.0	8746337
Nutrients				
Dissolved Phosphorus (P)	mg/L	0.277	0.0020	8747001
Total Ammonia (N)	mg/L	0.054	0.020	8750732
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	0.20	8745640
Nitrite (N)	mg/L	<0.20 (1)	0.20	8745641
Total Phosphorus (P)	mg/L	0.281	0.0020	8747000
Physical Properties				
Conductivity	uS/cm	254	2.0	8746307
pH	pH	8.22		8746305
Physical Properties				
Total Suspended Solids	mg/L	<4.0	4.0	8747504
Total Dissolved Solids	mg/L	140	10	8747582
Turbidity	NTU	5.95	0.10	8744603

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RW0391	RW0392	RW0393	RW0394	RW0395	RW0396	RW0397		
Sampling Date		2017/08/25 14:45	2017/08/27 12:30	2017/08/27 16:35	2017/08/27 16:20	2017/08/28 12:15	2017/08/28 15:35	2017/08/28 14:40		
COC Number		08442952	08442952	08442952	08442952	08442952	08442952	08442952		
	UNITS	MW06-10S	MW06-10D	MWO5-5A	FIELD BLANK	MW06-11S	MW05-03B	MW05-03A	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8745440
RDL = Reportable Detection Limit										

Maxxam ID		RW0398	RW0399		
Sampling Date		2017/08/29 10:55	2017/08/29 11:05		
COC Number		08442952	08442952		
	UNITS	MW06-09S	DUP	RDL	QC Batch
Elements					
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	0.010	8745440
RDL = Reportable Detection Limit					

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Maxxam Job #: B774449
Report Date: 2017/09/08

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW0391	RW0392	RW0393	RW0394	RW0395		
Sampling Date		2017/08/25 14:45	2017/08/27 12:30	2017/08/27 16:35	2017/08/27 16:20	2017/08/28 12:15		
COC Number		08442952	08442952	08442952	08442952	08442952		
	UNITS	MW06-10S	MW06-10D	MWO5-5A	FIELD BLANK	MW06-11S	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8747645
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00130	0.00072	0.00474	<0.00050	0.00245	0.00050	8745991
Dissolved Antimony (Sb)	mg/L	0.000473	0.000185	0.00255	<0.000020	0.000050	0.000020	8745991
Dissolved Arsenic (As)	mg/L	0.00556	0.000704	0.00390	<0.000020	0.00398	0.000020	8745991
Dissolved Barium (Ba)	mg/L	0.0247	0.0510	0.0581	0.000112	0.0465	0.000020	8745991
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000021	<0.000010	<0.000010	0.000010	8745991
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8745991
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8745991
Dissolved Cadmium (Cd)	mg/L	<0.0000050	<0.0000050	0.000188	<0.0000050	<0.0000050	0.0000050	8745991
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8745991
Dissolved Cobalt (Co)	mg/L	0.0000870	0.0000060	0.000515	<0.0000050	0.000272	0.0000050	8745991
Dissolved Copper (Cu)	mg/L	<0.000050	<0.000050	0.000274	<0.000050	<0.000050	0.000050	8745991
Dissolved Iron (Fe)	mg/L	0.379	1.41	0.888	<0.0010	1.26	0.0010	8745991
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	0.000204	<0.0000050	<0.0000050	0.0000050	8745991
Dissolved Lithium (Li)	mg/L	0.00100	0.00234	0.00266	<0.00050	0.00136	0.00050	8745991
Dissolved Manganese (Mn)	mg/L	0.121	0.00856	0.150	<0.000050	0.0740	0.000050	8745991
Dissolved Molybdenum (Mo)	mg/L	0.00113	0.00609	0.00712	0.000362	0.0137	0.000050	8745991
Dissolved Nickel (Ni)	mg/L	0.000588	0.000236	0.00528	<0.000020	0.000720	0.000020	8745991
Dissolved Phosphorus (P)	mg/L	0.0158	0.0047	0.0087	<0.0020	0.0160	0.0020	8745991
Dissolved Selenium (Se)	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040	0.000040	8745991
Dissolved Silicon (Si)	mg/L	3.47	4.20	3.76	<0.050	4.85	0.050	8745991
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8745991
Dissolved Strontium (Sr)	mg/L	0.189	0.164	0.134	<0.000050	0.119	0.000050	8745991
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	0.0000110	<0.0000020	<0.0000020	0.0000020	8745991
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8745991
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8745991
Dissolved Uranium (U)	mg/L	0.00835	0.0104	0.0278	<0.0000020	0.00705	0.0000020	8745991
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8745991
Dissolved Zinc (Zn)	mg/L	0.00157	0.00044	0.0716	<0.00010	0.00162	0.00010	8745991
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	0.00061	<0.00010	0.00022	0.00010	8745991
Dissolved Calcium (Ca)	mg/L	49.2	69.3	70.4	<0.050	66.7	0.050	8744422
Dissolved Magnesium (Mg)	mg/L	4.38	22.6	20.8	<0.050	18.9	0.050	8744422
Dissolved Potassium (K)	mg/L	1.10	1.81	1.63	<0.050	1.52	0.050	8744422

RDL = Reportable Detection Limit

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Maxxam Job #: B774449
Report Date: 2017/09/08

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW0391	RW0392	RW0393	RW0394	RW0395		
Sampling Date		2017/08/25 14:45	2017/08/27 12:30	2017/08/27 16:35	2017/08/27 16:20	2017/08/28 12:15		
COC Number		08442952	08442952	08442952	08442952	08442952		
	UNITS	**MW06-10S**	**MW06-10D**	**MWO5-5A**	**FIELD BLANK**	**MW06-11S**	**RDL**	**QC Batch**
Dissolved Sodium (Na)	mg/L	1.19	0.858	0.271	<0.050	1.06	0.050	8744422
Dissolved Sulphur (S)	mg/L	9.2	8.7	12.0	<3.0	11.3	3.0	8744422
RDL = Reportable Detection Limit								

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Maxxam Job #: B774449
Report Date: 2017/09/08

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW0396	RW0397	RW0398	RW0399		
Sampling Date		2017/08/28 15:35	2017/08/28 14:40	2017/08/29 10:55	2017/08/29 11:05		
COC Number		08442952	08442952	08442952	08442952		
	UNITS	MW05-03B	MW05-03A	MW06-09S	DUP	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	0.014	0.014	<0.010	<0.010	0.010	8747645
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	<0.00050	<0.00050	0.00167	0.00154	0.00050	8745991
Dissolved Antimony (Sb)	mg/L	0.000099	0.000260	<0.000020	<0.000020	0.000020	8745991
Dissolved Arsenic (As)	mg/L	0.000056	0.000356	0.00841	0.00866	0.000020	8745991
Dissolved Barium (Ba)	mg/L	0.0529	0.0686	0.0615	0.0628	0.000020	8745991
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8745991
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8745991
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8745991
Dissolved Cadmium (Cd)	mg/L	0.0295	0.0104	<0.0000050	<0.0000050	0.0000050	8745991
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8745991
Dissolved Cobalt (Co)	mg/L	0.0000210	0.000488	0.0000640	0.0000630	0.0000050	8745991
Dissolved Copper (Cu)	mg/L	0.00322	0.000139	<0.000050	<0.000050	0.000050	8745991
Dissolved Iron (Fe)	mg/L	0.0038	1.04	0.700	0.721	0.0010	8745991
Dissolved Lead (Pb)	mg/L	0.0000390	0.000323	<0.0000050	<0.0000050	0.0000050	8745991
Dissolved Lithium (Li)	mg/L	0.00136	0.00115	0.00065	0.00065	0.00050	8745991
Dissolved Manganese (Mn)	mg/L	0.00369	0.140	0.136	0.140	0.000050	8745991
Dissolved Molybdenum (Mo)	mg/L	0.000396	0.00104	0.00487	0.00482	0.000050	8745991
Dissolved Nickel (Ni)	mg/L	0.00696	0.00641	0.000164	0.000153	0.000020	8745991
Dissolved Phosphorus (P)	mg/L	0.0031	0.0117	0.262	0.267	0.0020	8745991
Dissolved Selenium (Se)	mg/L	0.00669	0.00415	<0.000040	<0.000040	0.000040	8745991
Dissolved Silicon (Si)	mg/L	4.99	4.66	4.33	4.34	0.050	8745991
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8745991
Dissolved Strontium (Sr)	mg/L	0.183	0.203	0.161	0.166	0.000050	8745991
Dissolved Thallium (Tl)	mg/L	0.0000150	0.0000150	<0.0000020	<0.0000020	0.0000020	8745991
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8745991
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8745991
Dissolved Uranium (U)	mg/L	0.00172	0.0103	0.000614	0.000595	0.0000020	8745991
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8745991
Dissolved Zinc (Zn)	mg/L	2.71	1.49	0.00080	0.00035	0.00010	8745991
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8745991
Dissolved Calcium (Ca)	mg/L	59.2	69.0	42.6	42.4	0.050	8744422
Dissolved Magnesium (Mg)	mg/L	6.83	8.19	4.81	4.75	0.050	8744422
Dissolved Potassium (K)	mg/L	1.28	1.37	0.902	0.908	0.050	8744422

RDL = Reportable Detection Limit

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Maxxam Job #: B774449
Report Date: 2017/09/08

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW0396	RW0397	RW0398	RW0399		
Sampling Date		2017/08/28 15:35	2017/08/28 14:40	2017/08/29 10:55	2017/08/29 11:05		
COC Number		08442952	08442952	08442952	08442952		
	UNITS	**MW05-03B**	**MW05-03A**	**MW06-09S**	**DUP**	**RDL**	**QC Batch**
Dissolved Sodium (Na)	mg/L	4.82	4.84	1.00	0.961	0.050	8744422
Dissolved Sulphur (S)	mg/L	30.2	28.6	7.6	7.6	3.0	8744422
RDL = Reportable Detection Limit							

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.0°C
Package 2	4.7°C

Sample RW0391 [MW06-10S] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW0392 [MW06-10D] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW0393 [MWO5-5A] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW0394 [FIELD BLANK] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW0395 [MW06-11S] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample RW0396 [MW05-03B] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample RW0397 [MW05-03A] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Results relate only to the items tested.

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Maxxam Job #: B774449
Report Date: 2017/09/08

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8744603	Turbidity	2017/08/31			100	80 - 120	<0.10	NTU	0.75	20
8744865	Acidity (pH 4.5)	2017/08/31					<1.0	mg/L	NC	20
8744865	Acidity (pH 8.3)	2017/08/31			97	80 - 120	<1.0	mg/L	NC	20
8744867	Acidity (pH 4.5)	2017/08/31					<1.0	mg/L	NC	20
8744867	Acidity (pH 8.3)	2017/08/31			100	80 - 120	<1.0	mg/L	NC	20
8745389	Total Dissolved Solids	2017/09/03	104	80 - 120	97	80 - 120	<10	mg/L	0	20
8745440	Dissolved Mercury (Hg)	2017/09/01	85	80 - 120	97	80 - 120	<0.010	ug/L	NC	20
8745640	Nitrate plus Nitrite (N)	2017/08/31	106	80 - 120	107	80 - 120	<0.0020	mg/L	NC	25
8745641	Nitrite (N)	2017/08/31	100	80 - 120	100	80 - 120	<0.0020	mg/L	NC	25
8745675	Total Suspended Solids	2017/09/01	110	80 - 120	102	80 - 120	<4.0	mg/L	NC	20
8745683	Total Suspended Solids	2017/09/03	95	80 - 120	103	80 - 120	<4.0	mg/L	NC	20
8745684	Total Suspended Solids	2017/09/03	109	80 - 120	102	80 - 120	<4.0	mg/L	NC	20
8745770	Fluoride (F)	2017/09/01	97	80 - 120	102	80 - 120	<0.020	mg/L	NC	20
8745991	Dissolved Aluminum (Al)	2017/09/05	115	80 - 120	111	80 - 120	<0.00050	mg/L	0.58	20
8745991	Dissolved Antimony (Sb)	2017/09/05	104	80 - 120	107	80 - 120	<0.000020	mg/L	NC	20
8745991	Dissolved Arsenic (As)	2017/09/05	107	80 - 120	110	80 - 120	<0.000020	mg/L	NC	20
8745991	Dissolved Barium (Ba)	2017/09/05	106	80 - 120	107	80 - 120	<0.000020	mg/L	3.2	20
8745991	Dissolved Beryllium (Be)	2017/09/05	100	80 - 120	103	80 - 120	<0.000010	mg/L	NC	20
8745991	Dissolved Bismuth (Bi)	2017/09/05	102	80 - 120	75 (1)	80 - 120	<0.0000050	mg/L	NC	20
8745991	Dissolved Boron (B)	2017/09/05	106	80 - 120	97	80 - 120	<0.010	mg/L	NC	20
8745991	Dissolved Cadmium (Cd)	2017/09/05	103	80 - 120	108	80 - 120	<0.0000050	mg/L	NC	20
8745991	Dissolved Chromium (Cr)	2017/09/05	106	80 - 120	104	80 - 120	<0.00010	mg/L	NC	20
8745991	Dissolved Cobalt (Co)	2017/09/05	106	80 - 120	105	80 - 120	<0.0000050	mg/L	NC	20
8745991	Dissolved Copper (Cu)	2017/09/05	107	80 - 120	106	80 - 120	<0.000050	mg/L	13	20
8745991	Dissolved Iron (Fe)	2017/09/05	108	80 - 120	101	80 - 120	<0.0010	mg/L	NC	20
8745991	Dissolved Lead (Pb)	2017/09/05	106	80 - 120	105	80 - 120	<0.0000050	mg/L	11	20
8745991	Dissolved Lithium (Li)	2017/09/05	100	80 - 120	99	80 - 120	<0.00050	mg/L	NC	20
8745991	Dissolved Manganese (Mn)	2017/09/05	110	80 - 120	108	80 - 120	<0.000050	mg/L	9.5	20
8745991	Dissolved Molybdenum (Mo)	2017/09/05	107	80 - 120	101	80 - 120	<0.000050	mg/L	NC	20
8745991	Dissolved Nickel (Ni)	2017/09/05	110	80 - 120	110	80 - 120	<0.000020	mg/L	14	20
8745991	Dissolved Phosphorus (P)	2017/09/06					<0.0020	mg/L	17	20
8745991	Dissolved Selenium (Se)	2017/09/05	104	80 - 120	101	80 - 120	<0.000040	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8745991	Dissolved Silicon (Si)	2017/09/05					<0.050	mg/L	NC	20
8745991	Dissolved Silver (Ag)	2017/09/05	113	80 - 120	113	80 - 120	<0.0000050	mg/L	14	20
8745991	Dissolved Strontium (Sr)	2017/09/05	104	80 - 120	103	80 - 120	<0.000050	mg/L	NC	20
8745991	Dissolved Thallium (Tl)	2017/09/05	102	80 - 120	100	80 - 120	<0.0000020	mg/L	NC	20
8745991	Dissolved Tin (Sn)	2017/09/05	101	80 - 120	99	80 - 120	<0.00020	mg/L	0.50	20
8745991	Dissolved Titanium (Ti)	2017/09/05	109	80 - 120	108	80 - 120	<0.00050	mg/L	NC	20
8745991	Dissolved Uranium (U)	2017/09/05	108	80 - 120	103	80 - 120	<0.0000020	mg/L	NC	20
8745991	Dissolved Vanadium (V)	2017/09/05	107	80 - 120	105	80 - 120	<0.00020	mg/L	NC	20
8745991	Dissolved Zinc (Zn)	2017/09/05	111	80 - 120	119	80 - 120	<0.00010	mg/L	4.0	20
8745991	Dissolved Zirconium (Zr)	2017/09/05					<0.00010	mg/L	NC	20
8746246	Orthophosphate (P)	2017/09/01	97	80 - 120	100	80 - 120	<0.0010	mg/L	3.6	20
8746296	pH	2017/09/01			102	97 - 103				
8746298	Conductivity	2017/09/01			100	80 - 120	<2.0	uS/cm		
8746299	Alkalinity (PP as CaCO3)	2017/09/01					<1.0	mg/L		
8746299	Alkalinity (Total as CaCO3)	2017/09/01			104	80 - 120	<1.0	mg/L		
8746299	Bicarbonate (HCO3)	2017/09/01					<1.0	mg/L		
8746299	Carbonate (CO3)	2017/09/01					<1.0	mg/L		
8746299	Hydroxide (OH)	2017/09/01					<1.0	mg/L		
8746305	pH	2017/09/01			102	97 - 103			0	20
8746307	Conductivity	2017/09/01			100	80 - 120	<2.0	uS/cm		
8746308	Alkalinity (PP as CaCO3)	2017/09/01					<1.0	mg/L		
8746308	Alkalinity (Total as CaCO3)	2017/09/01			104	80 - 120	<1.0	mg/L		
8746308	Bicarbonate (HCO3)	2017/09/01					<1.0	mg/L		
8746308	Carbonate (CO3)	2017/09/01					<1.0	mg/L		
8746308	Hydroxide (OH)	2017/09/01					<1.0	mg/L		
8746326	pH	2017/09/02			101	97 - 103			0	20
8746331	Conductivity	2017/09/02			101	80 - 120	<2.0	uS/cm	0.39	20
8746332	Alkalinity (PP as CaCO3)	2017/09/02					<1.0	mg/L	NC	20
8746332	Alkalinity (Total as CaCO3)	2017/09/02	96	80 - 120	103	80 - 120	<1.0	mg/L	0.87	20
8746332	Bicarbonate (HCO3)	2017/09/02					<1.0	mg/L	0.87	20
8746332	Carbonate (CO3)	2017/09/02					<1.0	mg/L	NC	20
8746332	Hydroxide (OH)	2017/09/02					<1.0	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8746337	Dissolved Chloride (Cl)	2017/09/01	88	80 - 120	96	80 - 120	<1.0	mg/L	2.2	20
8746338	Dissolved Sulphate (SO4)	2017/09/01	87	80 - 120	93	80 - 120	<1.0	mg/L	0.043	20
8746339	Dissolved Chloride (Cl)	2017/09/01	94	80 - 120	105	80 - 120	<1.0	mg/L	NC	20
8746340	Dissolved Sulphate (SO4)	2017/09/01	89	80 - 120	92	80 - 120	<1.0	mg/L	NC	20
8747000	Total Phosphorus (P)	2017/09/02	98	80 - 120	101	80 - 120	<0.0020	mg/L	0.31	20
8747001	Dissolved Phosphorus (P)	2017/09/02	100	80 - 120	102	80 - 120	<0.0020	mg/L	0.79	20
8747504	Total Suspended Solids	2017/09/06	111	80 - 120	97	80 - 120	<4.0	mg/L	NC	20
8747582	Total Dissolved Solids	2017/09/06	103	80 - 120	99	80 - 120	<10	mg/L	11	20
8747645	Bromide (Br)	2017/09/05	NC	78 - 120	95	80 - 120	<0.010	mg/L	0.27	20
8747871	Dissolved Sulphate (SO4)	2017/09/01	113	80 - 120	101	80 - 120	<1.0	mg/L	NC	20
8750732	Total Ammonia (N)	2017/09/07	96	80 - 120	103	80 - 120	<0.020	mg/L	1.4	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Blank Spike for (Bismuth) outside acceptance criteria (10% of analytes failure allowed).

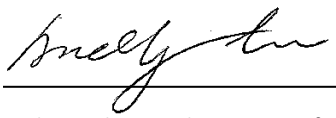
Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B774449
Report Date: 2017/09/08

YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5. Toll Free (800) 665-8566

CHAIN OF CUSTOI

08442952

BBY FCD-00077/05

Page ____ of ____

Invoice Information		Report Information (if differs from invoice)		Project Informat...	Turnaround Time (TAT) Required
Company Name:	Yukon Zinc Corporation	Company Name:	Adrienne Turcotte Consulting	Quotation #:	☒ Regular TAT 5 days (Most analyses)
Contact Name:	Alex Wu	Contact Name:	Adrienne Turcotte	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	705 - 1030 West Georgia Street	Address:	102-3839 W.4th Avenue	Project #:	Rush TAT (Surcharges will be applied)
	Vancouver PC: V6E 2Y3		Vancouver BC PC: V6R 1P8	Site Location:	☐ Same Day ☐ 2 Days
Phone:	604-684-5474	Phone:	778-772-2212	Site #:	☐ 1 Day ☐ 3 Days
Email:	alex.wu@yukonzinc.com	Email:	YZC Group turcotte.adrienne@gmail.com	Sampled By:	Date Required:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water ☐ CCME (Specify) ☐ Other (Specify) ☐ Drinking Water ☐ BC Water Quality	☐ Return Cooler ☐ Ship Sample Bottles (Please Specify)

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix
Bottle				
Preservative				
Filtered				
1 MW06-10S		17-08-25	14:45	Water
2 MW06-10D		17-08-27	12:30	Water
3 MW05-5A		17-08-27	16:35	Water
4 FIELD BLANK		17-08-27	16:20	Water
5 MW06-11S		17-08-28	12:15	Water
6 MW05-03B		17-08-28	15:35	Water
7 MW05-03A		17-08-28	14:40	Water
8 MW06-09S		17-08-29	10:55	Water
9 DUP		17-08-29	11:05	Water

Analysis Requested: O&G/VPH; BTEX/VPH; EPH/HSEPH; PAH; BTEX/F1; CCME-PHC; Dissolved Metals (Filtered?); Dissolved Mercury (Filtered?); Total Metals (Field Preserved?); Total Mercury (Field Preserved?); Chloride (Fluoride); TDS (BOD); pH (Conductivity); Nitrite (Alkalinity); Ammonia; Package A; Total Phosphate and Ammonia; # OF CONTAINERS SUBMITTED; HOLD - DO NOT ANALYZE

Bottle: 60 ml Mini Vial; 125 ml Mini Vial; 120ml plastic; 1 L plastic + 120 mL plastic; 120 ml plastic

Preservative: HNO3; HNO3; none; none; none

Filtered: ✓; ✓; ✓; ✓; ✓

# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE
1	
1	
1	
1	
1	
1	
1	
1	
1	

LABORATORY USE ONLY

CUSTODY SEAL: Present / Intact

COOLER TEMPERATURES: 4.35 / 6.44

COMMENTS

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Adrienne Turcotte	17-08-30		[illegible]	2017/08/31	10:40	B774449

B774449_COC

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Success Through Science®

Your C.O.C. #: 08443848

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/14
Report #: R2444347
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B775568
Received: 2017/09/05, 11:20

Sample Matrix: Water
Samples Received: 25

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	25	N/A	2017/09/06	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	3	2017/09/06	2017/09/06	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	22	2017/09/06	2017/09/07	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	24	N/A	2017/09/07	BBY6SOP-00011	SM 22 4500-Cl- E m
Chloride by Automated Colourimetry	1	N/A	2017/09/08	BBY6SOP-00011	SM 22 4500-Cl- E m
Cyanide (weak acid dissociable) (1)	9	N/A	2017/09/11	CAL SOP-00051	EPA 335.4 R1 m
Carbon (DOC) - field filtered/preserved (2)	24	N/A	2017/09/11	BBY6SOP-00003	SM 22 5310 C m
Conductance - water	4	2017/09/06	2017/09/06	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	21	2017/09/06	2017/09/07	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	7	N/A	2017/09/06	BBY6SOP-00048	SM 22 4500-F C m
Fluoride - Mining Clients	18	N/A	2017/09/07	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3)	19	N/A	2017/09/08	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3)	5	N/A	2017/09/10	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	4	N/A	2017/09/08	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	19	N/A	2017/09/11	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	1	N/A	2017/09/13	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	14	N/A	2017/09/07	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Dissolved) by CVAF	10	N/A	2017/09/08	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	24	2017/09/11	2017/09/11	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	25	N/A	2017/09/12	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	4	N/A	2017/09/08	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	19	N/A	2017/09/11	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	1	N/A	2017/09/13	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	4	N/A	2017/09/07	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	20	N/A	2017/09/10	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Digested LL (total)	5	2017/09/06	2017/09/09	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	19	N/A	2017/09/08	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	5	N/A	2017/09/10	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	19	N/A	2017/09/07	BBY7SOP-00003,	BCLM2005,EPA6020bR2m

Your C.O.C. #: 08443848

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/14
Report #: R2444347
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B775568
Received: 2017/09/05, 11:20

Sample Matrix: Water
Samples Received: 25

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Ammonia-N (Preserved)	25	N/A	2017/09/11	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	25	N/A	2017/09/06	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	25	N/A	2017/09/06	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	25	N/A	2017/09/07	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	4	N/A	2017/09/07	BBY7 WI-00004	BCMOE Reqs 08/14
Filter and HNO3 Preserve for Metals	20	N/A	2017/09/10	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (3)	4	2017/09/06	2017/09/06	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (3)	21	2017/09/06	2017/09/07	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	25	N/A	2017/09/06	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	17	N/A	2017/09/07	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	7	N/A	2017/09/08	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	1	N/A	2017/09/12	BBY6SOP-00017	SM 22 4500-SO42- E m
Cyanide (Total) Low level (1)	9	2017/09/11	2017/09/12	CAL SOP-00073	EPA 335.4 R1 m
Total Dissolved Solids (Filt. Residue)	1	2017/09/05	2017/09/07	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	1	2017/09/06	2017/09/07	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	12	2017/09/07	2017/09/08	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	11	2017/09/08	2017/09/10	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	24	2017/09/09	2017/09/09	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - UF/UP	1	2017/09/07	2017/09/07	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	25	N/A	2017/09/09	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	4	2017/09/06	2017/09/07	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	21	2017/09/07	2017/09/08	BBY6SOP-00034	SM 22 2540 D
Turbidity	25	N/A	2017/09/05	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All

Your C.O.C. #: 08443848

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/14
Report #: R2444347
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B775568
Received: 2017/09/05, 11:20

data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Calgary Environmental
(2) DOC present in the sample should be considered as non-purgeable DOC.
(3) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8002		RW8003	RW8004		RW8005		
Sampling Date		2017/08/30 14:50		2017/08/31 09:10	2017/09/01 08:35		2017/09/01 09:35		
COC Number		08443848		08443848	08443848		08443848		
	UNITS	MW06-09M	QC Batch	W1	L1	QC Batch	W8	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.960	8748990	0.110	0.071	8748990	0.046	0.020	8748990
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L		8747388	79.9	60.3	8747388	99.7	0.50	8747388
Nitrate (N)	mg/L	<0.20	8748148	<0.20	<0.20	8748148	<0.20	0.20	8748148
Misc. Inorganics									
Dissolved Hardness (CaCO3)	mg/L	193	8747524	80.2	59.3	8747524	99.3	0.50	8747524
Dissolved Organic Carbon (C)	mg/L	0.98	8753875	5.30	2.99	8753875	1.40	0.50	8753875
Acidity (pH 4.5)	mg/L	<1.0	8749432	<1.0	<1.0	8749432	<1.0	1.0	8749432
Alkalinity (Total as CaCO3)	mg/L	167	8749203	72.2	52.6	8749203	82.9	1.0	8749203
Acidity (pH 8.3)	mg/L	2.5	8749432	19.9	26.3	8749432	20.1	1.0	8749432
Alkalinity (PP as CaCO3)	mg/L	<1.0	8749203	<1.0	<1.0	8749203	<1.0	1.0	8749203
Bicarbonate (HCO3)	mg/L	204	8749203	88.1	64.2	8749203	101	1.0	8749203
Carbonate (CO3)	mg/L	<1.0	8749203	<1.0	<1.0	8749203	<1.0	1.0	8749203
Hydroxide (OH)	mg/L	<1.0	8749203	<1.0	<1.0	8749203	<1.0	1.0	8749203
Anions									
Orthophosphate (P)	mg/L	0.0046	8749536	0.020	0.0072	8749536	0.0026	0.0010	8749536
Dissolved Sulphate (SO4)	mg/L	36.8	8753697	14.8	12.3	8751493	23.0	1.0	8751493
Dissolved Chloride (Cl)	mg/L	<1.0	8751471	<1.0	<1.0	8751471	<1.0	1.0	8751471
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0127	8752937	0.0232	0.0088	8752937	<0.0020	0.0020	8752937
Total Ammonia (N)	mg/L	0.081	8753635	0.056	0.085	8753635	0.074	0.020	8753635
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8750096	<0.20 (1)	<0.20 (1)	8750096	<0.20 (1)	0.20	8750096
Nitrite (N)	mg/L	<0.20 (1)	8750122	<0.20 (1)	<0.20 (1)	8750122	<0.20 (1)	0.20	8750122
Total Phosphorus (P)	mg/L	0.0170	8752945	0.0332	0.0143	8752944	0.0025	0.0020	8752944
Physical Properties									
Conductivity	uS/cm	376	8749205	167	126	8749205	205	2.0	8749205
pH	pH	8.12	8749206	8.01	7.88	8749206	8.01		8749206
Physical Properties									
Total Suspended Solids	mg/L	<4.0	8748752	<4.0	<4.0	8749497	<4.0	4.0	8750716
Total Dissolved Solids	mg/L	224	8748753	100	80	8750142	130	10	8750142
Turbidity	NTU	11.2	8748227	0.81	0.89	8748227	0.23	0.10	8748227

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8006		RW8007		RW8008		RW8009		
Sampling Date		2017/09/01 09:10		2017/09/01 15:35		2017/09/01 16:00		2017/09/01 11:30		
COC Number		08443848		08443848		08443848		08443848		
	UNITS	W9	QC Batch	W15	QC Batch	W16	QC Batch	W21	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.110	8748990	0.028	8748990	0.034	8748990	0.100	0.020	8750903
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	140	8747388	60.5	8747388	77.1	8747388	100	0.50	8747388
Nitrate (N)	mg/L	<0.20	8748148	<0.20	8748148	0.29	8748148	<0.20	0.20	8748148
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L				8753296	<0.0020	8753296		0.0020	
Weak Acid Dissoc. Cyanide (CN)	mg/L				8753298	<0.0010	8753298		0.0010	
Dissolved Hardness (CaCO3)	mg/L	146	8747524	61.6	8747524	81.7	8747524	103	0.50	8747524
Dissolved Organic Carbon (C)	mg/L	1.96	8753875	0.76	8753875	1.61	8753875	4.64	0.50	8753875
Acidity (pH 4.5)	mg/L	<1.0	8749432	<1.0	8749432	<1.0	8749432	<1.0	1.0	8749432
Alkalinity (Total as CaCO3)	mg/L	106	8749203	54.8	8749198	73.4	8749198	86.1	1.0	8749188
Acidity (pH 8.3)	mg/L	<1.0	8749432	<1.0	8749432	<1.0	8749432	<1.0	1.0	8749432
Alkalinity (PP as CaCO3)	mg/L	<1.0	8749203	<1.0	8749198	<1.0	8749198	<1.0	1.0	8749188
Bicarbonate (HCO3)	mg/L	129	8749203	66.9	8749198	89.5	8749198	105	1.0	8749188
Carbonate (CO3)	mg/L	<1.0	8749203	<1.0	8749198	<1.0	8749198	<1.0	1.0	8749188
Hydroxide (OH)	mg/L	<1.0	8749203	<1.0	8749198	<1.0	8749198	<1.0	1.0	8749188
Anions										
Orthophosphate (P)	mg/L	0.0056	8749536	0.0030	8749536	0.0025	8749536	0.0087	0.0010	8749536
Dissolved Sulphate (SO4)	mg/L	47.3	8753697	11.5	8751493	12.6	8751493	18.9	1.0	8751493
Dissolved Chloride (Cl)	mg/L	<1.0	8751471	<1.0	8751471	<1.0	8751471	<1.0	1.0	8751471
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0043	8752937	<0.0020	8752937	0.0039	8752937	0.0112	0.0020	8752937
Total Ammonia (N)	mg/L	<0.020	8753635	0.025	8753635	0.040	8753635	0.022	0.020	8753635
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8750096	<0.20 (1)	8750096	0.29 (1)	8750096	<0.20 (1)	0.20	8750096
Nitrite (N)	mg/L	<0.20 (1)	8750122	<0.20 (1)	8750122	<0.20 (1)	8750122	<0.20 (1)	0.20	8750122
Total Phosphorus (P)	mg/L	0.0055	8752944	0.0022	8752944	0.0041	8752944	0.0187	0.0020	8752944
Physical Properties										
Conductivity	uS/cm	287	8749205	128	8749196	164	8749196	197	2.0	8749187
pH	pH	8.13	8749206	7.89	8749194	7.98	8749194	8.02		8749185
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8750716	<4.0	8750716	<4.0	8750716	<4.0	4.0	8750716
Total Dissolved Solids	mg/L	190	8751324	78	8751324	110	8750142	128	10	8750142

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8006		RW8007		RW8008		RW8009		
Sampling Date		2017/09/01 09:10		2017/09/01 15:35		2017/09/01 16:00		2017/09/01 11:30		
COC Number		08443848		08443848		08443848		08443848		
	UNITS	W9	QC Batch	W15	QC Batch	W16	QC Batch	W21	RDL	QC Batch
Turbidity	NTU	0.35	8748227	<0.10	8748227	0.28	8748227	0.51	0.10	8748227
RDL = Reportable Detection Limit										

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8010		RW8011		RW8012		RW8013		
Sampling Date		2017/09/01 12:55		2017/09/01 16:20		2017/09/01 12:45		2017/09/01 13:35		
COC Number		08443848		08443848		08443848		08443848		
	UNITS	W22	QC Batch	W31	QC Batch	W40	QC Batch	W71	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.074	8750903	0.027	8750903	0.073	8750903	0.660	0.020	8750903
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	119	8747388	69.0	8747388	121	8747388	375	0.50	8747388
Nitrate (N)	mg/L	<0.20	8748148	<0.20	8748148	<0.20	8748148	<0.20	0.20	8748148
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L		8753296	<0.0020	8753296		8753296		0.0020	8753296
Weak Acid Dissoc. Cyanide (CN)	mg/L		8753298	<0.0010	8753298		8753298		0.0010	8753298
Dissolved Hardness (CaCO3)	mg/L	124	8747524	72.3	8747524	121	8747524	384	0.50	8747524
Dissolved Organic Carbon (C)	mg/L	2.33	8753875	1.40	8753875	1.68	8753876	2.05	0.50	8753876
Acidity (pH 4.5)	mg/L	<1.0	8749432	<1.0	8749432	<1.0	8749432	<1.0	1.0	8749432
Alkalinity (Total as CaCO3)	mg/L	94.0	8749198	74.0	8749203	93.3	8749198	251	1.0	8749203
Acidity (pH 8.3)	mg/L	<1.0	8749432	17.9	8749432	<1.0	8749432	<1.0	1.0	8749432
Alkalinity (PP as CaCO3)	mg/L	<1.0	8749198	<1.0	8749203	<1.0	8749198	4.3	1.0	8749203
Bicarbonate (HCO3)	mg/L	115	8749198	90.3	8749203	114	8749198	295	1.0	8749203
Carbonate (CO3)	mg/L	<1.0	8749198	<1.0	8749203	<1.0	8749198	5.1	1.0	8749203
Hydroxide (OH)	mg/L	<1.0	8749198	<1.0	8749203	<1.0	8749198	<1.0	1.0	8749203
Anions										
Orthophosphate (P)	mg/L	0.0021	8749536	0.0025	8749536	0.0027	8749536	0.012	0.0010	8749536
Dissolved Sulphate (SO4)	mg/L	27.3	8751493	9.3	8753697	26.6	8751493	129	1.0	8751493
Dissolved Chloride (Cl)	mg/L	<1.0	8751471	<1.0	8751471	<1.0	8751471	<1.0	1.0	8751471
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0026	8752937	0.0024	8752937	0.0062	8752941	0.0139	0.0020	8752941
Total Ammonia (N)	mg/L	0.051	8753635	0.025	8753635	0.034	8753633	0.032	0.020	8753633
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8750096	<0.20 (1)	8750096	<0.20 (1)	8750096	<0.20 (1)	0.20	8750096
Nitrite (N)	mg/L	<0.20 (1)	8750122	<0.20 (1)	8750122	<0.20 (1)	8750122	<0.20 (1)	0.20	8750122
Total Phosphorus (P)	mg/L	0.0036	8752944	0.0033	8752944	0.0037	8752944	0.0189	0.0020	8752944
Physical Properties										
Conductivity	uS/cm	241	8749196	144	8749205	238	8749196	671	2.0	8749205
pH	pH	8.11	8749194	7.91	8749206	8.12	8749194	8.40		8749206
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8750716	<4.0	8750716	<4.0	8750716	<4.0	4.0	8750716
Total Dissolved Solids	mg/L	156	8751324	104	8751324	152	8751324	440	10	8751324

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B775568
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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8010		RW8011		RW8012		RW8013		
Sampling Date		2017/09/01 12:55		2017/09/01 16:20		2017/09/01 12:45		2017/09/01 13:35		
COC Number		08443848		08443848		08443848		08443848		
	UNITS	**W22**	**QC Batch**	**W31**	**QC Batch**	**W40**	**QC Batch**	**W71**	**RDL**	**QC Batch**
Turbidity	NTU	0.31	8748227	<0.10	8748228	0.29	8748228	0.69	0.10	8748228
RDL = Reportable Detection Limit										

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8014		RW8015		RW8016		RW8017		
Sampling Date		2017/09/01 13:50		2017/09/01 14:10		2017/09/01 15:00		2017/09/01 16:40		
COC Number		08443848		08443848		08443848		08443848		
	UNITS	W72	QC Batch	W73	QC Batch	W81	QC Batch	W82	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.150	8750903	0.053	8750903	0.032	8750903	0.130	0.020	8750903
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	193	8747388	114	8747388	71.0	8747388	131	0.50	8747388
Nitrate (N)	mg/L	<0.20	8748148	<0.20	8748148	<0.20	8748148	0.28	0.20	8748148
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	204	8747524	118	8747524	74.5	8747524	135	0.50	8747524
Dissolved Organic Carbon (C)	mg/L	2.36	8753876	2.54	8753875	1.82	8753875	1.92	0.50	8753875
Acidity (pH 4.5)	mg/L	<1.0	8749434	<1.0	8749432	<1.0	8749434	<1.0	1.0	8749432
Alkalinity (Total as CaCO3)	mg/L	144	8749203	99.0	8749203	64.0	8749203	89.6	1.0	8749198
Acidity (pH 8.3)	mg/L	<1.0	8749434	<1.0	8749432	<1.0	8749434	<1.0	1.0	8749432
Alkalinity (PP as CaCO3)	mg/L	<1.0	8749203	<1.0	8749203	<1.0	8749203	<1.0	1.0	8749198
Bicarbonate (HCO3)	mg/L	175	8749203	121	8749203	78.1	8749203	109	1.0	8749198
Carbonate (CO3)	mg/L	<1.0	8749203	<1.0	8749203	<1.0	8749203	<1.0	1.0	8749198
Hydroxide (OH)	mg/L	<1.0	8749203	<1.0	8749203	<1.0	8749203	<1.0	1.0	8749198
Anions										
Orthophosphate (P)	mg/L	0.011	8749538	0.0017	8749536	0.0017	8749538	0.0063	0.0010	8749536
Dissolved Sulphate (SO4)	mg/L	61.5	8753679	21.0	8753697	12.6	8753679	51.9	1.0	8753697
Dissolved Chloride (Cl)	mg/L	<1.0	8751379	<1.0	8751471	<1.0	8751379	<1.0	1.0	8751471
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0142	8752941	0.0029	8752941	0.0028	8752941	0.0062	0.0020	8752937
Total Ammonia (N)	mg/L	0.054	8753635	0.034	8753635	0.068	8753633	0.031	0.020	8753633
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8750123	<0.20 (1)	8750096	<0.20 (1)	8750123	0.28 (1)	0.20	8750096
Nitrite (N)	mg/L	<0.20 (1)	8750127	<0.20 (1)	8750122	<0.20 (1)	8750127	<0.20 (1)	0.20	8750122
Total Phosphorus (P)	mg/L	0.0195	8752944	0.0035	8752944	0.0037	8752943	0.0139	0.0020	8752943
Physical Properties										
Conductivity	uS/cm	378	8749205	228	8749205	147	8749205	273	2.0	8749196
pH	pH	8.20	8749206	8.17	8749206	7.86	8749206	8.00		8749194
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8750716	<4.0	8750716	<4.0	8750716	<4.0 (2)	4.0	8750716
Total Dissolved Solids	mg/L	212	8751324	120	8751324	88	8751324	158	10	8751324
Turbidity	NTU	0.89	8748228	0.62	8748228	0.14	8748228	0.87	0.10	8748228

RDL = Reportable Detection Limit

(1) RDL raised due to sample matrix interference.

(2) TSS duplicate was 1.3 mg/L.

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8018			RW8019		RW8020		
Sampling Date		2017/08/31 11:00			2017/08/31 11:15		2017/08/31 15:00		
COC Number		08443848			08443848		08443848		
	UNITS	BIO-IN	RDL	QC Batch	BIO-OUT	QC Batch	PORTAL	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.150	0.020	8750903	0.066	8750903	0.220	0.020	8750903
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	2470	0.50	8747388	903	8747388	530	0.50	8747388
Nitrate (N)	mg/L	<0.20	0.20	8748148	<0.20	8748148	<0.20	0.20	8748148
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.0020	0.0020	8753296	<0.0020	8753296		0.0020	8753296
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0075 (1)	0.0010	8753298	0.0018 (1)	8753298		0.0010	8753298
Dissolved Hardness (CaCO3)	mg/L	1380	0.50	8747524	914	8747524	532	0.50	8747524
Dissolved Organic Carbon (C)	mg/L	6.78	0.50	8753876	4.64	8753876	<0.50	0.50	8753876
Acidity (pH 4.5)	mg/L	<1.0	1.0	8749432	<1.0	8749432	<1.0	1.0	8749434
Alkalinity (Total as CaCO3)	mg/L	100	1.0	8749198	173	8749203	99.0	1.0	8749203
Acidity (pH 8.3)	mg/L	11.0	1.0	8749432	11.0	8749432	8.2	1.0	8749434
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8749198	<1.0	8749203	<1.0	1.0	8749203
Bicarbonate (HCO3)	mg/L	123	1.0	8749198	211	8749203	121	1.0	8749203
Carbonate (CO3)	mg/L	<1.0	1.0	8749198	<1.0	8749203	<1.0	1.0	8749203
Hydroxide (OH)	mg/L	<1.0	1.0	8749198	<1.0	8749203	<1.0	1.0	8749203
Anions									
Orthophosphate (P)	mg/L	0.0029	0.0010	8749536	0.0050	8749536	0.0028	0.0010	8749538
Dissolved Sulphate (SO4)	mg/L	1430 (2)	10	8751493	822 (2)	8751493	538 (2)	10	8751380
Dissolved Chloride (Cl)	mg/L	20	1.0	8753694	7.5	8751471	3.1	1.0	8751379
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0141	0.0020	8752941	0.0094	8752941	0.0145	0.0020	8752941
Total Ammonia (N)	mg/L	0.59	0.020	8753635	0.061	8753633	1.6	0.020	8753635
Nitrate plus Nitrite (N)	mg/L	<0.20 (3)	0.20	8750096	<0.20 (3)	8750096	<0.20 (3)	0.20	8750123
Nitrite (N)	mg/L	<0.20 (3)	0.20	8750122	<0.20 (3)	8750122	<0.20 (3)	0.20	8750127
Total Phosphorus (P)	mg/L	2.61 (2)	0.020	8752944	0.0217	8752944	0.0232	0.0020	8752944
Physical Properties									
Conductivity	uS/cm	2450	2.0	8749196	1680	8749205	1250	2.0	8749205
pH	pH	7.82		8749194	7.99	8749206	7.70		8749206

RDL = Reportable Detection Limit

(1) When thiocyanate is present in the matrix, it can result in a positive interference in the weak acid dissociable (WAD) colorimetric procedure.

(2) Detection limits raised due to dilution to bring analyte within the calibrated range.

(3) RDL raised due to sample matrix interference.

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8018			RW8019		RW8020		
Sampling Date		2017/08/31 11:00			2017/08/31 11:15		2017/08/31 15:00		
COC Number		08443848			08443848		08443848		
	UNITS	BIO-IN	RDL	QC Batch	BIO-OUT	QC Batch	PORTAL	RDL	QC Batch
Physical Properties									
Total Suspended Solids	mg/L	3320 (1)	64	8750066	16.8	8750066	15.3	4.0	8750066
Total Dissolved Solids	mg/L	2330	10	8750142	1350	8750142	954	10	8750142
Turbidity	NTU	3050	0.10	8748228	36.6	8748228	81.9	0.10	8748228

RDL = Reportable Detection Limit
(1) RDL raised due to high concentration of solids in the sample.

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8021			RW8022			RW8023		
Sampling Date		2017/08/31 13:45			2017/08/31 14:05			2017/08/31 14:20		
COC Number		08443848			08443848			08443848		
	UNITS	DUP	RDL	QC Batch	T1-2	RDL	QC Batch	T1-3	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.140	0.020	8750903	0.200	0.020	8750903	0.280	0.020	8750903
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	878	0.50	8747388	1530	0.50	8747388	2040	0.50	8747388
Nitrate (N)	mg/L	<0.20	0.20	8748148	<0.20	0.20	8748148	0.47	0.20	8748148
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.0073	0.0020	8753296	0.044 (1)	0.0040	8753296	3.9 (2)	0.20	8753296
Weak Acid Dissoc. Cyanide (CN)	mg/L	2.2 (3)	0.050	8753298	4.9 (3)	0.10	8753298	7.7 (3)	0.10	8753298
Dissolved Hardness (CaCO3)	mg/L	928	0.50	8747524	1670	0.50	8747524	2100	0.50	8754984
Dissolved Organic Carbon (C)	mg/L	14.8	0.50	8753875	26.4	0.50	8753875	35.6	0.50	8753875
Acidity (pH 4.5)	mg/L	22.1	1.0	8749432	<1.0	1.0	8749432	<1.0	1.0	8749434
Alkalinity (Total as CaCO3)	mg/L	<1.0	1.0	8749203	<1.0	1.0	8749198	3.7	1.0	8749203
Acidity (pH 8.3)	mg/L	36.3	1.0	8749432	4.4	1.0	8749432	16.9	1.0	8749434
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8749203	<1.0	1.0	8749198	<1.0	1.0	8749203
Bicarbonate (HCO3)	mg/L	<1.0	1.0	8749203	<1.0	1.0	8749198	4.6	1.0	8749203
Carbonate (CO3)	mg/L	<1.0	1.0	8749203	<1.0	1.0	8749198	<1.0	1.0	8749203
Hydroxide (OH)	mg/L	<1.0	1.0	8749203	<1.0	1.0	8749198	<1.0	1.0	8749203
Anions										
Orthophosphate (P)	mg/L	0.042	0.0010	8749536	0.022	0.0010	8749536	1.5 (2)	0.010	8749536
Dissolved Sulphate (SO4)	mg/L	1130 (2)	10	8751493	1680 (2)	10	8751493	1800 (2)	10	8751380
Dissolved Chloride (Cl)	mg/L	110	1.0	8751471	280 (2)	10	8751471	1100 (2)	10	8751379
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0651	0.0020	8752937	0.118	0.0020	8752937	0.122	0.0020	8752937
Total Ammonia (N)	mg/L	0.45	0.020	8753633	0.67	0.020	8753633	1.9	0.020	8753633
Nitrate plus Nitrite (N)	mg/L	<0.20 (4)	0.20	8750096	<0.20 (4)	0.20	8750096	0.47 (4)	0.20	8750123
Nitrite (N)	mg/L	<0.20 (4)	0.20	8750122	<0.20 (4)	0.20	8750122	<0.20 (4)	0.20	8750127
Total Phosphorus (P)	mg/L	0.0668	0.0020	8752944	0.0986	0.0020	8752943	0.0492	0.0020	8752944
Physical Properties										
Conductivity	uS/cm	2190	2.0	8749205	3360	2.0	8749196	4480	2.0	8749205

RDL = Reportable Detection Limit

(1) Detection limits raised due to matrix interference.

(2) Detection limits raised due to dilution to bring analyte within the calibrated range.

(3) Detection limits raised due to dilution to bring analyte within the calibrated range.
When thiocyanate is present in the matrix, it can result in a positive interference in the weak acid dissociable (WAD) colorimetric procedure

(4) RDL raised due to sample matrix interference.

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8021			RW8022			RW8023		
Sampling Date		2017/08/31 13:45			2017/08/31 14:05			2017/08/31 14:20		
COC Number		08443848			08443848			08443848		
	UNITS	**DUP**	**RDL**	**QC Batch**	**T1-2**	**RDL**	**QC Batch**	**T1-3**	**RDL**	**QC Batch**
pH	pH	3.54 (1)		8749206	5.21		8749194	5.86		8749206
Physical Properties										
Total Suspended Solids	mg/L	<4.0	4.0	8750066	<4.0	4.0	8750066	<4.0	4.0	8750066
Total Dissolved Solids	mg/L	1860	10	8750142	3220	10	8750142	4420	10	8750142
Turbidity	NTU	28.5	0.10	8748228	27.4	0.10	8748228	9.92	0.10	8748228

RDL = Reportable Detection Limit
(1) "Sample pH value outside pH calibration range 4 to 10, verified using pH 1.68 buffer."

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Maxxam Job #: B775568
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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8024		RW8025			RW8026		
Sampling Date		2017/09/05 11:20		2017/09/01 14:20			2017/08/31 13:25		
COC Number		08443848		08443848			08443848		
	UNITS	TRAVEL BLANK	QC Batch	FIELD BLANK	RDL	QC Batch	T1	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	<0.020	8750903	<0.020	0.020	8750903	0.140	0.020	8750903
Calculated Parameters									
Filter and HNO3 Preservation	N/A		ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	<0.50	8747388	<0.50	0.50	8747388	886	0.50	8747388
Nitrate (N)	mg/L	<0.20	8748148	<0.20	0.20	8748148	0.25	0.20	8748148
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.0020	8753296		0.0020	8753296	0.0091	0.0020	8753296
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0010	8753298		0.0010	8753298	2.5 (1)	0.10	8753298
Dissolved Hardness (CaCO3)	mg/L		8754984	<0.50	0.50	8747524	973	0.50	8747524
Dissolved Organic Carbon (C)	mg/L		8753875	<0.50	0.50	8753876	14.4	0.50	8753876
Acidity (pH 4.5)	mg/L	<1.0	8749434	<1.0	1.0	8749432	22.7	1.0	8749434
Alkalinity (Total as CaCO3)	mg/L	<1.0	8749174	<1.0	1.0	8749174	<1.0	1.0	8749203
Acidity (pH 8.3)	mg/L	<1.0	8749434	<1.0	1.0	8749432	36.3	1.0	8749434
Alkalinity (PP as CaCO3)	mg/L	<1.0	8749174	<1.0	1.0	8749174	<1.0	1.0	8749203
Bicarbonate (HCO3)	mg/L	<1.0	8749174	<1.0	1.0	8749174	<1.0	1.0	8749203
Carbonate (CO3)	mg/L	<1.0	8749174	<1.0	1.0	8749174	<1.0	1.0	8749203
Hydroxide (OH)	mg/L	<1.0	8749174	<1.0	1.0	8749174	<1.0	1.0	8749203
Anions									
Orthophosphate (P)	mg/L	0.0015	8749538	<0.0010	0.0010	8749538	0.051	0.0010	8749538
Dissolved Sulphate (SO4)	mg/L	<1.0	8755746	<1.0	1.0	8751380	1130 (2)	10	8751380
Dissolved Chloride (Cl)	mg/L	<1.0	8751379	<1.0	1.0	8751379	98	1.0	8751379
Nutrients									
Dissolved Phosphorus (P)	mg/L	<0.0020	8750911	<0.0020	0.0020	8752941	0.0566	0.0020	8752941
Total Ammonia (N)	mg/L	<0.020	8753635	0.020	0.020	8753635	0.47	0.020	8753633
Nitrate plus Nitrite (N)	mg/L	<0.20 (3)	8750123	<0.20 (3)	0.20	8750123	0.25 (3)	0.20	8750123
Nitrite (N)	mg/L	<0.20 (3)	8750127	<0.20 (3)	0.20	8750127	<0.20 (3)	0.20	8750127
Total Phosphorus (P)	mg/L	<0.0020	8752944	<0.0020	0.0020	8752944	0.0686	0.0020	8752943
Physical Properties									
Conductivity	uS/cm	<2.0	8749173	<2.0	2.0	8749173	2200	2.0	8749205

RDL = Reportable Detection Limit

(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
When thiocyanate is present in the matrix, it can result in a positive interference in the weak acid dissociable (WAD) colorimetric procedure.

(2) Detection limits raised due to dilution to bring analyte within the calibrated range.

(3) RDL raised due to sample matrix interference.

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RW8024		RW8025			RW8026		
Sampling Date		2017/09/05 11:20		2017/09/01 14:20			2017/08/31 13:25		
COC Number		08443848		08443848			08443848		
	UNITS	TRAVEL BLANK	QC Batch	FIELD BLANK	RDL	QC Batch	T1	RDL	QC Batch
pH	pH	5.44	8749170	5.45		8749170	3.54 (1)		8749206
Physical Properties									
Total Suspended Solids	mg/L	<4.0	8748748	<4.0	4.0	8750716	<4.0	4.0	8750066
Total Dissolved Solids	mg/L	<10	8749248	<10	10	8751324	1790	10	8750142
Turbidity	NTU	<0.10	8748228	<0.10	0.10	8748228	38.6	0.10	8748228

RDL = Reportable Detection Limit
(1) "Sample pH value outside pH calibration range 4 to 10, verified using pH 1.68 buffer."

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MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RW8002	RW8003	RW8004	RW8005	RW8006	RW8007	RW8008		
Sampling Date		2017/08/30 14:50	2017/08/31 09:10	2017/09/01 08:35	2017/09/01 09:35	2017/09/01 09:10	2017/09/01 15:35	2017/09/01 16:00		
COC Number		08443848	08443848	08443848	08443848	08443848	08443848	08443848		
	UNITS	MW06-09M	W1	L1	W8	W9	W15	W16	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8750360
Total Mercury (Hg)	ug/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8753599
RDL = Reportable Detection Limit										

Maxxam ID		RW8009	RW8010	RW8011	RW8012	RW8013	RW8014	RW8015		
Sampling Date		2017/09/01 11:30	2017/09/01 12:55	2017/09/01 16:20	2017/09/01 12:45	2017/09/01 13:35	2017/09/01 13:50	2017/09/01 14:10		
COC Number		08443848	08443848	08443848	08443848	08443848	08443848	08443848		
	UNITS	W21	W22	W31	W40	W71	W72	W73	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8750360
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8753599
RDL = Reportable Detection Limit										

Maxxam ID		RW8016		RW8017	RW8018	RW8019	RW8020	RW8021		
Sampling Date		2017/09/01 15:00		2017/09/01 16:40	2017/08/31 11:00	2017/08/31 11:15	2017/08/31 15:00	2017/08/31 13:45		
COC Number		08443848		08443848	08443848	08443848	08443848	08443848		
	UNITS	W81	QC Batch	W82	BIO-IN	BIO-OUT	PORTAL	DUP	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	8751419	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8751419
Total Mercury (Hg)	ug/L	<0.010	8753599	<0.010	0.012	<0.010	<0.010	<0.010	0.010	8753613
RDL = Reportable Detection Limit										

Maxxam ID		RW8022	RW8023	RW8024	RW8025	RW8026		
Sampling Date		2017/08/31 14:05	2017/08/31 14:20	2017/09/05 11:20	2017/09/01 14:20	2017/08/31 13:25		
COC Number		08443848	08443848	08443848	08443848	08443848		
	UNITS	T1-2	T1-3	TRAVEL BLANK	FIELD BLANK	T1	RDL	QC Batch
Elements								
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010		<0.010	<0.010	0.010	8751419
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8753613
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8002	RW8003	RW8004	RW8005		
Sampling Date		2017/08/30 14:50	2017/08/31 09:10	2017/09/01 08:35	2017/09/01 09:35		
COC Number		08443848	08443848	08443848	08443848		
	UNITS	MW06-09M	W1	L1	W8	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8754360
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00169	0.00920	0.00643	0.00525	0.00050	8748898
Dissolved Antimony (Sb)	mg/L	0.000381	0.000066	0.000059	0.000067	0.000020	8748898
Dissolved Arsenic (As)	mg/L	0.00184	0.00228	0.00109	0.000113	0.000020	8748898
Dissolved Barium (Ba)	mg/L	0.0522	0.0360	0.0480	0.0520	0.000020	8748898
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8748898
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8748898
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8748898
Dissolved Cadmium (Cd)	mg/L	<0.0000050	0.0000080	0.0000150	0.0000490	0.0000050	8748898
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	0.00010	8748898
Dissolved Cobalt (Co)	mg/L	0.0000280	0.0000150	0.0000110	0.0000260	0.0000050	8748898
Dissolved Copper (Cu)	mg/L	<0.000050	0.000583	0.000498	0.000774	0.000050	8748898
Dissolved Iron (Fe)	mg/L	0.777	0.0393	0.0351	0.0072	0.0010	8748898
Dissolved Lead (Pb)	mg/L	<0.0000050	<0.0000050	0.0000070	<0.0000050	0.0000050	8748898
Dissolved Lithium (Li)	mg/L	0.00238	0.00150	<0.00050	<0.00050	0.00050	8748898
Dissolved Manganese (Mn)	mg/L	0.0136	0.00717	0.00420	0.00164	0.000050	8748898
Dissolved Molybdenum (Mo)	mg/L	0.00447	0.00115	0.000998	0.000563	0.000050	8748898
Dissolved Nickel (Ni)	mg/L	0.00214	0.00121	0.000552	0.000939	0.000020	8748898
Dissolved Phosphorus (P)	mg/L	0.0124	0.0218	0.0090	<0.0020	0.0020	8748898
Dissolved Selenium (Se)	mg/L	<0.000040	0.000435	0.000518	0.000934	0.000040	8748898
Dissolved Silicon (Si)	mg/L	3.43	2.34	2.30	2.99	0.050	8748898
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8748898
Dissolved Strontium (Sr)	mg/L	0.0804	0.0719	0.0454	0.0708	0.000050	8748898
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000020	8748898
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8748898
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8748898
Dissolved Uranium (U)	mg/L	0.00357	0.00103	0.000537	0.000713	0.0000020	8748898
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8748898
Dissolved Zinc (Zn)	mg/L	0.00030	0.00068	0.00218	0.00642	0.00010	8748898
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8748898
Dissolved Calcium (Ca)	mg/L	57.9	20.5	17.6	33.1	0.050	8747526
Dissolved Magnesium (Mg)	mg/L	11.8	7.01	3.73	4.07	0.050	8747526
Dissolved Potassium (K)	mg/L	1.70	1.04	0.677	0.367	0.050	8747526

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8002	RW8003	RW8004	RW8005		
Sampling Date		2017/08/30 14:50	2017/08/31 09:10	2017/09/01 08:35	2017/09/01 09:35		
COC Number		08443848	08443848	08443848	08443848		
	UNITS	MW06-09M	W1	L1	W8	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	0.286	1.19	0.971	1.11	0.050	8747526
Dissolved Sulphur (S)	mg/L	11.0	4.5	3.7	6.7	3.0	8747526
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L		0.0181	0.0203	0.00838	0.00050	8748912
Total Antimony (Sb)	mg/L		0.000061	0.000054	0.000070	0.000020	8748912
Total Arsenic (As)	mg/L		0.00239	0.00117	0.000116	0.000020	8748912
Total Barium (Ba)	mg/L		0.0371	0.0494	0.0519	0.000020	8748912
Total Beryllium (Be)	mg/L		<0.000010	<0.000010	<0.000010	0.000010	8748912
Total Bismuth (Bi)	mg/L		<0.0000050	<0.0000050	<0.0000050	0.0000050	8748912
Total Boron (B)	mg/L		<0.010	<0.010	<0.010	0.010	8748912
Total Cadmium (Cd)	mg/L		0.0000120	0.0000250	0.0000480	0.0000050	8748912
Total Chromium (Cr)	mg/L		0.00010	<0.00010	0.00011	0.00010	8748912
Total Cobalt (Co)	mg/L		0.0000260	0.0000200	0.0000340	0.0000050	8748912
Total Copper (Cu)	mg/L		0.000631	0.000609	0.000832	0.000050	8748912
Total Iron (Fe)	mg/L		0.0884	0.0853	0.0110	0.0010	8748912
Total Lead (Pb)	mg/L		0.0000120	0.0000280	<0.0000050	0.0000050	8748912
Total Lithium (Li)	mg/L		0.00156	<0.00050	<0.00050	0.00050	8748912
Total Manganese (Mn)	mg/L		0.0161	0.0134	0.00180	0.000050	8748912
Total Molybdenum (Mo)	mg/L		0.00115	0.00100	0.000546	0.000050	8748912
Total Nickel (Ni)	mg/L		0.00130	0.000607	0.00106	0.000020	8748912
Total Phosphorus (P)	mg/L		0.0330	0.0169	0.0023	0.0020	8748912
Total Selenium (Se)	mg/L		0.000446	0.000523	0.000905	0.000040	8748912
Total Silicon (Si)	mg/L		2.35	2.36	2.68	0.050	8748912
Total Silver (Ag)	mg/L		<0.0000050	<0.0000050	<0.0000050	0.0000050	8748912
Total Strontium (Sr)	mg/L		0.0724	0.0472	0.0762	0.000050	8748912
Total Thallium (Tl)	mg/L		<0.0000020	0.0000020	<0.0000020	0.0000020	8748912
Total Tin (Sn)	mg/L		<0.00020	<0.00020	<0.00020	0.00020	8748912
Total Titanium (Ti)	mg/L		<0.00050	0.00067	<0.00050	0.00050	8748912
Total Uranium (U)	mg/L		0.00106	0.000576	0.000724	0.0000020	8748912
Total Vanadium (V)	mg/L		0.00021	<0.00020	<0.00020	0.00020	8748912
Total Zinc (Zn)	mg/L		0.00098	0.00328	0.00657	0.00010	8748912
Total Zirconium (Zr)	mg/L		<0.00010	<0.00010	<0.00010	0.00010	8748912
Total Calcium (Ca)	mg/L		20.4	18.1	32.6	0.050	8747527
Total Magnesium (Mg)	mg/L		7.04	3.68	4.42	0.050	8747527
Total Potassium (K)	mg/L		1.04	0.680	0.397	0.050	8747527

RDL = Reportable Detection Limit

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8002	RW8003	RW8004	RW8005		
Sampling Date		2017/08/30 14:50	2017/08/31 09:10	2017/09/01 08:35	2017/09/01 09:35		
COC Number		08443848	08443848	08443848	08443848		
	UNITS	**MW06-09M**	**W1**	**L1**	**W8**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L		1.17	1.01	1.21	0.050	8747527
Total Sulphur (S)	mg/L		4.6	3.6	6.8	3.0	8747527
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8006	RW8007		RW8008	RW8009		
Sampling Date		2017/09/01 09:10	2017/09/01 15:35		2017/09/01 16:00	2017/09/01 11:30		
COC Number		08443848	08443848		08443848	08443848		
	UNITS	W9	W15	QC Batch	W16	W21	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	8754360	<0.010	<0.010	0.010	8754365
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00376	0.00453	8748899	0.00464	0.00665	0.00050	8748899
Dissolved Antimony (Sb)	mg/L	0.000190	0.000022	8748899	0.000048	0.000082	0.000020	8748899
Dissolved Arsenic (As)	mg/L	0.000200	0.000106	8748899	0.000128	0.00138	0.000020	8748899
Dissolved Barium (Ba)	mg/L	0.120	0.0191	8748899	0.0710	0.0437	0.000020	8748899
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	8748899	<0.000010	<0.000010	0.000010	8748899
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	8748899	<0.0000050	<0.0000050	0.0000050	8748899
Dissolved Boron (B)	mg/L	<0.010	<0.010	8748899	<0.010	<0.010	0.010	8748899
Dissolved Cadmium (Cd)	mg/L	0.00158	<0.0000050	8748899	0.0000694	0.0000094	0.0000050	8748899
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00011	8748899	<0.00010	0.00014	0.00010	8748899
Dissolved Cobalt (Co)	mg/L	0.0000132	0.0000157	8748899	0.0000329	0.0000220	0.0000050	8748899
Dissolved Copper (Cu)	mg/L	0.000996	0.000517	8748899	0.000578	0.000681	0.000050	8748899
Dissolved Iron (Fe)	mg/L	0.0021	0.0018	8748899	0.0248	0.0519	0.0010	8748899
Dissolved Lead (Pb)	mg/L	0.0000091	<0.0000050	8748899	<0.0000050	0.0000167	0.0000050	8748899
Dissolved Lithium (Li)	mg/L	0.00076	<0.00050	8748899	<0.00050	0.00139	0.00050	8748899
Dissolved Manganese (Mn)	mg/L	0.000262	0.000192	8748899	0.0139	0.00712	0.000050	8748899
Dissolved Molybdenum (Mo)	mg/L	0.000702	0.000227	8748899	0.000381	0.00115	0.000050	8748899
Dissolved Nickel (Ni)	mg/L	0.00424	0.000106	8748899	0.000234	0.00168	0.000020	8748899
Dissolved Phosphorus (P)	mg/L	0.0062	0.0027	8748899	0.0045	0.0136	0.0020	8748899
Dissolved Selenium (Se)	mg/L	0.00350	0.000337	8748899	0.000845	0.000479	0.000040	8748899
Dissolved Silicon (Si)	mg/L	3.54	2.79	8748899	3.02	3.01	0.050	8748899
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	8748899	<0.0000050	<0.0000050	0.0000050	8748899
Dissolved Strontium (Sr)	mg/L	0.124	0.0344	8748899	0.0493	0.0925	0.000050	8748899
Dissolved Thallium (Tl)	mg/L	0.0000040	<0.0000020	8748899	<0.0000020	<0.0000020	0.0000020	8748899
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	8748899	<0.00020	<0.00020	0.00020	8748899
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	8748899	<0.00050	<0.00050	0.00050	8748899
Dissolved Uranium (U)	mg/L	0.00128	0.0000805	8748899	0.000255	0.000965	0.0000020	8748899
Dissolved Vanadium (V)	mg/L	<0.00020	0.00024	8748899	<0.00020	<0.00020	0.00020	8748899
Dissolved Zinc (Zn)	mg/L	0.149	0.00017	8748899	0.00267	0.00070	0.00010	8748899
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	8748899	<0.00010	<0.00010	0.00010	8748899
Dissolved Calcium (Ca)	mg/L	44.4	22.3	8747526	27.3	26.3	0.050	8747526
Dissolved Magnesium (Mg)	mg/L	8.55	1.45	8747526	3.29	8.98	0.050	8747526
Dissolved Potassium (K)	mg/L	1.04	0.382	8747526	0.576	0.950	0.050	8747526

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8006	RW8007		RW8008	RW8009		
Sampling Date		2017/09/01 09:10	2017/09/01 15:35		2017/09/01 16:00	2017/09/01 11:30		
COC Number		08443848	08443848		08443848	08443848		
	UNITS	W9	W15	QC Batch	W16	W21	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	1.11	1.03	8747526	1.26	1.36	0.050	8747526
Dissolved Sulphur (S)	mg/L	15.1	4.0	8747526	4.2	6.2	3.0	8747526
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.00718	0.00603	8748912	0.00922	0.0318	0.00050	8748912
Total Antimony (Sb)	mg/L	0.000172	0.000021	8748912	0.000047	0.000083	0.000020	8748912
Total Arsenic (As)	mg/L	0.000218	0.000090	8748912	0.000136	0.00150	0.000020	8748912
Total Barium (Ba)	mg/L	0.123	0.0200	8748912	0.0733	0.0466	0.000020	8748912
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	8748912	<0.000010	<0.000010	0.000010	8748912
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	8748912	<0.0000050	<0.0000050	0.0000050	8748912
Total Boron (B)	mg/L	<0.010	<0.010	8748912	<0.010	<0.010	0.010	8748912
Total Cadmium (Cd)	mg/L	0.00151	<0.0000050	8748912	0.0000720	0.0000140	0.0000050	8748912
Total Chromium (Cr)	mg/L	<0.00010	0.00012	8748912	0.00010	0.00022	0.00010	8748912
Total Cobalt (Co)	mg/L	0.0000170	0.0000150	8748912	0.0000370	0.0000550	0.0000050	8748912
Total Copper (Cu)	mg/L	0.00113	0.000495	8748912	0.000631	0.000794	0.000050	8748912
Total Iron (Fe)	mg/L	0.0108	0.0037	8748912	0.0359	0.124	0.0010	8748912
Total Lead (Pb)	mg/L	0.0000420	<0.0000050	8748912	<0.0000050	0.0000400	0.0000050	8748912
Total Lithium (Li)	mg/L	0.00076	<0.00050	8748912	<0.00050	0.00150	0.00050	8748912
Total Manganese (Mn)	mg/L	0.00110	0.000300	8748912	0.0160	0.0154	0.000050	8748912
Total Molybdenum (Mo)	mg/L	0.000717	0.000231	8748912	0.000407	0.00124	0.000050	8748912
Total Nickel (Ni)	mg/L	0.00443	0.000102	8748912	0.000242	0.00198	0.000020	8748912
Total Phosphorus (P)	mg/L	0.0061	<0.0020	8748912	0.0054	0.0175	0.0020	8748912
Total Selenium (Se)	mg/L	0.00320	0.000301	8748912	0.000765	0.000453	0.000040	8748912
Total Silicon (Si)	mg/L	3.32	2.79	8748912	2.89	2.79	0.050	8748912
Total Silver (Ag)	mg/L	0.0000050	<0.0000050	8748912	<0.0000050	<0.0000050	0.0000050	8748912
Total Strontium (Sr)	mg/L	0.130	0.0333	8748912	0.0510	0.0955	0.000050	8748912
Total Thallium (Tl)	mg/L	0.0000040	<0.0000020	8748912	<0.0000020	<0.0000020	0.0000020	8748912
Total Tin (Sn)	mg/L	<0.00020	<0.00020	8748912	<0.00020	<0.00020	0.00020	8748912
Total Titanium (Ti)	mg/L	<0.00050	0.00063	8748912	<0.00050	0.00135	0.00050	8748912
Total Uranium (U)	mg/L	0.00132	0.0000890	8748912	0.000267	0.00102	0.0000020	8748912
Total Vanadium (V)	mg/L	<0.00020	<0.00020	8748912	<0.00020	0.00025	0.00020	8748912
Total Zinc (Zn)	mg/L	0.150	<0.00010	8748912	0.00288	0.00108	0.00010	8748912
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	8748912	<0.00010	<0.00010	0.00010	8748912
Total Calcium (Ca)	mg/L	41.9	21.8	8747527	25.5	25.8	0.050	8747527
Total Magnesium (Mg)	mg/L	8.55	1.44	8747527	3.29	8.72	0.050	8747527
Total Potassium (K)	mg/L	1.03	0.361	8747527	0.571	0.961	0.050	8747527

RDL = Reportable Detection Limit

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8006	RW8007		RW8008	RW8009		
Sampling Date		2017/09/01 09:10	2017/09/01 15:35		2017/09/01 16:00	2017/09/01 11:30		
COC Number		08443848	08443848		08443848	08443848		
	UNITS	W9	W15	QC Batch	W16	W21	RDL	QC Batch
Total Sodium (Na)	mg/L	1.05	0.951	8747527	1.25	1.29	0.050	8747527
Total Sulphur (S)	mg/L	13.1	3.4	8747527	4.2	5.8	3.0	8747527
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8010	RW8011	RW8012	RW8013		
Sampling Date		2017/09/01 12:55	2017/09/01 16:20	2017/09/01 12:45	2017/09/01 13:35		
COC Number		08443848	08443848	08443848	08443848		
	UNITS	W22	W31	W40	W71	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8754365
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00639	0.00999	0.00615	0.00335	0.00050	8748899
Dissolved Antimony (Sb)	mg/L	0.000068	0.000022	0.000069	0.000497	0.000020	8748899
Dissolved Arsenic (As)	mg/L	0.000215	0.000149	0.000203	0.000459	0.000020	8748899
Dissolved Barium (Ba)	mg/L	0.0637	0.0131	0.0638	0.0558	0.000020	8748899
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8748899
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8748899
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8748899
Dissolved Cadmium (Cd)	mg/L	0.0000258	<0.0000050	0.0000279	0.00378	0.0000050	8748899
Dissolved Chromium (Cr)	mg/L	0.00021	<0.00010	0.00018	<0.00010	0.00010	8748899
Dissolved Cobalt (Co)	mg/L	0.0000253	0.0000215	0.0000215	0.000306	0.0000050	8748899
Dissolved Copper (Cu)	mg/L	0.000516	0.00103	0.000515	0.000539	0.000050	8748899
Dissolved Iron (Fe)	mg/L	0.0188	0.0012	0.0182	0.0888	0.0010	8748899
Dissolved Lead (Pb)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8748899
Dissolved Lithium (Li)	mg/L	0.00201	<0.00050	0.00198	0.00261	0.00050	8748899
Dissolved Manganese (Mn)	mg/L	0.00326	0.000074	0.00328	0.0390	0.000050	8748899
Dissolved Molybdenum (Mo)	mg/L	0.000621	0.000333	0.000614	0.00489	0.000050	8748899
Dissolved Nickel (Ni)	mg/L	0.00121	0.000082	0.00121	0.0361	0.000020	8748899
Dissolved Phosphorus (P)	mg/L	0.0031	0.0029	0.0026	0.0154	0.0020	8748899
Dissolved Selenium (Se)	mg/L	0.000692	0.000207	0.000647	0.00710	0.000040	8748899
Dissolved Silicon (Si)	mg/L	4.09	2.98	3.96	4.25	0.050	8748899
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8748899
Dissolved Strontium (Sr)	mg/L	0.128	0.0161	0.131	0.265	0.000050	8748899
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	0.0000056	0.0000020	8748899
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8748899
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8748899
Dissolved Uranium (U)	mg/L	0.00109	0.0000163	0.00108	0.00978	0.0000020	8748899
Dissolved Vanadium (V)	mg/L	<0.00020	0.00048	<0.00020	0.00021	0.00020	8748899
Dissolved Zinc (Zn)	mg/L	0.00306	0.00176 (1)	0.00281	0.593	0.00010	8748899
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8748899
Dissolved Calcium (Ca)	mg/L	32.3	26.5	31.3	102	0.050	8747526
Dissolved Magnesium (Mg)	mg/L	10.5	1.50	10.4	31.6	0.050	8747526

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8010	RW8011	RW8012	RW8013		
Sampling Date		2017/09/01 12:55	2017/09/01 16:20	2017/09/01 12:45	2017/09/01 13:35		
COC Number		08443848	08443848	08443848	08443848		
	UNITS	W22	W31	W40	W71	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.826	0.438	0.825	0.717	0.050	8747526
Dissolved Sodium (Na)	mg/L	1.70	1.22	1.71	0.908	0.050	8747526
Dissolved Sulphur (S)	mg/L	10.7	<3.0	10.4	42.9	3.0	8747526
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.0157	0.0103	0.0168	0.0163	0.00050	8748912
Total Antimony (Sb)	mg/L	0.000065	0.000020	0.000066	0.000515	0.000020	8748912
Total Arsenic (As)	mg/L	0.000239	0.000138	0.000236	0.000563	0.000020	8748912
Total Barium (Ba)	mg/L	0.0685	0.0136	0.0670	0.0635	0.000020	8748912
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8748912
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8748912
Total Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8748912
Total Cadmium (Cd)	mg/L	0.0000280	<0.0000050	0.0000270	0.00408	0.0000050	8748912
Total Chromium (Cr)	mg/L	0.00024	<0.00010	0.00025	<0.00010	0.00010	8748912
Total Cobalt (Co)	mg/L	0.0000400	0.0000220	0.0000430	0.000330	0.0000050	8748912
Total Copper (Cu)	mg/L	0.000546	0.00104	0.000552	0.000616	0.000050	8748912
Total Iron (Fe)	mg/L	0.0437	0.0015	0.0470	0.168	0.0010	8748912
Total Lead (Pb)	mg/L	0.0000240	<0.0000050	0.0000240	0.0000400	0.0000050	8748912
Total Lithium (Li)	mg/L	0.00217	<0.00050	0.00212	0.00294	0.00050	8748912
Total Manganese (Mn)	mg/L	0.00585	0.000089	0.00593	0.0426	0.000050	8748912
Total Molybdenum (Mo)	mg/L	0.000650	0.000353	0.000659	0.00556	0.000050	8748912
Total Nickel (Ni)	mg/L	0.00130	0.000075	0.00133	0.0373	0.000020	8748912
Total Phosphorus (P)	mg/L	0.0030	0.0027	0.0032	0.0190	0.0020	8748912
Total Selenium (Se)	mg/L	0.000627	0.000199	0.000649	0.00685	0.000040	8748912
Total Silicon (Si)	mg/L	3.90	2.75	3.66	4.27	0.050	8748912
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000050	0.0000050	8748912
Total Strontium (Sr)	mg/L	0.138	0.0174	0.138	0.286	0.000050	8748912
Total Thallium (Tl)	mg/L	0.0000020	<0.0000020	0.0000020	0.0000080	0.0000020	8748912
Total Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8748912
Total Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8748912
Total Uranium (U)	mg/L	0.00117	0.0000170	0.00119	0.0112	0.0000020	8748912
Total Vanadium (V)	mg/L	<0.00020	0.00046	<0.00020	0.00028	0.00020	8748912
Total Zinc (Zn)	mg/L	0.00444	<0.00010	0.00346	0.624	0.00010	8748912
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8748912
Total Calcium (Ca)	mg/L	30.9	25.1	30.9	99.8	0.050	8747527
Total Magnesium (Mg)	mg/L	10.1	1.52	10.6	30.5	0.050	8747527

RDL = Reportable Detection Limit

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8010	RW8011	RW8012	RW8013		
Sampling Date		2017/09/01 12:55	2017/09/01 16:20	2017/09/01 12:45	2017/09/01 13:35		
COC Number		08443848	08443848	08443848	08443848		
	UNITS	**W22**	**W31**	**W40**	**W71**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	0.831	0.433	0.837	0.707	0.050	8747527
Total Sodium (Na)	mg/L	1.61	1.16	1.64	0.873	0.050	8747527
Total Sulphur (S)	mg/L	9.6	<3.0	10.1	41.2	3.0	8747527
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8014		RW8015		RW8016		
Sampling Date		2017/09/01 13:50		2017/09/01 14:10		2017/09/01 15:00		
COC Number		08443848		08443848		08443848		
	UNITS	W72	QC Batch	W73	QC Batch	W81	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	8754267	<0.010	8754365	<0.010	0.010	8754267
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00344	8748899	0.00285	8748899	0.00462	0.00050	8748899
Dissolved Antimony (Sb)	mg/L	0.000292	8748899	0.000111	8748899	0.000038	0.000020	8748899
Dissolved Arsenic (As)	mg/L	0.00122	8748899	0.000232	8748899	0.000109	0.000020	8748899
Dissolved Barium (Ba)	mg/L	0.0841	8748899	0.0675	8748899	0.0479	0.000020	8748899
Dissolved Beryllium (Be)	mg/L	<0.000010	8748899	<0.000010	8748899	<0.000010	0.000010	8748899
Dissolved Bismuth (Bi)	mg/L	<0.0000050	8748899	<0.0000050	8748899	<0.0000050	0.0000050	8748899
Dissolved Boron (B)	mg/L	<0.010	8748899	<0.010	8748899	<0.010	0.010	8748899
Dissolved Cadmium (Cd)	mg/L	0.000321	8748899	0.0000060	8748899	0.0000338	0.0000050	8748899
Dissolved Chromium (Cr)	mg/L	<0.00010	8748899	0.00025	8748899	0.00012	0.00010	8748899
Dissolved Cobalt (Co)	mg/L	0.0000350	8748899	0.0000108	8748899	0.0000230	0.0000050	8748899
Dissolved Copper (Cu)	mg/L	0.000612	8748899	0.000869	8748899	0.000573	0.000050	8748899
Dissolved Iron (Fe)	mg/L	0.0394	8748899	0.0287	8748899	0.0163	0.0010	8748899
Dissolved Lead (Pb)	mg/L	<0.0000050	8748899	<0.0000050	8748899	<0.0000050	0.0000050	8748899
Dissolved Lithium (Li)	mg/L	0.00191	8748899	0.00068	8748899	<0.00050	0.00050	8748899
Dissolved Manganese (Mn)	mg/L	0.0572	8748899	0.00477	8748899	0.00887	0.000050	8748899
Dissolved Molybdenum (Mo)	mg/L	0.00238	8748899	0.000452	8748899	0.000308	0.000050	8748899
Dissolved Nickel (Ni)	mg/L	0.00438	8748899	0.000696	8748899	0.000184	0.000020	8748899
Dissolved Phosphorus (P)	mg/L	0.0156	8748899	0.0033	8748899	0.0036	0.0020	8748899
Dissolved Selenium (Se)	mg/L	0.00235	8748899	0.000831	8748899	0.000590	0.000040	8748899
Dissolved Silicon (Si)	mg/L	4.17	8748899	4.35	8748899	3.02	0.050	8748899
Dissolved Silver (Ag)	mg/L	<0.0000050	8748899	<0.0000050	8748899	<0.0000050	0.0000050	8748899
Dissolved Strontium (Sr)	mg/L	0.219	8748899	0.106	8748899	0.0422	0.000050	8748899
Dissolved Thallium (Tl)	mg/L	<0.0000020	8748899	<0.0000020	8748899	<0.0000020	0.0000020	8748899
Dissolved Tin (Sn)	mg/L	<0.00020	8748899	<0.00020	8748899	<0.00020	0.00020	8748899
Dissolved Titanium (Ti)	mg/L	<0.00050	8748899	<0.00050	8748899	<0.00050	0.00050	8748899
Dissolved Uranium (U)	mg/L	0.00141	8748899	0.000400	8748899	0.000179	0.0000020	8748899
Dissolved Vanadium (V)	mg/L	<0.00020	8748899	<0.00020	8748899	<0.00020	0.00020	8748899
Dissolved Zinc (Zn)	mg/L	0.0433	8748899	0.00022	8748899	0.00137	0.00010	8748899
Dissolved Zirconium (Zr)	mg/L	<0.00010	8748899	<0.00010	8748899	<0.00010	0.00010	8748899
Dissolved Calcium (Ca)	mg/L	52.5	8747526	31.7	8747526	25.7	0.050	8747526
Dissolved Magnesium (Mg)	mg/L	17.7	8747526	9.43	8747526	2.52	0.050	8747526
Dissolved Potassium (K)	mg/L	0.648	8747526	0.280	8747526	0.482	0.050	8747526
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8014		RW8015		RW8016		
Sampling Date		2017/09/01 13:50		2017/09/01 14:10		2017/09/01 15:00		
COC Number		08443848		08443848		08443848		
	UNITS	W72	QC Batch	W73	QC Batch	W81	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	1.62	8747526	1.21	8747526	1.18	0.050	8747526
Dissolved Sulphur (S)	mg/L	19.5	8747526	7.1	8747526	4.1	3.0	8747526
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0194	8748912	0.00818	8748912	0.00788	0.00050	8748912
Total Antimony (Sb)	mg/L	0.000291	8748912	0.000110	8748912	0.000037	0.000020	8748912
Total Arsenic (As)	mg/L	0.00140	8748912	0.000255	8748912	0.000117	0.000020	8748912
Total Barium (Ba)	mg/L	0.0878	8748912	0.0721	8748912	0.0511	0.000020	8748912
Total Beryllium (Be)	mg/L	<0.000010	8748912	<0.000010	8748912	<0.000010	0.000010	8748912
Total Bismuth (Bi)	mg/L	<0.0000050	8748912	<0.0000050	8748912	<0.0000050	0.0000050	8748912
Total Boron (B)	mg/L	<0.010	8748912	<0.010	8748912	<0.010	0.010	8748912
Total Cadmium (Cd)	mg/L	0.000347	8748912	0.0000090	8748912	0.0000350	0.0000050	8748912
Total Chromium (Cr)	mg/L	0.00012	8748912	0.00030	8748912	<0.00010	0.00010	8748912
Total Cobalt (Co)	mg/L	0.0000560	8748912	0.0000220	8748912	0.0000290	0.0000050	8748912
Total Copper (Cu)	mg/L	0.000671	8748912	0.000937	8748912	0.000584	0.000050	8748912
Total Iron (Fe)	mg/L	0.0910	8748912	0.0567	8748912	0.0245	0.0010	8748912
Total Lead (Pb)	mg/L	0.0000430	8748912	0.0000050	8748912	<0.0000050	0.0000050	8748912
Total Lithium (Li)	mg/L	0.00192	8748912	0.00068	8748912	<0.00050	0.00050	8748912
Total Manganese (Mn)	mg/L	0.0696	8748912	0.0106	8748912	0.00999	0.000050	8748912
Total Molybdenum (Mo)	mg/L	0.00249	8748912	0.000510	8748912	0.000341	0.000050	8748912
Total Nickel (Ni)	mg/L	0.00449	8748912	0.000741	8748912	0.000181	0.000020	8748912
Total Phosphorus (P)	mg/L	0.0208	8748912	0.0038	8748912	0.0031	0.0020	8748912
Total Selenium (Se)	mg/L	0.00224	8748912	0.000765	8748912	0.000570	0.000040	8748912
Total Silicon (Si)	mg/L	4.04	8748912	4.05	8748912	3.00	0.050	8748912
Total Silver (Ag)	mg/L	<0.0000050	8748912	<0.0000050	8748912	<0.0000050	0.0000050	8748912
Total Strontium (Sr)	mg/L	0.229	8748912	0.114	8748912	0.0442	0.000050	8748912
Total Thallium (Tl)	mg/L	0.0000020	8748912	<0.0000020	8748912	<0.0000020	0.0000020	8748912
Total Tin (Sn)	mg/L	<0.00020	8748912	<0.00020	8748912	<0.00020	0.00020	8748912
Total Titanium (Ti)	mg/L	<0.00050	8748912	<0.00050	8748912	<0.00050	0.00050	8748912
Total Uranium (U)	mg/L	0.00147	8748912	0.000413	8748912	0.000185	0.0000020	8748912
Total Vanadium (V)	mg/L	0.00025	8748912	<0.00020	8748912	<0.00020	0.00020	8748912
Total Zinc (Zn)	mg/L	0.0456	8748912	0.00025	8748912	0.00135	0.00010	8748912
Total Zirconium (Zr)	mg/L	<0.00010	8748912	<0.00010	8748912	<0.00010	0.00010	8748912
Total Calcium (Ca)	mg/L	49.8	8747527	30.2	8747527	24.5	0.050	8747527
Total Magnesium (Mg)	mg/L	16.7	8747527	9.26	8747527	2.40	0.050	8747527
Total Potassium (K)	mg/L	0.640	8747527	0.283	8747527	0.460	0.050	8747527
RDL = Reportable Detection Limit								

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8014		RW8015		RW8016		
Sampling Date		2017/09/01 13:50		2017/09/01 14:10		2017/09/01 15:00		
COC Number		08443848		08443848		08443848		
	UNITS	**W72**	**QC Batch**	**W73**	**QC Batch**	**W81**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	1.55	8747527	1.15	8747527	1.11	0.050	8747527
Total Sulphur (S)	mg/L	18.1	8747527	6.5	8747527	3.8	3.0	8747527
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8017			RW8018		
Sampling Date		2017/09/01 16:40			2017/08/31 11:00		
COC Number		08443848			08443848		
	UNITS	W82	RDL	QC Batch	BIO-IN	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	0.010	8754365	<0.050 (1)	0.050	8754365
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.0207	0.00050	8748899	0.0091	0.0025	8748899
Dissolved Antimony (Sb)	mg/L	0.000236	0.000020	8748899	0.0395	0.00010	8748899
Dissolved Arsenic (As)	mg/L	0.000139	0.000020	8748899	0.00650	0.00010	8748899
Dissolved Barium (Ba)	mg/L	0.137	0.000020	8748899	0.108	0.00010	8748899
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8748899	<0.000050	0.000050	8748899
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8748899	<0.000025	0.000025	8748899
Dissolved Boron (B)	mg/L	<0.010	0.010	8748899	<0.050	0.050	8748899
Dissolved Cadmium (Cd)	mg/L	0.00420	0.0000050	8748899	0.0830	0.000025	8748899
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8748899	<0.00050	0.00050	8748899
Dissolved Cobalt (Co)	mg/L	0.00118	0.0000050	8748899	0.0195	0.000025	8748899
Dissolved Copper (Cu)	mg/L	0.00406	0.000050	8748899	0.00320	0.00025	8748899
Dissolved Iron (Fe)	mg/L	0.0569	0.0010	8748899	0.0058	0.0050	8748899
Dissolved Lead (Pb)	mg/L	0.0000405	0.0000050	8748899	0.00846	0.000025	8748899
Dissolved Lithium (Li)	mg/L	0.00059	0.00050	8748899	0.0247	0.0025	8748899
Dissolved Manganese (Mn)	mg/L	0.136	0.000050	8748899	5.30	0.00025	8748899
Dissolved Molybdenum (Mo)	mg/L	0.000322	0.000050	8748899	0.0118	0.00025	8748899
Dissolved Nickel (Ni)	mg/L	0.0244	0.000020	8748899	0.0628	0.00010	8748899
Dissolved Phosphorus (P)	mg/L	0.0078	0.0020	8748899	0.014	0.010	8748899
Dissolved Selenium (Se)	mg/L	0.00322	0.000040	8748899	0.0900	0.00020	8748899
Dissolved Silicon (Si)	mg/L	3.32	0.050	8748899	5.69	0.25	8748899
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8748899	0.000106	0.000025	8748899
Dissolved Strontium (Sr)	mg/L	0.117	0.000050	8748899	1.98	0.00025	8748899
Dissolved Thallium (Tl)	mg/L	0.0000085	0.0000020	8748899	0.00684	0.000010	8748899
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8748899	<0.0010	0.0010	8748899
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8748899	<0.0025	0.0025	8748899
Dissolved Uranium (U)	mg/L	0.000329	0.0000020	8748899	0.0158	0.000010	8748899
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8748899	<0.0010	0.0010	8748899
Dissolved Zinc (Zn)	mg/L	0.334	0.00010	8748899	11.3	0.00050	8748899
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8748899	<0.00050	0.00050	8748899
Dissolved Calcium (Ca)	mg/L	46.5	0.050	8747526	498	0.25	8747526
Dissolved Magnesium (Mg)	mg/L	4.56	0.050	8747526	34.0	0.25	8747526

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8017			RW8018		
Sampling Date		2017/09/01 16:40			2017/08/31 11:00		
COC Number		08443848			08443848		
	UNITS	W82	RDL	QC Batch	BIO-IN	RDL	QC Batch
Dissolved Potassium (K)	mg/L	1.23	0.050	8747526	20.9	0.25	8747526
Dissolved Sodium (Na)	mg/L	1.20	0.050	8747526	65.3	0.25	8747526
Dissolved Sulphur (S)	mg/L	15.9	3.0	8747526	495	15	8747526
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.0590	0.00050	8748912	92.5	0.15	8748988
Total Antimony (Sb)	mg/L	0.000229	0.000020	8748912	0.329	0.0010	8748988
Total Arsenic (As)	mg/L	0.000216	0.000020	8748912	2.25	0.0010	8748988
Total Barium (Ba)	mg/L	0.142	0.000020	8748912	1.96	0.0025	8748988
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8748912	0.00261	0.00050	8748988
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8748912	0.0683	0.00050	8748988
Total Boron (B)	mg/L	<0.010	0.010	8748912	<0.50	0.50	8748988
Total Cadmium (Cd)	mg/L	0.00429	0.0000050	8748912	1.84	0.00025	8748988
Total Chromium (Cr)	mg/L	0.00012	0.00010	8748912	0.239	0.0050	8748988
Total Cobalt (Co)	mg/L	0.00129	0.0000050	8748912	0.150	0.00050	8748988
Total Copper (Cu)	mg/L	0.00778	0.000050	8748912	15.2	0.0050	8748988
Total Iron (Fe)	mg/L	0.197	0.0010	8748912	401	0.25	8748988
Total Lead (Pb)	mg/L	0.000381	0.0000050	8748912	23.6	0.0010	8748988
Total Lithium (Li)	mg/L	0.00058	0.00050	8748912	0.133	0.025	8748988
Total Manganese (Mn)	mg/L	0.155	0.000050	8748912	11.8	0.0050	8748988
Total Molybdenum (Mo)	mg/L	0.000359	0.000050	8748912	0.0327	0.0025	8748988
Total Nickel (Ni)	mg/L	0.0254	0.000020	8748912	0.503	0.0050	8748988
Total Phosphorus (P)	mg/L	0.0151	0.0020	8748912	4.77	0.25	8748988
Total Selenium (Se)	mg/L	0.00305	0.000040	8748912	0.958	0.0020	8748988
Total Silicon (Si)	mg/L	3.07	0.050	8748912	108	2.5	8748988
Total Silver (Ag)	mg/L	0.0000100	0.0000050	8748912	0.391	0.00050	8748988
Total Strontium (Sr)	mg/L	0.125	0.000050	8748912	2.74	0.0025	8748988
Total Thallium (Tl)	mg/L	0.0000070	0.0000020	8748912	0.0433	0.00010	8748988
Total Tin (Sn)	mg/L	<0.00020	0.00020	8748912	0.037	0.010	8748988
Total Titanium (Ti)	mg/L	0.00071	0.00050	8748912	2.25	0.10	8748988
Total Uranium (U)	mg/L	0.000350	0.0000020	8748912	0.0472	0.00025	8748988
Total Vanadium (V)	mg/L	<0.00020	0.00020	8748912	0.235	0.010	8748988
Total Zinc (Zn)	mg/L	0.343	0.00010	8748912	227	0.050	8748988
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8748912	0.0152	0.0050	8748988
Total Calcium (Ca)	mg/L	45.4	0.050	8747527	801	13	8747527
Total Magnesium (Mg)	mg/L	4.37	0.050	8747527	113	13	8747527
RDL = Reportable Detection Limit							

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8017			RW8018		
Sampling Date		2017/09/01 16:40			2017/08/31 11:00		
COC Number		08443848			08443848		
	UNITS	**W82**	**RDL**	**QC Batch**	**BIO-IN**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	1.22	0.050	8747527	30	13	8747527
Total Sodium (Na)	mg/L	1.11	0.050	8747527	72	13	8747527
Total Sulphur (S)	mg/L	14.6	3.0	8747527	687	150	8747527
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8019			RW8020		
Sampling Date		2017/08/31 11:15			2017/08/31 15:00		
COC Number		08443848			08443848		
	UNITS	BIO-OUT	RDL	QC Batch	PORTAL	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.050 (1)	0.050	8754365	<0.050 (1)	0.050	8754196
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	<0.0025	0.0025	8748899	0.00974	0.00050	8748899
Dissolved Antimony (Sb)	mg/L	0.00054	0.00010	8748899	0.000388	0.000020	8748899
Dissolved Arsenic (As)	mg/L	0.00099	0.00010	8748899	0.00330	0.000020	8748899
Dissolved Barium (Ba)	mg/L	0.0617	0.00010	8748899	0.0250	0.000020	8748899
Dissolved Beryllium (Be)	mg/L	<0.000050	0.000050	8748899	<0.000010	0.000010	8748899
Dissolved Bismuth (Bi)	mg/L	<0.000025	0.000025	8748899	<0.0000050	0.0000050	8748899
Dissolved Boron (B)	mg/L	<0.050	0.050	8748899	0.016	0.010	8748899
Dissolved Cadmium (Cd)	mg/L	0.00183	0.000025	8748899	0.00376	0.0000050	8748899
Dissolved Chromium (Cr)	mg/L	<0.00050	0.00050	8748899	<0.00010	0.00010	8748899
Dissolved Cobalt (Co)	mg/L	0.00194	0.000025	8748899	0.00560	0.0000050	8748899
Dissolved Copper (Cu)	mg/L	<0.00025	0.00025	8748899	0.000056	0.000050	8748899
Dissolved Iron (Fe)	mg/L	5.61	0.0050	8748899	7.97	0.0010	8748899
Dissolved Lead (Pb)	mg/L	<0.000025	0.000025	8748899	0.0000466	0.0000050	8748899
Dissolved Lithium (Li)	mg/L	0.0073	0.0025	8748899	0.0125	0.00050	8748899
Dissolved Manganese (Mn)	mg/L	3.76	0.00025	8748899	1.07	0.000050	8748899
Dissolved Molybdenum (Mo)	mg/L	0.00109	0.00025	8748899	0.00959	0.000050	8748899
Dissolved Nickel (Ni)	mg/L	0.0101	0.00010	8748899	0.0256	0.000020	8748899
Dissolved Phosphorus (P)	mg/L	<0.010	0.010	8748899	0.0137	0.0020	8748899
Dissolved Selenium (Se)	mg/L	0.00561	0.00020	8748899	0.00480	0.000040	8748899
Dissolved Silicon (Si)	mg/L	5.80	0.25	8748899	4.60	0.050	8748899
Dissolved Silver (Ag)	mg/L	<0.000025	0.000025	8748899	<0.0000050	0.0000050	8748899
Dissolved Strontium (Sr)	mg/L	0.995	0.00025	8748899	1.12	0.000050	8748899
Dissolved Thallium (Tl)	mg/L	0.000373	0.000010	8748899	0.000330	0.0000020	8748899
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	8748899	<0.00020	0.00020	8748899
Dissolved Titanium (Ti)	mg/L	<0.0025	0.0025	8748899	<0.00050	0.00050	8748899
Dissolved Uranium (U)	mg/L	0.000980	0.000010	8748899	0.00351	0.0000020	8748899
Dissolved Vanadium (V)	mg/L	<0.0010	0.0010	8748899	<0.00020	0.00020	8748899
Dissolved Zinc (Zn)	mg/L	1.78	0.00050	8748899	0.617	0.00010	8748899
Dissolved Zirconium (Zr)	mg/L	<0.00050	0.00050	8748899	<0.00010	0.00010	8748899
Dissolved Calcium (Ca)	mg/L	317	0.25	8747526	175	0.050	8747526
Dissolved Magnesium (Mg)	mg/L	29.7	0.25	8747526	23.1	0.050	8747526

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8019			RW8020		
Sampling Date		2017/08/31 11:15			2017/08/31 15:00		
COC Number		08443848			08443848		
	UNITS	BIO-OUT	RDL	QC Batch	PORTAL	RDL	QC Batch
Dissolved Potassium (K)	mg/L	9.96	0.25	8747526	22.8	0.050	8747526
Dissolved Sodium (Na)	mg/L	40.1	0.25	8747526	53.3	0.050	8747526
Dissolved Sulphur (S)	mg/L	272	15	8747526	189	3.0	8747526
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.00376	0.00050	8748912	0.0688	0.00050	8748912
Total Antimony (Sb)	mg/L	0.000456	0.000020	8748912	0.000957	0.000020	8748912
Total Arsenic (As)	mg/L	0.00129	0.000020	8748912	0.00576	0.000020	8748912
Total Barium (Ba)	mg/L	0.0675	0.000020	8748912	0.0293	0.000020	8748912
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8748912	<0.000010	0.000010	8748912
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8748912	0.0000230	0.0000050	8748912
Total Boron (B)	mg/L	<0.010	0.010	8748912	0.016	0.010	8748912
Total Cadmium (Cd)	mg/L	0.00791	0.0000050	8748912	0.00577	0.0000050	8748912
Total Chromium (Cr)	mg/L	<0.00010	0.00010	8748912	<0.00010	0.00010	8748912
Total Cobalt (Co)	mg/L	0.00188	0.0000050	8748912	0.00585	0.0000050	8748912
Total Copper (Cu)	mg/L	0.000437	0.000050	8748912	0.00395	0.000050	8748912
Total Iron (Fe)	mg/L	6.61	0.0010	8748912	8.32	0.0010	8748912
Total Lead (Pb)	mg/L	0.000176	0.0000050	8748912	0.00731	0.0000050	8748912
Total Lithium (Li)	mg/L	0.00713	0.00050	8748912	0.0126	0.00050	8748912
Total Manganese (Mn)	mg/L	3.81	0.000050	8748912	1.09	0.000050	8748912
Total Molybdenum (Mo)	mg/L	0.00123	0.000050	8748912	0.0102	0.000050	8748912
Total Nickel (Ni)	mg/L	0.00935	0.000020	8748912	0.0270	0.000020	8748912
Total Phosphorus (P)	mg/L	0.0202	0.0020	8748912	0.0198	0.0020	8748912
Total Selenium (Se)	mg/L	0.00532	0.000040	8748912	0.00504	0.000040	8748912
Total Silicon (Si)	mg/L	5.39	0.050	8748912	4.18	0.050	8748912
Total Silver (Ag)	mg/L	0.0000060	0.0000050	8748912	0.0000210	0.0000050	8748912
Total Strontium (Sr)	mg/L	1.11	0.000050	8748912	1.20	0.000050	8748912
Total Thallium (Tl)	mg/L	0.000356	0.0000020	8748912	0.000343	0.0000020	8748912
Total Tin (Sn)	mg/L	<0.00020	0.00020	8748912	<0.00020	0.00020	8748912
Total Titanium (Ti)	mg/L	<0.00050	0.00050	8748912	0.00143	0.00050	8748912
Total Uranium (U)	mg/L	0.00102	0.0000020	8748912	0.00364	0.0000020	8748912
Total Vanadium (V)	mg/L	<0.00020	0.00020	8748912	<0.00020	0.00020	8748912
Total Zinc (Zn)	mg/L	1.76	0.00010	8748912	0.780	0.00010	8748912
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8748912	<0.00010	0.00010	8748912
Total Calcium (Ca)	mg/L	317	0.050	8747527	175	0.050	8747527
Total Magnesium (Mg)	mg/L	27.3	0.050	8747527	22.5	0.050	8747527
RDL = Reportable Detection Limit							

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8019			RW8020		
Sampling Date		2017/08/31 11:15			2017/08/31 15:00		
COC Number		08443848			08443848		
	UNITS	**BIO-OUT**	**RDL**	**QC Batch**	**PORTAL**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	9.49	0.050	8747527	21.1	0.050	8747527
Total Sodium (Na)	mg/L	36.8	0.050	8747527	49.2	0.050	8747527
Total Sulphur (S)	mg/L	260	3.0	8747527	190	3.0	8747527
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8021		RW8022			RW8023		
Sampling Date		2017/08/31 13:45		2017/08/31 14:05			2017/08/31 14:20		
COC Number		08443848		08443848			08443848		
	UNITS	DUP	RDL	T1-2	RDL	QC Batch	T1-3	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	0.062 (1)	0.050	0.115 (1)	0.050	8754365	0.164 (1)	0.050	8754267
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.118	0.0025	0.049	0.010	8748899	0.072	0.010	8748899
Dissolved Antimony (Sb)	mg/L	0.0266	0.00010	0.0501	0.00040	8748899	0.0762	0.00040	8748899
Dissolved Arsenic (As)	mg/L	0.00639	0.00010	0.00759	0.00040	8748899	0.0105 (2)	0.00010	8755990
Dissolved Barium (Ba)	mg/L	0.0320	0.00010	0.0544	0.00040	8748899	0.0749	0.00040	8748899
Dissolved Beryllium (Be)	mg/L	<0.000050	0.000050	<0.00020	0.00020	8748899	<0.00020	0.00020	8748899
Dissolved Bismuth (Bi)	mg/L	<0.000025	0.000025	<0.00010	0.00010	8748899	0.00018	0.00010	8748899
Dissolved Boron (B)	mg/L	<0.050	0.050	<0.20	0.20	8748899	<0.20	0.20	8748899
Dissolved Cadmium (Cd)	mg/L	0.0139	0.000025	0.0143	0.00010	8748899	0.00434	0.00010	8748899
Dissolved Chromium (Cr)	mg/L	<0.00050	0.00050	<0.0020	0.0020	8748899	<0.0020	0.0020	8748899
Dissolved Cobalt (Co)	mg/L	0.00179	0.000025	0.00208	0.00010	8748899	0.00109	0.00010	8748899
Dissolved Copper (Cu)	mg/L	0.180	0.00025	0.307	0.0010	8748899	0.854 (2)	0.00025	8755990
Dissolved Iron (Fe)	mg/L	2.10	0.0050	1.65	0.020	8748899	2.11	0.020	8748899
Dissolved Lead (Pb)	mg/L	0.134	0.000025	0.0967	0.00010	8748899	0.233	0.00010	8748899
Dissolved Lithium (Li)	mg/L	0.0079	0.0025	0.014	0.010	8748899	0.019	0.010	8748899
Dissolved Manganese (Mn)	mg/L	0.480	0.00025	0.637	0.0010	8748899	0.213	0.0010	8748899
Dissolved Molybdenum (Mo)	mg/L	0.0208	0.00025	0.0257	0.0010	8748899	0.108 (2)	0.00025	8755990
Dissolved Nickel (Ni)	mg/L	0.00904	0.00010	0.0101	0.00040	8748899	0.0130	0.00040	8748899
Dissolved Phosphorus (P)	mg/L	0.054	0.010	0.118	0.040	8748899	0.240 (2)	0.010	8755990
Dissolved Selenium (Se)	mg/L	0.359	0.00020	1.52	0.00080	8748899	3.65	0.00080	8748899
Dissolved Silicon (Si)	mg/L	1.80	0.25	2.5	1.0	8748899	2.1	1.0	8748899
Dissolved Silver (Ag)	mg/L	0.000184	0.000025	0.00416	0.00010	8748899	0.00085	0.00010	8748899
Dissolved Strontium (Sr)	mg/L	1.37	0.00025	2.60	0.0010	8748899	3.72	0.0010	8748899
Dissolved Thallium (Tl)	mg/L	0.000872	0.000010	0.00143	0.000040	8748899	0.00122	0.000040	8748899
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	<0.0040	0.0040	8748899	<0.0040	0.0040	8748899
Dissolved Titanium (Ti)	mg/L	<0.0025	0.0025	<0.010	0.010	8748899	<0.010	0.010	8748899
Dissolved Uranium (U)	mg/L	0.000550	0.000010	0.000240	0.000040	8748899	0.000165	0.000040	8748899
Dissolved Vanadium (V)	mg/L	<0.0010	0.0010	<0.0040	0.0040	8748899	<0.0040	0.0040	8748899
Dissolved Zinc (Zn)	mg/L	1.64	0.00050	1.86	0.0020	8748899	1.21	0.0020	8748899
Dissolved Zirconium (Zr)	mg/L	<0.00050	0.00050	<0.0020	0.0020	8748899	<0.0020	0.0020	8748899
Dissolved Calcium (Ca)	mg/L	365	0.25	662	1.0	8747526	839	0.25	8755237

RDL = Reportable Detection Limit

(1) RDL raised due to sample matrix interference.

(2) Dissolved greater than total. Reanalysis yields similar results.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8021		RW8022			RW8023		
Sampling Date		2017/08/31 13:45		2017/08/31 14:05			2017/08/31 14:20		
COC Number		08443848		08443848			08443848		
	UNITS	DUP	RDL	T1-2	RDL	QC Batch	T1-3	RDL	QC Batch
Dissolved Magnesium (Mg)	mg/L	4.33	0.25	3.9	1.0	8747526	1.81 (1)	0.25	8755237
Dissolved Potassium (K)	mg/L	28.1	0.25	55.8	1.0	8747526	79.6	0.25	8755237
Dissolved Sodium (Na)	mg/L	104	0.25	214	1.0	8747526	289	0.25	8755237
Dissolved Sulphur (S)	mg/L	445	15	929	60	8747526	1000	15	8755237
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	0.127	0.015	0.065	0.060	8748988	0.074	0.060	8748988
Total Antimony (Sb)	mg/L	0.0262	0.00010	0.0482	0.00040	8748988	0.0680	0.00040	8748988
Total Arsenic (As)	mg/L	0.00665	0.00010	0.00801	0.00040	8748988	0.00517	0.00040	8748988
Total Barium (Ba)	mg/L	0.0361	0.00025	0.0602	0.0010	8748988	0.0754	0.0010	8748988
Total Beryllium (Be)	mg/L	<0.000050	0.000050	<0.00020	0.00020	8748988	<0.00020	0.00020	8748988
Total Bismuth (Bi)	mg/L	<0.000050	0.000050	<0.00020	0.00020	8748988	<0.00020	0.00020	8748988
Total Boron (B)	mg/L	<0.050	0.050	<0.20	0.20	8748988	<0.20	0.20	8748988
Total Cadmium (Cd)	mg/L	0.0134	0.000025	0.0133	0.00010	8748988	0.00410	0.00010	8748988
Total Chromium (Cr)	mg/L	<0.00050	0.00050	<0.0020	0.0020	8748988	<0.0020	0.0020	8748988
Total Cobalt (Co)	mg/L	0.00176	0.000050	0.00199	0.00020	8748988	0.00098	0.00020	8748988
Total Copper (Cu)	mg/L	0.179	0.00050	0.302	0.0020	8748988	0.577	0.0020	8748988
Total Iron (Fe)	mg/L	2.03	0.025	1.61	0.10	8748988	1.91	0.10	8748988
Total Lead (Pb)	mg/L	0.127	0.00010	0.0934	0.00040	8748988	0.213	0.00040	8748988
Total Lithium (Li)	mg/L	0.0079	0.0025	0.014	0.010	8748988	0.018	0.010	8748988
Total Manganese (Mn)	mg/L	0.460	0.00050	0.608	0.0020	8748988	0.193	0.0020	8748988
Total Molybdenum (Mo)	mg/L	0.0205	0.00025	0.0272	0.0010	8748988	0.0661	0.0010	8748988
Total Nickel (Ni)	mg/L	0.00917	0.00050	0.0098	0.0020	8748988	0.0128	0.0020	8748988
Total Phosphorus (P)	mg/L	0.069	0.025	0.12	0.10	8748988	0.16	0.10	8748988
Total Selenium (Se)	mg/L	0.354	0.00020	1.30	0.00080	8748988	3.11	0.00080	8748988
Total Silicon (Si)	mg/L	1.73	0.25	2.3	1.0	8748988	2.0	1.0	8748988
Total Silver (Ag)	mg/L	0.00190	0.000050	0.00733	0.00020	8748988	0.00405	0.00020	8748988
Total Strontium (Sr)	mg/L	1.29	0.00025	2.45	0.0010	8748988	3.35	0.0010	8748988
Total Thallium (Tl)	mg/L	0.000848	0.000010	0.00132	0.000040	8748988	0.00117	0.000040	8748988
Total Tin (Sn)	mg/L	<0.0010	0.0010	<0.0040	0.0040	8748988	<0.0040	0.0040	8748988
Total Titanium (Ti)	mg/L	<0.010	0.010	<0.040	0.040	8748988	<0.040	0.040	8748988
Total Uranium (U)	mg/L	0.000516	0.000025	0.00029	0.00010	8748988	0.00018	0.00010	8748988
Total Vanadium (V)	mg/L	<0.0010	0.0010	<0.0040	0.0040	8748988	<0.0040	0.0040	8748988
Total Zinc (Zn)	mg/L	1.60	0.0050	1.76	0.020	8748988	1.12	0.020	8748988
Total Zirconium (Zr)	mg/L	<0.00050	0.00050	<0.0020	0.0020	8748988	<0.0020	0.0020	8748988

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8021		RW8022			RW8023		
Sampling Date		2017/08/31 13:45		2017/08/31 14:05			2017/08/31 14:20		
COC Number		08443848		08443848			08443848		
	UNITS	DUP	RDL	T1-2	RDL	QC Batch	T1-3	RDL	QC Batch
Total Calcium (Ca)	mg/L	345	1.3	613	5.0	8747527	815	5.0	8747527
Total Magnesium (Mg)	mg/L	4.2	1.3	<5.0	5.0	8747527	<5.0	5.0	8747527
Total Potassium (K)	mg/L	27.2	1.3	52.0	5.0	8747527	75.6	5.0	8747527
Total Sodium (Na)	mg/L	97.6	1.3	194	5.0	8747527	279	5.0	8747527
Total Sulphur (S)	mg/L	439	15	879	60	8747527	936	60	8747527
RDL = Reportable Detection Limit									

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8024		RW8025			RW8026		
Sampling Date		2017/09/05 11:20		2017/09/01 14:20			2017/08/31 13:25		
COC Number		08443848		08443848			08443848		
	UNITS	TRAVEL BLANK	QC Batch	FIELD BLANK	RDL	QC Batch	T1	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	<0.010	8754196	<0.010	0.010	8754291	0.068	0.010	8754291
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L			<0.00050	0.00050	8748899	0.130	0.010	8748899
Dissolved Antimony (Sb)	mg/L			<0.000020	0.000020	8748899	0.0292	0.00040	8748899
Dissolved Arsenic (As)	mg/L			<0.000020	0.000020	8748899	0.00688	0.00040	8748899
Dissolved Barium (Ba)	mg/L			<0.000020	0.000020	8748899	0.0336	0.00040	8748899
Dissolved Beryllium (Be)	mg/L			<0.000010	0.000010	8748899	<0.00020	0.00020	8748899
Dissolved Bismuth (Bi)	mg/L			<0.0000050	0.0000050	8748899	<0.00010	0.00010	8748899
Dissolved Boron (B)	mg/L			<0.010	0.010	8748899	<0.20	0.20	8748899
Dissolved Cadmium (Cd)	mg/L			<0.0000050	0.0000050	8748899	0.0153	0.00010	8748899
Dissolved Chromium (Cr)	mg/L			<0.00010	0.00010	8748899	<0.0020	0.0020	8748899
Dissolved Cobalt (Co)	mg/L			<0.0000050	0.0000050	8748899	0.00209	0.00010	8748899
Dissolved Copper (Cu)	mg/L			0.000101	0.000050	8748899	0.203	0.0010	8748899
Dissolved Iron (Fe)	mg/L			<0.0010	0.0010	8748899	2.28	0.020	8748899
Dissolved Lead (Pb)	mg/L			<0.0000050	0.0000050	8748899	0.145	0.00010	8748899
Dissolved Lithium (Li)	mg/L			<0.00050	0.00050	8748899	<0.010	0.010	8748899
Dissolved Manganese (Mn)	mg/L			<0.000050	0.000050	8748899	0.530	0.0010	8748899
Dissolved Molybdenum (Mo)	mg/L			<0.000050	0.000050	8748899	0.0224	0.0010	8748899
Dissolved Nickel (Ni)	mg/L			<0.000020	0.000020	8748899	0.0103	0.00040	8748899
Dissolved Phosphorus (P)	mg/L			<0.0020	0.0020	8748899	0.053	0.040	8748899
Dissolved Selenium (Se)	mg/L			<0.000040	0.000040	8748899	0.380	0.00080	8748899
Dissolved Silicon (Si)	mg/L			<0.050	0.050	8748899	1.9	1.0	8748899
Dissolved Silver (Ag)	mg/L			<0.0000050	0.0000050	8748899	0.00024	0.00010	8748899
Dissolved Strontium (Sr)	mg/L			<0.000050	0.000050	8748899	1.44	0.0010	8748899
Dissolved Thallium (Tl)	mg/L			<0.0000020	0.0000020	8748899	0.000943	0.000040	8748899
Dissolved Tin (Sn)	mg/L			<0.00020	0.00020	8748899	<0.0040	0.0040	8748899
Dissolved Titanium (Ti)	mg/L			<0.00050	0.00050	8748899	<0.010	0.010	8748899
Dissolved Uranium (U)	mg/L			<0.0000020	0.0000020	8748899	0.000516	0.000040	8748899
Dissolved Vanadium (V)	mg/L			<0.00020	0.00020	8748899	<0.0040	0.0040	8748899
Dissolved Zinc (Zn)	mg/L			<0.00010	0.00010	8748899	1.87	0.0020	8748899
Dissolved Zirconium (Zr)	mg/L			<0.00010	0.00010	8748899	<0.0020	0.0020	8748899
Dissolved Calcium (Ca)	mg/L			<0.050	0.050	8747526	382	1.0	8747526
Dissolved Magnesium (Mg)	mg/L			<0.050	0.050	8747526	4.8	1.0	8747526
Dissolved Potassium (K)	mg/L			<0.050	0.050	8747526	29.0	1.0	8747526

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8024		RW8025			RW8026		
Sampling Date		2017/09/05 11:20		2017/09/01 14:20			2017/08/31 13:25		
COC Number		08443848		08443848			08443848		
	UNITS	TRAVEL BLANK	QC Batch	FIELD BLANK	RDL	QC Batch	T1	RDL	QC Batch
Dissolved Sodium (Na)	mg/L			<0.050	0.050	8747526	112	1.0	8747526
Dissolved Sulphur (S)	mg/L			<3.0	3.0	8747526	506	60	8747526
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	<0.00050	8748912	<0.00050	0.00050	8748912	0.130	0.060	8748988
Total Antimony (Sb)	mg/L	<0.000020	8748912	<0.000020	0.000020	8748912	0.0270	0.00040	8748988
Total Arsenic (As)	mg/L	<0.000020	8748912	<0.000020	0.000020	8748912	0.00689	0.00040	8748988
Total Barium (Ba)	mg/L	<0.000020	8748912	<0.000020	0.000020	8748912	0.0364	0.0010	8748988
Total Beryllium (Be)	mg/L	<0.000010	8748912	<0.000010	0.000010	8748912	<0.00020	0.00020	8748988
Total Bismuth (Bi)	mg/L	<0.0000050	8748912	<0.0000050	0.0000050	8748912	<0.00020	0.00020	8748988
Total Boron (B)	mg/L	<0.010	8748912	<0.010	0.010	8748912	<0.20	0.20	8748988
Total Cadmium (Cd)	mg/L	<0.0000050	8748912	<0.0000050	0.0000050	8748912	0.0141	0.00010	8748988
Total Chromium (Cr)	mg/L	<0.00010	8748912	<0.00010	0.00010	8748912	<0.0020	0.0020	8748988
Total Cobalt (Co)	mg/L	<0.0000050	8748912	<0.0000050	0.0000050	8748912	0.00174	0.00020	8748988
Total Copper (Cu)	mg/L	<0.000050	8748912	<0.000050	0.000050	8748912	0.192	0.0020	8748988
Total Iron (Fe)	mg/L	<0.0010	8748912	<0.0010	0.0010	8748912	2.16	0.10	8748988
Total Lead (Pb)	mg/L	<0.0000050	8748912	<0.0000050	0.0000050	8748912	0.131	0.00040	8748988
Total Lithium (Li)	mg/L	<0.00050	8748912	<0.00050	0.00050	8748912	<0.010	0.010	8748988
Total Manganese (Mn)	mg/L	<0.000050	8748912	<0.000050	0.000050	8748912	0.496	0.0020	8748988
Total Molybdenum (Mo)	mg/L	<0.000050	8748912	<0.000050	0.000050	8748912	0.0211	0.0010	8748988
Total Nickel (Ni)	mg/L	<0.000020	8748912	<0.000020	0.000020	8748912	0.0095	0.0020	8748988
Total Phosphorus (P)	mg/L	<0.0020	8748912	<0.0020	0.0020	8748912	<0.10	0.10	8748988
Total Selenium (Se)	mg/L	<0.000040	8748912	<0.000040	0.000040	8748912	0.363	0.00080	8748988
Total Silicon (Si)	mg/L	<0.050	8748912	<0.050	0.050	8748912	1.8	1.0	8748988
Total Silver (Ag)	mg/L	<0.0000050	8748912	<0.0000050	0.0000050	8748912	0.00157	0.00020	8748988
Total Strontium (Sr)	mg/L	<0.000050	8748912	<0.000050	0.000050	8748912	1.31	0.0010	8748988
Total Thallium (Tl)	mg/L	<0.0000020	8748912	<0.0000020	0.0000020	8748912	0.000859	0.000040	8748988
Total Tin (Sn)	mg/L	<0.00020	8748912	<0.00020	0.00020	8748912	<0.0040	0.0040	8748988
Total Titanium (Ti)	mg/L	<0.00050	8748912	<0.00050	0.00050	8748912	<0.040	0.040	8748988
Total Uranium (U)	mg/L	<0.0000020	8748912	<0.0000020	0.0000020	8748912	0.00050	0.00010	8748988
Total Vanadium (V)	mg/L	<0.00020	8748912	<0.00020	0.00020	8748912	<0.0040	0.0040	8748988
Total Zinc (Zn)	mg/L	<0.00010	8748912	<0.00010	0.00010	8748912	1.73	0.020	8748988
Total Zirconium (Zr)	mg/L	<0.00010	8748912	<0.00010	0.00010	8748912	<0.0020	0.0020	8748988
Total Calcium (Ca)	mg/L	<0.050	8747527	<0.050	0.050	8747527	355	5.0	8747527
Total Magnesium (Mg)	mg/L	<0.050	8747527	<0.050	0.050	8747527	<5.0	5.0	8747527
Total Potassium (K)	mg/L	<0.050	8747527	<0.050	0.050	8747527	26.4	5.0	8747527

RDL = Reportable Detection Limit

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RW8024		RW8025			RW8026		
Sampling Date		2017/09/05 11:20		2017/09/01 14:20			2017/08/31 13:25		
COC Number		08443848		08443848			08443848		
	UNITS	**TRAVEL BLANK**	**QC Batch**	**FIELD BLANK**	**RDL**	**QC Batch**	**T1**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	<0.050	8747527	<0.050	0.050	8747527	99.7	5.0	8747527
Total Sulphur (S)	mg/L	<3.0	8747527	<3.0	3.0	8747527	458	60	8747527
RDL = Reportable Detection Limit									

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.3°C
Package 2	4.7°C
Package 3	5.0°C
Package 4	4.3°C
Package 5	5.3°C

Sample RW8002 [MW06-09M] : Sample received past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8003 [W1] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8004 [L1] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8005 [W8] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8006 [W9] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8007 [W15] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8008 [W16] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past

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method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8009 [W21] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8010 [W22] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8011 [W31] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8012 [W40] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8013 [W71] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8014 [W72] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8015 [W73] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8016 [W81] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

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Sample RW8017 [W82] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8018 [BIO-IN] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8019 [BIO-OUT] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8020 [PORTAL] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8021 [DUP] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8022 [T1-2] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8023 [T1-3] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8024 [TRAVEL BLANK] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Turbidity. Sample analyzed past method specified hold time for Total Suspended Solids. Sample received past method specified hold time for Total Suspended Solids. Sample was analyzed past method specified hold time for Acidity pH 4.5 & pH 8.3 (as CaCO3). Sample received past method specified hold time for Acidity pH 4.5 & pH 8.3 (as CaCO3). Sample analyzed past method specified hold time for Alkalinity - Water. Sample received past method specified hold time for Alkalinity - Water. Sample analyzed past method specified hold time for Conductance - water. Sample received past method specified hold time for Conductance - water. Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue). Sample received past method specified hold time for Total Dissolved Solids (Filt. Residue).

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Sample RW8025 [FIELD BLANK] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RW8026 [T1] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER) Comments

Sample RW8018 [BIO-IN] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Method Blank Elements by ICPMS Digested LL (total): Method blank exceeds acceptance limits for P- 2X RDL acceptable for low level metals determination.
Sample RW8018 [BIO-IN] Elements by ICPMS Digested LL (total): RDL raised due to concentration over linear range, sample dilution required.
Sample RW8019 [BIO-OUT] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RW8021 [DUP] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RW8021 [DUP] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RW8022 [T1-2] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RW8022 [T1-2] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RW8023 [T1-3] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RW8023 [T1-3] Elements by ICPMS Low Level (dissolved): RDL raised due to concentration over linear range, sample dilution required.
Sample RW8023 [T1-3] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RW8026 [T1] Elements by ICPMS Low Level (dissolved): RDL raised due to sample matrix interference.
Sample RW8026 [T1] Elements by ICPMS Digested LL (total): RDL raised due to sample matrix interference.
Sample RW8023, Elements by ICPMS Low Level (dissolved): Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B775568
Report Date: 2017/09/14

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8748227	Turbidity	2017/09/05			99	80 - 120	<0.10	NTU	NC	20		
8748228	Turbidity	2017/09/05			101	80 - 120	<0.10	NTU	1.5	20		
8748748	Total Suspended Solids	2017/09/07	113	80 - 120	100	80 - 120	<4.0	mg/L	NC	20		
8748752	Total Suspended Solids	2017/09/07	115	80 - 120	104	80 - 120	<4.0	mg/L	NC	20		
8748753	Total Dissolved Solids	2017/09/07	99	80 - 120	103	80 - 120	<10	mg/L	4.9	20		
8748898	Dissolved Aluminum (Al)	2017/09/07	103	80 - 120	105	80 - 120	<0.00050	mg/L	2.1	20		
8748898	Dissolved Antimony (Sb)	2017/09/07	99	80 - 120	97	80 - 120	<0.000020	mg/L	0	20		
8748898	Dissolved Arsenic (As)	2017/09/07	105	80 - 120	100	80 - 120	<0.000020	mg/L	2.3	20		
8748898	Dissolved Barium (Ba)	2017/09/07	NC	80 - 120	102	80 - 120	<0.000020	mg/L	0.93	20		
8748898	Dissolved Beryllium (Be)	2017/09/07	101	80 - 120	102	80 - 120	<0.000010	mg/L	NC	20		
8748898	Dissolved Bismuth (Bi)	2017/09/07	93	80 - 120	99	80 - 120	<0.0000050	mg/L	NC	20		
8748898	Dissolved Boron (B)	2017/09/07	96	80 - 120	97	80 - 120	<0.010	mg/L	1.9	20		
8748898	Dissolved Cadmium (Cd)	2017/09/07	97	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20		
8748898	Dissolved Chromium (Cr)	2017/09/07	94	80 - 120	99	80 - 120	<0.00010	mg/L	11	20		
8748898	Dissolved Cobalt (Co)	2017/09/07	90	80 - 120	98	80 - 120	<0.0000050	mg/L	5.2	20		
8748898	Dissolved Copper (Cu)	2017/09/07	87	80 - 120	99	80 - 120	<0.000050	mg/L	NC	20		
8748898	Dissolved Iron (Fe)	2017/09/07	NC	80 - 120	105	80 - 120	<0.0010	mg/L	6.7	20		
8748898	Dissolved Lead (Pb)	2017/09/07	95	80 - 120	101	80 - 120	<0.0000050	mg/L	12	20		
8748898	Dissolved Lithium (Li)	2017/09/07	101	80 - 120	103	80 - 120	<0.00050	mg/L	0.86	20		
8748898	Dissolved Manganese (Mn)	2017/09/07	NC	80 - 120	97	80 - 120	<0.000050	mg/L	0.94	20		
8748898	Dissolved Molybdenum (Mo)	2017/09/07	NC	80 - 120	101	80 - 120	<0.000050	mg/L	1.2	20		
8748898	Dissolved Nickel (Ni)	2017/09/07	91	80 - 120	101	80 - 120	<0.000020	mg/L	4.7	20		
8748898	Dissolved Phosphorus (P)	2017/09/07					<0.0020	mg/L				
8748898	Dissolved Selenium (Se)	2017/09/07	105	80 - 120	103	80 - 120	<0.000040	mg/L	7.1	20		
8748898	Dissolved Silicon (Si)	2017/09/07					<0.050	mg/L	0.82	20		
8748898	Dissolved Silver (Ag)	2017/09/07	102	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20		
8748898	Dissolved Strontium (Sr)	2017/09/07	NC	80 - 120	97	80 - 120	<0.000050	mg/L	3.4	20		
8748898	Dissolved Thallium (Tl)	2017/09/07	96	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20		
8748898	Dissolved Tin (Sn)	2017/09/07	97	80 - 120	94	80 - 120	<0.00020	mg/L	NC	20		
8748898	Dissolved Titanium (Ti)	2017/09/07	99	80 - 120	106	80 - 120	<0.00050	mg/L	NC	20		
8748898	Dissolved Uranium (U)	2017/09/07	98	80 - 120	99	80 - 120	<0.0000020	mg/L	0.74	20		
8748898	Dissolved Vanadium (V)	2017/09/07	95	80 - 120	99	80 - 120	<0.00020	mg/L	1.6	20		

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8748898	Dissolved Zinc (Zn)	2017/09/07	93	80 - 120	101	80 - 120	<0.00010	mg/L	8.7	20		
8748898	Dissolved Zirconium (Zr)	2017/09/07	106	80 - 120	91	80 - 120	<0.00010	mg/L	0.41	20		
8748899	Dissolved Aluminum (Al)	2017/09/10	110	80 - 120	106	80 - 120	<0.00050	mg/L	6.0	20		
8748899	Dissolved Antimony (Sb)	2017/09/10	99	80 - 120	98	80 - 120	<0.000020	mg/L	10	20		
8748899	Dissolved Arsenic (As)	2017/09/10	101	80 - 120	96	80 - 120	<0.000020	mg/L	0.80	20		
8748899	Dissolved Barium (Ba)	2017/09/10	NC	80 - 120	93	80 - 120	<0.000020	mg/L	0.98	20		
8748899	Dissolved Beryllium (Be)	2017/09/10	104	80 - 120	99	80 - 120	<0.000010	mg/L	NC	20		
8748899	Dissolved Bismuth (Bi)	2017/09/10	100	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20		
8748899	Dissolved Boron (B)	2017/09/10	106	80 - 120	101	80 - 120	<0.010	mg/L	NC	20		
8748899	Dissolved Cadmium (Cd)	2017/09/10	99	80 - 120	98	80 - 120	<0.0000050	mg/L	1.1	20		
8748899	Dissolved Chromium (Cr)	2017/09/10	98	80 - 120	96	80 - 120	<0.00010	mg/L	NC	20		
8748899	Dissolved Cobalt (Co)	2017/09/10	95	80 - 120	94	80 - 120	<0.0000050	mg/L	16	20		
8748899	Dissolved Copper (Cu)	2017/09/10	95	80 - 120	97	80 - 120	<0.000050	mg/L	2.5	20		
8748899	Dissolved Iron (Fe)	2017/09/10	103	80 - 120	102	80 - 120	<0.0010	mg/L	1.9	20		
8748899	Dissolved Lead (Pb)	2017/09/10	100	80 - 120	98	80 - 120	<0.0000050	mg/L	12	20		
8748899	Dissolved Lithium (Li)	2017/09/10	100	80 - 120	98	80 - 120	<0.00050	mg/L	1.4	20		
8748899	Dissolved Manganese (Mn)	2017/09/10	92	80 - 120	91	80 - 120	<0.000050	mg/L	0.99	20		
8748899	Dissolved Molybdenum (Mo)	2017/09/10	96	80 - 120	96	80 - 120	<0.000050	mg/L	0.13	20		
8748899	Dissolved Nickel (Ni)	2017/09/10	96	80 - 120	97	80 - 120	<0.000020	mg/L	1.2	20		
8748899	Dissolved Phosphorus (P)	2017/09/10					<0.0020	mg/L	3.0	20		
8748899	Dissolved Selenium (Se)	2017/09/10	107	80 - 120	102	80 - 120	<0.000040	mg/L	3.1	20		
8748899	Dissolved Silicon (Si)	2017/09/10					<0.050	mg/L	0.68	20		
8748899	Dissolved Silver (Ag)	2017/09/10	105	80 - 120	102	80 - 120	<0.0000050	mg/L	NC	20		
8748899	Dissolved Strontium (Sr)	2017/09/10	NC	80 - 120	91	80 - 120	<0.000050	mg/L	2.5	20		
8748899	Dissolved Thallium (Tl)	2017/09/10	103	80 - 120	99	80 - 120	<0.0000020	mg/L	7.8	20		
8748899	Dissolved Tin (Sn)	2017/09/10	95	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20		
8748899	Dissolved Titanium (Ti)	2017/09/10	111	80 - 120	109	80 - 120	<0.00050	mg/L	NC	20		
8748899	Dissolved Uranium (U)	2017/09/10	98	80 - 120	92	80 - 120	<0.0000020	mg/L	0.77	20		
8748899	Dissolved Vanadium (V)	2017/09/10	98	80 - 120	95	80 - 120	<0.00020	mg/L	NC	20		
8748899	Dissolved Zinc (Zn)	2017/09/10	NC	80 - 120	100	80 - 120	<0.00010	mg/L	0.60	20		
8748899	Dissolved Zirconium (Zr)	2017/09/10	95	80 - 120	95	80 - 120	<0.00010	mg/L	NC	20		
8748912	Total Aluminum (Al)	2017/09/07	103	80 - 120	105	80 - 120	<0.00050	mg/L	16	20		

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8748912	Total Antimony (Sb)	2017/09/07	99	80 - 120	100	80 - 120	<0.000020	mg/L	3.3	20		
8748912	Total Arsenic (As)	2017/09/07	104	80 - 120	103	80 - 120	<0.000020	mg/L	4.1	20		
8748912	Total Barium (Ba)	2017/09/07	NC	80 - 120	104	80 - 120	<0.000020	mg/L	1.4	20		
8748912	Total Beryllium (Be)	2017/09/07	107	80 - 120	104	80 - 120	<0.000010	mg/L	NC	20		
8748912	Total Bismuth (Bi)	2017/09/07	101	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20		
8748912	Total Boron (B)	2017/09/07	101	80 - 120	97	80 - 120	<0.010	mg/L	NC	20		
8748912	Total Cadmium (Cd)	2017/09/07	101	80 - 120	100	80 - 120	<0.0000050	mg/L	8.7	20		
8748912	Total Chromium (Cr)	2017/09/07	100	80 - 120	99	80 - 120	<0.00010	mg/L	1.0	20		
8748912	Total Cobalt (Co)	2017/09/07	99	80 - 120	100	80 - 120	<0.0000050	mg/L	12	20		
8748912	Total Copper (Cu)	2017/09/07	98	80 - 120	101	80 - 120	<0.000050	mg/L	1.4	20		
8748912	Total Iron (Fe)	2017/09/07	97	80 - 120	104	80 - 120	<0.0010	mg/L	4.1	20		
8748912	Total Lead (Pb)	2017/09/07	103	80 - 120	102	80 - 120	<0.0000050	mg/L	18	20		
8748912	Total Lithium (Li)	2017/09/07	107	80 - 120	104	80 - 120	<0.00050	mg/L	2.1	20		
8748912	Total Manganese (Mn)	2017/09/07	NC	80 - 120	99	80 - 120	<0.000050	mg/L	0.42	20		
8748912	Total Molybdenum (Mo)	2017/09/07	NC	80 - 120	103	80 - 120	<0.000050	mg/L	1.2	20		
8748912	Total Nickel (Ni)	2017/09/07	100	80 - 120	101	80 - 120	<0.000020	mg/L	0.31	20		
8748912	Total Phosphorus (P)	2017/09/07					<0.0020	mg/L	3.3	20		
8748912	Total Selenium (Se)	2017/09/07	105	80 - 120	103	80 - 120	<0.000040	mg/L	5.2	20		
8748912	Total Silicon (Si)	2017/09/07					<0.050	mg/L	1.5	20		
8748912	Total Silver (Ag)	2017/09/07	107	80 - 120	107	80 - 120	<0.0000050	mg/L	NC	20		
8748912	Total Strontium (Sr)	2017/09/07	NC	80 - 120	100	80 - 120	<0.000050	mg/L	0.55	20		
8748912	Total Thallium (Tl)	2017/09/07	102	80 - 120	100	80 - 120	<0.0000020	mg/L	NC	20		
8748912	Total Tin (Sn)	2017/09/07	96	80 - 120	98	80 - 120	<0.00020	mg/L	NC	20		
8748912	Total Titanium (Ti)	2017/09/07	97	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20		
8748912	Total Uranium (U)	2017/09/07	104	80 - 120	102	80 - 120	<0.0000020	mg/L	2.5	20		
8748912	Total Vanadium (V)	2017/09/07	101	80 - 120	102	80 - 120	<0.00020	mg/L	2.4	20		
8748912	Total Zinc (Zn)	2017/09/07	102	80 - 120	105	80 - 120	<0.00010	mg/L	2.9	20		
8748912	Total Zirconium (Zr)	2017/09/07	91	80 - 120	92	80 - 120	<0.00010	mg/L	NC	20		
8748988	Total Aluminum (Al)	2017/09/09	104	80 - 120	106	80 - 120	<0.0030	mg/L	11	20		
8748988	Total Antimony (Sb)	2017/09/09	106	80 - 120	102	80 - 120	<0.000020	mg/L	8.2	20		
8748988	Total Arsenic (As)	2017/09/09	109	80 - 120	100	80 - 120	<0.000020	mg/L	4.9	20		
8748988	Total Barium (Ba)	2017/09/09	NC	80 - 120	100	80 - 120	<0.000050	mg/L	1.0	20		

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8748988	Total Beryllium (Be)	2017/09/09	106	80 - 120	98	80 - 120	<0.000010	mg/L	NC	20		
8748988	Total Bismuth (Bi)	2017/09/09	96	80 - 120	99	80 - 120	<0.000010	mg/L	NC	20		
8748988	Total Boron (B)	2017/09/09	104	80 - 120	99	80 - 120	<0.010	mg/L	2.6	20		
8748988	Total Cadmium (Cd)	2017/09/09	104	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20		
8748988	Total Chromium (Cr)	2017/09/09	99	80 - 120	100	80 - 120	<0.00010	mg/L	NC	20		
8748988	Total Cobalt (Co)	2017/09/09	94	80 - 120	99	80 - 120	<0.000010	mg/L	1.2	20		
8748988	Total Copper (Cu)	2017/09/09	94	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20		
8748988	Total Iron (Fe)	2017/09/09	NC	80 - 120	104	80 - 120	<0.0050	mg/L	1.7	20		
8748988	Total Lead (Pb)	2017/09/09	99	80 - 120	100	80 - 120	<0.000020	mg/L	NC	20		
8748988	Total Lithium (Li)	2017/09/09	107	80 - 120	104	80 - 120	<0.00050	mg/L	2.9	20		
8748988	Total Manganese (Mn)	2017/09/09	NC	80 - 120	93	80 - 120	<0.00010	mg/L	0.49	20		
8748988	Total Molybdenum (Mo)	2017/09/09	102	80 - 120	100	80 - 120	<0.000050	mg/L	1.5	20		
8748988	Total Nickel (Ni)	2017/09/09	95	80 - 120	101	80 - 120	<0.00010	mg/L	4.6	20		
8748988	Total Phosphorus (P)	2017/09/09					0.0078, RDL=0.0050	mg/L				
8748988	Total Selenium (Se)	2017/09/09	112	80 - 120	103	80 - 120	<0.000040	mg/L	2.8	20		
8748988	Total Silicon (Si)	2017/09/09					<0.050	mg/L	2.9	20		
8748988	Total Silver (Ag)	2017/09/09	106	80 - 120	107	80 - 120	<0.000010	mg/L	NC	20		
8748988	Total Strontium (Sr)	2017/09/09	NC	80 - 120	95	80 - 120	<0.000050	mg/L	2.0	20		
8748988	Total Thallium (Tl)	2017/09/09	105	80 - 120	102	80 - 120	<0.0000020	mg/L	NC	20		
8748988	Total Tin (Sn)	2017/09/09	93	80 - 120	97	80 - 120	<0.00020	mg/L	NC	20		
8748988	Total Titanium (Ti)	2017/09/09	102	80 - 120	98	80 - 120	<0.0020	mg/L	NC	20		
8748988	Total Uranium (U)	2017/09/09	100	80 - 120	96	80 - 120	<0.0000050	mg/L	3.4	20		
8748988	Total Vanadium (V)	2017/09/09	100	80 - 120	101	80 - 120	<0.00020	mg/L	NC	20		
8748988	Total Zinc (Zn)	2017/09/09	97	80 - 120	105	80 - 120	<0.0010	mg/L	NC	20		
8748988	Total Zirconium (Zr)	2017/09/09					<0.00010	mg/L	NC	20		
8748990	Fluoride (F)	2017/09/06	100	80 - 120	102	80 - 120	<0.020	mg/L	0	20		
8749170	pH	2017/09/06			101	97 - 103			0.52	20		
8749173	Conductivity	2017/09/06			100	80 - 120	<2.0	uS/cm				
8749174	Alkalinity (PP as CaCO3)	2017/09/06					<1.0	mg/L				
8749174	Alkalinity (Total as CaCO3)	2017/09/06			98	80 - 120	<1.0	mg/L				
8749174	Bicarbonate (HCO3)	2017/09/06					<1.0	mg/L				
8749174	Carbonate (CO3)	2017/09/06					<1.0	mg/L				

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8749174	Hydroxide (OH)	2017/09/06					<1.0	mg/L				
8749185	pH	2017/09/06			101	97 - 103						
8749187	Conductivity	2017/09/06			101	80 - 120	<2.0	uS/cm				
8749188	Alkalinity (PP as CaCO3)	2017/09/06					<1.0	mg/L				
8749188	Alkalinity (Total as CaCO3)	2017/09/06	NC	80 - 120	97	80 - 120	<1.0	mg/L				
8749188	Bicarbonate (HCO3)	2017/09/06					<1.0	mg/L				
8749188	Carbonate (CO3)	2017/09/06					<1.0	mg/L				
8749188	Hydroxide (OH)	2017/09/06					<1.0	mg/L				
8749194	pH	2017/09/06			101	97 - 103						
8749196	Conductivity	2017/09/06			101	80 - 120	<2.0	uS/cm				
8749198	Alkalinity (PP as CaCO3)	2017/09/07					<1.0	mg/L	NC	20		
8749198	Alkalinity (Total as CaCO3)	2017/09/07	NC	80 - 120	101	80 - 120	<1.0	mg/L	0.73	20		
8749198	Bicarbonate (HCO3)	2017/09/07					<1.0	mg/L	0.73	20		
8749198	Carbonate (CO3)	2017/09/07					<1.0	mg/L	NC	20		
8749198	Hydroxide (OH)	2017/09/07					<1.0	mg/L	NC	20		
8749203	Alkalinity (PP as CaCO3)	2017/09/07					<1.0	mg/L	NC	20		
8749203	Alkalinity (Total as CaCO3)	2017/09/07	NC	80 - 120	98	80 - 120	<1.0	mg/L	0.61	20		
8749203	Bicarbonate (HCO3)	2017/09/07					<1.0	mg/L	0.61	20		
8749203	Carbonate (CO3)	2017/09/07					<1.0	mg/L	NC	20		
8749203	Hydroxide (OH)	2017/09/07					<1.0	mg/L	NC	20		
8749205	Conductivity	2017/09/07			101	80 - 120	<2.0	uS/cm				
8749206	pH	2017/09/07			101	97 - 103						
8749248	Total Dissolved Solids	2017/09/07	95	80 - 120	100	80 - 120	<10	mg/L	6.2	20		
8749432	Acidity (pH 4.5)	2017/09/06					<1.0	mg/L	NC	20		
8749432	Acidity (pH 8.3)	2017/09/06			97	80 - 120	<1.0	mg/L	NC	20		
8749434	Acidity (pH 4.5)	2017/09/06					<1.0	mg/L	NC	20		
8749434	Acidity (pH 8.3)	2017/09/06			103	80 - 120	<1.0	mg/L	7.7	20		
8749497	Total Suspended Solids	2017/09/07	116	80 - 120	103	80 - 120	<4.0	mg/L	NC	20		
8749536	Orthophosphate (P)	2017/09/06	101	80 - 120	97	80 - 120	<0.0010	mg/L	12	20		
8749538	Orthophosphate (P)	2017/09/06			100	80 - 120	<0.0010	mg/L				
8750066	Total Suspended Solids	2017/09/08	114	80 - 120	94	80 - 120	<4.0	mg/L	NC	20		
8750096	Nitrate plus Nitrite (N)	2017/09/06	104	80 - 120	112	80 - 120	<0.0020	mg/L	NC	25		

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8750122	Nitrite (N)	2017/09/06	97	80 - 120	106	80 - 120	<0.0020	mg/L	NC	25		
8750123	Nitrate plus Nitrite (N)	2017/09/06	NC	80 - 120	112	80 - 120	<0.0020	mg/L	NC	25		
8750127	Nitrite (N)	2017/09/06	NC	80 - 120	107	80 - 120	<0.0020	mg/L	NC	25		
8750142	Total Dissolved Solids	2017/09/08	97	80 - 120	90	80 - 120	<10	mg/L				
8750360	Dissolved Mercury (Hg)	2017/09/07	84	80 - 120	96	80 - 120	<0.010	ug/L	NC	20		
8750716	Total Suspended Solids	2017/09/08	104	80 - 120	103	80 - 120	<4.0	mg/L				
8750903	Fluoride (F)	2017/09/07	104	80 - 120	102	80 - 120	<0.020	mg/L				
8750911	Dissolved Phosphorus (P)	2017/09/07	98	80 - 120	102	80 - 120	<0.0020	mg/L	12	20		
8751324	Total Dissolved Solids	2017/09/10	101	80 - 120	106	80 - 120	<10	mg/L	3.7	20		
8751379	Dissolved Chloride (Cl)	2017/09/07	NC	80 - 120	97	80 - 120	<1.0	mg/L	3.3	20		
8751380	Dissolved Sulphate (SO4)	2017/09/07	NC	80 - 120	95	80 - 120	<1.0	mg/L				
8751419	Dissolved Mercury (Hg)	2017/09/08	92	80 - 120	108	80 - 120	<0.010	ug/L	NC	20		
8751471	Dissolved Chloride (Cl)	2017/09/07	111	80 - 120	101	80 - 120	<1.0	mg/L				
8751493	Dissolved Sulphate (SO4)	2017/09/07	94	80 - 120	102	80 - 120	<1.0	mg/L				
8752937	Dissolved Phosphorus (P)	2017/09/09	NC	80 - 120	104	80 - 120	<0.0020	mg/L				
8752941	Dissolved Phosphorus (P)	2017/09/09	95	80 - 120	102	80 - 120	<0.0020	mg/L				
8752943	Total Phosphorus (P)	2017/09/09	93	80 - 120	105	80 - 120	<0.0020	mg/L	16	20		
8752944	Total Phosphorus (P)	2017/09/09	105	80 - 120	105	80 - 120	<0.0020	mg/L				
8752945	Total Phosphorus (P)	2017/09/09			103	80 - 120	<0.0020	mg/L				
8753296	Strong Acid Dissoc. Cyanide (CN)	2017/09/12	100	80 - 120	90	80 - 120	<0.0020	mg/L	NC	20	98	80 - 120
8753298	Weak Acid Dissoc. Cyanide (CN)	2017/09/11	99	80 - 120	106	80 - 120	<0.0010	mg/L	NC	20		
8753599	Total Mercury (Hg)	2017/09/11	90	80 - 120	95	80 - 120	<0.010	ug/L	5.2	20		
8753613	Total Mercury (Hg)	2017/09/11	96	80 - 120	88	80 - 120	<0.010	ug/L	NC	20		
8753633	Total Ammonia (N)	2017/09/11	NC	80 - 120	100	80 - 120	<0.020	mg/L	1.3	20		
8753635	Total Ammonia (N)	2017/09/11	94	80 - 120	99	80 - 120	<0.020	mg/L				
8753679	Dissolved Sulphate (SO4)	2017/09/08			94	80 - 120	<1.0	mg/L				
8753694	Dissolved Chloride (Cl)	2017/09/08			103	80 - 120	<1.0	mg/L				
8753697	Dissolved Sulphate (SO4)	2017/09/08	105	80 - 120	100	80 - 120	<1.0	mg/L	NC	20		
8753875	Dissolved Organic Carbon (C)	2017/09/11	91	80 - 120	110	80 - 120	<0.50	mg/L				
8753876	Dissolved Organic Carbon (C)	2017/09/11	85	80 - 120	107	80 - 120	<0.50	mg/L				
8754196	Bromide (Br)	2017/09/12	104	78 - 120	99	80 - 120	<0.010	mg/L	0.76	20		
8754267	Bromide (Br)	2017/09/12	104	78 - 120	100	80 - 120	<0.010	mg/L	NC	20		

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B775568
Report Date: 2017/09/14

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8754291	Bromide (Br)	2017/09/12	NC	78 - 120	105	80 - 120	<0.010	mg/L	1.8	20		
8754360	Bromide (Br)	2017/09/12	NC	78 - 120	100	80 - 120	<0.010	mg/L	2.8	20		
8754365	Bromide (Br)	2017/09/12	98	78 - 120	99	80 - 120	<0.010	mg/L	NC	20		
8755746	Dissolved Sulphate (SO4)	2017/09/12	99	80 - 120	102	80 - 120	<1.0	mg/L	NC	20		
8755990	Dissolved Arsenic (As)	2017/09/13	103	80 - 120	102	80 - 120	<0.000020	mg/L	1.8	20		
8755990	Dissolved Copper (Cu)	2017/09/13	95	80 - 120	100	80 - 120	<0.000050	mg/L	1.4	20		
8755990	Dissolved Molybdenum (Mo)	2017/09/13	104	80 - 120	99	80 - 120	<0.000050	mg/L	1.5	20		
8755990	Dissolved Phosphorus (P)	2017/09/13					<0.0020	mg/L				

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Maxxam Job #: B775568
Report Date: 2017/09/14

YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Harry (Peng) Liang, Senior Analyst



Rob Reinert, B.Sc., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5. Toll Free (800) 665-8566

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08443848

BBY FCD-00077/05

Page ____ of ____

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required
Company Name:	Yukon Zinc Corporation	Company Name:	Adrienne Turcotte Consulting	Quotation #:		☒ Regular TAT 5 days (Most analyses)
Contact Name:	Alex Wu	Contact Name:	Adrienne Turcotte	P.O. #/ AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	705 - 1030 West Georgia Street	Address:	102-3839 W.4th Avenue	Project #:		Rush TAT (Surcharges will be applied)
	Vancouver PC: V6E 2Y3		Vancouver BC PC: V6R 1P8	Site Location:		☐ Same Day ☐ 2 Days ☐ 1 Day ☐ 3 Days
Phone:	604-684-5474	Phone:	778-772-2212	Site #:		
Email:	alex.wu@yukonzinc.com	Email:	yzc Group turcotte.adrienne@gmail.com	Sampled By:		Date Required:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water ☐ CCME (Specify) ☐ Other (Specify) ☐ Drinking Water ☐ BC Water Quality	☐ Return Cooler ☐ Ship Sample Bottles (Please Specify)

Rush Confirmation #:

LABORATORY USE ONLY

CUSTODY SEAL: Y / N

COOLER TEMPERATURES

Present	Intact
YA	7.6
YA	4.4/5.5
YA	6.4/7.5

COOLING MEDIA PRESENT: ice / ice packs / blue ice / none

COMMENTS

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	EDR	PAH	CCME-PHC	VOC/VPH	TEH	EPH/HEPH	F2 - F4	BTEX/F1	Preserved?	Preserved?	Filtered?	Filtered?	Field Preserved?	Field Preserved?	Fluoride	TSS	pH	Sulphate	BOD	Chloride	Alkalinity	Conductivity	Nitrate	Ammonia	Package A	Total Phosphate and Ammonia	DOC	Total and WAD Cyanide	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE
	Bottle														50 mL falcon tube	50 mL falcon tube	50 mL falcon tube	50 mL falcon tube													120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic	120 mL plastic	120 mL plastic		
	Preservative														HNO3	HCl	HNO3	HCl													HNO3	-	HNO3	HNO3	NaOH		
	Filtered														-	✓	-	-													-	-	-	✓	-		
1	✓ MW06-09M		30-Aug-17	14:50	Water										x	x															x	xx	x	x		8	
2	✓ W1		31-Aug-17	9:10	Water										x	x	x	x													x	xx	x	x		11	
3	✓ L1		01-Sep-17	8:55	Water										x	x	x	x													x	xx	x	x		11	
4	✓ W8		01-Sep-17	9:35	Water										x	x	x	x													x	xx	x	x		11	
5	✓ W9		01-Sep-17	9:10	Water										x	x	x	x													x	xx	x	x		11	
6	✓ W15		01-Sep-17	15:55	Water										x	x	x	x													x	xx	x	x		11	
7	✓ W16		01-Sep-17	16:00	Water										x	x	x	x													x	xx	x	x	x	11	
8	✓ W21		01-Sep-17	11:30	Water										x	x	x	x													x	xx	x	x		11	
9	✓ W22		01-Sep-17	12:55	Water										x	x	x	x													x	xx	x	x		11	
10	✓ W31		01-Sep-17	16:20	Water										x	x	x	x													x	xx	x	x	x	12	
11	✓ W40		01-Sep-17	12:45	Water										x	x	x	x													x	xx	x	x		11	
12	✓ W71		01-Sep-17	13:55	Water										x	x	x	x													x	xx	x	x		11	
13	✓ W72		01-Sep-17	13:50	Water										x	x	x	x													x	xx	x	x		11	
14	✓ W73		01-Sep-17	14:10	Water										x	x	x	x													x	xx	x	x		11	
15	✓ W81		01-Sep-17	15:00	Water										x	x	x	x													x	xx	x	x		11	
16	✓ W82		01-Sep-17	16:40	Water										x	x	x	x													x	xx	x	x		11	
17	✓ BIO-IN		31-Aug-17	11:00	Water										x	x	x	x													x	xx	x	x	x	12	
18	✓ BIO-OUT		31-Aug-17	11:15	Water										x	x	x	x													x	xx	x	x	x	12	
19	✓ PORTAL		31-Aug-17	15:00	Water										x	x	x	x													x	xx	x	x		11	
20	✓ DUP		31-Aug-17	13:45	Water										x	x	x	x													x	xx	x	x	x	12	
21	✓ T1-2		31-Aug-17	14:05	Water										x	x	x	x													x	xx	x	x	x	12	
22	✓ T1-3		31-Aug-17	14:20	Water										x	x	x	x													x	xx	x	x	x	12	
23	✓ Travel Blank				Water												x	x													x	xx	x		x	8	Dissolved bottles removed from set
24	✓ Field Blank		01-Sep-17	14:20	Water										x	x	x	x													x	xx	x	x		11	
25	✓ T1		31-Aug-17	13:25	Water										x	x	x	x													x	xx	x	x	x	12	

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Adrienne Turcotte	17-09-02	14:00	M Laurel Barthier	2017/09/05	11:20

B775568_COC

Your C.O.C. #: 08446217

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/11/09
Report #: R2474905
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B797643
Received: 2017/11/01, 13:35

Sample Matrix: Water
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	17	2017/11/03	2017/11/03	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	2	2017/11/02	2017/11/02	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	15	2017/11/02	2017/11/03	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	17	N/A	2017/11/03	BBY6SOP-00011	SM 22 4500-Cl- E m
Cyanide SAD (strong acid dissociable)	15	N/A	2017/11/08	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide WAD (weak acid dissociable)	15	N/A	2017/11/08	BBY6SOP-00004	SM 22 4500-CN O m
Carbon (DOC) - field filtered/preserved (1)	14	N/A	2017/11/03	BBY6SOP-00003	SM 22 5310 C m
Carbon (DOC) - unfiltered/unpreserved (1)	1	2017/11/04	2017/11/07	BBY6SOP-00003	SM 22 5310 C m
Conductance - water	2	2017/11/02	2017/11/02	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	15	2017/11/02	2017/11/03	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	17	N/A	2017/11/07	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3) (2)	13	N/A	2017/11/06	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (2)	2	N/A	2017/11/09	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	16	N/A	2017/11/06	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	14	N/A	2017/11/07	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	15	2017/11/07	2017/11/07	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	17	N/A	2017/11/04	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	16	N/A	2017/11/06	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	16	N/A	2017/11/03	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Digested LL (total)	2	2017/11/06	2017/11/08	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	13	N/A	2017/11/06	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	2	N/A	2017/11/09	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	11	N/A	2017/11/03	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	2	N/A	2017/11/04	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Ammonia-N (Preserved)	17	N/A	2017/11/03	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	17	N/A	2017/11/02	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	17	N/A	2017/11/02	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	17	N/A	2017/11/03	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	14	N/A	2017/11/03	BBY7 WI-00004	BCMOE Reqs 08/14

Your C.O.C. #: 08446217

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/11/09
Report #: R2474905
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B797643
Received: 2017/11/01, 13:35

Sample Matrix: Water
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Filter and HNO3 Preserve for Metals	1	N/A	2017/11/04	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (3)	2	2017/11/02	2017/11/02	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (3)	15	2017/11/02	2017/11/03	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	15	N/A	2017/11/03	BBY6SOP-00013	SM 22 4500-P E m
Orthophosphate by Konelab (low level)	1	N/A	2017/11/04	BBY6SOP-00013	SM 22 4500-P E m
Orthophosphate by Konelab (low level)	1	N/A	2017/11/09	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	15	N/A	2017/11/03	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	2	N/A	2017/11/06	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	15	2017/11/03	2017/11/06	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	1	2017/11/06	2017/11/07	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	1	2017/11/08	2017/11/09	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	8	2017/11/03	2017/11/03	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - FF/FP	6	2017/11/04	2017/11/04	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - UF/UP	3	2017/11/03	2017/11/03	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	15	N/A	2017/11/03	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	2	N/A	2017/11/04	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	5	2017/11/03	2017/11/03	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	12	2017/11/03	2017/11/06	BBY6SOP-00034	SM 22 2540 D
Turbidity	15	N/A	2017/11/02	BBY6SOP-00027	SM 22 2130 B m
Turbidity	2	N/A	2017/11/03	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed

Your C.O.C. #: 08446217

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/11/09
Report #: R2474905
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B797643
Received: 2017/11/01, 13:35

or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) DOC present in the sample should be considered as non-purgeable DOC.
(2) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(3) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7966		SJ7967		SJ7968		
Sampling Date		2017/10/30 16:50		2017/10/30 10:50		2017/10/30 17:30		
COC Number		08446217		08446217		08446217		
	UNITS	T1	QC Batch	PORTAL	QC Batch	WRSS	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.160	8822001	0.230	8822001	0.130	0.020	8822001
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	1060	8816593	547	8816593	1430	0.50	8816593
Nitrate (N)	mg/L	<0.20	8816890	<0.20	8816890	13.3	0.20	8816890
Misc. Inorganics								
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00277	8824080	0.00176	8824080	<0.00050	0.00050	8824080
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8824310	0.00086	8824310	0.00074	0.00050	8824310
Dissolved Hardness (CaCO3)	mg/L	1040	8816532	541	8816532	1590	0.50	8816532
Dissolved Organic Carbon (C)	mg/L	16.9	8818959	0.99	8818954	1.77	0.50	8818954
Acidity (pH 4.5)	mg/L	15.5	8818931	<1.0	8818931	<1.0	1.0	8818929
Alkalinity (Total as CaCO3)	mg/L	<1.0	8817791	105	8817791	201	1.0	8817776
Acidity (pH 8.3)	mg/L	30.5	8818931	2.5	8818931	9.1	1.0	8818929
Alkalinity (PP as CaCO3)	mg/L	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817776
Bicarbonate (HCO3)	mg/L	<1.0	8817791	128	8817791	245	1.0	8817776
Carbonate (CO3)	mg/L	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817776
Hydroxide (OH)	mg/L	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817776
Anions								
Orthophosphate (P)	mg/L	0.0069	8819117	0.0014	8819114	0.0034	0.0010	8819114
Dissolved Sulphate (SO4)	mg/L	1270 (1)	8820464	579 (1)	8820464	1700 (1)	10	8820464
Dissolved Chloride (Cl)	mg/L	110	8820454	3.7	8820454	5.2	1.0	8820454
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0566	8819883	0.0252	8819883	0.0052	0.0020	8819132
Total Ammonia (N)	mg/L	0.47	8818783	1.6	8818783	0.035	0.020	8818782
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8817804	<0.20 (2)	8817804	13.3 (2)	0.20	8817804
Nitrite (N)	mg/L	<0.20 (2)	8817805	<0.20 (2)	8817805	<0.20 (2)	0.20	8817805
Total Phosphorus (P)	mg/L	0.0880	8819130	0.0469	8819130	0.0512	0.0020	8819127
Physical Properties								
Conductivity	uS/cm	2290	8817794	1260	8817794	2930	2.0	8817782
pH	pH	3.62 (3)	8817793	7.72	8817793	7.75		8817781

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.
(3) Sample pH value outside pH calibration range 4 to 10, verified using pH 1.68 buffer.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7966		SJ7967		SJ7968		
Sampling Date		2017/10/30 16:50		2017/10/30 10:50		2017/10/30 17:30		
COC Number		08446217		08446217		08446217		
	UNITS	T1	QC Batch	PORTAL	QC Batch	WRSS	RDL	QC Batch
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8818128	14.8	8818128	37.8	4.0	8818128
Total Dissolved Solids	mg/L	1850	8818097	866	8818097	2390	10	8818097
Turbidity	NTU	3.05	8817226	114	8817226	15.4	0.10	8817226
RDL = Reportable Detection Limit								

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7969		SJ7970		SJ7971		
Sampling Date		2017/10/27 15:40		2017/10/27 14:25		2017/10/31 13:20		
COC Number		08446217		08446217		08446217		
	UNITS	W15	QC Batch	W16	QC Batch	W21	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.031	8822001	0.033	8822001	0.200	0.020	8822001
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	61.7	8816593	71.9	8816593	243	0.50	8816593
Nitrate (N)	mg/L	<0.20	8816890	<0.20	8816890	<0.20	0.20	8816890
Misc. Inorganics								
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8824080	<0.00050	8824080	0.00054	0.00050	8824080
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8824310	<0.00050	8824310	0.00065	0.00050	8824310
Dissolved Hardness (CaCO3)	mg/L	61.4	8816532	76.1	8816532	239	0.50	8816532
Dissolved Organic Carbon (C)	mg/L	<0.50	8818959	<0.50	8818959	2.53	0.50	8818954
Acidity (pH 4.5)	mg/L	<1.0	8818931	<1.0	8818931	<1.0	1.0	8818929
Alkalinity (Total as CaCO3)	mg/L	52.8	8817791	69.5	8817791	178	1.0	8817776
Acidity (pH 8.3)	mg/L	<1.0	8818931	<1.0	8818931	<1.0	1.0	8818929
Alkalinity (PP as CaCO3)	mg/L	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817776
Bicarbonate (HCO3)	mg/L	64.4	8817791	84.7	8817791	217	1.0	8817776
Carbonate (CO3)	mg/L	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817776
Hydroxide (OH)	mg/L	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817776
Anions								
Orthophosphate (P)	mg/L	0.0016	8819117	0.0047	8819117	0.017	0.0010	8819114
Dissolved Sulphate (SO4)	mg/L	12.8	8820469	13.2	8820464	67.7	1.0	8822104
Dissolved Chloride (Cl)	mg/L	<1.0	8820467	<1.0	8820454	<1.0	1.0	8820454
Nutrients								
Dissolved Phosphorus (P)	mg/L	<0.0020	8819883	0.0048	8819883	0.0179	0.0020	8819132
Total Ammonia (N)	mg/L	<0.020	8818783	<0.020	8818781	<0.020	0.020	8818781
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8817806	<0.20 (1)	8817804	<0.20 (1)	0.20	8817804
Nitrite (N)	mg/L	<0.20 (1)	8817807	<0.20 (1)	8817805	<0.20 (1)	0.20	8817805
Total Phosphorus (P)	mg/L	0.0097	8819877	0.0122	8819127	0.0229	0.0020	8819127
Physical Properties								
Conductivity	uS/cm	131	8817794	160	8817794	443	2.0	8817782
pH	pH	7.78	8817793	7.87	8817793	8.16		8817781
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8818131	4.0	8818131	<4.0	4.0	8818827

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B797643
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YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7969		SJ7970		SJ7971		
Sampling Date		2017/10/27 15:40		2017/10/27 14:25		2017/10/31 13:20		
COC Number		08446217		08446217		08446217		
	UNITS	W15	QC Batch	W16	QC Batch	W21	RDL	QC Batch
Total Dissolved Solids	mg/L	70 (1)	8824009	96	8818097	330	10	8818097
Turbidity	NTU	<0.10	8817226	0.57	8817226	1.21	0.10	8817678

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

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YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7972		SJ7973		SJ7974		SJ7975		
Sampling Date		2017/10/27 13:20		2017/10/31 12:00		2017/10/31 11:35		2017/10/31 10:50		
COC Number		08446217		08446217		08446217		08446217		
	UNITS	W31	QC Batch	W71	QC Batch	W72	QC Batch	W73	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.028	8822001	0.180	8822001	0.180	8822001	0.057	0.020	8822001
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	74.3	8816593	244	8816593	246	8816593	130	0.50	8816593
Nitrate (N)	mg/L	<0.20	8816890	<0.20	8816890	<0.20	8816890	0.36	0.20	8816890
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8824080	0.00067	8824080	0.00089	8824080	0.00084	0.00050	8824080
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.00050	8824310	0.00055	8824310	0.00081	8824310	0.00073	0.00050	8824310
Dissolved Hardness (CaCO3)	mg/L	73.2	8816532	247	8816532	244	8816532	132	0.50	8816532
Dissolved Organic Carbon (C)	mg/L	0.70	8818954	2.65	8818954	2.30	8818954	0.90	0.50	8818959
Acidity (pH 4.5)	mg/L	<1.0	8818931	<1.0	8818931	<1.0	8818931	<1.0	1.0	8818931
Alkalinity (Total as CaCO3)	mg/L	69.9	8817796	179	8817791	180	8817791	112	1.0	8817791
Acidity (pH 8.3)	mg/L	<1.0	8818931	<1.0	8818931	<1.0	8818931	<1.0	1.0	8818931
Alkalinity (PP as CaCO3)	mg/L	<1.0	8817796	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817791
Bicarbonate (HCO3)	mg/L	85.3	8817796	218	8817791	220	8817791	137	1.0	8817791
Carbonate (CO3)	mg/L	<1.0	8817796	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817791
Hydroxide (OH)	mg/L	<1.0	8817796	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817791
Anions										
Orthophosphate (P)	mg/L	<0.0010	8819117	0.013 (1)	8825908	0.014	8819117	<0.0010	0.0010	8819895
Dissolved Sulphate (SO4)	mg/L	9.3	8820469	71.2	8820469	70.6	8820469	25.8	1.0	8820469
Dissolved Chloride (Cl)	mg/L	<1.0	8820467	<1.0	8820467	<1.0	8820467	<1.0	1.0	8820467
Nutrients										
Dissolved Phosphorus (P)	mg/L	<0.0020	8819132	0.0172	8819132	0.0157	8819132	<0.0020	0.0020	8819883
Total Ammonia (N)	mg/L	<0.020	8818781	0.026	8818781	0.036	8818782	<0.020	0.020	8818783
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8817806	<0.20 (2)	8817806	<0.20 (2)	8817806	0.36 (2)	0.20	8817806
Nitrite (N)	mg/L	<0.20 (2)	8817807	<0.20 (2)	8817807	<0.20 (2)	8817807	<0.20 (2)	0.20	8817807
Total Phosphorus (P)	mg/L	0.0058	8819125	0.0210	8819125	0.0234	8819127	0.0121	0.0020	8819877
Physical Properties										
Conductivity	uS/cm	151	8817799	453	8817794	455	8817794	252	2.0	8817794
pH	pH	7.89	8817798	8.19	8817793	8.19	8817793	8.05		8817793

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

(2) RDL raised due to sample matrix interference.

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YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7972		SJ7973		SJ7974		SJ7975		
Sampling Date		2017/10/27 13:20		2017/10/31 12:00		2017/10/31 11:35		2017/10/31 10:50		
COC Number		08446217		08446217		08446217		08446217		
	UNITS	W31	QC Batch	W71	QC Batch	W72	QC Batch	W73	RDL	QC Batch
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8818131	<4.0	8818827	<4.0	8818827	<4.0	4.0	8818827
Total Dissolved Solids	mg/L	106	8818097	276	8821301	280	8818097	170	10	8818097
Turbidity	NTU	0.19	8817678	1.28	8817678	1.16	8817678	0.25	0.10	8817678

RDL = Reportable Detection Limit

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YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7976		SJ7977		SJ7978		SJ7979		
Sampling Date		2017/10/27 16:30		2017/10/27 11:20		2017/10/29		2017/10/29		
COC Number		08446217		08446217		08446217		08446217		
	UNITS	W81	QC Batch	W82	QC Batch	DUP1	QC Batch	DUP2	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.032	8822001	0.160	8822001	0.280	8822001	0.240	0.020	8822001
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	72.0	8816593	141	8816593		8816593		0.50	8816593
Nitrate (N)	mg/L	<0.20	8816890	0.39	8816890	<0.20	8816890	<0.20	0.20	8816890
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00086	8824080	0.00086	8824080		8824080		0.00050	8824080
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.00078	8824310	0.00089	8824310		8824310		0.00050	8824310
Dissolved Hardness (CaCO3)	mg/L	70.8	8816532	138	8816532	93.8	8816532	144	0.50	8816532
Dissolved Organic Carbon (C)	mg/L	<0.50	8818959	0.94	8818954		8818954		0.50	8818954
Acidity (pH 4.5)	mg/L	<1.0	8818929	<1.0	8818931	<1.0	8818931	<1.0	1.0	8818931
Alkalinity (Total as CaCO3)	mg/L	63.5	8817776	83.4	8817791	67.7	8817796	108	1.0	8817791
Acidity (pH 8.3)	mg/L	<1.0	8818929	<1.0	8818931	3.3	8818931	<1.0	1.0	8818931
Alkalinity (PP as CaCO3)	mg/L	<1.0	8817776	<1.0	8817791	<1.0	8817796	<1.0	1.0	8817791
Bicarbonate (HCO3)	mg/L	77.5	8817776	102	8817791	82.6	8817796	132	1.0	8817791
Carbonate (CO3)	mg/L	<1.0	8817776	<1.0	8817791	<1.0	8817796	<1.0	1.0	8817791
Hydroxide (OH)	mg/L	<1.0	8817776	<1.0	8817791	<1.0	8817796	<1.0	1.0	8817791
Anions										
Orthophosphate (P)	mg/L	0.0035	8819114	0.0056	8819117	0.031	8819117	0.0012	0.0010	8819117
Dissolved Sulphate (SO4)	mg/L	12.6	8820464	59.0	8820469	28.5	8820469	37.8	1.0	8820469
Dissolved Chloride (Cl)	mg/L	<1.0	8820454	1.1	8820467	1.7	8820467	<1.0	1.0	8820467
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0030	8819883	0.0046	8819132	0.0658	8819124	0.0084	0.0020	8819124
Total Ammonia (N)	mg/L	<0.020	8818783	<0.020	8818782	<0.020	8818781	0.030	0.020	8818781
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8817804	0.39 (1)	8817806	<0.20 (1)	8817806	<0.20 (1)	0.20	8817806
Nitrite (N)	mg/L	<0.20 (1)	8817805	<0.20 (1)	8817807	<0.20 (1)	8817807	<0.20 (1)	0.20	8817807
Total Phosphorus (P)	mg/L	0.0136	8819127	0.0144	8819127	0.243	8819130	0.0218	0.0020	8819125
Physical Properties										
Conductivity	uS/cm	147	8817782	288	8817794	202	8817799	283	2.0	8817794
pH	pH	7.87	8817781	7.86	8817793	7.32	8817798	7.96		8817793
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8818131	<4.0	8818131	<4.0	8818131	<4.0	4.0	8818131

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7976		SJ7977		SJ7978		SJ7979		
Sampling Date		2017/10/27 16:30		2017/10/27 11:20		2017/10/29		2017/10/29		
COC Number		08446217		08446217		08446217		08446217		
	UNITS	**W81**	**QC Batch**	**W82**	**QC Batch**	**DUP1**	**QC Batch**	**DUP2**	**RDL**	**QC Batch**
Total Dissolved Solids	mg/L	86	8818097	184	8818097	124	8818097	160	10	8818129
Turbidity	NTU	0.45	8817678	1.22	8817678	11.8	8817678	4.44	0.10	8817678
RDL = Reportable Detection Limit										

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YUKON ZINC CORPORATION
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RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7980		SJ7981		SJ7982		
Sampling Date		2017/10/31						
COC Number		08446217		08446217		08446217		
	UNITS	DUP3	QC Batch	FIELD BLANKS	QC Batch	TRIP BLANK	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.180	8822001	<0.020	8822001	<0.020	0.020	8822001
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE		ONSITE			ONSITE
Total Hardness (CaCO3)	mg/L	247	8816593	<0.50	8816593	<0.50	0.50	8816593
Nitrate (N)	mg/L	<0.20	8816890	<0.20	8816890	<0.20	0.20	8816890
Misc. Inorganics								
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00082	8824080	0.00069	8824080	0.00080	0.00050	8824080
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.00092	8824310	0.00096	8824310	0.00085	0.00050	8824310
Dissolved Hardness (CaCO3)	mg/L	243	8816532		8816532	<0.50	0.50	8816532
Dissolved Organic Carbon (C)	mg/L	2.15	8818954	<0.50	8819913	<0.50	0.50	8818954
Acidity (pH 4.5)	mg/L	<1.0	8818929	<1.0	8818931	<1.0	1.0	8818931
Alkalinity (Total as CaCO3)	mg/L	178	8817776	<1.0	8817796	<1.0	1.0	8817796
Acidity (pH 8.3)	mg/L	<1.0	8818929	<1.0	8818931	<1.0	1.0	8818931
Alkalinity (PP as CaCO3)	mg/L	<1.0	8817776	<1.0	8817796	<1.0	1.0	8817796
Bicarbonate (HCO3)	mg/L	218	8817776	<1.0	8817796	<1.0	1.0	8817796
Carbonate (CO3)	mg/L	<1.0	8817776	<1.0	8817796	<1.0	1.0	8817796
Hydroxide (OH)	mg/L	<1.0	8817776	<1.0	8817796	<1.0	1.0	8817796
Anions								
Orthophosphate (P)	mg/L	0.018	8819114	0.0021	8819117	0.0031	0.0010	8819117
Dissolved Sulphate (SO4)	mg/L	72.8	8822104	<1.0	8820469	<1.0	1.0	8820469
Dissolved Chloride (Cl)	mg/L	<1.0	8820454	<1.0	8820467	<1.0	1.0	8820467
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0151	8819132	0.0037	8819124	0.0024	0.0020	8819132
Total Ammonia (N)	mg/L	0.026	8818781	<0.020	8818781	<0.020	0.020	8818782
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8817804	<0.20 (1)	8817806	<0.20 (1)	0.20	8817806
Nitrite (N)	mg/L	<0.20 (1)	8817805	<0.20 (1)	8817807	<0.20 (1)	0.20	8817807
Total Phosphorus (P)	mg/L	0.0226	8819127	<0.0020	8819125	<0.0020	0.0020	8819127
Physical Properties								
Conductivity	uS/cm	448	8817782	<2.0	8817799	<2.0	2.0	8817799
pH	pH	8.19	8817781	4.97	8817798	4.97		8817798
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8818827	<4.0	8818131	<4.0	4.0	8818131

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ7980		SJ7981		SJ7982		
Sampling Date		2017/10/31						
COC Number		08446217		08446217		08446217		
	UNITS	**DUP3**	**QC Batch**	**FIELD BLANKS**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Dissolved Solids	mg/L	230	8818129	<10	8818129	<10	10	8818129
Turbidity	NTU	1.35	8817678	<0.10	8818795	<0.10	0.10	8818795
RDL = Reportable Detection Limit								

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Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		SJ7966	SJ7967	SJ7968	SJ7969	SJ7970	SJ7971	SJ7972		
Sampling Date		2017/10/30 16:50	2017/10/30 10:50	2017/10/30 17:30	2017/10/27 15:40	2017/10/27 14:25	2017/10/31 13:20	2017/10/27 13:20		
COC Number		08446217	08446217	08446217	08446217	08446217	08446217	08446217		
	UNITS	T1	PORTAL	WRSS	W15	W16	W21	W31	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8822507
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8822419
RDL = Reportable Detection Limit										

Maxxam ID		SJ7973	SJ7974	SJ7975	SJ7976	SJ7977	SJ7980	SJ7981		
Sampling Date		2017/10/31 12:00	2017/10/31 11:35	2017/10/31 10:50	2017/10/27 16:30	2017/10/27 11:20	2017/10/31			
COC Number		08446217	08446217	08446217	08446217	08446217	08446217	08446217		
	UNITS	W71	W72	W73	W81	W82	DUP3	FIELD BLANKS	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		0.010	8822507
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8822419
RDL = Reportable Detection Limit										

Maxxam ID		SJ7982		
Sampling Date				
COC Number		08446217		
	UNITS	TRIP BLANK	RDL	QC Batch
Elements				
Dissolved Mercury (Hg)	ug/L	<0.010	0.010	8822507
Total Mercury (Hg)	ug/L	<0.010	0.010	8822419
RDL = Reportable Detection Limit				

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7966		SJ7967			SJ7968		
Sampling Date		2017/10/30 16:50		2017/10/30 10:50			2017/10/30 17:30		
COC Number		08446217		08446217			08446217		
	UNITS	T1	RDL	PORTAL	RDL	QC Batch	WRSS	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	0.064	0.050	<0.050	0.050	8819401	<0.050	0.050	8819401
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.177	0.0025	0.00228	0.00050	8817921	<0.0025	0.0025	8817921
Dissolved Antimony (Sb)	mg/L	0.0297	0.00010	0.000319	0.000020	8817921	0.00446	0.00010	8817921
Dissolved Arsenic (As)	mg/L	0.00855	0.00010	0.00393	0.000020	8817921	0.00029	0.00010	8817921
Dissolved Barium (Ba)	mg/L	0.0351	0.00010	0.0258	0.000020	8817921	0.0103	0.00010	8817921
Dissolved Beryllium (Be)	mg/L	<0.000050	0.000050	<0.000010	0.000010	8817921	<0.000050	0.000050	8817921
Dissolved Bismuth (Bi)	mg/L	<0.000025	0.000025	<0.0000050	0.0000050	8817921	<0.000025	0.000025	8817921
Dissolved Boron (B)	mg/L	<0.050	0.050	0.017	0.010	8817921	0.073	0.050	8817921
Dissolved Cadmium (Cd)	mg/L	0.0142	0.000025	0.00192	0.0000050	8817921	0.0304	0.000025	8817921
Dissolved Chromium (Cr)	mg/L	<0.00050	0.00050	<0.00010	0.00010	8817921	<0.00050	0.00050	8817921
Dissolved Cobalt (Co)	mg/L	0.00218	0.000025	0.00425	0.0000050	8817921	0.000170	0.000025	8817921
Dissolved Copper (Cu)	mg/L	0.189	0.00025	<0.000050	0.000050	8817921	0.0119	0.00025	8817921
Dissolved Iron (Fe)	mg/L	2.69	0.0050	8.52	0.0010	8817921	<0.0050	0.0050	8817921
Dissolved Lead (Pb)	mg/L	0.182	0.000025	0.0000743	0.0000050	8817921	0.000401	0.000025	8817921
Dissolved Lithium (Li)	mg/L	0.0098	0.0025	0.0134	0.00050	8817921	0.0036	0.0025	8817921
Dissolved Manganese (Mn)	mg/L	0.603	0.00025	1.05	0.000050	8817921	0.0191	0.00025	8817921
Dissolved Molybdenum (Mo)	mg/L	0.0216	0.00025	0.00950	0.000050	8817921	0.00089	0.00025	8817921
Dissolved Nickel (Ni)	mg/L	0.0114	0.00010	0.0184	0.000020	8817921	0.103	0.00010	8817921
Dissolved Phosphorus (P)	mg/L	0.065	0.010	0.0167	0.0020	8817921	<0.010	0.010	8817921
Dissolved Selenium (Se)	mg/L	0.359	0.00020	0.00221	0.000040	8817921	0.165	0.00020	8817921
Dissolved Silicon (Si)	mg/L	2.19	0.25	4.47	0.050	8817921	3.83	0.25	8817921
Dissolved Silver (Ag)	mg/L	0.000293	0.000025	<0.0000050	0.0000050	8817921	<0.000025	0.000025	8817921
Dissolved Strontium (Sr)	mg/L	1.54	0.00025	1.12	0.000050	8817921	1.76	0.00025	8817921
Dissolved Thallium (Tl)	mg/L	0.000980	0.000010	0.000272	0.0000020	8817921	0.000472	0.000010	8817921
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	<0.00020	0.00020	8817921	<0.0010	0.0010	8817921
Dissolved Titanium (Ti)	mg/L	<0.0025	0.0025	<0.00050	0.00050	8817921	<0.0025	0.0025	8817921
Dissolved Uranium (U)	mg/L	0.000631	0.000010	0.00332	0.0000020	8817921	0.0121	0.000010	8817921
Dissolved Vanadium (V)	mg/L	<0.0010	0.0010	<0.00020	0.00020	8817921	<0.0010	0.0010	8817921
Dissolved Zinc (Zn)	mg/L	1.89	0.00050	0.348	0.00010	8817921	4.19	0.00050	8817921
Dissolved Zirconium (Zr)	mg/L	<0.00050	0.00050	<0.00010	0.00010	8817921	<0.00050	0.00050	8817921
Dissolved Calcium (Ca)	mg/L	409	0.25	176	0.050	8817125	520	0.25	8817125
Dissolved Magnesium (Mg)	mg/L	5.65	0.25	24.3	0.050	8817125	70.6	0.25	8817125

RDL = Reportable Detection Limit

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7966		SJ7967			SJ7968		
Sampling Date		2017/10/30 16:50		2017/10/30 10:50			2017/10/30 17:30		
COC Number		08446217		08446217			08446217		
	UNITS	T1	RDL	PORTAL	RDL	QC Batch	WRSS	RDL	QC Batch
Dissolved Potassium (K)	mg/L	33.5	0.25	24.7	0.050	8817125	12.6	0.25	8817125
Dissolved Sodium (Na)	mg/L	125	0.25	57.6	0.050	8817125	158	0.25	8817125
Dissolved Sulphur (S)	mg/L	524	15	197	3.0	8817125	564	15	8817125
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	0.203	0.0025	0.0216	0.00050	8817932	0.682	0.015	8820937
Total Antimony (Sb)	mg/L	0.0301	0.00010	0.00106	0.000020	8817932	0.00497	0.00010	8820937
Total Arsenic (As)	mg/L	0.00854	0.00010	0.00632	0.000020	8817932	0.00170	0.00010	8820937
Total Barium (Ba)	mg/L	0.0387	0.00010	0.0291	0.000020	8817932	0.0321	0.00025	8820937
Total Beryllium (Be)	mg/L	<0.000050	0.000050	<0.000010	0.000010	8817932	<0.000050	0.000050	8820937
Total Bismuth (Bi)	mg/L	0.000030	0.000025	0.0000175	0.0000050	8817932	0.000528	0.000050	8820937
Total Boron (B)	mg/L	<0.050	0.050	0.017	0.010	8817932	0.062	0.050	8820937
Total Cadmium (Cd)	mg/L	0.0140	0.000025	0.00276	0.0000050	8817932	0.0288	0.000025	8820937
Total Chromium (Cr)	mg/L	<0.00050	0.00050	<0.00010	0.00010	8817932	0.00126	0.00050	8820937
Total Cobalt (Co)	mg/L	0.00215	0.000025	0.00440	0.0000050	8817932	0.000924	0.000050	8820937
Total Copper (Cu)	mg/L	0.209	0.00025	0.000997	0.000050	8817932	0.0318	0.00050	8820937
Total Iron (Fe)	mg/L	2.74	0.0050	9.42	0.0010	8817932	1.48	0.025	8820937
Total Lead (Pb)	mg/L	0.180	0.000025	0.00416	0.0000050	8817932	0.0183	0.00010	8820937
Total Lithium (Li)	mg/L	0.0098	0.0025	0.0137	0.00050	8817932	0.0042	0.0025	8820937
Total Manganese (Mn)	mg/L	0.598	0.00025	1.05	0.000050	8817932	0.0795	0.00050	8820937
Total Molybdenum (Mo)	mg/L	0.0222	0.00025	0.00941	0.000050	8817932	0.00097	0.00025	8820937
Total Nickel (Ni)	mg/L	0.0110	0.00010	0.0189	0.000020	8817932	0.101	0.00050	8820937
Total Phosphorus (P)	mg/L	0.089	0.010	0.0199	0.0020	8817932	0.035	0.025	8820937
Total Selenium (Se)	mg/L	0.360	0.00020	0.00297	0.000040	8817932	0.157	0.00020	8820937
Total Silicon (Si)	mg/L	2.23	0.25	4.50	0.050	8817932	4.39	0.25	8820937
Total Silver (Ag)	mg/L	0.00104	0.000025	0.0000352	0.0000050	8817932	0.000312	0.000050	8820937
Total Strontium (Sr)	mg/L	1.55	0.00025	1.11	0.000050	8817932	1.66	0.00025	8820937
Total Thallium (Tl)	mg/L	0.000951	0.000010	0.000301	0.0000020	8817932	0.000487	0.000010	8820937
Total Tin (Sn)	mg/L	<0.0010	0.0010	<0.00020	0.00020	8817932	<0.0010	0.0010	8820937
Total Titanium (Ti)	mg/L	<0.0025	0.0025	<0.00050	0.00050	8817932	0.021	0.010	8820937
Total Uranium (U)	mg/L	0.000714	0.000010	0.00334	0.0000020	8817932	0.0117	0.000025	8820937
Total Vanadium (V)	mg/L	<0.0010	0.0010	<0.00020	0.00020	8817932	0.0014	0.0010	8820937
Total Zinc (Zn)	mg/L	1.86	0.00050	0.478	0.00010	8817932	3.99	0.0050	8820937
Total Zirconium (Zr)	mg/L	<0.00050	0.00050	<0.00010	0.00010	8817932	<0.00050	0.00050	8820937
Total Calcium (Ca)	mg/L	416	0.25	179	0.050	8817083	470	1.3	8817083

RDL = Reportable Detection Limit

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7966		SJ7967			SJ7968		
Sampling Date		2017/10/30 16:50		2017/10/30 10:50			2017/10/30 17:30		
COC Number		08446217		08446217			08446217		
	UNITS	T1	RDL	PORTAL	RDL	QC Batch	WRSS	RDL	QC Batch
Total Magnesium (Mg)	mg/L	5.69	0.25	24.4	0.050	8817083	61.9	1.3	8817083
Total Potassium (K)	mg/L	33.7	0.25	25.0	0.050	8817083	10.9	1.3	8817083
Total Sodium (Na)	mg/L	125	0.25	57.6	0.050	8817083	138	1.3	8817083
Total Sulphur (S)	mg/L	504	15	195	3.0	8817083	522	15	8817083
RDL = Reportable Detection Limit									

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YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7969			SJ7970		
Sampling Date		2017/10/27 15:40			2017/10/27 14:25		
COC Number		08446217			08446217		
	UNITS	W15	RDL	QC Batch	W16	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	0.010	8819401	<0.010	0.010	8819401
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00266	0.00050	8817921	0.00330	0.00050	8817921
Dissolved Antimony (Sb)	mg/L	<0.000020	0.000020	8817921	0.000041	0.000020	8817921
Dissolved Arsenic (As)	mg/L	0.000093	0.000020	8817921	0.000124	0.000020	8817921
Dissolved Barium (Ba)	mg/L	0.0206	0.000020	8817921	0.0700	0.000020	8817921
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8817921	<0.000010	0.000010	8817921
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8817921	<0.0000050	0.0000050	8817921
Dissolved Boron (B)	mg/L	<0.010	0.010	8817921	<0.010	0.010	8817921
Dissolved Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8817921	0.0000633	0.0000050	8817921
Dissolved Chromium (Cr)	mg/L	0.00019	0.00010	8817921	0.00016	0.00010	8817921
Dissolved Cobalt (Co)	mg/L	0.0000111	0.0000050	8817921	0.0000273	0.0000050	8817921
Dissolved Copper (Cu)	mg/L	0.000364	0.000050	8817921	0.000445	0.000050	8817921
Dissolved Iron (Fe)	mg/L	0.0022	0.0010	8817921	0.0176	0.0010	8817921
Dissolved Lead (Pb)	mg/L	0.0000876 (1)	0.0000050	8817921	0.0000701	0.0000050	8817921
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	8817921	<0.00050	0.00050	8817921
Dissolved Manganese (Mn)	mg/L	0.000458	0.000050	8817921	0.0153	0.000050	8817921
Dissolved Molybdenum (Mo)	mg/L	0.000240	0.000050	8817921	0.000391	0.000050	8817921
Dissolved Nickel (Ni)	mg/L	0.000097	0.000020	8817921	0.000141	0.000020	8817921
Dissolved Phosphorus (P)	mg/L	0.0034	0.0020	8817921	0.0080	0.0020	8817921
Dissolved Selenium (Se)	mg/L	0.000327	0.000040	8817921	0.000832	0.000040	8817921
Dissolved Silicon (Si)	mg/L	2.94	0.050	8817921	3.34	0.050	8817921
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8817921	<0.0000050	0.0000050	8817921
Dissolved Strontium (Sr)	mg/L	0.0352	0.000050	8817921	0.0415	0.000050	8817921
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8817921	<0.0000020	0.0000020	8817921
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8817921	<0.00020	0.00020	8817921
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8817921	<0.00050	0.00050	8817921
Dissolved Uranium (U)	mg/L	0.0000988	0.0000020	8817921	0.000268	0.0000020	8817921
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8817921	<0.00020	0.00020	8817921
Dissolved Zinc (Zn)	mg/L	0.00027	0.00010	8817921	0.00290	0.00010	8817921
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8817921	<0.00010	0.00010	8817921
Dissolved Calcium (Ca)	mg/L	22.1	0.050	8817125	25.6	0.050	8817125

RDL = Reportable Detection Limit
(1) Dissolved greater than total. Reanalysis yields similar results.

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7969			SJ7970		
Sampling Date		2017/10/27 15:40			2017/10/27 14:25		
COC Number		08446217			08446217		
	UNITS	W15	RDL	QC Batch	W16	RDL	QC Batch
Dissolved Magnesium (Mg)	mg/L	1.49	0.050	8817125	2.94	0.050	8817125
Dissolved Potassium (K)	mg/L	0.384	0.050	8817125	0.517	0.050	8817125
Dissolved Sodium (Na)	mg/L	1.04	0.050	8817125	1.33	0.050	8817125
Dissolved Sulphur (S)	mg/L	4.3	3.0	8817125	4.3	3.0	8817125
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.00571	0.00050	8817932	0.0501	0.0030	8820937
Total Antimony (Sb)	mg/L	0.000025	0.000020	8817932	0.000037	0.000020	8820937
Total Arsenic (As)	mg/L	0.000097	0.000020	8817932	0.000119	0.000020	8820937
Total Barium (Ba)	mg/L	0.0208	0.000020	8817932	0.0658	0.000050	8820937
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8817932	<0.000010	0.000010	8820937
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8817932	<0.000010	0.000010	8820937
Total Boron (B)	mg/L	<0.010	0.010	8817932	<0.010	0.010	8820937
Total Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8817932	0.0000890	0.0000050	8820937
Total Chromium (Cr)	mg/L	0.00013	0.00010	8817932	0.00043	0.00010	8820937
Total Cobalt (Co)	mg/L	0.0000137	0.0000050	8817932	0.000073	0.000010	8820937
Total Copper (Cu)	mg/L	0.000384	0.000050	8817932	0.00074	0.00010	8820937
Total Iron (Fe)	mg/L	0.0077	0.0010	8817932	0.0986	0.0050	8820937
Total Lead (Pb)	mg/L	0.0000102	0.0000050	8817932	0.000039	0.000020	8820937
Total Lithium (Li)	mg/L	<0.00050	0.00050	8817932	<0.00050	0.00050	8820937
Total Manganese (Mn)	mg/L	0.000433	0.000050	8817932	0.0230	0.00010	8820937
Total Molybdenum (Mo)	mg/L	0.000241	0.000050	8817932	0.000400	0.000050	8820937
Total Nickel (Ni)	mg/L	0.000079	0.000020	8817932	0.00037	0.00010	8820937
Total Phosphorus (P)	mg/L	0.0045	0.0020	8817932	0.0144	0.0050	8820937
Total Selenium (Se)	mg/L	0.000417	0.000040	8817932	0.000803	0.000040	8820937
Total Silicon (Si)	mg/L	2.87	0.050	8817932	3.16	0.050	8820937
Total Silver (Ag)	mg/L	<0.0000050	0.0000050	8817932	<0.000010	0.000010	8820937
Total Strontium (Sr)	mg/L	0.0352	0.000050	8817932	0.0404	0.000050	8820937
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8817932	<0.0000020	0.0000020	8820937
Total Tin (Sn)	mg/L	<0.00020	0.00020	8817932	<0.00020	0.00020	8820937
Total Titanium (Ti)	mg/L	<0.00050	0.00050	8817932	0.0023	0.0020	8820937
Total Uranium (U)	mg/L	0.0000952	0.0000020	8817932	0.000269	0.0000050	8820937
Total Vanadium (V)	mg/L	<0.00020	0.00020	8817932	0.00025	0.00020	8820937
Total Zinc (Zn)	mg/L	0.00025	0.00010	8817932	0.0040	0.0010	8820937
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8817932	<0.00010	0.00010	8820937
RDL = Reportable Detection Limit							

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7969			SJ7970		
Sampling Date		2017/10/27 15:40			2017/10/27 14:25		
COC Number		08446217			08446217		
	UNITS	W15	RDL	QC Batch	W16	RDL	QC Batch
Total Calcium (Ca)	mg/L	22.3	0.050	8817083	24.3	0.25	8817083
Total Magnesium (Mg)	mg/L	1.44	0.050	8817083	2.69	0.25	8817083
Total Potassium (K)	mg/L	0.384	0.050	8817083	0.48	0.25	8817083
Total Sodium (Na)	mg/L	1.03	0.050	8817083	1.28	0.25	8817083
Total Sulphur (S)	mg/L	4.2	3.0	8817083	3.8	3.0	8817083
RDL = Reportable Detection Limit							

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7971		SJ7972		SJ7973		
Sampling Date		2017/10/31 13:20		2017/10/27 13:20		2017/10/31 12:00		
COC Number		08446217		08446217		08446217		
	UNITS	W21	QC Batch	W31	QC Batch	W71	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	8819401	<0.010	8819401	<0.010	0.010	8819401
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00213	8817921	0.00535	8817921	0.00219	0.00050	8817921
Dissolved Antimony (Sb)	mg/L	0.000186	8817921	<0.000020	8817921	0.000208	0.000020	8817921
Dissolved Arsenic (As)	mg/L	0.000783	8817921	0.000129	8817921	0.00146	0.000020	8817921
Dissolved Barium (Ba)	mg/L	0.0998	8817921	0.0130	8817921	0.0964	0.000020	8817921
Dissolved Beryllium (Be)	mg/L	<0.000010	8817921	<0.000010	8817921	<0.000010	0.000010	8817921
Dissolved Bismuth (Bi)	mg/L	<0.0000050	8817921	<0.0000050	8817921	<0.0000050	0.0000050	8817921
Dissolved Boron (B)	mg/L	<0.010	8817921	<0.010	8817921	<0.010	0.010	8817921
Dissolved Cadmium (Cd)	mg/L	0.000125	8817921	0.0000050	8817921	0.000219	0.0000050	8817921
Dissolved Chromium (Cr)	mg/L	<0.00010	8817921	<0.00010	8817921	<0.00010	0.00010	8817921
Dissolved Cobalt (Co)	mg/L	0.0000413	8817921	0.0000160	8817921	0.0000435	0.0000050	8817921
Dissolved Copper (Cu)	mg/L	0.000462	8817921	0.000745	8817921	0.000429	0.000050	8817921
Dissolved Iron (Fe)	mg/L	0.0553	8817921	0.0024	8817921	0.0441	0.0010	8817921
Dissolved Lead (Pb)	mg/L	0.0000334	8817921	0.0000457 (1)	8817921	0.0000063	0.0000050	8817921
Dissolved Lithium (Li)	mg/L	0.00220	8817921	<0.00050	8817921	0.00225	0.00050	8817921
Dissolved Manganese (Mn)	mg/L	0.0763	8817921	0.000052	8817921	0.0859	0.000050	8817921
Dissolved Molybdenum (Mo)	mg/L	0.00325	8817921	0.000334	8817921	0.00284	0.000050	8817921
Dissolved Nickel (Ni)	mg/L	0.00269	8817921	0.000046	8817921	0.00365	0.000020	8817921
Dissolved Phosphorus (P)	mg/L	0.0188	8817921	0.0036	8817921	0.0172	0.0020	8817921
Dissolved Selenium (Se)	mg/L	0.00164	8817921	0.000241	8817921	0.00208	0.000040	8817921
Dissolved Silicon (Si)	mg/L	4.35	8817921	2.88	8817921	4.79	0.050	8817921
Dissolved Silver (Ag)	mg/L	<0.0000050	8817921	<0.0000050	8817921	<0.0000050	0.0000050	8817921
Dissolved Strontium (Sr)	mg/L	0.256	8817921	0.0162	8817921	0.270	0.000050	8817921
Dissolved Thallium (Tl)	mg/L	<0.0000020	8817921	<0.0000020	8817921	<0.0000020	0.0000020	8817921
Dissolved Tin (Sn)	mg/L	<0.00020	8817921	<0.00020	8817921	<0.00020	0.00020	8817921
Dissolved Titanium (Ti)	mg/L	<0.00050	8817921	<0.00050	8817921	<0.00050	0.00050	8817921
Dissolved Uranium (U)	mg/L	0.00251	8817921	0.0000230	8817921	0.00195	0.0000020	8817921
Dissolved Vanadium (V)	mg/L	<0.00020	8817921	0.00036	8817921	<0.00020	0.00020	8817921
Dissolved Zinc (Zn)	mg/L	0.0238	8817921	0.00119	8825113	0.0382	0.00010	8817921
Dissolved Zirconium (Zr)	mg/L	<0.00010	8817921	<0.00010	8817921	<0.00010	0.00010	8817921
Dissolved Calcium (Ca)	mg/L	59.0	8817125	26.7	8817125	63.1	0.050	8817125

RDL = Reportable Detection Limit
(1) Dissolved greater than total. Reanalysis yields similar results.

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7971		SJ7972		SJ7973		
Sampling Date		2017/10/31 13:20		2017/10/27 13:20		2017/10/31 12:00		
COC Number		08446217		08446217		08446217		
	UNITS	W21	QC Batch	W31	QC Batch	W71	RDL	QC Batch
Dissolved Magnesium (Mg)	mg/L	22.2	8817125	1.57	8817125	21.6	0.050	8817125
Dissolved Potassium (K)	mg/L	0.696	8817125	0.412	8817125	0.780	0.050	8817125
Dissolved Sodium (Na)	mg/L	1.83	8817125	1.21	8817125	2.00	0.050	8817125
Dissolved Sulphur (S)	mg/L	21.1	8817125	3.1	8817125	23.4	3.0	8817125
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0223	8817932	0.00596	8817932	0.0278	0.00050	8817932
Total Antimony (Sb)	mg/L	0.000218	8817932	<0.000020	8817932	0.000206	0.000020	8817932
Total Arsenic (As)	mg/L	0.00113	8817932	0.000129	8817932	0.00174	0.000020	8817932
Total Barium (Ba)	mg/L	0.104	8817932	0.0132	8817932	0.0991	0.000020	8817932
Total Beryllium (Be)	mg/L	<0.000010	8817932	<0.000010	8817932	<0.000010	0.000010	8817932
Total Bismuth (Bi)	mg/L	0.0000071	8817932	<0.0000050	8817932	<0.0000050	0.0000050	8817932
Total Boron (B)	mg/L	<0.010	8817932	<0.010	8817932	<0.010	0.010	8817932
Total Cadmium (Cd)	mg/L	0.000177	8817932	0.0000052	8817932	0.000342	0.0000050	8817932
Total Chromium (Cr)	mg/L	0.00014	8817932	<0.00010	8817932	<0.00010	0.00010	8817932
Total Cobalt (Co)	mg/L	0.0000798	8817932	0.0000160	8817932	0.0000891	0.0000050	8817932
Total Copper (Cu)	mg/L	0.000640	8817932	0.000715	8817932	0.000544	0.000050	8817932
Total Iron (Fe)	mg/L	0.182	8817932	0.0012	8817932	0.157	0.0010	8817932
Total Lead (Pb)	mg/L	0.0000671	8817932	<0.0000050	8817932	0.0000662	0.0000050	8817932
Total Lithium (Li)	mg/L	0.00221	8817932	<0.00050	8817932	0.00225	0.00050	8817932
Total Manganese (Mn)	mg/L	0.0896	8817932	0.000071	8817932	0.112	0.000050	8817932
Total Molybdenum (Mo)	mg/L	0.00343	8817932	0.000326	8817932	0.00292	0.000050	8817932
Total Nickel (Ni)	mg/L	0.00303	8817932	0.000059	8817932	0.00402	0.000020	8817932
Total Phosphorus (P)	mg/L	0.0287	8817932	0.0033	8817932	0.0249	0.0020	8817932
Total Selenium (Se)	mg/L	0.00181	8817932	0.000304	8817932	0.00214	0.000040	8817932
Total Silicon (Si)	mg/L	4.47	8817932	2.91	8817932	4.60	0.050	8817932
Total Silver (Ag)	mg/L	<0.0000050	8817932	<0.0000050	8817932	<0.0000050	0.0000050	8817932
Total Strontium (Sr)	mg/L	0.248	8817932	0.0163	8817932	0.273	0.000050	8817932
Total Thallium (Tl)	mg/L	0.0000024	8817932	<0.0000020	8817932	<0.0000020	0.0000020	8817932
Total Tin (Sn)	mg/L	<0.00020	8817932	<0.00020	8817932	<0.00020	0.00020	8817932
Total Titanium (Ti)	mg/L	0.00053	8817932	<0.00050	8817932	0.00072	0.00050	8817932
Total Uranium (U)	mg/L	0.00256	8817932	0.0000210	8817932	0.00191	0.0000020	8817932
Total Vanadium (V)	mg/L	<0.00020	8817932	0.00037	8817932	0.00021	0.00020	8817932
Total Zinc (Zn)	mg/L	0.0279	8817932	0.00028	8817932	0.0439	0.00010	8817932
Total Zirconium (Zr)	mg/L	<0.00010	8817932	<0.00010	8817932	<0.00010	0.00010	8817932

RDL = Reportable Detection Limit

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7971		SJ7972		SJ7973		
Sampling Date		2017/10/31 13:20		2017/10/27 13:20		2017/10/31 12:00		
COC Number		08446217		08446217		08446217		
	UNITS	W21	QC Batch	W31	QC Batch	W71	RDL	QC Batch
Total Calcium (Ca)	mg/L	60.4	8817083	27.1	8817083	61.9	0.050	8817083
Total Magnesium (Mg)	mg/L	22.3	8817083	1.57	8817083	21.7	0.050	8817083
Total Potassium (K)	mg/L	0.704	8817083	0.413	8817083	0.787	0.050	8817083
Total Sodium (Na)	mg/L	1.85	8817083	1.21	8817083	1.99	0.050	8817083
Total Sulphur (S)	mg/L	23.0	8817083	3.1	8817083	23.7	3.0	8817083
RDL = Reportable Detection Limit								

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YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7974		SJ7975	SJ7976	SJ7977		
Sampling Date		2017/10/31 11:35		2017/10/31 10:50	2017/10/27 16:30	2017/10/27 11:20		
COC Number		08446217		08446217	08446217	08446217		
	UNITS	W72	QC Batch	W73	W81	W82	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	8819412	<0.010	<0.010	<0.010	0.010	8819401
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00206	8817921	0.00163	0.00323	0.0182	0.00050	8817921
Dissolved Antimony (Sb)	mg/L	0.000189	8817921	0.000110	0.000032	0.000295	0.000020	8817921
Dissolved Arsenic (As)	mg/L	0.00146	8817921	0.000195	0.000109	0.000094	0.000020	8817921
Dissolved Barium (Ba)	mg/L	0.0958	8817921	0.0725	0.0508	0.124	0.000020	8817921
Dissolved Beryllium (Be)	mg/L	<0.000010	8817921	<0.000010	<0.000010	<0.000010	0.000010	8817921
Dissolved Bismuth (Bi)	mg/L	<0.0000050	8817921	<0.0000050	<0.0000050	<0.0000050	0.0000050	8817921
Dissolved Boron (B)	mg/L	<0.010	8817921	<0.010	<0.010	<0.010	0.010	8817921
Dissolved Cadmium (Cd)	mg/L	0.000219	8817921	0.0000055	0.0000304	0.00308	0.0000050	8817921
Dissolved Chromium (Cr)	mg/L	<0.00010	8817921	0.00027	0.00013	<0.00010	0.00010	8817921
Dissolved Cobalt (Co)	mg/L	0.0000424	8817921	0.0000088	0.0000197	0.00151	0.0000050	8817921
Dissolved Copper (Cu)	mg/L	0.000428	8817921	0.000585	0.000408	0.00331	0.000050	8817921
Dissolved Iron (Fe)	mg/L	0.0416	8817921	0.0198	0.0121	0.0389	0.0010	8817921
Dissolved Lead (Pb)	mg/L	0.0000053	8817921	<0.0000050	0.0000068	0.0000224	0.0000050	8817921
Dissolved Lithium (Li)	mg/L	0.00229	8817921	0.00083	<0.00050	0.00067	0.00050	8817921
Dissolved Manganese (Mn)	mg/L	0.0841	8817921	0.00259	0.00966	0.209	0.000050	8817921
Dissolved Molybdenum (Mo)	mg/L	0.00281	8817921	0.000486	0.000329	0.000328	0.000050	8817921
Dissolved Nickel (Ni)	mg/L	0.00360	8817921	0.000599	0.000137	0.0261	0.000020	8817921
Dissolved Phosphorus (P)	mg/L	0.0176	8817921	0.0044	0.0059	0.0066	0.0020	8817921
Dissolved Selenium (Se)	mg/L	0.00215	8817921	0.000978	0.000663	0.00386	0.000040	8817921
Dissolved Silicon (Si)	mg/L	4.66	8817921	4.55	3.22	3.67	0.050	8817921
Dissolved Silver (Ag)	mg/L	<0.0000050	8817921	<0.0000050	<0.0000050	<0.0000050	0.0000050	8817921
Dissolved Strontium (Sr)	mg/L	0.272	8817921	0.124	0.0393	0.121	0.000050	8817921
Dissolved Thallium (Tl)	mg/L	<0.0000020	8817921	<0.0000020	<0.0000020	0.0000051	0.0000020	8817921
Dissolved Tin (Sn)	mg/L	<0.00020	8817921	<0.00020	<0.00020	<0.00020	0.00020	8817921
Dissolved Titanium (Ti)	mg/L	<0.00050	8817921	<0.00050	<0.00050	<0.00050	0.00050	8817921
Dissolved Uranium (U)	mg/L	0.00192	8817921	0.000592	0.000197	0.000321	0.0000020	8817921
Dissolved Vanadium (V)	mg/L	<0.00020	8817921	<0.00020	<0.00020	<0.00020	0.00020	8817921
Dissolved Zinc (Zn)	mg/L	0.0386	8817921	0.00032	0.00146	0.339	0.00010	8817921
Dissolved Zirconium (Zr)	mg/L	<0.00010	8817921	<0.00010	<0.00010	<0.00010	0.00010	8817921
Dissolved Calcium (Ca)	mg/L	61.9	8817125	35.0	24.5	45.9	0.050	8817125
Dissolved Magnesium (Mg)	mg/L	21.6	8817125	10.9	2.37	5.69	0.050	8817125

RDL = Reportable Detection Limit

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7974		SJ7975	SJ7976	SJ7977		
Sampling Date		2017/10/31 11:35		2017/10/31 10:50	2017/10/27 16:30	2017/10/27 11:20		
COC Number		08446217		08446217	08446217	08446217		
	UNITS	W72	QC Batch	W73	W81	W82	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.772	8817125	0.293	0.469	1.06	0.050	8817125
Dissolved Sodium (Na)	mg/L	2.01	8817125	1.30	1.22	1.40	0.050	8817125
Dissolved Sulphur (S)	mg/L	23.6	8817125	8.2	4.3	19.9	3.0	8817125
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0384	8817932	0.00821	0.0216	0.0688	0.00050	8817932
Total Antimony (Sb)	mg/L	0.000218	8817932	0.000107	0.000033	0.000292	0.000020	8817932
Total Arsenic (As)	mg/L	0.00176	8817932	0.000243	0.000131	0.000162	0.000020	8817932
Total Barium (Ba)	mg/L	0.101	8817932	0.0746	0.0521	0.127	0.000020	8817932
Total Beryllium (Be)	mg/L	<0.000010	8817932	<0.000010	<0.000010	<0.000010	0.000010	8817932
Total Bismuth (Bi)	mg/L	<0.0000050	8817932	<0.0000050	<0.0000050	<0.0000050	0.0000050	8817932
Total Boron (B)	mg/L	<0.010	8817932	<0.010	<0.010	<0.010	0.010	8817932
Total Cadmium (Cd)	mg/L	0.000333	8817932	0.0000097	0.0000479	0.00399	0.0000050	8817932
Total Chromium (Cr)	mg/L	0.00015	8817932	0.00032	0.00013	<0.00010	0.00010	8817932
Total Cobalt (Co)	mg/L	0.000110	8817932	0.0000282	0.0000494	0.00161	0.0000050	8817932
Total Copper (Cu)	mg/L	0.000649	8817932	0.000706	0.000574	0.00801	0.000050	8817932
Total Iron (Fe)	mg/L	0.173	8817932	0.0624	0.0643	0.277	0.0010	8817932
Total Lead (Pb)	mg/L	0.0000940	8817932	0.0000281	0.0000177	0.000260	0.0000050	8817932
Total Lithium (Li)	mg/L	0.00226	8817932	0.00081	<0.00050	0.00066	0.00050	8817932
Total Manganese (Mn)	mg/L	0.117	8817932	0.0160	0.0155	0.222	0.000050	8817932
Total Molybdenum (Mo)	mg/L	0.00303	8817932	0.000497	0.000339	0.000347	0.000050	8817932
Total Nickel (Ni)	mg/L	0.00421	8817932	0.000686	0.000177	0.0266	0.000020	8817932
Total Phosphorus (P)	mg/L	0.0259	8817932	0.0070	0.0102	0.0186	0.0020	8817932
Total Selenium (Se)	mg/L	0.00210	8817932	0.000989	0.000638	0.00389	0.000040	8817932
Total Silicon (Si)	mg/L	4.79	8817932	4.51	3.35	3.89	0.050	8817932
Total Silver (Ag)	mg/L	<0.0000050	8817932	<0.0000050	<0.0000050	0.0000086	0.0000050	8817932
Total Strontium (Sr)	mg/L	0.274	8817932	0.125	0.0396	0.122	0.000050	8817932
Total Thallium (Tl)	mg/L	0.0000020	8817932	<0.0000020	<0.0000020	0.0000047	0.0000020	8817932
Total Tin (Sn)	mg/L	<0.00020	8817932	<0.00020	<0.00020	<0.00020	0.00020	8817932
Total Titanium (Ti)	mg/L	0.00087	8817932	<0.00050	0.00094	<0.00050	0.00050	8817932
Total Uranium (U)	mg/L	0.00192	8817932	0.000599	0.000202	0.000339	0.0000020	8817932
Total Vanadium (V)	mg/L	0.00025	8817932	<0.00020	<0.00020	<0.00020	0.00020	8817932
Total Zinc (Zn)	mg/L	0.0439	8817932	0.00066	0.00205	0.358	0.00010	8817932
Total Zirconium (Zr)	mg/L	<0.00010	8817932	<0.00010	<0.00010	<0.00010	0.00010	8817932
Total Calcium (Ca)	mg/L	62.3	8817083	34.3	25.0	47.3	0.050	8817083

RDL = Reportable Detection Limit

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7974		SJ7975	SJ7976	SJ7977		
Sampling Date		2017/10/31 11:35		2017/10/31 10:50	2017/10/27 16:30	2017/10/27 11:20		
COC Number		08446217		08446217	08446217	08446217		
	UNITS	W72	QC Batch	W73	W81	W82	RDL	QC Batch
Total Magnesium (Mg)	mg/L	21.9	8817083	10.8	2.35	5.61	0.050	8817083
Total Potassium (K)	mg/L	0.791	8817083	0.296	0.471	1.06	0.050	8817083
Total Sodium (Na)	mg/L	2.01	8817083	1.31	1.21	1.41	0.050	8817083
Total Sulphur (S)	mg/L	23.2	8817083	8.3	4.3	20.0	3.0	8817083
RDL = Reportable Detection Limit								

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7978	SJ7979	SJ7980	SJ7981	SJ7982		
Sampling Date		2017/10/29	2017/10/29	2017/10/31				
COC Number		08446217	08446217	08446217	08446217	08446217		
	UNITS	DUP1	DUP2	DUP3	FIELD BLANKS	TRIP BLANK	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8819401
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00325	0.00149	0.00220		<0.00050	0.00050	8817921
Dissolved Antimony (Sb)	mg/L	0.00603	0.000503	0.000205		<0.000020	0.000020	8817921
Dissolved Arsenic (As)	mg/L	0.00113	0.00540	0.00144		<0.000020	0.000020	8817921
Dissolved Barium (Ba)	mg/L	0.0243	0.0251	0.0956		<0.000020	0.000020	8817921
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010		<0.000010	0.000010	8817921
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050		<0.0000050	0.0000050	8817921
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010		<0.010	0.010	8817921
Dissolved Cadmium (Cd)	mg/L	0.0000746	<0.0000050	0.000216		<0.0000050	0.0000050	8817921
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	<0.00010		<0.00010	0.00010	8817921
Dissolved Cobalt (Co)	mg/L	0.00363	0.0000824	0.0000404		<0.0000050	0.0000050	8817921
Dissolved Copper (Cu)	mg/L	0.000203	<0.000050	0.000419		<0.000050	0.000050	8817921
Dissolved Iron (Fe)	mg/L	4.99	0.356	0.0426		<0.0010	0.0010	8817921
Dissolved Lead (Pb)	mg/L	0.0000156	0.0000085	0.0000057		<0.0000050	0.0000050	8817921
Dissolved Lithium (Li)	mg/L	0.00206	0.00115	0.00223		<0.00050	0.00050	8817921
Dissolved Manganese (Mn)	mg/L	0.372	0.111	0.0850		<0.000050	0.000050	8817921
Dissolved Molybdenum (Mo)	mg/L	0.00250	0.00106	0.00280		<0.000050	0.000050	8817921
Dissolved Nickel (Ni)	mg/L	0.0410	0.000461	0.00372		<0.000020	0.000020	8817921
Dissolved Phosphorus (P)	mg/L	0.269	0.0182	0.0174		0.0025	0.0020	8817921
Dissolved Selenium (Se)	mg/L	<0.000040	<0.000040	0.00207		<0.000040	0.000040	8817921
Dissolved Silicon (Si)	mg/L	5.97	3.71	4.65		<0.050	0.050	8817921
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050		<0.0000050	0.0000050	8817921
Dissolved Strontium (Sr)	mg/L	0.0611	0.180	0.270		<0.000050	0.000050	8817921
Dissolved Thallium (Tl)	mg/L	0.0000168	<0.0000020	<0.0000020		<0.0000020	0.0000020	8817921
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020		<0.00020	0.00020	8817921
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050		<0.00050	0.00050	8817921
Dissolved Uranium (U)	mg/L	0.0000550	0.00797	0.00191		<0.0000020	0.0000020	8817921
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020		<0.00020	0.00020	8817921
Dissolved Zinc (Zn)	mg/L	1.87	0.00259	0.0378		<0.00010	0.00010	8817921
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010		<0.00010	0.00010	8817921
Dissolved Calcium (Ca)	mg/L	31.2	50.1	61.5		<0.050	0.050	8817125
Dissolved Magnesium (Mg)	mg/L	3.86	4.50	21.7		<0.050	0.050	8817125

RDL = Reportable Detection Limit

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7978	SJ7979	SJ7980	SJ7981	SJ7982		
Sampling Date		2017/10/29	2017/10/29	2017/10/31				
COC Number		08446217	08446217	08446217	08446217	08446217		
	UNITS	DUP1	DUP2	DUP3	FIELD BLANKS	TRIP BLANK	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.967	1.08	0.766		<0.050	0.050	8817125
Dissolved Sodium (Na)	mg/L	1.19	1.21	1.98		<0.050	0.050	8817125
Dissolved Sulphur (S)	mg/L	10.8	9.8	23.3		<3.0	3.0	8817125
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L			0.0243	<0.00050	<0.00050	0.00050	8817932
Total Antimony (Sb)	mg/L			0.000201	<0.000020	<0.000020	0.000020	8817932
Total Arsenic (As)	mg/L			0.00175	<0.000020	<0.000020	0.000020	8817932
Total Barium (Ba)	mg/L			0.0997	<0.000020	<0.000020	0.000020	8817932
Total Beryllium (Be)	mg/L			<0.000010	<0.000010	<0.000010	0.000010	8817932
Total Bismuth (Bi)	mg/L			<0.0000050	<0.0000050	<0.0000050	0.0000050	8817932
Total Boron (B)	mg/L			<0.010	<0.010	<0.010	0.010	8817932
Total Cadmium (Cd)	mg/L			0.000342	<0.0000050	<0.0000050	0.0000050	8817932
Total Chromium (Cr)	mg/L			<0.00010	<0.00010	<0.00010	0.00010	8817932
Total Cobalt (Co)	mg/L			0.0000858	<0.0000050	<0.0000050	0.0000050	8817932
Total Copper (Cu)	mg/L			0.000538	<0.000050	<0.000050	0.000050	8817932
Total Iron (Fe)	mg/L			0.149	<0.0010	<0.0010	0.0010	8817932
Total Lead (Pb)	mg/L			0.0000590	0.0000058	<0.0000050	0.0000050	8817932
Total Lithium (Li)	mg/L			0.00229	<0.00050	<0.00050	0.00050	8817932
Total Manganese (Mn)	mg/L			0.111	<0.000050	<0.000050	0.000050	8817932
Total Molybdenum (Mo)	mg/L			0.00295	<0.000050	<0.000050	0.000050	8817932
Total Nickel (Ni)	mg/L			0.00407	<0.000020	<0.000020	0.000020	8817932
Total Phosphorus (P)	mg/L			0.0241	0.0028	0.0025	0.0020	8817932
Total Selenium (Se)	mg/L			0.00215	<0.000040	<0.000040	0.000040	8817932
Total Silicon (Si)	mg/L			4.79	<0.050	<0.050	0.050	8817932
Total Silver (Ag)	mg/L			<0.0000050	<0.0000050	<0.0000050	0.0000050	8817932
Total Strontium (Sr)	mg/L			0.273	<0.000050	<0.000050	0.000050	8817932
Total Thallium (Tl)	mg/L			<0.0000020	<0.0000020	<0.0000020	0.0000020	8817932
Total Tin (Sn)	mg/L			<0.00020	<0.00020	<0.00020	0.00020	8817932
Total Titanium (Ti)	mg/L			0.00071	<0.00050	<0.00050	0.00050	8817932
Total Uranium (U)	mg/L			0.00197	<0.0000020	<0.0000020	0.0000020	8817932
Total Vanadium (V)	mg/L			0.00021	<0.00020	<0.00020	0.00020	8817932
Total Zinc (Zn)	mg/L			0.0436	<0.00010	<0.00010	0.00010	8817932
Total Zirconium (Zr)	mg/L			<0.00010	<0.00010	<0.00010	0.00010	8817932
Total Calcium (Ca)	mg/L			62.2	<0.050	<0.050	0.050	8817083

RDL = Reportable Detection Limit

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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ7978	SJ7979	SJ7980	SJ7981	SJ7982		
Sampling Date		2017/10/29	2017/10/29	2017/10/31				
COC Number		08446217	08446217	08446217	08446217	08446217		
	UNITS	**DUP1**	**DUP2**	**DUP3**	**FIELD BLANKS**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Magnesium (Mg)	mg/L			22.1	<0.050	<0.050	0.050	8817083
Total Potassium (K)	mg/L			0.792	<0.050	<0.050	0.050	8817083
Total Sodium (Na)	mg/L			2.03	<0.050	<0.050	0.050	8817083
Total Sulphur (S)	mg/L			23.5	<3.0	<3.0	3.0	8817083
RDL = Reportable Detection Limit								

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.3°C
Package 2	5.0°C
Package 3	3.7°C

Sample SJ7966 [T1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample SJ7967 [PORTAL] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample SJ7968 [WRSS] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample SJ7969 [W15] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue).

Sample SJ7970 [W16] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ7972 [W31] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ7973 [W71] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample SJ7975 [W73] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample SJ7976 [W81] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ7977 [W82] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past

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method specified hold time for Orthophosphate by Konelab (low level). Orthophosphate is greater than total. Reanalysis yields similar results.

Sample SJ7978 [DUP1] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ7979 [DUP2] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER) Comments

Sample SJ7966 [T1] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample SJ7966 [T1] Elements by ICPMS Low Level (dissolved): RDL raised due to concentration over linear range, sample dilution required.
Matrix Spike Elements by ICPMS Low Level (total): Detection limits raised due to dilution to bring analyte within the calibrated range.
Sample SJ7966 [T1] Elements by ICPMS Low Level (total): Detection limits raised due to dilution to bring analyte within the calibrated range.
Sample SJ7967 [PORTAL] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample SJ7968 [WRSS] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample SJ7968 [WRSS] Elements by ICPMS Low Level (dissolved): RDL raised due to concentration over linear range, sample dilution required.
Sample SJ7968 [WRSS] Elements by ICPMS Digested LL (total): RDL raised due to concentration over linear range, sample dilution required.
Sample SJ7972, Elements by ICPMS Low Level (dissolved): Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B797643
Report Date: 2017/11/09

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION
Sampler Initials: SVB

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8817226	Turbidity	2017/11/02			100	80 - 120	<0.10	NTU	NC	20
8817678	Turbidity	2017/11/02			99	80 - 120	<0.10	NTU	12	20
8817776	Alkalinity (PP as CaCO3)	2017/11/02					<1.0	mg/L		
8817776	Alkalinity (Total as CaCO3)	2017/11/02			99	80 - 120	<1.0	mg/L		
8817776	Bicarbonate (HCO3)	2017/11/02					<1.0	mg/L		
8817776	Carbonate (CO3)	2017/11/02					<1.0	mg/L		
8817776	Hydroxide (OH)	2017/11/02					<1.0	mg/L		
8817781	pH	2017/11/02			101	97 - 103			0.24	20
8817782	Conductivity	2017/11/02			99	80 - 120	<2.0	uS/cm		
8817791	Alkalinity (PP as CaCO3)	2017/11/03					<1.0	mg/L	NC	20
8817791	Alkalinity (Total as CaCO3)	2017/11/03	NC	80 - 120	99	80 - 120	<1.0	mg/L	8.9	20
8817791	Bicarbonate (HCO3)	2017/11/03					<1.0	mg/L	8.9	20
8817791	Carbonate (CO3)	2017/11/03					<1.0	mg/L	NC	20
8817791	Hydroxide (OH)	2017/11/03					<1.0	mg/L	NC	20
8817793	pH	2017/11/03			101	97 - 103			0	20
8817794	Conductivity	2017/11/03			99	80 - 120	<2.0	uS/cm	0	20
8817796	Alkalinity (PP as CaCO3)	2017/11/03					<1.0	mg/L	NC	20
8817796	Alkalinity (Total as CaCO3)	2017/11/03	95	80 - 120	103	80 - 120	<1.0	mg/L	NC	20
8817796	Bicarbonate (HCO3)	2017/11/03					<1.0	mg/L	NC	20
8817796	Carbonate (CO3)	2017/11/03					<1.0	mg/L	NC	20
8817796	Hydroxide (OH)	2017/11/03					<1.0	mg/L	NC	20
8817798	pH	2017/11/03			101	97 - 103			0.20	20
8817799	Conductivity	2017/11/03			100	80 - 120	<2.0	uS/cm	NC	20
8817804	Nitrate plus Nitrite (N)	2017/11/02	105	80 - 120	104	80 - 120	<0.0020	mg/L	NC	25
8817805	Nitrite (N)	2017/11/02	103	80 - 120	103	80 - 120	<0.0020	mg/L	NC	25
8817806	Nitrate plus Nitrite (N)	2017/11/02	105	80 - 120	104	80 - 120	<0.0020	mg/L	NC	25
8817807	Nitrite (N)	2017/11/02	104	80 - 120	103	80 - 120	<0.0020	mg/L	NC	25
8817921	Dissolved Aluminum (Al)	2017/11/03	NC	80 - 120	111	80 - 120	<0.00050	mg/L	2.0	20
8817921	Dissolved Antimony (Sb)	2017/11/03	NC	80 - 120	105	80 - 120	<0.000020	mg/L	3.5	20
8817921	Dissolved Arsenic (As)	2017/11/03	103	80 - 120	100	80 - 120	<0.000020	mg/L	0.022	20
8817921	Dissolved Barium (Ba)	2017/11/03	NC	80 - 120	103	80 - 120	<0.000020	mg/L	1.1	20
8817921	Dissolved Beryllium (Be)	2017/11/03	98	80 - 120	102	80 - 120	<0.000010	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: SVB

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8817921	Dissolved Bismuth (Bi)	2017/11/03	95	80 - 120	102	80 - 120	<0.0000050	mg/L	NC	20
8817921	Dissolved Boron (B)	2017/11/03	94	80 - 120	98	80 - 120	<0.010	mg/L	NC	20
8817921	Dissolved Cadmium (Cd)	2017/11/03	NC	80 - 120	101	80 - 120	<0.0000050	mg/L	1.2	20
8817921	Dissolved Chromium (Cr)	2017/11/03	94	80 - 120	101	80 - 120	<0.00010	mg/L	NC	20
8817921	Dissolved Cobalt (Co)	2017/11/03	92	80 - 120	100	80 - 120	<0.0000050	mg/L	1.3	20
8817921	Dissolved Copper (Cu)	2017/11/03	NC	80 - 120	99	80 - 120	<0.000050	mg/L	2.0	20
8817921	Dissolved Iron (Fe)	2017/11/03	NC	80 - 120	108	80 - 120	<0.0010	mg/L	2.2	20
8817921	Dissolved Lead (Pb)	2017/11/03	NC	80 - 120	101	80 - 120	<0.0000050	mg/L	2.4	20
8817921	Dissolved Lithium (Li)	2017/11/03	107	80 - 120	106	80 - 120	<0.00050	mg/L	2.6	20
8817921	Dissolved Manganese (Mn)	2017/11/03	NC	80 - 120	98	80 - 120	<0.000050	mg/L	1.7	20
8817921	Dissolved Molybdenum (Mo)	2017/11/03	NC	80 - 120	102	80 - 120	<0.000050	mg/L	0.47	20
8817921	Dissolved Nickel (Ni)	2017/11/03	NC	80 - 120	103	80 - 120	<0.000020	mg/L	4.5	20
8817921	Dissolved Phosphorus (P)	2017/11/03					<0.0020	mg/L	1.4	20
8817921	Dissolved Selenium (Se)	2017/11/03	NC	80 - 120	105	80 - 120	<0.000040	mg/L	4.1	20
8817921	Dissolved Silicon (Si)	2017/11/03					<0.050	mg/L	4.3	20
8817921	Dissolved Silver (Ag)	2017/11/03	106	80 - 120	110	80 - 120	<0.0000050	mg/L	2.3	20
8817921	Dissolved Strontium (Sr)	2017/11/03	NC	80 - 120	97	80 - 120	<0.000050	mg/L	1.5	20
8817921	Dissolved Thallium (Tl)	2017/11/03	90	80 - 120	102	80 - 120	<0.0000020	mg/L	2.5	20
8817921	Dissolved Tin (Sn)	2017/11/03	98	80 - 120	101	80 - 120	<0.00020	mg/L	NC	20
8817921	Dissolved Titanium (Ti)	2017/11/03	94	80 - 120	103	80 - 120	<0.00050	mg/L	NC	20
8817921	Dissolved Uranium (U)	2017/11/03	98	80 - 120	98	80 - 120	<0.0000020	mg/L	2.6	20
8817921	Dissolved Vanadium (V)	2017/11/03	100	80 - 120	101	80 - 120	<0.00020	mg/L	NC	20
8817921	Dissolved Zinc (Zn)	2017/11/03	NC	80 - 120	105	80 - 120	<0.00010	mg/L	2.2	20
8817921	Dissolved Zirconium (Zr)	2017/11/03	99	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20
8817932	Total Aluminum (Al)	2017/11/04	NC	80 - 120	113	80 - 120	<0.00050	mg/L	2.6	20
8817932	Total Antimony (Sb)	2017/11/04	NC	80 - 120	105	80 - 120	<0.000020	mg/L	0.72	20
8817932	Total Arsenic (As)	2017/11/04	94	80 - 120	102	80 - 120	<0.000020	mg/L	1.8	20
8817932	Total Barium (Ba)	2017/11/04	NC	80 - 120	105	80 - 120	<0.000020	mg/L	0.80	20
8817932	Total Beryllium (Be)	2017/11/04	98	80 - 120	103	80 - 120	<0.000010	mg/L	NC	20
8817932	Total Bismuth (Bi)	2017/11/04	95	80 - 120	102	80 - 120	<0.0000050	mg/L	14	20
8817932	Total Boron (B)	2017/11/04	99	80 - 120	100	80 - 120	<0.010	mg/L	NC	20
8817932	Total Cadmium (Cd)	2017/11/04	NC	80 - 120	101	80 - 120	<0.0000050	mg/L	0.35	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: SVB

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8817932	Total Chromium (Cr)	2017/11/04	95	80 - 120	102	80 - 120	<0.00010	mg/L	NC	20
8817932	Total Cobalt (Co)	2017/11/04	92	80 - 120	101	80 - 120	<0.0000050	mg/L	1.3	20
8817932	Total Copper (Cu)	2017/11/04	NC	80 - 120	99	80 - 120	<0.000050	mg/L	0.67	20
8817932	Total Iron (Fe)	2017/11/04	NC	80 - 120	109	80 - 120	<0.0010	mg/L	0.72	20
8817932	Total Lead (Pb)	2017/11/04	NC	80 - 120	102	80 - 120	<0.0000050	mg/L	1.2	20
8817932	Total Lithium (Li)	2017/11/04	100	80 - 120	106	80 - 120	<0.00050	mg/L	0.70	20
8817932	Total Manganese (Mn)	2017/11/04	NC	80 - 120	99	80 - 120	<0.000050	mg/L	0.74	20
8817932	Total Molybdenum (Mo)	2017/11/04	NC	80 - 120	103	80 - 120	<0.000050	mg/L	0.64	20
8817932	Total Nickel (Ni)	2017/11/04	NC	80 - 120	104	80 - 120	<0.000020	mg/L	2.5	20
8817932	Total Phosphorus (P)	2017/11/04					<0.0020	mg/L	1.2	20
8817932	Total Selenium (Se)	2017/11/04	NC	80 - 120	106	80 - 120	<0.000040	mg/L	1.1	20
8817932	Total Silicon (Si)	2017/11/04					<0.050	mg/L	0.84	20
8817932	Total Silver (Ag)	2017/11/04	NC	80 - 120	111	80 - 120	<0.0000050	mg/L	1.2	20
8817932	Total Strontium (Sr)	2017/11/04	NC	80 - 120	99	80 - 120	<0.000050	mg/L	0.61	20
8817932	Total Thallium (Tl)	2017/11/04	93	80 - 120	103	80 - 120	<0.0000020	mg/L	1.8	20
8817932	Total Tin (Sn)	2017/11/04	91	80 - 120	105	80 - 120	<0.00020	mg/L	NC	20
8817932	Total Titanium (Ti)	2017/11/04	90	80 - 120	102	80 - 120	<0.00050	mg/L	NC	20
8817932	Total Uranium (U)	2017/11/04	94	80 - 120	100	80 - 120	<0.0000020	mg/L	0.028	20
8817932	Total Vanadium (V)	2017/11/04	97	80 - 120	102	80 - 120	<0.00020	mg/L	NC	20
8817932	Total Zinc (Zn)	2017/11/04	NC	80 - 120	108	80 - 120	<0.00010	mg/L	1.0	20
8817932	Total Zirconium (Zr)	2017/11/04	90	80 - 120	96	80 - 120	<0.00010	mg/L	NC	20
8818097	Total Dissolved Solids	2017/11/06	98	80 - 120	102	80 - 120	<10	mg/L	6.1	20
8818128	Total Suspended Solids	2017/11/06	99	80 - 120	98	80 - 120	<4.0	mg/L	7.4	20
8818129	Total Dissolved Solids	2017/11/06	100	80 - 120	93	80 - 120	<10	mg/L	1.4	20
8818131	Total Suspended Solids	2017/11/06	100	80 - 120	98	80 - 120	<4.0	mg/L	NC	20
8818781	Total Ammonia (N)	2017/11/03	93	80 - 120	104	80 - 120	<0.020	mg/L	NC	20
8818782	Total Ammonia (N)	2017/11/03	97	80 - 120	107	80 - 120	<0.020	mg/L	NC	20
8818783	Total Ammonia (N)	2017/11/03	94	80 - 120	105	80 - 120	<0.020	mg/L	NC	20
8818795	Turbidity	2017/11/03			103	80 - 120	<0.10	NTU	4.6	20
8818827	Total Suspended Solids	2017/11/03	101	80 - 120	95	80 - 120	<4.0	mg/L	NC	20
8818929	Acidity (pH 4.5)	2017/11/03					<1.0	mg/L	NC	20
8818929	Acidity (pH 8.3)	2017/11/03			100	80 - 120	<1.0	mg/L	7.5	20

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Maxxam Job #: B797643
Report Date: 2017/11/09

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: SVB

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8818931	Acidity (pH 4.5)	2017/11/03					<1.0	mg/L	NC	20
8818931	Acidity (pH 8.3)	2017/11/03			101	80 - 120	<1.0	mg/L	NC	20
8818954	Dissolved Organic Carbon (C)	2017/11/03	108	80 - 120	103	80 - 120	<0.50	mg/L	1.0	20
8818959	Dissolved Organic Carbon (C)	2017/11/03			105	80 - 120	<0.50	mg/L		
8819114	Orthophosphate (P)	2017/11/03			95	80 - 120	<0.0010	mg/L		
8819117	Orthophosphate (P)	2017/11/03			98	80 - 120	<0.0010	mg/L		
8819124	Dissolved Phosphorus (P)	2017/11/03			102	80 - 120	<0.0020	mg/L		
8819125	Total Phosphorus (P)	2017/11/03	96	80 - 120	102	80 - 120	<0.0020	mg/L	3.7	20
8819127	Total Phosphorus (P)	2017/11/03	NC	80 - 120	104	80 - 120	<0.0020	mg/L	1.5	20
8819130	Total Phosphorus (P)	2017/11/03			105	80 - 120	<0.0020	mg/L		
8819132	Dissolved Phosphorus (P)	2017/11/03	90	80 - 120	105	80 - 120	<0.0020	mg/L	15	20
8819401	Bromide (Br)	2017/11/04	101	78 - 120	94	80 - 120	<0.010	mg/L	NC	20
8819412	Bromide (Br)	2017/11/04	100	78 - 120	95	80 - 120	<0.010	mg/L	NC	20
8819877	Total Phosphorus (P)	2017/11/04	91	80 - 120	89	80 - 120	<0.0020	mg/L	4.7	20
8819883	Dissolved Phosphorus (P)	2017/11/04	86	80 - 120	89	80 - 120	<0.0020	mg/L	0.96	20
8819895	Orthophosphate (P)	2017/11/04	111	80 - 120	92	80 - 120	<0.0010	mg/L	NC	20
8819913	Dissolved Organic Carbon (C)	2017/11/07	101	80 - 120	111	80 - 120	<0.50	mg/L	NC	20
8820454	Dissolved Chloride (Cl)	2017/11/03			105	80 - 120	<1.0	mg/L		
8820464	Dissolved Sulphate (SO4)	2017/11/03	120	80 - 120	102	80 - 120	<1.0	mg/L	0.82	20
8820467	Dissolved Chloride (Cl)	2017/11/03	NC	80 - 120	101	80 - 120	<1.0	mg/L	3.1	20
8820469	Dissolved Sulphate (SO4)	2017/11/03	NC	80 - 120	102	80 - 120	<1.0	mg/L	NC	20
8820937	Total Aluminum (Al)	2017/11/08	106	80 - 120	109	80 - 120	<0.0030	mg/L	NC	20
8820937	Total Antimony (Sb)	2017/11/08	NC	80 - 120	95	80 - 120	<0.000020	mg/L	3.6	20
8820937	Total Arsenic (As)	2017/11/08	101	80 - 120	99	80 - 120	<0.000020	mg/L	NC	20
8820937	Total Barium (Ba)	2017/11/08	97	80 - 120	97	80 - 120	<0.000050	mg/L	NC	20
8820937	Total Beryllium (Be)	2017/11/08	100	80 - 120	99	80 - 120	<0.000010	mg/L	NC	20
8820937	Total Bismuth (Bi)	2017/11/08	99	80 - 120	99	80 - 120	<0.000010	mg/L	NC	20
8820937	Total Boron (B)	2017/11/08	101	80 - 120	101	80 - 120	<0.010	mg/L	NC	20
8820937	Total Cadmium (Cd)	2017/11/08	97	80 - 120	95	80 - 120	<0.0000050	mg/L	NC	20
8820937	Total Chromium (Cr)	2017/11/08	97	80 - 120	95	80 - 120	<0.00010	mg/L	2.4	20
8820937	Total Cobalt (Co)	2017/11/08	99	80 - 120	97	80 - 120	<0.000010	mg/L	1.5	20
8820937	Total Copper (Cu)	2017/11/08	97	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: SVB

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8820937	Total Iron (Fe)	2017/11/08	96	80 - 120	97	80 - 120	<0.0050	mg/L	NC	20
8820937	Total Lead (Pb)	2017/11/08	97	80 - 120	97	80 - 120	<0.000020	mg/L	3.2	20
8820937	Total Lithium (Li)	2017/11/08	102	80 - 120	104	80 - 120	<0.00050	mg/L	NC	20
8820937	Total Manganese (Mn)	2017/11/08	97	80 - 120	93	80 - 120	<0.00010	mg/L	NC	20
8820937	Total Molybdenum (Mo)	2017/11/08	99	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8820937	Total Nickel (Ni)	2017/11/08	100	80 - 120	123 (1)	80 - 120	<0.00010	mg/L	11	20
8820937	Total Phosphorus (P)	2017/11/08					<0.0050	mg/L		
8820937	Total Selenium (Se)	2017/11/08	105	80 - 120	103	80 - 120	<0.000040	mg/L	NC	20
8820937	Total Silicon (Si)	2017/11/08					<0.050	mg/L	14	20
8820937	Total Silver (Ag)	2017/11/08	103	80 - 120	106	80 - 120	<0.000010	mg/L	NC	20
8820937	Total Strontium (Sr)	2017/11/08	94	80 - 120	91	80 - 120	<0.000050	mg/L	NC	20
8820937	Total Thallium (Tl)	2017/11/08	96	80 - 120	95	80 - 120	<0.0000020	mg/L	NC	20
8820937	Total Tin (Sn)	2017/11/08	95	80 - 120	94	80 - 120	<0.00020	mg/L	NC	20
8820937	Total Titanium (Ti)	2017/11/08	88	80 - 120	104	80 - 120	<0.0020	mg/L	NC	20
8820937	Total Uranium (U)	2017/11/08	98	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8820937	Total Vanadium (V)	2017/11/08	96	80 - 120	95	80 - 120	<0.00020	mg/L	NC	20
8820937	Total Zinc (Zn)	2017/11/08	NC	80 - 120	99	80 - 120	<0.0010	mg/L	3.9	20
8820937	Total Zirconium (Zr)	2017/11/08	94	80 - 120	92	80 - 120	<0.00010	mg/L	NC	20
8821301	Total Dissolved Solids	2017/11/07	NC	80 - 120	100	80 - 120	<10	mg/L	0	20
8822001	Fluoride (F)	2017/11/07	102	80 - 120	104	80 - 120	<0.020	mg/L	0	20
8822104	Dissolved Sulphate (SO4)	2017/11/06			105	80 - 120	<1.0	mg/L		
8822419	Total Mercury (Hg)	2017/11/07	99	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8822507	Dissolved Mercury (Hg)	2017/11/07	96	80 - 120	103	80 - 120	<0.010	ug/L	NC	20
8824009	Total Dissolved Solids	2017/11/09	102	80 - 120	102	80 - 120	<10	mg/L	6.5	20
8824080	Strong Acid Dissoc. Cyanide (CN)	2017/11/08	100	80 - 120	103	80 - 120	<0.00050	mg/L	0.11	20
8824310	Weak Acid Dissoc. Cyanide (CN)	2017/11/08			100	80 - 120	<0.00050	mg/L		
8825113	Dissolved Zinc (Zn)	2017/11/09			96	80 - 120	<0.00010	mg/L		

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: SVB

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8825908	Orthophosphate (P)	2017/11/09			91	80 - 120	<0.0010	mg/L		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Blank Spike for (Nickel) outside acceptance criteria (10% of analytes failure allowed).

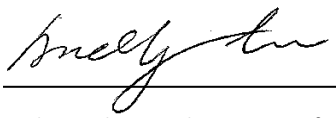
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Maxxam Job #: B797643
Report Date: 2017/11/09

YUKON ZINC CORPORATION
Sampler Initials: SVB

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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08446217

Maxxam
A Bureau Veritas Group Company

CHAIN OF CUSTODY RECORD

FBY FCD-00077/05

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5. Toll Free (800) 665-8566

COC #:

Page ____ of ____

Invoice Information	Report Information (if differs from Invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Tahltan Zinc Corporation	Company Name:	Quotation #:	☑ Regular TAT 5 days (Most analyses)
Contact Name: Alex Wu	Contact Name:	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 925 - 800 West Pender Street	Address:	Project #:	Rush TAT (Surcharges will be applied)
Vancouver BC V6C 2T7		Site Location:	☐ Same Day ☐ 2 Days
Phone: 604-684-5474	Phone:	Site #:	☐ 1 Day ☐ 3 Days
Email: alex.wu@tahltanzinc.com	Email: YZC Group	Sampled By:	Date Required:
			Rush Confirmation #:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water ☐ CCME (Specify) ☐ Other (Specify) ☐ Drinking Water ☐ BC Water Quality	☐ Return Cooler ☐ Ship Sample Bottles (Please Specify)

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

LABORATORY USE ONLY

CUSTODY SEAL (Y / N) Present	CUSTODY SEAL (Y / N) Intact	COOLER TEMPERATURES
Y	Y	6.3 7
Y	Y	4.5.5
Y	Y	26.3/7.3.5

COOLING MEDIA PRESENT (Y / N)

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	# OF CONTAINERS SUBMITTED	COMMENTS
	Bottle						
	Preservative						
	Filtered						
1	T1				Water	12	
1	Portal				Water	12	
2	WRSS				Water	12	
3	W15				Water	12	
4	W16				Water	12	
5	W21				Water	12	
6	W31				Water	12	
7	W71				Water	12	
8	W72				Water	12	
9	W73				Water	12	
10	WB1				Water	12	
11	WB2				Water	12	
12	DUP1				Water	5	
13	DUP2				Water	5	
14	DUP3				Water	12	
15	FIELD BLANKS				Water	6	

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Stuart Van Bibber	2017/11/01	01:35	Gloria Chan	2017/11/02	10:00

RECEIVED IN WHITEHORSE
BY: @ 1335
2017-11-01

TEMP: 6 5 5
5 5 5
3 3 5

B797643_COC

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Your C.O.C. #: 08446218

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/11/10
Report #: R2475539
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B797661
Received: 2017/11/01, 13:35

Sample Matrix: Water
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	12	2017/11/03	2017/11/03	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	12	2017/11/02	2017/11/03	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	11	N/A	2017/11/03	BBY6SOP-00011	SM 22 4500-Cl- E m
Chloride by Automated Colourimetry	1	N/A	2017/11/06	BBY6SOP-00011	SM 22 4500-Cl- E m
Conductance - water	12	2017/11/02	2017/11/03	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	12	N/A	2017/11/07	BBY6SOP-00048	SM 22 4500-F C m
Hardness (calculated as CaCO3)	12	N/A	2017/11/06	BBY WI-00033	Auto Calc
Bromide as Bromine (Br) by ICPMS	12	N/A	2017/11/04	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	12	N/A	2017/11/06	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	12	N/A	2017/11/04	BBY7SOP-00002	EPA 6020B R2 m
Ammonia-N (Preserved)	12	N/A	2017/11/03	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	12	N/A	2017/11/02	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	12	N/A	2017/11/02	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	12	N/A	2017/11/03	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	12	N/A	2017/11/03	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (1)	12	2017/11/02	2017/11/03	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	7	N/A	2017/11/03	BBY6SOP-00013	SM 22 4500-P E m
Orthophosphate by Konelab (low level)	4	N/A	2017/11/08	BBY6SOP-00013	SM 22 4500-P E m
Orthophosphate by Konelab (low level)	1	N/A	2017/11/10	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	10	N/A	2017/11/03	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	2	N/A	2017/11/06	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	10	2017/11/03	2017/11/06	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	2	2017/11/07	2017/11/08	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - UF/UP	7	2017/11/03	2017/11/03	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - UF/UP	4	2017/11/08	2017/11/08	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - UF/UP	1	2017/11/10	2017/11/10	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	7	N/A	2017/11/03	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	4	N/A	2017/11/08	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	1	N/A	2017/11/10	BBY6SOP-00013	SM 22 4500-P E m

Your C.O.C. #: 08446218

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/11/10
Report #: R2475539
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B797661
Received: 2017/11/01, 13:35

Sample Matrix: Water
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total Suspended Solids	1	2017/11/03	2017/11/03	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	11	2017/11/03	2017/11/06	BBY6SOP-00034	SM 22 2540 D
Turbidity	12	N/A	2017/11/02	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Your C.O.C. #: 08446218

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/11/10
Report #: R2475539
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B797661
Received: 2017/11/01, 13:35

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

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Maxxam Job #: B797661
Report Date: 2017/11/10

YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ8041		SJ8042		SJ8043		SJ8044		
Sampling Date		2017/10/28 16:40		2017/10/28 15:15		2017/10/28 12:15		2017/10/28 12:45		
COC Number		08446218		08446218		08446218		08446218		
	UNITS	MW05-1B	QC Batch	MW05-3B	QC Batch	MW05-5A	QC Batch	MW05-5B	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.140	8822001	0.120	8822001	2.10	8822001	0.200	0.020	8822282
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	<0.20	8816890	0.34	8816890	<0.20	8816890	<0.20	0.20	8816890
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	105	8816532	190	8816532	271	8816532	164	0.50	8816532
Acidity (pH 4.5)	mg/L	<1.0	8818929	<1.0	8818929	<1.0	8818929	<1.0	1.0	8818929
Alkalinity (Total as CaCO3)	mg/L	110	8817791	96.4	8817776	231	8817791	116	1.0	8817791
Acidity (pH 8.3)	mg/L	<1.0	8818929	7.4	8818929	<1.0	8818929	<1.0	1.0	8818929
Alkalinity (PP as CaCO3)	mg/L	<1.0	8817791	<1.0	8817776	<1.0	8817791	<1.0	1.0	8817791
Bicarbonate (HCO3)	mg/L	135	8817791	118	8817776	282	8817791	141	1.0	8817791
Carbonate (CO3)	mg/L	<1.0	8817791	<1.0	8817776	<1.0	8817791	<1.0	1.0	8817791
Hydroxide (OH)	mg/L	<1.0	8817791	<1.0	8817776	<1.0	8817791	<1.0	1.0	8817791
Anions										
Orthophosphate (P)	mg/L	0.029	8819114	0.0040	8819114	0.0048	8819114	0.0012 (1)	0.0010	8824266
Dissolved Sulphate (SO4)	mg/L	3.8	8820464	108	8820464	38.5	8820464	46.8	1.0	8820464
Dissolved Chloride (Cl)	mg/L	<1.0	8820454	3.4	8820454	<1.0	8820454	1.1	1.0	8820454
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0516	8819124	0.0096	8819124	0.0051	8819124	0.0025 (1)	0.0020	8824305
Total Ammonia (N)	mg/L	0.62	8818781	<0.020	8818781	0.090	8818781	0.022	0.020	8818781
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8817804	0.34 (2)	8817804	<0.20 (2)	8817804	<0.20 (2)	0.20	8817804
Nitrite (N)	mg/L	<0.20 (2)	8817805	<0.20 (2)	8817805	<0.20 (2)	8817805	<0.20 (2)	0.20	8817805
Total Phosphorus (P)	mg/L	0.347	8819127	0.0026	8819127	0.0119	8819127	0.0042	0.0020	8824295
Physical Properties										
Conductivity	uS/cm	217	8817794	400	8817782	488	8817794	315	2.0	8817794
pH	pH	7.90	8817793	7.48	8817781	8.03	8817793	7.89		8817793
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8818131	<4.0	8818131	<4.0	8818131	<4.0	4.0	8818131
Total Dissolved Solids	mg/L	96	8818129	228	8818129	262	8818129	162 (1)	10	8822423
Turbidity	NTU	5.48	8817226	<0.10	8817226	10.2	8817226	5.86	0.10	8817226

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

(2) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B797661
Report Date: 2017/11/10

YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ8045			SJ8046		SJ8047		SJ8048		
Sampling Date		2017/10/30 12:10			2017/10/30 11:45		2017/10/29 09:50		2017/10/29 15:40		
COC Number		08446218			08446218		08446218		08446218		
	UNITS	MW05-6A	RDL	QC Batch	MW05-6B	QC Batch	MW06-8S	QC Batch	MW06-9S	RDL	QC Batch
Misc. Inorganics											
Fluoride (F)	mg/L	0.038	0.020	8822282	0.110	8822282	0.280	8822282	0.650	0.020	8822282
Calculated Parameters											
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	<0.20	0.20	8816890	0.21	8816890	<0.20	8816890	<0.20	0.20	8816890
Misc. Inorganics											
Dissolved Hardness (CaCO3)	mg/L	79.8	0.50	8816532	92.7	8816532	93.3	8816532	129	0.50	8816532
Acidity (pH 4.5)	mg/L	<1.0	1.0	8818929	<1.0	8818929	<1.0	8818929	<1.0	1.0	8818931
Alkalinity (Total as CaCO3)	mg/L	76.1	1.0	8817791	73.8	8817791	63.1	8817791	108	1.0	8817791
Acidity (pH 8.3)	mg/L	<1.0	1.0	8818929	<1.0	8818929	7.6	8818929	<1.0	1.0	8818931
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8817791	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817791
Bicarbonate (HCO3)	mg/L	92.9	1.0	8817791	90.0	8817791	76.9	8817791	131	1.0	8817791
Carbonate (CO3)	mg/L	<1.0	1.0	8817791	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817791
Hydroxide (OH)	mg/L	<1.0	1.0	8817791	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817791
Anions											
Orthophosphate (P)	mg/L	0.98 (1)	0.010	8819114	0.0057 (2)	8824266	0.0040 (2)	8827303	0.081 (2)	0.0010	8824266
Dissolved Sulphate (SO4)	mg/L	17.9	1.0	8820464	9.8	8820464	30.7	8820464	24.7	1.0	8820464
Dissolved Chloride (Cl)	mg/L	<1.0	1.0	8820454	<1.0	8822099	1.9	8820454	<1.0	1.0	8820454
Nutrients											
Dissolved Phosphorus (P)	mg/L	0.927 (1)	0.020	8819124	0.0089 (2)	8824305	0.0030 (2)	8827323	0.0968 (2)	0.0020	8824297
Total Ammonia (N)	mg/L	<0.020	0.020	8818781	<0.020	8818781	0.022	8818781	0.055	0.020	8818781
Nitrate plus Nitrite (N)	mg/L	<0.20 (3)	0.20	8817804	0.21 (3)	8817804	<0.20 (3)	8817804	<0.20 (3)	0.20	8817804
Nitrite (N)	mg/L	<0.20 (3)	0.20	8817805	<0.20 (3)	8817805	<0.20 (3)	8817805	<0.20 (3)	0.20	8817805
Total Phosphorus (P)	mg/L	1.02 (1)	0.020	8819127	0.0062	8824295	0.275	8827347	0.262	0.0020	8819127
Physical Properties											
Conductivity	uS/cm	192	2.0	8817794	175	8817794	211	8817794	256	2.0	8817794
pH	pH	7.60		8817793	7.70	8817793	7.12	8817793	8.01		8817793
Physical Properties											
Total Suspended Solids	mg/L	<4.0	4.0	8818131	<4.0	8818131	<4.0	8818131	<4.0	4.0	8818131
Total Dissolved Solids	mg/L	84	10	8818129	102	8818097	138	8818129	154	10	8818129
Turbidity	NTU	<0.10	0.10	8817226	3.62	8817226	3.55	8817226	3.15	0.10	8817226

RDL = Reportable Detection Limit

(1) Detection limits raised due to dilution to bring analyte within the calibrated range.

(2) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

(3) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B797661
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YUKON ZINC CORPORATION
Sampler Initials: SVB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SJ8049		SJ8050		SJ8051		SJ8052		
Sampling Date		2017/10/29 12:20		2017/10/30 18:00		2017/10/29 19:40		2017/10/30 15:45		
COC Number		08446218		08446218		08446218		08446218		
	UNITS	MW06-10S	QC Batch	MW06-10M	QC Batch	MW06-10D	QC Batch	MW08-13	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.230	8822282	0.750	8822282	0.980	8822282	0.039	0.020	8822282
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Nitrate (N)	mg/L	<0.20	8816890	<0.20	8816890	<0.20	8816890	<0.20	0.20	8816890
Misc. Inorganics										
Dissolved Hardness (CaCO3)	mg/L	146	8816532	252	8816532	249	8816532	217	0.50	8816532
Acidity (pH 4.5)	mg/L	<1.0	8818931	<1.0	8818931	<1.0	8818931	<1.0	1.0	8818931
Alkalinity (Total as CaCO3)	mg/L	124	8817791	202	8817791	247	8817791	105	1.0	8817791
Acidity (pH 8.3)	mg/L	<1.0	8818931	<1.0	8818931	<1.0	8818931	2.9	1.0	8818931
Alkalinity (PP as CaCO3)	mg/L	<1.0	8817791	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817791
Bicarbonate (HCO3)	mg/L	151	8817791	246	8817791	301	8817791	128	1.0	8817791
Carbonate (CO3)	mg/L	<1.0	8817791	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817791
Hydroxide (OH)	mg/L	<1.0	8817791	<1.0	8817791	<1.0	8817791	<1.0	1.0	8817791
Anions										
Orthophosphate (P)	mg/L	0.0021 (1)	8824266	0.0020	8819114	0.0044	8819114	0.0042	0.0010	8819117
Dissolved Sulphate (SO4)	mg/L	29.2	8820464	58.9	8822104	22.5	8820464	144	1.0	8822104
Dissolved Chloride (Cl)	mg/L	<1.0	8820454	<1.0	8820454	1.0	8820454	3.5	1.0	8820454
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0045 (1)	8824297	0.0048	8819124	0.0077	8819124	0.0139	0.0020	8819124
Total Ammonia (N)	mg/L	0.030	8818781	0.11	8818781	0.077	8818781	0.36	0.020	8818781
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8817804	<0.20 (2)	8817804	<0.20 (2)	8817804	<0.20 (2)	0.20	8817804
Nitrite (N)	mg/L	<0.20 (2)	8817805	<0.20 (2)	8817805	<0.20 (2)	8817805	<0.20 (2)	0.20	8817805
Total Phosphorus (P)	mg/L	0.0168	8824295	0.0093	8819127	0.0185	8819127	0.0117	0.0020	8824295
Physical Properties										
Conductivity	uS/cm	282	8817794	481	8817794	474	8817794	484	2.0	8817794
pH	pH	8.04	8817793	8.01	8817793	8.11	8817793	7.61		8817793
Physical Properties										
Total Suspended Solids	mg/L	<4.0	8818131	9.8	8818131	<4.0	8818131	<4.0	4.0	8818827
Total Dissolved Solids	mg/L	138 (1)	8822423	272	8818129	292	8818097	310	10	8818129
Turbidity	NTU	2.95	8817226	67.4	8817226	9.41	8817226	<0.10	0.10	8817226

RDL = Reportable Detection Limit

(1) Sample was originally analysed within hold time. Data quality required investigation. Re-analysis was completed past recommended hold time.

(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B797661
Report Date: 2017/11/10

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ8041	SJ8042	SJ8043	SJ8044		
Sampling Date		2017/10/28 16:40	2017/10/28 15:15	2017/10/28 12:15	2017/10/28 12:45		
COC Number		08446218	08446218	08446218	08446218		
	UNITS	MW05-1B	MW05-3B	MW05-5A	MW05-5B	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	0.013	<0.010	<0.010	0.010	8819401
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00379	<0.00050	0.00429	0.00076	0.00050	8817928
Dissolved Antimony (Sb)	mg/L	0.000077	0.000119	0.00311	0.000336	0.000020	8817928
Dissolved Arsenic (As)	mg/L	0.00478	0.000054	0.00421	0.00217	0.000020	8817928
Dissolved Barium (Ba)	mg/L	0.282	0.0539	0.0565	0.0390	0.000020	8817928
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	0.000028	<0.000010	0.000010	8817928
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8817928
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	8817928
Dissolved Cadmium (Cd)	mg/L	0.0000129	0.0291	0.000142	0.0000240	0.0000050	8817928
Dissolved Chromium (Cr)	mg/L	0.00013	<0.00010	<0.00010	<0.00010	0.00010	8817928
Dissolved Cobalt (Co)	mg/L	0.0000261	0.0000226	0.000330	0.00101	0.0000050	8817928
Dissolved Copper (Cu)	mg/L	0.000133	0.00372	0.000962	0.000230	0.000050	8817928
Dissolved Iron (Fe)	mg/L	2.19	0.0010	1.11	0.618	0.0010	8817928
Dissolved Lead (Pb)	mg/L	0.0000247	0.0000815	0.000143	0.0000509	0.0000050	8817928
Dissolved Lithium (Li)	mg/L	0.00054	0.00149	0.00308	0.00137	0.00050	8817928
Dissolved Manganese (Mn)	mg/L	0.316	0.00453	0.121	0.898	0.000050	8817928
Dissolved Molybdenum (Mo)	mg/L	0.00211	0.000374	0.00685	0.00125	0.000050	8817928
Dissolved Nickel (Ni)	mg/L	0.000571	0.00711	0.00348	0.00766	0.000020	8817928
Dissolved Phosphorus (P)	mg/L	0.315	0.0054	0.0138	0.0063	0.0020	8817928
Dissolved Selenium (Se)	mg/L	0.000093	0.00865	0.000054	0.000044	0.000040	8817928
Dissolved Silicon (Si)	mg/L	4.94	5.00	3.99	4.12	0.050	8817928
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8817928
Dissolved Strontium (Sr)	mg/L	0.108	0.182	0.128	0.115	0.000050	8817928
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000151	0.0000085	0.0000034	0.0000020	8817928
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8817928
Dissolved Titanium (Ti)	mg/L	0.00064	<0.00050	<0.00050	<0.00050	0.00050	8817928
Dissolved Uranium (U)	mg/L	0.0000875	0.00168	0.0284	0.00250	0.0000020	8817928
Dissolved Vanadium (V)	mg/L	0.00080	<0.00020	<0.00020	<0.00020	0.00020	8817928
Dissolved Zinc (Zn)	mg/L	0.00310	2.76	0.0497	0.102	0.00010	8817928
Dissolved Zirconium (Zr)	mg/L	0.00018	<0.00010	0.00058	<0.00010	0.00010	8817928
Dissolved Calcium (Ca)	mg/L	36.0	63.7	70.9	52.7	0.050	8817125
Dissolved Magnesium (Mg)	mg/L	3.62	7.52	23.0	7.83	0.050	8817125

RDL = Reportable Detection Limit

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Maxxam Job #: B797661
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YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ8041	SJ8042	SJ8043	SJ8044		
Sampling Date		2017/10/28 16:40	2017/10/28 15:15	2017/10/28 12:15	2017/10/28 12:45		
COC Number		08446218	08446218	08446218	08446218		
	UNITS	MW05-1B	MW05-3B	MW05-5A	MW05-5B	RDL	QC Batch
Dissolved Potassium (K)	mg/L	1.33	1.37	1.75	0.622	0.050	8817125
Dissolved Sodium (Na)	mg/L	1.33	4.98	0.360	0.946	0.050	8817125
Dissolved Sulphur (S)	mg/L	<3.0	33.7	12.4	15.4	3.0	8817125
RDL = Reportable Detection Limit							

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Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ8045	SJ8046	SJ8047	SJ8048	SJ8049		
Sampling Date		2017/10/30 12:10	2017/10/30 11:45	2017/10/29 09:50	2017/10/29 15:40	2017/10/29 12:20		
COC Number		08446218	08446218	08446218	08446218	08446218		
	UNITS	MW05-6A	MW05-6B	MW06-8S	MW06-9S	MW06-10S	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8819412
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00163	0.00107	0.00298	0.00242	0.00145	0.00050	8817928
Dissolved Antimony (Sb)	mg/L	0.00136	0.000045	0.00595	<0.000020	0.000487	0.000020	8817928
Dissolved Arsenic (As)	mg/L	0.00600	0.000070	0.00112	0.00752	0.00541	0.000020	8817928
Dissolved Barium (Ba)	mg/L	0.0468	0.173	0.0241	0.0610	0.0249	0.000020	8817928
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8817928
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8817928
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8817928
Dissolved Cadmium (Cd)	mg/L	0.0000103	0.0000086	0.0000747	<0.0000050	<0.0000050	0.0000050	8817928
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00091	<0.00010	<0.00010	<0.00010	0.00010	8817928
Dissolved Cobalt (Co)	mg/L	0.000251	0.0000181	0.00361	0.0000684	0.0000816	0.0000050	8817928
Dissolved Copper (Cu)	mg/L	0.000098	0.000276	0.000214	<0.000050	<0.000050	0.000050	8817928
Dissolved Iron (Fe)	mg/L	1.50	0.0100	4.98	0.711	0.359	0.0010	8817928
Dissolved Lead (Pb)	mg/L	0.0000218	0.0000153	0.0000182	<0.0000050	0.0000060	0.0000050	8817928
Dissolved Lithium (Li)	mg/L	<0.00050	<0.00050	0.00193	0.00072	0.00111	0.00050	8817928
Dissolved Manganese (Mn)	mg/L	0.122	0.00413	0.373	0.135	0.111	0.000050	8817928
Dissolved Molybdenum (Mo)	mg/L	0.00135	0.000222	0.00251	0.00454	0.00106	0.000050	8817928
Dissolved Nickel (Ni)	mg/L	0.00116	0.000164	0.0405	0.000132	0.000474	0.000020	8817928
Dissolved Phosphorus (P)	mg/L	1.05	0.0079	0.257	0.267	0.0177	0.0020	8817928
Dissolved Selenium (Se)	mg/L	<0.000040	0.000728	<0.000040	<0.000040	<0.000040	0.000040	8817928
Dissolved Silicon (Si)	mg/L	7.20	4.34	5.81	4.35	3.66	0.050	8817928
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8817928
Dissolved Strontium (Sr)	mg/L	0.0261	0.0463	0.0606	0.155	0.178	0.000050	8817928
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	0.0000142	<0.0000020	<0.0000020	0.0000020	8817928
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8817928
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8817928
Dissolved Uranium (U)	mg/L	0.000103	0.000293	0.0000548	0.000595	0.00795	0.0000020	8817928
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8817928
Dissolved Zinc (Zn)	mg/L	0.00442	0.00200	1.83	0.00176	0.00277	0.00010	8817928
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8817928
Dissolved Calcium (Ca)	mg/L	26.7	32.4	31.2	43.5	51.0	0.050	8817125
Dissolved Magnesium (Mg)	mg/L	3.18	2.84	3.72	4.99	4.51	0.050	8817125

RDL = Reportable Detection Limit

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Maxxam Job #: B797661
Report Date: 2017/11/10

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ8045	SJ8046	SJ8047	SJ8048	SJ8049		
Sampling Date		2017/10/30 12:10	2017/10/30 11:45	2017/10/29 09:50	2017/10/29 15:40	2017/10/29 12:20		
COC Number		08446218	08446218	08446218	08446218	08446218		
	UNITS	**MW05-6A**	**MW05-6B**	**MW06-8S**	**MW06-9S**	**MW06-10S**	**RDL**	**QC Batch**
Dissolved Potassium (K)	mg/L	1.08	0.741	0.949	0.939	1.11	0.050	8817125
Dissolved Sodium (Na)	mg/L	1.82	1.31	1.14	1.02	1.17	0.050	8817125
Dissolved Sulphur (S)	mg/L	6.3	3.3	10.8	7.9	9.4	3.0	8817125
RDL = Reportable Detection Limit								

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Maxxam Job #: B797661
Report Date: 2017/11/10

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ8050		SJ8051	SJ8052		
Sampling Date		2017/10/30 18:00		2017/10/29 19:40	2017/10/30 15:45		
COC Number		08446218		08446218	08446218		
	UNITS	MW06-10M	QC Batch	MW06-10D	MW08-13	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	8819412	<0.010	0.027	0.010	8819412
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00072	8817928	0.00291	0.00927	0.00050	8817928
Dissolved Antimony (Sb)	mg/L	0.000185	8817928	0.00102	0.000047	0.000020	8817928
Dissolved Arsenic (As)	mg/L	0.000420	8817928	0.000979	0.000200	0.000020	8817928
Dissolved Barium (Ba)	mg/L	0.0308	8817928	0.0594	0.412	0.000020	8817928
Dissolved Beryllium (Be)	mg/L	<0.000010	8817928	<0.000010	<0.000010	0.000010	8817928
Dissolved Bismuth (Bi)	mg/L	0.0000050	8817928	<0.0000050	<0.0000050	0.0000050	8817928
Dissolved Boron (B)	mg/L	<0.010	8817928	<0.010	<0.010	0.010	8817928
Dissolved Cadmium (Cd)	mg/L	<0.0000050	8817928	<0.0000050	0.0000185	0.0000050	8817928
Dissolved Chromium (Cr)	mg/L	<0.00010	8817928	<0.00010	<0.00010	0.00010	8817928
Dissolved Cobalt (Co)	mg/L	0.0000137	8817928	0.0000060	0.000233	0.0000050	8817928
Dissolved Copper (Cu)	mg/L	<0.000050	8817928	<0.000050	0.000639	0.000050	8817928
Dissolved Iron (Fe)	mg/L	4.83	8817928	0.540	0.0080	0.0010	8817928
Dissolved Lead (Pb)	mg/L	0.0000080	8817928	0.0000066	0.0000500	0.0000050	8817928
Dissolved Lithium (Li)	mg/L	0.00209	8817928	0.00524	<0.00050	0.00050	8817928
Dissolved Manganese (Mn)	mg/L	0.0789	8817928	0.0244	3.91	0.000050	8817928
Dissolved Molybdenum (Mo)	mg/L	0.00268	8817928	0.00333	0.000381	0.000050	8817928
Dissolved Nickel (Ni)	mg/L	0.000114	8817928	0.000108	0.00680	0.000020	8817928
Dissolved Phosphorus (P)	mg/L	0.0124	8823097	0.0139	0.0152	0.0020	8817928
Dissolved Selenium (Se)	mg/L	0.000043	8817928	0.00149	0.000642	0.000040	8817928
Dissolved Silicon (Si)	mg/L	4.34	8817928	4.18	3.31	0.050	8817928
Dissolved Silver (Ag)	mg/L	<0.0000050	8817928	<0.0000050	<0.0000050	0.0000050	8817928
Dissolved Strontium (Sr)	mg/L	0.132	8817928	0.161	0.145	0.000050	8817928
Dissolved Thallium (Tl)	mg/L	<0.0000020	8817928	<0.0000020	<0.0000020	0.0000020	8817928
Dissolved Tin (Sn)	mg/L	<0.00020	8817928	0.00031	<0.00020	0.00020	8817928
Dissolved Titanium (Ti)	mg/L	<0.00050	8817928	<0.00050	<0.00050	0.00050	8817928
Dissolved Uranium (U)	mg/L	0.0138	8817928	0.00910	0.000364	0.0000020	8817928
Dissolved Vanadium (V)	mg/L	<0.00020	8817928	<0.00020	<0.00020	0.00020	8817928
Dissolved Zinc (Zn)	mg/L	0.00448	8817928	0.00022	0.00754	0.00010	8817928
Dissolved Zirconium (Zr)	mg/L	<0.00010	8817928	0.00012	<0.00010	0.00010	8817928
Dissolved Calcium (Ca)	mg/L	80.5	8817125	65.3	71.6	0.050	8817125
Dissolved Magnesium (Mg)	mg/L	12.4	8817125	20.8	9.21	0.050	8817125
RDL = Reportable Detection Limit							

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Maxxam Job #: B797661
Report Date: 2017/11/10

YUKON ZINC CORPORATION
Sampler Initials: SVB

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SJ8050		SJ8051	SJ8052		
Sampling Date		2017/10/30 18:00		2017/10/29 19:40	2017/10/30 15:45		
COC Number		08446218		08446218	08446218		
	UNITS	**MW06-10M**	**QC Batch**	**MW06-10D**	**MW08-13**	**RDL**	**QC Batch**
Dissolved Potassium (K)	mg/L	1.83	8817125	4.65	1.51	0.050	8817125
Dissolved Sodium (Na)	mg/L	2.80	8817125	1.72	12.5	0.050	8817125
Dissolved Sulphur (S)	mg/L	20.0	8817125	13.2	44.1	3.0	8817125
RDL = Reportable Detection Limit							

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Maxxam Job #: B797661
Report Date: 2017/11/10

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.3°C
Package 2	4.3°C

Sample SJ8041 [MW05-1B] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample received past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ8042 [MW05-3B] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample received past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ8043 [MW05-5A] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample received past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ8044 [MW05-5B] : Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample received past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue).

Sample SJ8045 [MW05-6A] : Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ8046 [MW05-6B] : Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ8047 [MW06-8S] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ8048 [MW06-9S] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

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Sample SJ8049 [MW06-10S] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Total Dissolved Solids (Filt. Residue).

Sample SJ8050 [MW06-10M] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP.

Sample SJ8051 [MW06-10D] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ8052 [MW08-13] : Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample SJ8050, Elements by ICPMS Low Level (dissolved): Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B797661
Report Date: 2017/11/10

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION
Sampler Initials: SVB

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8817226	Turbidity	2017/11/02			100	80 - 120	<0.10	NTU	NC	20
8817776	Alkalinity (PP as CaCO3)	2017/11/02					<1.0	mg/L		
8817776	Alkalinity (Total as CaCO3)	2017/11/02			99	80 - 120	<1.0	mg/L		
8817776	Bicarbonate (HCO3)	2017/11/02					<1.0	mg/L		
8817776	Carbonate (CO3)	2017/11/02					<1.0	mg/L		
8817776	Hydroxide (OH)	2017/11/02					<1.0	mg/L		
8817781	pH	2017/11/02			101	97 - 103			0.24	20
8817782	Conductivity	2017/11/02			99	80 - 120	<2.0	uS/cm		
8817791	Alkalinity (PP as CaCO3)	2017/11/03					<1.0	mg/L	NC	20
8817791	Alkalinity (Total as CaCO3)	2017/11/03	NC	80 - 120	99	80 - 120	<1.0	mg/L	8.9	20
8817791	Bicarbonate (HCO3)	2017/11/03					<1.0	mg/L	8.9	20
8817791	Carbonate (CO3)	2017/11/03					<1.0	mg/L	NC	20
8817791	Hydroxide (OH)	2017/11/03					<1.0	mg/L	NC	20
8817793	pH	2017/11/03			101	97 - 103			0	20
8817794	Conductivity	2017/11/03			99	80 - 120	<2.0	uS/cm	0	20
8817804	Nitrate plus Nitrite (N)	2017/11/02	105	80 - 120	104	80 - 120	<0.0020	mg/L	NC	25
8817805	Nitrite (N)	2017/11/02	103	80 - 120	103	80 - 120	<0.0020	mg/L	NC	25
8817928	Dissolved Aluminum (Al)	2017/11/04	108	80 - 120	113	80 - 120	<0.00050	mg/L	2.9	20
8817928	Dissolved Antimony (Sb)	2017/11/04	101	80 - 120	104	80 - 120	<0.000020	mg/L	5.0	20
8817928	Dissolved Arsenic (As)	2017/11/04	98	80 - 120	101	80 - 120	<0.000020	mg/L	0.73	20
8817928	Dissolved Barium (Ba)	2017/11/04	NC	80 - 120	103	80 - 120	<0.000020	mg/L	0.19	20
8817928	Dissolved Beryllium (Be)	2017/11/04	99	80 - 120	103	80 - 120	<0.000010	mg/L	NC	20
8817928	Dissolved Bismuth (Bi)	2017/11/04	98	80 - 120	99	80 - 120	<0.0000050	mg/L	NC	20
8817928	Dissolved Boron (B)	2017/11/04	102	80 - 120	107	80 - 120	<0.010	mg/L	NC	20
8817928	Dissolved Cadmium (Cd)	2017/11/04	96	80 - 120	99	80 - 120	<0.0000050	mg/L	4.0	20
8817928	Dissolved Chromium (Cr)	2017/11/04	96	80 - 120	102	80 - 120	<0.00010	mg/L	8.5	20
8817928	Dissolved Cobalt (Co)	2017/11/04	95	80 - 120	101	80 - 120	<0.0000050	mg/L	7.1	20
8817928	Dissolved Copper (Cu)	2017/11/04	91	80 - 120	100	80 - 120	<0.000050	mg/L	1.3	20
8817928	Dissolved Iron (Fe)	2017/11/04	NC	80 - 120	110	80 - 120	<0.0010	mg/L	0.57	20
8817928	Dissolved Lead (Pb)	2017/11/04	97	80 - 120	100	80 - 120	<0.0000050	mg/L	3.7	20
8817928	Dissolved Lithium (Li)	2017/11/04	100	80 - 120	106	80 - 120	<0.00050	mg/L	2.1	20
8817928	Dissolved Manganese (Mn)	2017/11/04	NC	80 - 120	99	80 - 120	<0.000050	mg/L	1.7	20

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Maxxam Job #: B797661
Report Date: 2017/11/10

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: SVB

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8817928	Dissolved Molybdenum (Mo)	2017/11/04	NC	80 - 120	102	80 - 120	<0.000050	mg/L	1.2	20
8817928	Dissolved Nickel (Ni)	2017/11/04	95	80 - 120	102	80 - 120	<0.000020	mg/L	3.3	20
8817928	Dissolved Phosphorus (P)	2017/11/04					<0.0020	mg/L	0.63	20
8817928	Dissolved Selenium (Se)	2017/11/04	102	80 - 120	108	80 - 120	<0.000040	mg/L	19	20
8817928	Dissolved Silicon (Si)	2017/11/04					<0.050	mg/L	0.26	20
8817928	Dissolved Silver (Ag)	2017/11/04	106	80 - 120	110	80 - 120	<0.0000050	mg/L	NC	20
8817928	Dissolved Strontium (Sr)	2017/11/04	NC	80 - 120	97	80 - 120	<0.000050	mg/L	0.20	20
8817928	Dissolved Thallium (Tl)	2017/11/04	99	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20
8817928	Dissolved Tin (Sn)	2017/11/04	102	80 - 120	106	80 - 120	<0.00020	mg/L	NC	20
8817928	Dissolved Titanium (Ti)	2017/11/04	92	80 - 120	95	80 - 120	<0.00050	mg/L	NC	20
8817928	Dissolved Uranium (U)	2017/11/04	97	80 - 120	97	80 - 120	<0.0000020	mg/L	1.1	20
8817928	Dissolved Vanadium (V)	2017/11/04	98	80 - 120	103	80 - 120	<0.00020	mg/L	0.78	20
8817928	Dissolved Zinc (Zn)	2017/11/04	101	80 - 120	105	80 - 120	<0.00010	mg/L	1.1	20
8817928	Dissolved Zirconium (Zr)	2017/11/04	95	80 - 120	95	80 - 120	<0.00010	mg/L	0.55	20
8818097	Total Dissolved Solids	2017/11/06	98	80 - 120	102	80 - 120	<10	mg/L	6.1	20
8818129	Total Dissolved Solids	2017/11/06	100	80 - 120	93	80 - 120	<10	mg/L	1.4	20
8818131	Total Suspended Solids	2017/11/06	100	80 - 120	98	80 - 120	<4.0	mg/L	NC	20
8818781	Total Ammonia (N)	2017/11/03	93	80 - 120	104	80 - 120	<0.020	mg/L	NC	20
8818827	Total Suspended Solids	2017/11/03	101	80 - 120	95	80 - 120	<4.0	mg/L	NC	20
8818929	Acidity (pH 4.5)	2017/11/03					<1.0	mg/L	NC	20
8818929	Acidity (pH 8.3)	2017/11/03			100	80 - 120	<1.0	mg/L	7.5	20
8818931	Acidity (pH 4.5)	2017/11/03					<1.0	mg/L	NC	20
8818931	Acidity (pH 8.3)	2017/11/03			101	80 - 120	<1.0	mg/L	NC	20
8819114	Orthophosphate (P)	2017/11/03			95	80 - 120	<0.0010	mg/L		
8819117	Orthophosphate (P)	2017/11/03			98	80 - 120	<0.0010	mg/L		
8819124	Dissolved Phosphorus (P)	2017/11/03			102	80 - 120	<0.0020	mg/L		
8819127	Total Phosphorus (P)	2017/11/03	NC	80 - 120	104	80 - 120	<0.0020	mg/L	1.5	20
8819401	Bromide (Br)	2017/11/04	101	78 - 120	94	80 - 120	<0.010	mg/L	NC	20
8819412	Bromide (Br)	2017/11/04	100	78 - 120	95	80 - 120	<0.010	mg/L	NC	20
8820454	Dissolved Chloride (Cl)	2017/11/03			105	80 - 120	<1.0	mg/L		
8820464	Dissolved Sulphate (SO4)	2017/11/03	120	80 - 120	102	80 - 120	<1.0	mg/L	0.82	20
8822001	Fluoride (F)	2017/11/07	102	80 - 120	104	80 - 120	<0.020	mg/L	0	20

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B797661
Report Date: 2017/11/10

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION
Sampler Initials: SVB

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8822099	Dissolved Chloride (Cl)	2017/11/06	107	80 - 120	104	80 - 120	<1.0	mg/L	NC	20
8822104	Dissolved Sulphate (SO4)	2017/11/06			105	80 - 120	<1.0	mg/L		
8822282	Fluoride (F)	2017/11/07	106	80 - 120	104	80 - 120	<0.020	mg/L	1.3	20
8822423	Total Dissolved Solids	2017/11/08	102	80 - 120	94	80 - 120	<10	mg/L	8.3	20
8823097	Dissolved Phosphorus (P)	2017/11/08					<0.0020	mg/L	NC	20
8824266	Orthophosphate (P)	2017/11/08	NC	80 - 120	101	80 - 120	<0.0010	mg/L	2.2	20
8824295	Total Phosphorus (P)	2017/11/08			105	80 - 120	<0.0020	mg/L		
8824297	Dissolved Phosphorus (P)	2017/11/08	NC	80 - 120	105	80 - 120	<0.0020	mg/L	2.0	20
8824305	Dissolved Phosphorus (P)	2017/11/08			94	80 - 120	<0.0020	mg/L		
8827303	Orthophosphate (P)	2017/11/10			104	80 - 120	<0.0010	mg/L		
8827323	Dissolved Phosphorus (P)	2017/11/10			102	80 - 120	<0.0020	mg/L		
8827347	Total Phosphorus (P)	2017/11/10	98	80 - 120	103	80 - 120	<0.0020	mg/L	1.2	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

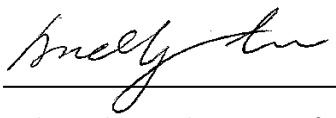
Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B797661
Report Date: 2017/11/10

YUKON ZINC CORPORATION
Sampler Initials: SVB

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
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CHAIN OF CUSTODY RE 08446218

BSY FCD-00077/05

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5. Toll Free (800) 665-8566

COC #:

Page ____ of ____

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Yukon Zinc Corporation	Company Name:	Quotation #:	☑ Regular TAT 5 days (Most analyses)
Contact Name: Alex Wu	Contact Name:	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 705 - 1030 West Georgia Street	Address:	Project #:	Rush TAT (Surcharges will be applied)
Vancouver PC: V6E 2Y3	PC:	Site Location:	☐ Same Day ☐ 2 Days
Phone: 604-684-5474	Phone:	Site #:	☐ 1 Day ☐ 3 Days
Email: alex.wu@yukonzinc.com	Email: YZC Group	Sampled By:	Date Required:
			Rush Confirmation #:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water	☐ Return Cooler
☐ CCME (Specify) ☐ Other (Specify)	☐ Ship Sample Bottles (Please Specify)
☐ Drinking Water ☐ BC Water Quality	

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	VOC/VPH	MTBE	TEH	LEPH/HEPH	F2 - F4	BTEX/F1	BTEX/VPH	EPH	PAH	COME-PHC	Dissolved Metals Preserved?	Dissolved Metals Filtered?	Dissolved Mercury Field Preserved?	Total Metals Field Preserved?	Total Mercury Field Preserved?	Chloride	Fluoride	TSS	Sulphate	BOD	COD	pH	Conductivity	Alkalinity	Nitrite	Ammonia	Nitrite	Package A	Total Phosphate and Ammonia	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE
	Bottle															50 mL falcon tube																120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic		
	Preservative															HNO3																H2SO4	-	H2SO4		
	Filtered															✓																✓	✓	✓		
1	MW05-1B				Water											x																x	xx	x	5	
2	MW05-3B				Water											x																x	xx	x	5	
3	MW05-5A				Water											x																x	xx	x	5	
4	MW05-5B				Water											x																x	xx	x	5	
5	MW05-6A				Water											x																x	xx	x	5	
6	MW05-6B				Water											x																x	xx	x	5	
7	MW06-8S				Water											x																x	xx	x	5	
8	MW06-9S				Water											x																x	xx	x	5	
9	MW06-10S				Water											x																x	xx	x	5	
10	MW06-10M				Water											x																x	xx	x	5	
11	MW06-10D				Water											x																x	xx	x	5	
12	MW06-13				Water											x																x	xx	x	5	
13																																			
14																																			
15																																			
16																																			
24																																			

LABORATORY USE ONLY

CUSTODY SEAL Present	CUSTODY SEAL Intact	COOLER TEMPERATURES
Y	Y	6.3, 7
Y	Y	4.5, 5
Y	Y	2.5, 3 / 7.3 5

COOLING MEDIA PRESENT

COMMENTS

RECEIVED IN WHITEHORSE
BY: @ 1335
2017-11-01
TEMP 6 1 5 15
4 5 4

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Stuart Van Bibber	2017/11/01	01:35	GEORGIA CHAN	2017/11/02	10:00

B797661_COC

Maxxam
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Success Through Science®

Your C.O.C. #: 08448865

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/12/15
Report #: R2491944
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7A7383
Received: 2017/12/04, 10:24

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	12	2017/12/07	2017/12/07	BBY6SOP-00037	SM 22 2310 B m
Acidity pH 4.5 & pH 8.3 (as CaCO3)	2	2017/12/07	2017/12/08	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	6	2017/12/05	2017/12/05	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	8	2017/12/05	2017/12/06	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	13	N/A	2017/12/05	BBY6SOP-00011	SM 22 4500-Cl- E m
Chloride by Automated Colourimetry	1	N/A	2017/12/12	BBY6SOP-00011	SM 22 4500-Cl- E m
Cyanide SAD (strong acid dissociable)	14	N/A	2017/12/07	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide WAD (weak acid dissociable)	14	N/A	2017/12/07	BBY6SOP-00004	SM 22 4500-CN O m
Carbon (DOC) - field filtered/preserved (2)	11	N/A	2017/12/06	BBY6SOP-00003	SM 22 5310 C m
Carbon (DOC) - field filtered/preserved (2)	1	N/A	2017/12/08	BBY6SOP-00003	SM 22 5310 C m
Carbon (DOC) - unfiltered/unpreserved (2)	1	2017/12/08	2017/12/08	BBY6SOP-00003	SM 22 5310 C m
Carbon (DOC) - unfiltered/unpreserved (2)	1	2017/12/12	2017/12/12	BBY6SOP-00003	SM 22 5310 C m
Conductance - water	6	2017/12/05	2017/12/05	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	8	2017/12/05	2017/12/06	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	14	N/A	2017/12/05	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3) (3)	8	N/A	2017/12/08	BBY WI-00033	Auto Calc
Hardness Total (calculated as CaCO3) (3)	6	N/A	2017/12/11	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	12	N/A	2017/12/11	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	1	N/A	2017/12/12	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	13	N/A	2017/12/07	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	14	2017/12/07	2017/12/07	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	14	N/A	2017/12/09	BBY7SOP-00002	EPA 6020B R2 m
Iodide, Thiosulphate, Thiocyanate (1)	1	N/A	2017/12/12	CAL SOP-00057	Dionex #034035 R09 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	13	N/A	2017/12/11	BBY WI-00033	Auto Calc
Elements by ICPMS Low Level (dissolved)	13	N/A	2017/12/09	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Digested LL (total)	2	2017/12/05	2017/12/08	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Na, K, Ca, Mg, S by CRC ICPMS (total)	8	N/A	2017/12/08	BBY WI-00033	Auto Calc
Na, K, Ca, Mg, S by CRC ICPMS (total)	6	N/A	2017/12/11	BBY WI-00033	Auto Calc
Elements by ICPMS Low Level (total)	12	N/A	2017/12/08	BBY7SOP-00003,	BCLM2005,EPA6020bR2m

Your C.O.C. #: 08448865

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/12/15
Report #: R2491944
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7A7383
Received: 2017/12/04, 10:24

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Ammonia-N (Unpreserved)	1	2017/12/05	2017/12/05	BBY6SOP-00009	EPA 350.1 m
Ammonia-N (Preserved)	13	N/A	2017/12/06	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	14	N/A	2017/12/05	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	14	N/A	2017/12/05	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	14	N/A	2017/12/06	BBY WI-00033	Auto Calc
Filter and HNO3 Preserve for Metals	12	N/A	2017/12/13	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (4)	6	2017/12/05	2017/12/05	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (4)	8	2017/12/05	2017/12/06	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	12	N/A	2017/12/05	BBY6SOP-00013	SM 22 4500-P E m
Orthophosphate by Konelab (low level)	2	N/A	2017/12/12	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	14	N/A	2017/12/05	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	14	2017/12/05	2017/12/06	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	11	2017/12/06	2017/12/06	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - FF/FP	1	2017/12/13	2017/12/13	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - UF/UP	2	2017/12/05	2017/12/05	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	6	N/A	2017/12/06	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	2	N/A	2017/12/08	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	5	N/A	2017/12/13	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level Unpreserved	1	2017/12/08	2017/12/08	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	14	2017/12/04	2017/12/05	BBY6SOP-00034	SM 22 2540 D
Turbidity	14	N/A	2017/12/04	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected.

Your C.O.C. #: 08448865

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/12/15
Report #: R2491944
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7A7383
Received: 2017/12/04, 10:24

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Calgary Environmental
(2) DOC present in the sample should be considered as non-purgeable DOC.
(3) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(4) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP5503			SP5504			SP5505		
Sampling Date		2017/11/30 09:45			2017/11/30 10:35			2017/11/30 14:35		
COC Number		08448865			08448865			08448865		
	UNITS	T1	RDL	QC Batch	PORTAL	RDL	QC Batch	W15	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.140	0.020	8852670	0.200	0.020	8852670	0.023	0.020	8852670
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	1120	0.50	8850773	531	0.50	8850773	62.3	0.50	8850773
Dissolved Hardness (CaCO3)	mg/L	1100	0.50	8850774	523	0.50	8850774	60.0	0.50	8850774
Nitrate (N)	mg/L	<0.20	0.20	8851329	<0.20	0.20	8851329	<0.20	0.20	8851329
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00238	0.00050	8855396	0.00183	0.00050	8855396	<0.00050	0.00050	8855396
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	0.00050	8855425	<0.00050	0.00050	8855425	<0.00050	0.00050	8855425
Dissolved Organic Carbon (C)	mg/L	16.1	0.50	8853544	1.70	0.50	8853544	0.58	0.50	8860241
Acidity (pH 4.5)	mg/L	5.4	1.0	8855713	<1.0	1.0	8855713	<1.0	1.0	8855713
Alkalinity (Total as CaCO3)	mg/L	<1.0	1.0	8852652	101	1.0	8852652	55.5	1.0	8852652
Acidity (pH 8.3)	mg/L	21.5	1.0	8855713	2.0	1.0	8855713	<1.0	1.0	8855713
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8852652	<1.0	1.0	8852652	<1.0	1.0	8852652
Bicarbonate (HCO3)	mg/L	<1.0	1.0	8852652	123	1.0	8852652	67.7	1.0	8852652
Carbonate (CO3)	mg/L	<1.0	1.0	8852652	<1.0	1.0	8852652	<1.0	1.0	8852652
Hydroxide (OH)	mg/L	<1.0	1.0	8852652	<1.0	1.0	8852652	<1.0	1.0	8852652
Anions										
Orthophosphate (P)	mg/L	0.0026	0.0010	8852338	<0.0010	0.0010	8852338	0.0011	0.0010	8852338
Dissolved Sulphate (SO4)	mg/L	1370 (1)	10	8853123	570 (1)	10	8853123	13.6	1.0	8853123
Dissolved Thiosulphate	mg/L	<0.20	0.20	8857976						
Dissolved Chloride (Cl)	mg/L	120	1.0	8853122	3.3	1.0	8853122	<1.0	1.0	8853122
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0688	0.0020	8853843	0.0148	0.0020	8853843	0.0021	0.0020	8852460
Total Ammonia (N)	mg/L	0.39	0.020	8854273	1.7	0.020	8854273	<0.020	0.020	8852524
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	0.20	8853698	<0.20 (2)	0.20	8853698	<0.20 (2)	0.20	8853698
Nitrite (N)	mg/L	<0.20 (2)	0.20	8853699	<0.20 (2)	0.20	8853699	<0.20 (2)	0.20	8853699
Total Phosphorus (P)	mg/L	0.0631	0.0020	8853857	0.0172	0.0020	8853857	<0.0020	0.0020	8857283
Physical Properties										
Conductivity	uS/cm	2410	2.0	8852650	1240	2.0	8852650	125	2.0	8852650
pH	pH	4.07		8852631	7.92		8852631	7.89		8852631

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP5503			SP5504			SP5505		
Sampling Date		2017/11/30 09:45			2017/11/30 10:35			2017/11/30 14:35		
COC Number		08448865			08448865			08448865		
	UNITS	T1	RDL	QC Batch	PORTAL	RDL	QC Batch	W15	RDL	QC Batch
Physical Properties										
Total Suspended Solids	mg/L	<4.0	4.0	8851712	13.5	4.0	8851712	<4.0	4.0	8851712
Total Dissolved Solids	mg/L	2060	10	8852580	920	10	8852580	86	10	8852580
Turbidity	NTU	2.13	0.10	8851669	101	0.10	8851669	0.18	0.10	8851669
RDL = Reportable Detection Limit										

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP5506		SP5507		SP5508		
Sampling Date		2017/11/30 13:50		2017/11/29 10:00		2017/11/29 11:15		
COC Number		08448865		08448865		08448865		
	UNITS	W16	QC Batch	W21	QC Batch	W22	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.025	8852670	0.097	8852670	0.062	0.020	8852670
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	78.8	8850773	123	8850773	171	0.50	8850773
Dissolved Hardness (CaCO3)	mg/L	77.5	8850774	119	8858447	167	0.50	8850774
Nitrate (N)	mg/L	<0.20	8851329	<0.20	8851329	<0.20	0.20	8851329
Misc. Inorganics								
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8855396	0.00270	8855396	<0.00050	0.00050	8855396
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8855425	0.00160	8855425	<0.00050	0.00050	8855425
Dissolved Organic Carbon (C)	mg/L	1.24	8853544	2.67	8853544	0.92	0.50	8853544
Acidity (pH 4.5)	mg/L	<1.0	8855713	<1.0	8855713	<1.0	1.0	8855707
Alkalinity (Total as CaCO3)	mg/L	70.9	8852652	102	8852652	136	1.0	8852652
Acidity (pH 8.3)	mg/L	<1.0	8855713	<1.0	8855713	<1.0	1.0	8855707
Alkalinity (PP as CaCO3)	mg/L	<1.0	8852652	<1.0	8852652	<1.0	1.0	8852652
Bicarbonate (HCO3)	mg/L	86.5	8852652	124	8852652	166	1.0	8852652
Carbonate (CO3)	mg/L	<1.0	8852652	<1.0	8852652	<1.0	1.0	8852652
Hydroxide (OH)	mg/L	<1.0	8852652	<1.0	8852652	<1.0	1.0	8852652
Anions								
Orthophosphate (P)	mg/L	0.0053	8852338	0.012	8852338	0.017	0.0010	8859942
Dissolved Sulphate (SO4)	mg/L	13.1	8853123	24.8	8853123	45.0	1.0	8853123
Dissolved Chloride (Cl)	mg/L	<1.0	8853122	<1.0	8853122	<1.0	1.0	8853122
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0092	8853843	0.0208	8853843	0.0040	0.0020	8853843
Total Ammonia (N)	mg/L	<0.020	8854273	0.028	8854273	<0.020	0.020	8854273
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8853698	<0.20 (1)	8853698	<0.20 (1)	0.20	8853698
Nitrite (N)	mg/L	<0.20 (1)	8853699	<0.20 (1)	8853699	<0.20 (1)	0.20	8853699
Total Phosphorus (P)	mg/L	0.0091	8853846	0.0229	8853857	0.0165	0.0020	8853846
Physical Properties								
Conductivity	uS/cm	161	8852650	240	8852650	336	2.0	8852650
pH	pH	7.99	8852631	8.07	8852631	8.22		8852631
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8851712	<4.0	8851712	4.8	4.0	8851712
Total Dissolved Solids	mg/L	110	8852580	130	8852580	204	10	8852580

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP5506		SP5507		SP5508		
Sampling Date		2017/11/30 13:50		2017/11/29 10:00		2017/11/29 11:15		
COC Number		08448865		08448865		08448865		
	UNITS	**W16**	**QC Batch**	**W21**	**QC Batch**	**W22**	**RDL**	**QC Batch**
Turbidity	NTU	0.50	8851669	0.73	8851669	1.10	0.10	8851669
RDL = Reportable Detection Limit								

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP5509		SP5510		SP5511		
Sampling Date		2017/11/29 11:35		2017/11/29 12:40		2017/11/29 13:05		
COC Number		08448865		08448865		08448865		
	UNITS	W40	QC Batch	W71	QC Batch	W72	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.063	8852670	0.590	8852670	0.150	0.020	8852670
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	172	8850773	426	8850773	280	0.50	8850773
Dissolved Hardness (CaCO3)	mg/L	169	8850774	415	8850774	269	0.50	8850774
Nitrate (N)	mg/L	<0.20	8851329	<0.20	8851329	<0.20	0.20	8851329
Misc. Inorganics								
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8855396	<0.00050	8855396	0.00055	0.00050	8855396
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8855425	<0.00050	8855425	0.00062	0.00050	8855425
Dissolved Organic Carbon (C)	mg/L	1.09	8853544	2.54	8853544	1.89	0.50	8853544
Acidity (pH 4.5)	mg/L	<1.0	8855713	<1.0	8857164	<1.0	1.0	8855707
Alkalinity (Total as CaCO3)	mg/L	134	8852652	283	8852652	208	1.0	8852652
Acidity (pH 8.3)	mg/L	<1.0	8855713	12.9	8857164	<1.0	1.0	8855707
Alkalinity (PP as CaCO3)	mg/L	<1.0	8852652	<1.0	8852652	<1.0	1.0	8852652
Bicarbonate (HCO3)	mg/L	164	8852652	345	8852652	254	1.0	8852652
Carbonate (CO3)	mg/L	<1.0	8852652	<1.0	8852652	<1.0	1.0	8852652
Hydroxide (OH)	mg/L	<1.0	8852652	<1.0	8852652	<1.0	1.0	8852652
Anions								
Orthophosphate (P)	mg/L	0.0093	8859942	0.010	8852338	0.0079	0.0010	8852338
Dissolved Sulphate (SO4)	mg/L	43.0	8853123	143	8853123	75.9	1.0	8853123
Dissolved Chloride (Cl)	mg/L	1.1	8853122	<1.0	8853122	<1.0	1.0	8853122
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0054	8853843	0.0117	8853843	0.0167	0.0020	8853843
Total Ammonia (N)	mg/L	<0.020	8854273	<0.020	8854273	0.043	0.020	8854273
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8853698	<0.20 (1)	8853698	<0.20 (1)	0.20	8853698
Nitrite (N)	mg/L	<0.20 (1)	8853699	<0.20 (1)	8853699	<0.20 (1)	0.20	8853699
Total Phosphorus (P)	mg/L	0.0332	8853857	0.0152	8853846	0.0199	0.0020	8853857
Physical Properties								
Conductivity	uS/cm	329	8852650	732	8852650	492	2.0	8852650
pH	pH	8.20	8852631	8.26	8852631	8.30		8852631
Physical Properties								
Total Suspended Solids	mg/L	9.3	8851712	<4.0	8851712	<4.0	4.0	8851712
Total Dissolved Solids	mg/L	184	8852580	480	8852580	310	10	8852580

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Report Date: 2017/12/15

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP5509		SP5510		SP5511		
Sampling Date		2017/11/29 11:35		2017/11/29 12:40		2017/11/29 13:05		
COC Number		08448865		08448865		08448865		
	UNITS	**W40**	**QC Batch**	**W71**	**QC Batch**	**W72**	**RDL**	**QC Batch**
Turbidity	NTU	0.77	8851669	0.14	8851669	1.14	0.10	8851669
RDL = Reportable Detection Limit								

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Maxxam Job #: B7A7383
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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP5512		SP5513			SP5514		
Sampling Date		2017/11/29 13:50		2017/11/30 13:25			2017/11/30		
COC Number		08448865		08448865			08448865		
	UNITS	W73	QC Batch	W81	RDL	QC Batch	DUP	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.048	8852670	0.027	0.020	8853048	0.190	0.020	8853048
Calculated Parameters									
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	149	8850773	72.9	0.50	8850773	536	0.50	8850773
Dissolved Hardness (CaCO3)	mg/L	143	8850774	70.5	0.50	8850774	516	0.50	8850774
Nitrate (N)	mg/L	<0.20	8851329	<0.20	0.20	8851329	<0.20	0.20	8851329
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00057	8855396	0.00053	0.00050	8855396	0.00260	0.00050	8855396
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.00081	8855425	0.00075	0.00050	8855425	0.00093	0.00050	8855425
Dissolved Organic Carbon (C)	mg/L	1.00	8853544	0.60	0.50	8853544	<0.50	0.50	8853544
Acidity (pH 4.5)	mg/L	<1.0	8855713	<1.0	1.0	8855713	<1.0	1.0	8857164
Alkalinity (Total as CaCO3)	mg/L	128	8852652	65.4	1.0	8852652	104	1.0	8852652
Acidity (pH 8.3)	mg/L	<1.0	8855713	<1.0	1.0	8855713	4.4	1.0	8857164
Alkalinity (PP as CaCO3)	mg/L	<1.0	8852652	<1.0	1.0	8852652	<1.0	1.0	8852652
Bicarbonate (HCO3)	mg/L	156	8852652	79.8	1.0	8852652	127	1.0	8852652
Carbonate (CO3)	mg/L	<1.0	8852652	<1.0	1.0	8852652	<1.0	1.0	8852652
Hydroxide (OH)	mg/L	<1.0	8852652	<1.0	1.0	8852652	<1.0	1.0	8852652
Anions									
Orthophosphate (P)	mg/L	0.0058	8852338	0.0030	0.0010	8852338	<0.0010	0.0010	8852338
Dissolved Sulphate (SO4)	mg/L	29.5	8853123	12.8	1.0	8853123	550 (1)	10	8853123
Dissolved Chloride (Cl)	mg/L	1.5	8853122	2.0	1.0	8853122	3.3	1.0	8853122
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0049	8853843	0.0043	0.0020	8853843	0.0147	0.0020	8853843
Total Ammonia (N)	mg/L	<0.020	8854273	<0.020	0.020	8854273	1.7	0.020	8854273
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	8853698	<0.20 (2)	0.20	8853698	<0.20 (2)	0.20	8853698
Nitrite (N)	mg/L	<0.20 (2)	8853699	<0.20 (2)	0.20	8853699	<0.20 (2)	0.20	8853699
Total Phosphorus (P)	mg/L	0.0043	8853846	0.0080	0.0020	8853857	0.0231	0.0020	8853846
Physical Properties									
Conductivity	uS/cm	286	8852650	150	2.0	8852650	1250	2.0	8852650
pH	pH	8.18	8852631	7.98		8852631	7.94		8852631
Physical Properties									
Total Suspended Solids	mg/L	<4.0	8851712	<4.0	4.0	8851712	15.5	4.0	8851712

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP5512		SP5513			SP5514		
Sampling Date		2017/11/29 13:50		2017/11/30 13:25			2017/11/30		
COC Number		08448865		08448865			08448865		
	UNITS	**W73**	**QC Batch**	**W81**	**RDL**	**QC Batch**	**DUP**	**RDL**	**QC Batch**
Total Dissolved Solids	mg/L	172	8852580	102	10	8852592	938	10	8852592
Turbidity	NTU	0.42	8851669	0.47	0.10	8851669	91.9	0.10	8851669
RDL = Reportable Detection Limit									

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RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP5515			SP5516		
Sampling Date		2017/11/30 16:10			2017/11/30		
COC Number		08448865			08448865		
	UNITS	FIELD BLANKS	RDL	QC Batch	TRIP BLANK	RDL	QC Batch
Misc. Inorganics							
Fluoride (F)	mg/L	<0.020	0.020	8853048	<0.020	0.020	8853048
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	<0.50	0.50	8850773	<0.50	0.50	8850773
Dissolved Hardness (CaCO3)	mg/L				<0.50	0.50	8850774
Nitrate (N)	mg/L	<0.20	0.20	8851329	<0.20	0.20	8851329
Misc. Inorganics							
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00054	0.00050	8855396	<0.00050	0.00050	8855396
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.00063	0.00050	8855425	<0.00050	0.00050	8855425
Dissolved Organic Carbon (C)	mg/L	0.66	0.50	8856345	<0.50	0.50	8856346
Acidity (pH 4.5)	mg/L	<1.0	1.0	8855707	<1.0	1.0	8855707
Alkalinity (Total as CaCO3)	mg/L	<1.0	1.0	8852596	<1.0	1.0	8852596
Acidity (pH 8.3)	mg/L	<1.0	1.0	8855707	<1.0	1.0	8855707
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8852596	<1.0	1.0	8852596
Bicarbonate (HCO3)	mg/L	<1.0	1.0	8852596	<1.0	1.0	8852596
Carbonate (CO3)	mg/L	<1.0	1.0	8852596	<1.0	1.0	8852596
Hydroxide (OH)	mg/L	<1.0	1.0	8852596	<1.0	1.0	8852596
Anions							
Orthophosphate (P)	mg/L	<0.0010	0.0010	8852338	0.0012	0.0010	8852338
Dissolved Sulphate (SO4)	mg/L	<1.0	1.0	8853123	<1.0	1.0	8853123
Dissolved Chloride (Cl)	mg/L	<1.0	1.0	8861368	<1.0	1.0	8853122
Nutrients							
Dissolved Phosphorus (P)	mg/L	<0.0020	0.0020	8852460	0.0037	0.0020	8861734
Total Ammonia (N)	mg/L	<0.020	0.020	8854273	<0.020	0.020	8854273
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	0.20	8853698	<0.20 (1)	0.20	8853698
Nitrite (N)	mg/L	<0.20 (1)	0.20	8853699	<0.20 (1)	0.20	8853699
Total Phosphorus (P)	mg/L	<0.0020	0.0020	8857298	<0.0020	0.0020	8857298
Physical Properties							
Conductivity	uS/cm	<2.0	2.0	8852594	<2.0	2.0	8852594
pH	pH	5.67		8852589	5.52		8852589
Physical Properties							
Total Suspended Solids	mg/L	<4.0	4.0	8851712	<4.0	4.0	8851712
Total Dissolved Solids	mg/L	<10	10	8852592	<10	10	8852592
Turbidity	NTU	<0.10	0.10	8851669	<0.10	0.10	8851669

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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MERCURY BY COLD VAPOR (WATER)

Maxxam ID		SP5503	SP5504	SP5505	SP5506	SP5507	SP5508	SP5509		
Sampling Date		2017/11/30 09:45	2017/11/30 10:35	2017/11/30 14:35	2017/11/30 13:50	2017/11/29 10:00	2017/11/29 11:15	2017/11/29 11:35		
COC Number		08448865	08448865	08448865	08448865	08448865	08448865	08448865		
	UNITS	T1	PORTAL	W15	W16	W21	W22	W40	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8854985
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8854954
RDL = Reportable Detection Limit										

Maxxam ID		SP5510	SP5511	SP5512	SP5513	SP5514		
Sampling Date		2017/11/29 12:40	2017/11/29 13:05	2017/11/29 13:50	2017/11/30 13:25	2017/11/30		
COC Number		08448865	08448865	08448865	08448865	08448865		
	UNITS	W71	W72	W73	W81	DUP	RDL	QC Batch
Elements								
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8854985
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8854954
RDL = Reportable Detection Limit								

Maxxam ID		SP5515			SP5516		
Sampling Date		2017/11/30 16:10			2017/11/30		
COC Number		08448865			08448865		
	UNITS	FIELD BLANKS	RDL	QC Batch	TRIP BLANK	RDL	QC Batch
Elements							
Dissolved Mercury (Hg)	ug/L				<0.010	0.010	8855446
Total Mercury (Hg)	ug/L	<0.010	0.010	8854954	<0.010	0.010	8854954
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5503		SP5504		SP5505		
Sampling Date		2017/11/30 09:45		2017/11/30 10:35		2017/11/30 14:35		
COC Number		08448865		08448865		08448865		
	UNITS	T1	RDL	PORTAL	RDL	W15	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	0.074	0.050	<0.050	0.050	<0.010	0.010	8857358
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.156	0.0025	0.00188	0.00050	0.00286	0.00050	8851884
Dissolved Antimony (Sb)	mg/L	0.0305	0.00010	0.000275	0.000020	<0.000020	0.000020	8851884
Dissolved Arsenic (As)	mg/L	0.00873	0.00010	0.00417	0.000020	0.000084	0.000020	8851884
Dissolved Barium (Ba)	mg/L	0.0375	0.00010	0.0264	0.000020	0.0230	0.000020	8851884
Dissolved Beryllium (Be)	mg/L	<0.000050	0.000050	<0.000010	0.000010	<0.000010	0.000010	8851884
Dissolved Bismuth (Bi)	mg/L	<0.000025	0.000025	<0.0000050	0.0000050	<0.0000050	0.0000050	8851884
Dissolved Boron (B)	mg/L	<0.050	0.050	0.015	0.010	<0.010	0.010	8851884
Dissolved Cadmium (Cd)	mg/L	0.0136	0.000025	0.000633	0.0000050	<0.0000050	0.0000050	8851884
Dissolved Chromium (Cr)	mg/L	0.00064	0.00050	<0.00010	0.00010	0.00014	0.00010	8851884
Dissolved Cobalt (Co)	mg/L	0.00223	0.000025	0.00369	0.0000050	0.0000114	0.0000050	8851884
Dissolved Copper (Cu)	mg/L	0.180	0.00025	<0.000050	0.000050	0.000335	0.000050	8851884
Dissolved Iron (Fe)	mg/L	2.62	0.0050	8.19	0.0010	<0.0010	0.0010	8851884
Dissolved Lead (Pb)	mg/L	0.166	0.000025	0.0000719	0.0000050	<0.0000050	0.0000050	8851884
Dissolved Lithium (Li)	mg/L	0.0087	0.0025	0.0123	0.00050	<0.00050	0.00050	8851884
Dissolved Manganese (Mn)	mg/L	0.602	0.00025	1.09	0.000050	0.000178	0.000050	8851884
Dissolved Molybdenum (Mo)	mg/L	0.0244	0.00025	0.0106	0.000050	0.000268	0.000050	8851884
Dissolved Nickel (Ni)	mg/L	0.0109	0.00010	0.0154	0.000020	0.000089	0.000020	8851884
Dissolved Phosphorus (P)	mg/L	0.057	0.010	0.0163	0.0020	0.0066	0.0020	8851884
Dissolved Selenium (Se)	mg/L	0.357	0.00020	0.00118	0.000040	0.000367	0.000040	8851884
Dissolved Silicon (Si)	mg/L	2.08	0.25	3.92	0.050	2.83	0.050	8851884
Dissolved Silver (Ag)	mg/L	0.000604	0.000025	<0.0000050	0.0000050	<0.0000050	0.0000050	8851884
Dissolved Strontium (Sr)	mg/L	1.84	0.00025	1.30	0.000050	0.0368	0.000050	8851884
Dissolved Thallium (Tl)	mg/L	0.000980	0.000010	0.000246	0.0000020	<0.0000020	0.0000020	8851884
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	<0.00020	0.00020	<0.00020	0.00020	8851884
Dissolved Titanium (Ti)	mg/L	<0.0025	0.0025	<0.00050	0.00050	<0.00050	0.00050	8851884
Dissolved Uranium (U)	mg/L	0.000609	0.000010	0.00313	0.0000020	0.0000769	0.0000020	8851884
Dissolved Vanadium (V)	mg/L	<0.0010	0.0010	<0.00020	0.00020	<0.00020	0.00020	8851884
Dissolved Zinc (Zn)	mg/L	1.77	0.00050	0.218	0.00010	0.00082	0.00010	8851884
Dissolved Zirconium (Zr)	mg/L	<0.00050	0.00050	<0.00010	0.00010	<0.00010	0.00010	8851884
Dissolved Calcium (Ca)	mg/L	432	0.25	174	0.050	21.7	0.050	8850840
Dissolved Magnesium (Mg)	mg/L	5.44	0.25	21.5	0.050	1.42	0.050	8850840
Dissolved Potassium (K)	mg/L	35.3	0.25	25.5	0.050	0.411	0.050	8850840

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5503		SP5504		SP5505		
Sampling Date		2017/11/30 09:45		2017/11/30 10:35		2017/11/30 14:35		
COC Number		08448865		08448865		08448865		
	UNITS	T1	RDL	PORTAL	RDL	W15	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	116	0.25	51.2	0.050	0.977	0.050	8850840
Dissolved Sulphur (S)	mg/L	515	15	183	3.0	3.4	3.0	8850840
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.169	0.0025	0.00853	0.00050	0.00575	0.00050	8851698
Total Antimony (Sb)	mg/L	0.0307	0.00010	0.00100	0.000020	<0.000020	0.000020	8851698
Total Arsenic (As)	mg/L	0.00865	0.00010	0.00714	0.000020	0.000089	0.000020	8851698
Total Barium (Ba)	mg/L	0.0382	0.00010	0.0267	0.000020	0.0229	0.000020	8851698
Total Beryllium (Be)	mg/L	<0.000050	0.000050	<0.000010	0.000010	<0.000010	0.000010	8851698
Total Bismuth (Bi)	mg/L	<0.000025	0.000025	<0.0000050	0.0000050	<0.0000050	0.0000050	8851698
Total Boron (B)	mg/L	<0.050	0.050	0.017	0.010	<0.010	0.010	8851698
Total Cadmium (Cd)	mg/L	0.0135	0.000025	0.00115	0.0000050	<0.0000050	0.0000050	8851698
Total Chromium (Cr)	mg/L	0.00073	0.00050	<0.00010	0.00010	0.00015	0.00010	8851698
Total Cobalt (Co)	mg/L	0.00219	0.000025	0.00372	0.0000050	0.0000145	0.0000050	8851698
Total Copper (Cu)	mg/L	0.182	0.00025	0.000409	0.000050	0.000332	0.000050	8851698
Total Iron (Fe)	mg/L	2.64	0.0050	8.97	0.0010	0.0053	0.0010	8851698
Total Lead (Pb)	mg/L	0.166	0.000025	0.00110	0.0000050	0.0000060	0.0000050	8851698
Total Lithium (Li)	mg/L	0.0094	0.0025	0.0128	0.00050	<0.00050	0.00050	8851698
Total Manganese (Mn)	mg/L	0.600	0.00025	1.08	0.000050	0.000319	0.000050	8851698
Total Molybdenum (Mo)	mg/L	0.0253	0.00025	0.0108	0.000050	0.000268	0.000050	8851698
Total Nickel (Ni)	mg/L	0.0110	0.00010	0.0154	0.000020	0.000108	0.000020	8851698
Total Phosphorus (P)	mg/L	0.069	0.010	0.0138	0.0020	<0.0020	0.0020	8851698
Total Selenium (Se)	mg/L	0.378	0.00020	0.00123	0.000040	0.000392	0.000040	8851698
Total Silicon (Si)	mg/L	2.24	0.25	4.20	0.050	2.98	0.050	8851698
Total Silver (Ag)	mg/L	0.000912	0.000025	0.0000096	0.0000050	<0.0000050	0.0000050	8851698
Total Strontium (Sr)	mg/L	1.78	0.00025	1.26	0.000050	0.0367	0.000050	8851698
Total Thallium (Tl)	mg/L	0.00101	0.000010	0.000248	0.0000020	<0.0000020	0.0000020	8851698
Total Tin (Sn)	mg/L	<0.0010	0.0010	<0.00020	0.00020	<0.00020	0.00020	8851698
Total Titanium (Ti)	mg/L	<0.0025	0.0025	<0.00050	0.00050	<0.00050	0.00050	8851698
Total Uranium (U)	mg/L	0.000689	0.000010	0.00314	0.0000020	0.0000770	0.0000020	8851698
Total Vanadium (V)	mg/L	<0.0010	0.0010	<0.00020	0.00020	<0.00020	0.00020	8851698
Total Zinc (Zn)	mg/L	1.75	0.00050	0.291	0.00010	0.00074	0.00010	8851698
Total Zirconium (Zr)	mg/L	<0.00050	0.00050	<0.00010	0.00010	<0.00010	0.00010	8851698
Total Calcium (Ca)	mg/L	439	0.25	175	0.050	22.3	0.050	8850843
Total Magnesium (Mg)	mg/L	5.75	0.25	22.9	0.050	1.58	0.050	8850843
Total Potassium (K)	mg/L	34.3	0.25	24.8	0.050	0.397	0.050	8850843

RDL = Reportable Detection Limit

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Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5503		SP5504		SP5505		
Sampling Date		2017/11/30 09:45		2017/11/30 10:35		2017/11/30 14:35		
COC Number		08448865		08448865		08448865		
	UNITS	**T1**	**RDL**	**PORTAL**	**RDL**	**W15**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	122	0.25	53.7	0.050	1.02	0.050	8850843
Total Sulphur (S)	mg/L	552	15	198	3.0	3.8	3.0	8850843
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5506	SP5507	SP5508		
Sampling Date		2017/11/30 13:50	2017/11/29 10:00	2017/11/29 11:15		
COC Number		08448865	08448865	08448865		
	UNITS	W16	W21	W22	RDL	QC Batch
ANIONS						
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	0.010	8857358
Dissolved Metals by ICPMS						
Dissolved Aluminum (Al)	mg/L	0.00331	0.00316	0.00177	0.00050	8851884
Dissolved Antimony (Sb)	mg/L	0.000054	0.000362 (1)	0.000069	0.000020	8851884
Dissolved Arsenic (As)	mg/L	0.000125	0.00146	0.000143	0.000020	8851884
Dissolved Barium (Ba)	mg/L	0.0734	0.0517	0.0885	0.000020	8851884
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	0.000010	8851884
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000050	8851884
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	0.010	8851884
Dissolved Cadmium (Cd)	mg/L	0.0000842	0.0000080	0.0000229	0.0000050	8851884
Dissolved Chromium (Cr)	mg/L	0.00015	0.00011	0.00034	0.00010	8851884
Dissolved Cobalt (Co)	mg/L	0.0000295	0.0000139	0.0000116	0.0000050	8851884
Dissolved Copper (Cu)	mg/L	0.000578	0.000734	0.000481	0.000050	8851884
Dissolved Iron (Fe)	mg/L	0.0137	0.0338	0.0021	0.0010	8851884
Dissolved Lead (Pb)	mg/L	0.0000334 (1)	<0.0000050	0.0000132	0.0000050	8851884
Dissolved Lithium (Li)	mg/L	<0.00050	0.0185 (1)	0.00231	0.00050	8851884
Dissolved Manganese (Mn)	mg/L	0.0165	0.00181	0.00103	0.000050	8851884
Dissolved Molybdenum (Mo)	mg/L	0.000440	0.00145	0.000782	0.000050	8851884
Dissolved Nickel (Ni)	mg/L	0.000244 (1)	0.00166	0.000698	0.000020	8851884
Dissolved Phosphorus (P)	mg/L	0.0144 (1)	0.0186	0.0022	0.0020	8851884
Dissolved Selenium (Se)	mg/L	0.000814	0.000497	0.000984	0.000040	8851884
Dissolved Silicon (Si)	mg/L	3.25	3.30	4.53	0.050	8851884
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000154	<0.0000050	0.0000050	8851884
Dissolved Strontium (Sr)	mg/L	0.0428	0.117	0.219	0.000050	8851884
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	0.0000032	0.0000020	8851884
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	0.00020	8851884
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	0.00050	8851884
Dissolved Uranium (U)	mg/L	0.000295	0.00152	0.00176	0.0000020	8851884
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	0.00020	8851884
Dissolved Zinc (Zn)	mg/L	0.00671 (1)	0.00093	0.00714	0.00010	8851884
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	8851884
Dissolved Calcium (Ca)	mg/L	26.7	30.3	42.6	0.050	8850840
Dissolved Magnesium (Mg)	mg/L	2.62	10.5	14.6	0.050	8850840

RDL = Reportable Detection Limit
(1) Dissolved greater than total. Reanalysis yields similar results.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5506	SP5507	SP5508		
Sampling Date		2017/11/30 13:50	2017/11/29 10:00	2017/11/29 11:15		
COC Number		08448865	08448865	08448865		
	UNITS	W16	W21	W22	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.594	2.42 (1)	0.964	0.050	8850840
Dissolved Sodium (Na)	mg/L	1.34	1.46	2.19	0.050	8850840
Dissolved Sulphur (S)	mg/L	3.8	7.3	13.8	3.0	8850840
Total Metals by ICPMS						
Total Aluminum (Al)	mg/L	0.0186	0.0190	0.0231	0.00050	8851698
Total Antimony (Sb)	mg/L	0.000043	0.000083	0.000093	0.000020	8851698
Total Arsenic (As)	mg/L	0.000135	0.00156	0.000376	0.000020	8851698
Total Barium (Ba)	mg/L	0.0726	0.0507	0.0894	0.000020	8851698
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	0.000010	8851698
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000050	8851698
Total Boron (B)	mg/L	<0.010	<0.010	<0.010	0.010	8851698
Total Cadmium (Cd)	mg/L	0.0000960	0.0000106	0.0000297	0.0000050	8851698
Total Chromium (Cr)	mg/L	0.00016	0.00018	0.00042	0.00010	8851698
Total Cobalt (Co)	mg/L	0.0000496	0.0000356	0.0000523	0.0000050	8851698
Total Copper (Cu)	mg/L	0.000539	0.000727	0.000794	0.000050	8851698
Total Iron (Fe)	mg/L	0.0525	0.0862	0.0567	0.0010	8851698
Total Lead (Pb)	mg/L	0.0000162	0.0000204	0.000111	0.0000050	8851698
Total Lithium (Li)	mg/L	<0.00050	0.00152	0.00295	0.00050	8851698
Total Manganese (Mn)	mg/L	0.0200	0.00804	0.00792	0.000050	8851698
Total Molybdenum (Mo)	mg/L	0.000426	0.00145	0.000818	0.000050	8851698
Total Nickel (Ni)	mg/L	0.000184	0.00186	0.000908	0.000020	8851698
Total Phosphorus (P)	mg/L	0.0096	0.0226	0.0212	0.0020	8851698
Total Selenium (Se)	mg/L	0.000838	0.000513	0.00106	0.000040	8851698
Total Silicon (Si)	mg/L	3.38	3.48	4.80	0.050	8851698
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	0.0000103	0.0000050	8851698
Total Strontium (Sr)	mg/L	0.0428	0.116	0.220	0.000050	8851698
Total Thallium (Tl)	mg/L	<0.0000020	<0.0000020	0.0000036	0.0000020	8851698
Total Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	0.00020	8851698
Total Titanium (Ti)	mg/L	0.00075	0.00083	0.00081	0.00050	8851698
Total Uranium (U)	mg/L	0.000307	0.00148	0.00165	0.0000020	8851698
Total Vanadium (V)	mg/L	<0.00020	<0.00020	<0.00020	0.00020	8851698
Total Zinc (Zn)	mg/L	0.00420	0.00117	0.00682	0.00010	8851698
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	0.00010	8851698
Total Calcium (Ca)	mg/L	26.9	30.7	43.5	0.050	8850843

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

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Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5506	SP5507	SP5508		
Sampling Date		2017/11/30 13:50	2017/11/29 10:00	2017/11/29 11:15		
COC Number		08448865	08448865	08448865		
	UNITS	W16	W21	W22	RDL	QC Batch
Total Magnesium (Mg)	mg/L	2.81	11.1	15.1	0.050	8850843
Total Potassium (K)	mg/L	0.514	1.12	0.997	0.050	8850843
Total Sodium (Na)	mg/L	1.29	1.58	2.66	0.050	8850843
Total Sulphur (S)	mg/L	3.9	7.5	15.6	3.0	8850843
RDL = Reportable Detection Limit						

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Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5509			SP5510		
Sampling Date		2017/11/29 11:35			2017/11/29 12:40		
COC Number		08448865			08448865		
	UNITS	W40	RDL	QC Batch	W71	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.010	0.010	8857358	<0.010	0.010	8857358
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00216	0.00050	8851884	0.00158	0.00050	8851884
Dissolved Antimony (Sb)	mg/L	0.000071	0.000020	8851884	0.000515	0.000020	8851884
Dissolved Arsenic (As)	mg/L	0.000172	0.000020	8851884	0.000290	0.000020	8851884
Dissolved Barium (Ba)	mg/L	0.0870	0.000020	8851884	0.0698	0.000020	8851884
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8851884	<0.000010	0.000010	8851884
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8851884	<0.0000050	0.0000050	8851884
Dissolved Boron (B)	mg/L	<0.010	0.010	8851884	<0.010	0.010	8851884
Dissolved Cadmium (Cd)	mg/L	0.0000223	0.0000050	8851884	0.00236	0.0000050	8851884
Dissolved Chromium (Cr)	mg/L	0.00032	0.00010	8851884	<0.00010	0.00010	8851884
Dissolved Cobalt (Co)	mg/L	0.0000113	0.0000050	8851884	0.0000150	0.0000050	8851884
Dissolved Copper (Cu)	mg/L	0.000434	0.000050	8851884	0.000486	0.000050	8851884
Dissolved Iron (Fe)	mg/L	0.0034	0.0010	8851884	0.0046	0.0010	8851884
Dissolved Lead (Pb)	mg/L	0.0000172	0.0000050	8851884	<0.0000050	0.0000050	8851884
Dissolved Lithium (Li)	mg/L	0.00231	0.00050	8851884	0.00286	0.00050	8851884
Dissolved Manganese (Mn)	mg/L	0.000927	0.000050	8851884	0.00196	0.000050	8851884
Dissolved Molybdenum (Mo)	mg/L	0.000779	0.000050	8851884	0.00458	0.000050	8851884
Dissolved Nickel (Ni)	mg/L	0.000990	0.000020	8851884	0.0307	0.000020	8851884
Dissolved Phosphorus (P)	mg/L	0.0037	0.0020	8851884	0.0116	0.0020	8851884
Dissolved Selenium (Se)	mg/L	0.000982	0.000040	8851884	0.00809	0.000040	8851884
Dissolved Silicon (Si)	mg/L	4.60	0.050	8851884	4.19	0.050	8851884
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8851884	<0.0000050	0.0000050	8851884
Dissolved Strontium (Sr)	mg/L	0.225	0.000050	8851884	0.336	0.000050	8851884
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8851884	0.0000021	0.0000020	8851884
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8851884	<0.00020	0.00020	8851884
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8851884	<0.00050	0.00050	8851884
Dissolved Uranium (U)	mg/L	0.00176	0.0000020	8851884	0.0116	0.0000020	8851884
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8851884	0.00022	0.00020	8851884
Dissolved Zinc (Zn)	mg/L	0.00683	0.00010	8851884	0.704	0.00010	8851884
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8851884	<0.00010	0.00010	8851884
Dissolved Calcium (Ca)	mg/L	43.7	0.050	8850840	112	0.050	8850840
Dissolved Magnesium (Mg)	mg/L	14.6	0.050	8850840	32.6	0.050	8850840
Dissolved Potassium (K)	mg/L	0.979	0.050	8850840	0.799	0.050	8850840

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5509			SP5510		
Sampling Date		2017/11/29 11:35			2017/11/29 12:40		
COC Number		08448865			08448865		
	UNITS	W40	RDL	QC Batch	W71	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	2.18	0.050	8850840	0.911	0.050	8850840
Dissolved Sulphur (S)	mg/L	13.4	3.0	8850840	43.8	3.0	8850840
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.0851	0.0030	8852593	0.00264	0.00050	8851698
Total Antimony (Sb)	mg/L	0.000084	0.000020	8852593	0.000510	0.000020	8851698
Total Arsenic (As)	mg/L	0.000289	0.000020	8852593	0.000290	0.000020	8851698
Total Barium (Ba)	mg/L	0.0897	0.000050	8852593	0.0673	0.000020	8851698
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8852593	<0.000010	0.000010	8851698
Total Bismuth (Bi)	mg/L	<0.000010	0.000010	8852593	<0.0000050	0.0000050	8851698
Total Boron (B)	mg/L	<0.010	0.010	8852593	<0.010	0.010	8851698
Total Cadmium (Cd)	mg/L	0.0000481	0.0000050	8852593	0.00236	0.0000050	8851698
Total Chromium (Cr)	mg/L	0.00087	0.00010	8852593	<0.00010	0.00010	8851698
Total Cobalt (Co)	mg/L	0.000159	0.000010	8852593	0.0000144	0.0000050	8851698
Total Copper (Cu)	mg/L	0.00089	0.00010	8852593	0.000467	0.000050	8851698
Total Iron (Fe)	mg/L	0.205	0.0050	8852593	0.0073	0.0010	8851698
Total Lead (Pb)	mg/L	0.000186	0.000020	8852593	0.0000054	0.0000050	8851698
Total Lithium (Li)	mg/L	0.00247	0.00050	8852593	0.00308	0.00050	8851698
Total Manganese (Mn)	mg/L	0.0251	0.00010	8852593	0.00210	0.000050	8851698
Total Molybdenum (Mo)	mg/L	0.000802	0.000050	8852593	0.00455	0.000050	8851698
Total Nickel (Ni)	mg/L	0.00152	0.00010	8852593	0.0297	0.000020	8851698
Total Phosphorus (P)	mg/L	0.0203	0.0050	8852593	0.0124	0.0020	8851698
Total Selenium (Se)	mg/L	0.000949	0.000040	8852593	0.00860	0.000040	8851698
Total Silicon (Si)	mg/L	4.91	0.050	8852593	4.43	0.050	8851698
Total Silver (Ag)	mg/L	<0.000010	0.000010	8852593	<0.0000050	0.0000050	8851698
Total Strontium (Sr)	mg/L	0.215	0.000050	8852593	0.330	0.000050	8851698
Total Thallium (Tl)	mg/L	0.0000045	0.0000020	8852593	0.0000021	0.0000020	8851698
Total Tin (Sn)	mg/L	<0.00020	0.00020	8852593	<0.00020	0.00020	8851698
Total Titanium (Ti)	mg/L	0.0021	0.0020	8852593	<0.00050	0.00050	8851698
Total Uranium (U)	mg/L	0.00170	0.0000050	8852593	0.0114	0.0000020	8851698
Total Vanadium (V)	mg/L	0.00026	0.00020	8852593	0.00023	0.00020	8851698
Total Zinc (Zn)	mg/L	0.0112	0.0010	8852593	0.683	0.00010	8851698
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8852593	<0.00010	0.00010	8851698
Total Calcium (Ca)	mg/L	43.9	0.25	8850843	115	0.050	8850843
Total Magnesium (Mg)	mg/L	15.2	0.25	8850843	33.8	0.050	8850843
Total Potassium (K)	mg/L	0.93	0.25	8850843	0.768	0.050	8850843

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5509			SP5510		
Sampling Date		2017/11/29 11:35			2017/11/29 12:40		
COC Number		08448865			08448865		
	UNITS	**W40**	**RDL**	**QC Batch**	**W71**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	2.21	0.25	8850843	0.940	0.050	8850843
Total Sulphur (S)	mg/L	13.7	3.0	8850843	48.1	3.0	8850843
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5511			SP5512	SP5513		
Sampling Date		2017/11/29 13:05			2017/11/29 13:50	2017/11/30 13:25		
COC Number		08448865			08448865	08448865		
	UNITS	W72	RDL	QC Batch	W73	W81	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	0.010	8857358	<0.010	<0.010	0.010	8857358
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00566	0.00050	8851884	0.00286	0.00214	0.00050	8851884
Dissolved Antimony (Sb)	mg/L	0.000167	0.000020	8851884	0.000116	0.000029	0.000020	8851884
Dissolved Arsenic (As)	mg/L	0.00126	0.000020	8851884	0.000189	0.000109	0.000020	8851884
Dissolved Barium (Ba)	mg/L	0.116	0.000020	8851884	0.0891	0.0543	0.000020	8851884
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8851884	<0.000010	<0.000010	0.000010	8851884
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8851884	<0.0000050	<0.0000050	0.0000050	8851884
Dissolved Boron (B)	mg/L	<0.010	0.010	8851884	<0.010	<0.010	0.010	8851884
Dissolved Cadmium (Cd)	mg/L	0.000295	0.0000050	8851884	0.0000101	0.0000362	0.0000050	8851884
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8851884	0.00032	0.00012	0.00010	8851884
Dissolved Cobalt (Co)	mg/L	0.0000855	0.0000050	8851884	0.0000124	0.0000187	0.0000050	8851884
Dissolved Copper (Cu)	mg/L	0.000371	0.000050	8851884	0.000506	0.000341	0.000050	8851884
Dissolved Iron (Fe)	mg/L	0.0499	0.0010	8851884	0.0115	0.0073	0.0010	8851884
Dissolved Lead (Pb)	mg/L	0.0000081	0.0000050	8851884	<0.0000050	<0.0000050	0.0000050	8851884
Dissolved Lithium (Li)	mg/L	0.00225	0.00050	8851884	0.00087	<0.00050	0.00050	8851884
Dissolved Manganese (Mn)	mg/L	0.197	0.000050	8851884	0.00541	0.00922	0.000050	8851884
Dissolved Molybdenum (Mo)	mg/L	0.00319	0.000050	8851884	0.000509	0.000367	0.000050	8851884
Dissolved Nickel (Ni)	mg/L	0.00417	0.000020	8851884	0.000708	0.000118	0.000020	8851884
Dissolved Phosphorus (P)	mg/L	0.0140	0.0020	8851884	0.0023	0.0036	0.0020	8851884
Dissolved Selenium (Se)	mg/L	0.00230	0.000040	8851884	0.00116	0.000633	0.000040	8851884
Dissolved Silicon (Si)	mg/L	4.87	0.050	8851884	4.39	3.16	0.050	8851884
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8851884	<0.0000050	<0.0000050	0.0000050	8851884
Dissolved Strontium (Sr)	mg/L	0.356	0.000050	8851884	0.160	0.0404	0.000050	8851884
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8851884	<0.0000020	<0.0000020	0.0000020	8851884
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8851884	<0.00020	<0.00020	0.00020	8851884
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8851884	<0.00050	<0.00050	0.00050	8851884
Dissolved Uranium (U)	mg/L	0.00224	0.0000020	8851884	0.000741	0.000208	0.0000020	8851884
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8851884	<0.00020	<0.00020	0.00020	8851884
Dissolved Zinc (Zn)	mg/L	0.0507	0.00010	8851884	0.00106	0.00185	0.00010	8851884
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8851884	<0.00010	<0.00010	0.00010	8851884
Dissolved Calcium (Ca)	mg/L	68.7	0.050	8850840	38.1	24.7	0.050	8850840
Dissolved Magnesium (Mg)	mg/L	23.6	0.050	8850840	11.6	2.16	0.050	8850840
Dissolved Potassium (K)	mg/L	0.873	0.050	8850840	0.349	0.460	0.050	8850840
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5511			SP5512	SP5513		
Sampling Date		2017/11/29 13:05			2017/11/29 13:50	2017/11/30 13:25		
COC Number		08448865			08448865	08448865		
	UNITS	W72	RDL	QC Batch	W73	W81	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	2.05	0.050	8850840	1.33	1.11	0.050	8850840
Dissolved Sulphur (S)	mg/L	23.1	3.0	8850840	8.9	3.7	3.0	8850840
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0328	0.0030	8852593	0.00730	0.0291	0.00050	8851698
Total Antimony (Sb)	mg/L	0.000183	0.000020	8852593	0.000114	0.000027	0.000020	8851698
Total Arsenic (As)	mg/L	0.00166	0.000020	8852593	0.000219	0.000124	0.000020	8851698
Total Barium (Ba)	mg/L	0.116	0.000050	8852593	0.0888	0.0542	0.000020	8851698
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8852593	<0.000010	<0.000010	0.000010	8851698
Total Bismuth (Bi)	mg/L	<0.000010	0.000010	8852593	<0.0000050	<0.0000050	0.0000050	8851698
Total Boron (B)	mg/L	<0.010	0.010	8852593	<0.010	<0.010	0.010	8851698
Total Cadmium (Cd)	mg/L	0.000463	0.0000050	8852593	0.0000112	0.0000455	0.0000050	8851698
Total Chromium (Cr)	mg/L	0.00014	0.00010	8852593	0.00036	0.00017	0.00010	8851698
Total Cobalt (Co)	mg/L	0.000139	0.000010	8852593	0.0000204	0.0000522	0.0000050	8851698
Total Copper (Cu)	mg/L	0.00060	0.00010	8852593	0.000568	0.000560	0.000050	8851698
Total Iron (Fe)	mg/L	0.198	0.0050	8852593	0.0431	0.0556	0.0010	8851698
Total Lead (Pb)	mg/L	0.000070	0.000020	8852593	0.0000098	0.0000162	0.0000050	8851698
Total Lithium (Li)	mg/L	0.00244	0.00050	8852593	0.00089	<0.00050	0.00050	8851698
Total Manganese (Mn)	mg/L	0.242	0.00010	8852593	0.0132	0.0129	0.000050	8851698
Total Molybdenum (Mo)	mg/L	0.00317	0.000050	8852593	0.000492	0.000366	0.000050	8851698
Total Nickel (Ni)	mg/L	0.00468	0.00010	8852593	0.000773	0.000187	0.000020	8851698
Total Phosphorus (P)	mg/L	0.0195	0.0050	8852593	0.0048	0.0088	0.0020	8851698
Total Selenium (Se)	mg/L	0.00235	0.000040	8852593	0.00119	0.000661	0.000040	8851698
Total Silicon (Si)	mg/L	5.17	0.050	8852593	4.75	3.27	0.050	8851698
Total Silver (Ag)	mg/L	<0.000010	0.000010	8852593	<0.0000050	<0.0000050	0.0000050	8851698
Total Strontium (Sr)	mg/L	0.338	0.000050	8852593	0.167	0.0405	0.000050	8851698
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8852593	<0.0000020	<0.0000020	0.0000020	8851698
Total Tin (Sn)	mg/L	<0.00020	0.00020	8852593	<0.00020	<0.00020	0.00020	8851698
Total Titanium (Ti)	mg/L	<0.0020	0.0020	8852593	<0.00050	0.00132	0.00050	8851698
Total Uranium (U)	mg/L	0.00220	0.0000050	8852593	0.000745	0.000211	0.0000020	8851698
Total Vanadium (V)	mg/L	<0.00020	0.00020	8852593	<0.00020	0.00021	0.00020	8851698
Total Zinc (Zn)	mg/L	0.0562	0.0010	8852593	0.00070	0.00240	0.00010	8851698
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8852593	<0.00010	<0.00010	0.00010	8851698
Total Calcium (Ca)	mg/L	70.7	0.25	8850843	39.8	25.3	0.050	8850843
Total Magnesium (Mg)	mg/L	25.1	0.25	8850843	12.1	2.36	0.050	8850843
Total Potassium (K)	mg/L	0.85	0.25	8850843	0.337	0.461	0.050	8850843
RDL = Reportable Detection Limit								

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Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5511			SP5512	SP5513		
Sampling Date		2017/11/29 13:05			2017/11/29 13:50	2017/11/30 13:25		
COC Number		08448865			08448865	08448865		
	UNITS	**W72**	**RDL**	**QC Batch**	**W73**	**W81**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	2.20	0.25	8850843	1.37	1.19	0.050	8850843
Total Sulphur (S)	mg/L	24.8	3.0	8850843	8.8	4.0	3.0	8850843
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5514			SP5515		
Sampling Date		2017/11/30			2017/11/30 16:10		
COC Number		08448865			08448865		
	UNITS	DUP	RDL	QC Batch	FIELD BLANKS	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	<0.050	0.050	8857358	<0.010	0.010	8857358
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	mg/L	0.00185	0.00050	8851884			
Dissolved Antimony (Sb)	mg/L	0.000262	0.000020	8851884			
Dissolved Arsenic (As)	mg/L	0.00406	0.000020	8851884			
Dissolved Barium (Ba)	mg/L	0.0262	0.000020	8851884			
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8851884			
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8851884			
Dissolved Boron (B)	mg/L	0.015	0.010	8851884			
Dissolved Cadmium (Cd)	mg/L	0.000479	0.0000050	8851884			
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8851884			
Dissolved Cobalt (Co)	mg/L	0.00363	0.0000050	8851884			
Dissolved Copper (Cu)	mg/L	<0.000050	0.000050	8851884			
Dissolved Iron (Fe)	mg/L	8.05	0.0010	8851884			
Dissolved Lead (Pb)	mg/L	0.0000353	0.0000050	8851884			
Dissolved Lithium (Li)	mg/L	0.0125	0.00050	8851884			
Dissolved Manganese (Mn)	mg/L	1.09	0.000050	8851884			
Dissolved Molybdenum (Mo)	mg/L	0.0107	0.000050	8851884			
Dissolved Nickel (Ni)	mg/L	0.0151	0.000020	8851884			
Dissolved Phosphorus (P)	mg/L	0.0113	0.0020	8851884			
Dissolved Selenium (Se)	mg/L	0.00115	0.000040	8851884			
Dissolved Silicon (Si)	mg/L	3.87	0.050	8851884			
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8851884			
Dissolved Strontium (Sr)	mg/L	1.29	0.000050	8851884			
Dissolved Thallium (Tl)	mg/L	0.000238	0.0000020	8851884			
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8851884			
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8851884			
Dissolved Uranium (U)	mg/L	0.00313	0.0000020	8851884			
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8851884			
Dissolved Zinc (Zn)	mg/L	0.214	0.00010	8851884			
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8851884			
Dissolved Calcium (Ca)	mg/L	171	0.050	8850840			
Dissolved Magnesium (Mg)	mg/L	21.4	0.050	8850840			
Dissolved Potassium (K)	mg/L	25.4	0.050	8850840			

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5514			SP5515		
Sampling Date		2017/11/30			2017/11/30 16:10		
COC Number		08448865			08448865		
	UNITS	DUP	RDL	QC Batch	FIELD BLANKS	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	51.3	0.050	8850840			
Dissolved Sulphur (S)	mg/L	187	3.0	8850840			
Total Metals by ICPMS							
Total Aluminum (Al)	mg/L	0.00879	0.00050	8851698	0.00240	0.00050	8859767
Total Antimony (Sb)	mg/L	0.000960	0.000020	8851698	<0.000020	0.000020	8851698
Total Arsenic (As)	mg/L	0.00690	0.000020	8851698	<0.000020	0.000020	8851698
Total Barium (Ba)	mg/L	0.0267	0.000020	8851698	0.000039	0.000020	8851698
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8851698	<0.000010	0.000010	8851698
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8851698	<0.0000050	0.0000050	8851698
Total Boron (B)	mg/L	0.017	0.010	8851698	<0.010	0.010	8851698
Total Cadmium (Cd)	mg/L	0.00154	0.0000050	8851698	<0.0000050	0.0000050	8851698
Total Chromium (Cr)	mg/L	<0.00010	0.00010	8851698	<0.00010	0.00010	8851698
Total Cobalt (Co)	mg/L	0.00367	0.0000050	8851698	<0.0000050	0.0000050	8851698
Total Copper (Cu)	mg/L	0.000389	0.000050	8851698	<0.000050	0.000050	8851698
Total Iron (Fe)	mg/L	9.06	0.0010	8851698	0.0029	0.0010	8859767
Total Lead (Pb)	mg/L	0.00137	0.0000050	8851698	0.0000058	0.0000050	8851698
Total Lithium (Li)	mg/L	0.0134	0.00050	8851698	<0.00050	0.00050	8851698
Total Manganese (Mn)	mg/L	1.08	0.000050	8851698	0.000109	0.000050	8851698
Total Molybdenum (Mo)	mg/L	0.0108	0.000050	8851698	<0.000050	0.000050	8851698
Total Nickel (Ni)	mg/L	0.0150	0.000020	8851698	0.000027	0.000020	8851698
Total Phosphorus (P)	mg/L	0.0167	0.0020	8851698	<0.0020	0.0020	8851698
Total Selenium (Se)	mg/L	0.00128	0.000040	8851698	<0.000040	0.000040	8851698
Total Silicon (Si)	mg/L	4.21	0.050	8851698	<0.050	0.050	8851698
Total Silver (Ag)	mg/L	0.0000073	0.0000050	8851698	<0.0000050	0.0000050	8851698
Total Strontium (Sr)	mg/L	1.28	0.000050	8851698	<0.000050	0.000050	8851698
Total Thallium (Tl)	mg/L	0.000252	0.0000020	8851698	<0.0000020	0.0000020	8851698
Total Tin (Sn)	mg/L	<0.00020	0.00020	8851698	<0.00020	0.00020	8851698
Total Titanium (Ti)	mg/L	<0.00050	0.00050	8851698	<0.00050	0.00050	8851698
Total Uranium (U)	mg/L	0.00319	0.0000020	8851698	<0.0000020	0.0000020	8851698
Total Vanadium (V)	mg/L	<0.00020	0.00020	8851698	<0.00020	0.00020	8851698
Total Zinc (Zn)	mg/L	0.306	0.00010	8851698	0.00019	0.00010	8851698
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8851698	<0.00010	0.00010	8851698
Total Calcium (Ca)	mg/L	177	0.050	8850843	<0.050	0.050	8850843
Total Magnesium (Mg)	mg/L	23.0	0.050	8850843	<0.050	0.050	8850843
Total Potassium (K)	mg/L	25.0	0.050	8850843	<0.050	0.050	8850843
RDL = Reportable Detection Limit							

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Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5514			SP5515		
Sampling Date		2017/11/30			2017/11/30 16:10		
COC Number		08448865			08448865		
	UNITS	**DUP**	**RDL**	**QC Batch**	**FIELD BLANKS**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	54.6	0.050	8850843	<0.050	0.050	8850843
Total Sulphur (S)	mg/L	201	3.0	8850843	<3.0	3.0	8850843
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5516		
Sampling Date		2017/11/30		
COC Number		08448865		
	UNITS	TRIP BLANK	RDL	QC Batch
ANIONS				
Bromide (Br)	mg/L	<0.010	0.010	8857358
Dissolved Metals by ICPMS				
Dissolved Aluminum (Al)	mg/L	<0.00050	0.00050	8851884
Dissolved Antimony (Sb)	mg/L	<0.000020	0.000020	8851884
Dissolved Arsenic (As)	mg/L	<0.000020	0.000020	8851884
Dissolved Barium (Ba)	mg/L	<0.000020	0.000020	8851884
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8851884
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8851884
Dissolved Boron (B)	mg/L	<0.010	0.010	8851884
Dissolved Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8851884
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8851884
Dissolved Cobalt (Co)	mg/L	<0.0000050	0.0000050	8851884
Dissolved Copper (Cu)	mg/L	<0.000050	0.000050	8851884
Dissolved Iron (Fe)	mg/L	<0.0010	0.0010	8851884
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	8851884
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	8851884
Dissolved Manganese (Mn)	mg/L	<0.000050	0.000050	8851884
Dissolved Molybdenum (Mo)	mg/L	<0.000050	0.000050	8851884
Dissolved Nickel (Ni)	mg/L	<0.000020	0.000020	8851884
Dissolved Phosphorus (P)	mg/L	<0.0020	0.0020	8851884
Dissolved Selenium (Se)	mg/L	<0.000040	0.000040	8851884
Dissolved Silicon (Si)	mg/L	<0.050	0.050	8851884
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8851884
Dissolved Strontium (Sr)	mg/L	<0.000050	0.000050	8851884
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8851884
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8851884
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8851884
Dissolved Uranium (U)	mg/L	<0.0000020	0.0000020	8851884
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8851884
Dissolved Zinc (Zn)	mg/L	<0.00010	0.00010	8851884
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8851884
Dissolved Calcium (Ca)	mg/L	<0.050	0.050	8850840
Dissolved Magnesium (Mg)	mg/L	<0.050	0.050	8850840
Dissolved Potassium (K)	mg/L	<0.050	0.050	8850840
RDL = Reportable Detection Limit				

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5516		
Sampling Date		2017/11/30		
COC Number		08448865		
	UNITS	TRIP BLANK	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	<0.050	0.050	8850840
Dissolved Sulphur (S)	mg/L	<3.0	3.0	8850840
Total Metals by ICPMS				
Total Aluminum (Al)	mg/L	<0.00050	0.00050	8851698
Total Antimony (Sb)	mg/L	<0.000020	0.000020	8851698
Total Arsenic (As)	mg/L	<0.000020	0.000020	8851698
Total Barium (Ba)	mg/L	<0.000020	0.000020	8851698
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8851698
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8851698
Total Boron (B)	mg/L	<0.010	0.010	8851698
Total Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8851698
Total Chromium (Cr)	mg/L	<0.00010	0.00010	8851698
Total Cobalt (Co)	mg/L	<0.0000050	0.0000050	8851698
Total Copper (Cu)	mg/L	<0.000050	0.000050	8851698
Total Iron (Fe)	mg/L	<0.0010	0.0010	8851698
Total Lead (Pb)	mg/L	<0.0000050	0.0000050	8851698
Total Lithium (Li)	mg/L	<0.00050	0.00050	8851698
Total Manganese (Mn)	mg/L	<0.000050	0.000050	8851698
Total Molybdenum (Mo)	mg/L	<0.000050	0.000050	8851698
Total Nickel (Ni)	mg/L	<0.000020	0.000020	8851698
Total Phosphorus (P)	mg/L	<0.0020	0.0020	8851698
Total Selenium (Se)	mg/L	<0.000040	0.000040	8851698
Total Silicon (Si)	mg/L	<0.050	0.050	8851698
Total Silver (Ag)	mg/L	<0.0000050	0.0000050	8851698
Total Strontium (Sr)	mg/L	<0.000050	0.000050	8851698
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8851698
Total Tin (Sn)	mg/L	<0.00020	0.00020	8851698
Total Titanium (Ti)	mg/L	<0.00050	0.00050	8851698
Total Uranium (U)	mg/L	<0.0000020	0.0000020	8851698
Total Vanadium (V)	mg/L	<0.00020	0.00020	8851698
Total Zinc (Zn)	mg/L	<0.00010	0.00010	8851698
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8851698
Total Calcium (Ca)	mg/L	<0.050	0.050	8850843
Total Magnesium (Mg)	mg/L	<0.050	0.050	8850843
Total Potassium (K)	mg/L	<0.050	0.050	8850843
RDL = Reportable Detection Limit				

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Maxxam Job #: B7A7383
Report Date: 2017/12/15

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP5516		
Sampling Date		2017/11/30		
COC Number		08448865		
	UNITS	**TRIP BLANK**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	<0.050	0.050	8850843
Total Sulphur (S)	mg/L	<3.0	3.0	8850843
RDL = Reportable Detection Limit				

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.3°C
Package 2	0.7°C
Package 3	1.0°C

Sample SP5503 [T1] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP5504 [PORTAL] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP5505 [W15] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample received past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample analyzed past method specified hold time for Ammonia-N (Unpreserved). Sample received past method specified hold time for Ammonia-N (Unpreserved). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample analyzed past method specified hold time for Total Phosphorus - Low Level Unpreserved. Sample received past method specified hold time for Total Phosphorus - Low Level Unpreserved. Sample analyzed past method specified hold time for Carbon (DOC) - unfiltered/unpreserved . Sample received past method specified hold time for Carbon (DOC) - unfiltered/unpreserved .

Sample SP5506 [W16] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP5507 [W21] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP5508 [W22] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Orthophosphate greater than total. Reanalysis yields similar results.

Sample SP5509 [W40] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results

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are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). OrthoPhosphate greater than total. Reanalysis yields similar results.

Sample SP5510 [W71] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP5511 [W72] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP5512 [W73] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Orthophosphate greater than total. Reanalysis yields similar results.

Sample SP5513 [W81] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP5514 [DUP] : Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample was analyzed past method specified hold time for Turbidity. Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP5515 [FIELD BLANKS] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Turbidity. Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample received past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level). Sample analyzed past method specified hold time for Carbon (DOC) - unfiltered/unpreserved . Sample received past method specified hold time for Carbon (DOC) - unfiltered/unpreserved .

Sample SP5516 [TRIP BLANK] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample received past method specified hold time for Orthophosphate by Konelab (low level). Sample received past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample received past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample received past method specified hold time for Nitrite (N) (low level).

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER) Comments

Sample SP5503 [T1] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample SP5503 [T1] Elements by ICPMS Low Level (dissolved): RDL raised due to concentration over linear range, sample dilution required.
Sample SP5503 [T1] Elements by ICPMS Low Level (total): RDL raised due to concentration over linear range, sample dilution required.
Sample SP5504 [PORTAL] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample SP5514 [DUP] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample SP5515, Elements by ICPMS Low Level (total): Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B7A7383
Report Date: 2017/12/15

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8851669	Turbidity	2017/12/04			100	80 - 120	<0.10	NTU	NC	20
8851698	Total Aluminum (Al)	2017/12/08	106	80 - 120	106	80 - 120	<0.00050	mg/L	4.6	20
8851698	Total Antimony (Sb)	2017/12/08	103	80 - 120	103	80 - 120	<0.000020	mg/L	1.4	20
8851698	Total Arsenic (As)	2017/12/08	109	80 - 120	102	80 - 120	<0.000020	mg/L	3.0	20
8851698	Total Barium (Ba)	2017/12/08	NC	80 - 120	102	80 - 120	<0.000020	mg/L	0.64	20
8851698	Total Beryllium (Be)	2017/12/08	104	80 - 120	102	80 - 120	<0.000010	mg/L	NC	20
8851698	Total Bismuth (Bi)	2017/12/08	96	80 - 120	99	80 - 120	<0.0000050	mg/L	NC	20
8851698	Total Boron (B)	2017/12/08	104	80 - 120	106	80 - 120	<0.010	mg/L	NC	20
8851698	Total Cadmium (Cd)	2017/12/08	101	80 - 120	100	80 - 120	<0.0000050	mg/L	0.73	20
8851698	Total Chromium (Cr)	2017/12/08	96	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20
8851698	Total Cobalt (Co)	2017/12/08	96	80 - 120	100	80 - 120	<0.0000050	mg/L	8.0	20
8851698	Total Copper (Cu)	2017/12/08	90	80 - 120	96	80 - 120	<0.000050	mg/L	1.7	20
8851698	Total Iron (Fe)	2017/12/08	101	80 - 120	100	80 - 120	<0.0010	mg/L	1.2	20
8851698	Total Lead (Pb)	2017/12/08	97	80 - 120	99	80 - 120	<0.0000050	mg/L	7.7	20
8851698	Total Lithium (Li)	2017/12/08	106	80 - 120	100	80 - 120	<0.00050	mg/L	1.6	20
8851698	Total Manganese (Mn)	2017/12/08	98	80 - 120	102	80 - 120	<0.000050	mg/L	3.0	20
8851698	Total Molybdenum (Mo)	2017/12/08	NC	80 - 120	106	80 - 120	<0.000050	mg/L	1.7	20
8851698	Total Nickel (Ni)	2017/12/08	NC	80 - 120	101	80 - 120	<0.000020	mg/L	2.0	20
8851698	Total Phosphorus (P)	2017/12/08					<0.0020	mg/L	15	20
8851698	Total Selenium (Se)	2017/12/08	103	80 - 120	99	80 - 120	<0.000040	mg/L	3.5	20
8851698	Total Silicon (Si)	2017/12/08					<0.050	mg/L	0.17	20
8851698	Total Silver (Ag)	2017/12/08	107	80 - 120	108	80 - 120	<0.0000050	mg/L	NC	20
8851698	Total Strontium (Sr)	2017/12/08	NC	80 - 120	100	80 - 120	<0.000050	mg/L	2.8	20
8851698	Total Thallium (Tl)	2017/12/08	98	80 - 120	98	80 - 120	<0.0000020	mg/L	0	20
8851698	Total Tin (Sn)	2017/12/08	105	80 - 120	102	80 - 120	<0.00020	mg/L	NC	20
8851698	Total Titanium (Ti)	2017/12/08	99	80 - 120	104	80 - 120	<0.00050	mg/L	NC	20
8851698	Total Uranium (U)	2017/12/08	NC	80 - 120	95	80 - 120	<0.0000020	mg/L	1.8	20
8851698	Total Vanadium (V)	2017/12/08	101	80 - 120	102	80 - 120	<0.00020	mg/L	1.9	20
8851698	Total Zinc (Zn)	2017/12/08	NC	80 - 120	99	80 - 120	<0.00010	mg/L	1.9	20
8851698	Total Zirconium (Zr)	2017/12/08	107	80 - 120	100	80 - 120	<0.00010	mg/L	NC	20
8851712	Total Suspended Solids	2017/12/05	95	80 - 120	98	80 - 120	<4.0	mg/L	NC	20
8851884	Dissolved Aluminum (Al)	2017/12/09	98	80 - 120	102	80 - 120	<0.00050	mg/L	1.3	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8851884	Dissolved Antimony (Sb)	2017/12/09	101	80 - 120	101	80 - 120	<0.000020	mg/L	NC	20
8851884	Dissolved Arsenic (As)	2017/12/09	104	80 - 120	103	80 - 120	<0.000020	mg/L	1.9	20
8851884	Dissolved Barium (Ba)	2017/12/09	NC	80 - 120	101	80 - 120	<0.000020	mg/L	0.98	20
8851884	Dissolved Beryllium (Be)	2017/12/09	93	80 - 120	96	80 - 120	<0.000010	mg/L	NC	20
8851884	Dissolved Bismuth (Bi)	2017/12/09	95	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8851884	Dissolved Boron (B)	2017/12/09	94	80 - 120	101	80 - 120	<0.010	mg/L	1.5	20
8851884	Dissolved Cadmium (Cd)	2017/12/09	98	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8851884	Dissolved Chromium (Cr)	2017/12/09	97	80 - 120	100	80 - 120	<0.00010	mg/L	1.9	20
8851884	Dissolved Cobalt (Co)	2017/12/09	92	80 - 120	98	80 - 120	<0.0000050	mg/L	0.47	20
8851884	Dissolved Copper (Cu)	2017/12/09	93	80 - 120	99	80 - 120	<0.000050	mg/L	3.3	20
8851884	Dissolved Iron (Fe)	2017/12/09	NC	80 - 120	102	80 - 120	<0.0010	mg/L	2.3	20
8851884	Dissolved Lead (Pb)	2017/12/09	95	80 - 120	98	80 - 120	<0.0000050	mg/L	NC	20
8851884	Dissolved Lithium (Li)	2017/12/09	95	80 - 120	94	80 - 120	<0.00050	mg/L	1.0	20
8851884	Dissolved Manganese (Mn)	2017/12/09	NC	80 - 120	100	80 - 120	<0.000050	mg/L	1.2	20
8851884	Dissolved Molybdenum (Mo)	2017/12/09	108	80 - 120	103	80 - 120	<0.000050	mg/L	9.8	20
8851884	Dissolved Nickel (Ni)	2017/12/09	93	80 - 120	100	80 - 120	<0.000020	mg/L	0.027	20
8851884	Dissolved Phosphorus (P)	2017/12/09					<0.0020	mg/L		
8851884	Dissolved Selenium (Se)	2017/12/09	98	80 - 120	99	80 - 120	<0.000040	mg/L	3.9	20
8851884	Dissolved Silicon (Si)	2017/12/09					<0.050	mg/L	4.3	20
8851884	Dissolved Silver (Ag)	2017/12/09	105	80 - 120	106	80 - 120	<0.0000050	mg/L	NC	20
8851884	Dissolved Strontium (Sr)	2017/12/09	NC	80 - 120	102	80 - 120	<0.000050	mg/L	0.15	20
8851884	Dissolved Thallium (Tl)	2017/12/09	98	80 - 120	98	80 - 120	<0.0000020	mg/L	NC	20
8851884	Dissolved Tin (Sn)	2017/12/09	97	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8851884	Dissolved Titanium (Ti)	2017/12/09	101	80 - 120	98	80 - 120	<0.00050	mg/L	NC	20
8851884	Dissolved Uranium (U)	2017/12/09	95	80 - 120	94	80 - 120	<0.0000020	mg/L	1.6	20
8851884	Dissolved Vanadium (V)	2017/12/09	100	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8851884	Dissolved Zinc (Zn)	2017/12/09	90	80 - 120	96	80 - 120	<0.00010	mg/L	0.48	20
8851884	Dissolved Zirconium (Zr)	2017/12/09	101	80 - 120	100	80 - 120	<0.00010	mg/L	3.9	20
8852338	Orthophosphate (P)	2017/12/05	101	80 - 120	94	80 - 120	<0.0010	mg/L	1.8	20
8852460	Dissolved Phosphorus (P)	2017/12/05	109	80 - 120	100	80 - 120	<0.0020	mg/L	5.3	20
8852524	Total Ammonia (N)	2017/12/05	94	80 - 120	99	80 - 120	<0.020	mg/L	NC	20
8852580	Total Dissolved Solids	2017/12/06	100	80 - 120	101	80 - 120	<10	mg/L	1.4	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8852589	pH	2017/12/05			101	97 - 103			0.38	20
8852592	Total Dissolved Solids	2017/12/06	100	80 - 120	104	80 - 120	<10	mg/L	5.1	20
8852593	Total Aluminum (Al)	2017/12/08	113	80 - 120	111	80 - 120	<0.0030	mg/L	4.3	20
8852593	Total Antimony (Sb)	2017/12/08	100	80 - 120	105	80 - 120	<0.000020	mg/L	NC	20
8852593	Total Arsenic (As)	2017/12/08	108	80 - 120	103	80 - 120	<0.000020	mg/L	1.5	20
8852593	Total Barium (Ba)	2017/12/08	NC	80 - 120	103	80 - 120	<0.000050	mg/L	0.39	20
8852593	Total Beryllium (Be)	2017/12/08	104	80 - 120	105	80 - 120	<0.000010	mg/L	5.8	20
8852593	Total Bismuth (Bi)	2017/12/08	95	80 - 120	100	80 - 120	<0.000010	mg/L	NC	20
8852593	Total Boron (B)	2017/12/08	106	80 - 120	110	80 - 120	<0.010	mg/L	0.39	20
8852593	Total Cadmium (Cd)	2017/12/08	103	80 - 120	103	80 - 120	<0.0000050	mg/L	NC	20
8852593	Total Chromium (Cr)	2017/12/08	102	80 - 120	103	80 - 120	<0.00010	mg/L	6.0	20
8852593	Total Cobalt (Co)	2017/12/08	100	80 - 120	104	80 - 120	<0.000010	mg/L	0.29	20
8852593	Total Copper (Cu)	2017/12/08	95	80 - 120	101	80 - 120	<0.00010	mg/L	0.34	20
8852593	Total Iron (Fe)	2017/12/08	NC	80 - 120	106	80 - 120	<0.0050	mg/L	0.71	20
8852593	Total Lead (Pb)	2017/12/08	97	80 - 120	101	80 - 120	<0.000020	mg/L	13	20
8852593	Total Lithium (Li)	2017/12/08	107	80 - 120	99	80 - 120	<0.00050	mg/L	0.41	20
8852593	Total Manganese (Mn)	2017/12/08	NC	80 - 120	105	80 - 120	<0.00010	mg/L	0.34	20
8852593	Total Molybdenum (Mo)	2017/12/08	113	80 - 120	110	80 - 120	<0.000050	mg/L	NC	20
8852593	Total Nickel (Ni)	2017/12/08	99	80 - 120	105	80 - 120	<0.00010	mg/L	7.5	20
8852593	Total Phosphorus (P)	2017/12/08					<0.0050	mg/L		
8852593	Total Selenium (Se)	2017/12/08	106	80 - 120	102	80 - 120	<0.000040	mg/L	3.9	20
8852593	Total Silicon (Si)	2017/12/08					<0.050	mg/L	0.75	20
8852593	Total Silver (Ag)	2017/12/08	109	80 - 120	110	80 - 120	<0.000010	mg/L	NC	20
8852593	Total Strontium (Sr)	2017/12/08	NC	80 - 120	102	80 - 120	<0.000050	mg/L	1.2	20
8852593	Total Thallium (Tl)	2017/12/08	99	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8852593	Total Tin (Sn)	2017/12/08	103	80 - 120	104	80 - 120	<0.00020	mg/L	NC	20
8852593	Total Titanium (Ti)	2017/12/08	106	80 - 120	111	80 - 120	<0.0020	mg/L	NC	20
8852593	Total Uranium (U)	2017/12/08	97	80 - 120	97	80 - 120	<0.0000050	mg/L	1.6	20
8852593	Total Vanadium (V)	2017/12/08	106	80 - 120	103	80 - 120	<0.00020	mg/L	6.4	20
8852593	Total Zinc (Zn)	2017/12/08	NC	80 - 120	103	80 - 120	<0.0010	mg/L	2.2	20
8852593	Total Zirconium (Zr)	2017/12/08	114	80 - 120	101	80 - 120	<0.00010	mg/L	0.93	20
8852594	Conductivity	2017/12/05			97	80 - 120	<2.0	uS/cm	0.21	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8852596	Alkalinity (PP as CaCO3)	2017/12/05					<1.0	mg/L	NC	20
8852596	Alkalinity (Total as CaCO3)	2017/12/05	NC	80 - 120	98	80 - 120	<1.0	mg/L	0.12	20
8852596	Bicarbonate (HCO3)	2017/12/05					<1.0	mg/L	0.12	20
8852596	Carbonate (CO3)	2017/12/05					<1.0	mg/L	NC	20
8852596	Hydroxide (OH)	2017/12/05					<1.0	mg/L	NC	20
8852631	pH	2017/12/05			101	97 - 103			0.24	20
8852650	Conductivity	2017/12/05			101	80 - 120	<2.0	uS/cm	2.8	20
8852652	Alkalinity (PP as CaCO3)	2017/12/05					<1.0	mg/L	NC	20
8852652	Alkalinity (Total as CaCO3)	2017/12/05	NC	80 - 120	104	80 - 120	<1.0	mg/L	0.23	20
8852652	Bicarbonate (HCO3)	2017/12/05					<1.0	mg/L	0.23	20
8852652	Carbonate (CO3)	2017/12/05					<1.0	mg/L	NC	20
8852652	Hydroxide (OH)	2017/12/05					<1.0	mg/L	NC	20
8852670	Fluoride (F)	2017/12/05	87	80 - 120	98	80 - 120	<0.020	mg/L	NC	20
8853048	Fluoride (F)	2017/12/05	85	80 - 120	96	80 - 120	<0.020	mg/L	0	20
8853122	Dissolved Chloride (Cl)	2017/12/05	NC	80 - 120	102	80 - 120	<1.0	mg/L	0.42	20
8853123	Dissolved Sulphate (SO4)	2017/12/05	NC	80 - 120	102	80 - 120	<1.0	mg/L	0.34	20
8853544	Dissolved Organic Carbon (C)	2017/12/06	100	80 - 120	109	80 - 120	<0.50	mg/L	1.1	20
8853698	Nitrate plus Nitrite (N)	2017/12/05	99	80 - 120	107	80 - 120	<0.0020	mg/L	0.064	25
8853699	Nitrite (N)	2017/12/05	99	80 - 120	100	80 - 120	<0.0020	mg/L	NC	25
8853843	Dissolved Phosphorus (P)	2017/12/06	85	80 - 120	91	80 - 120	<0.0020	mg/L	4.0	20
8853846	Total Phosphorus (P)	2017/12/13	83	80 - 120	91	80 - 120	<0.0020	mg/L	2.7	20
8853857	Total Phosphorus (P)	2017/12/06			94	80 - 120	<0.0020	mg/L		
8854273	Total Ammonia (N)	2017/12/06	NC	80 - 120	102	80 - 120	<0.020	mg/L	0.059	20
8854954	Total Mercury (Hg)	2017/12/07	102	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8854985	Dissolved Mercury (Hg)	2017/12/07	95	80 - 120	96	80 - 120	<0.010	ug/L	NC	20
8855396	Strong Acid Dissoc. Cyanide (CN)	2017/12/07	104	80 - 120	97	80 - 120	<0.00050	mg/L	NC	20
8855425	Weak Acid Dissoc. Cyanide (CN)	2017/12/07			97	80 - 120	<0.00050	mg/L		
8855446	Dissolved Mercury (Hg)	2017/12/07	101	80 - 120	97	80 - 120	<0.010	ug/L	NC	20
8855707	Acidity (pH 4.5)	2017/12/07					<1.0	mg/L	NC	20
8855707	Acidity (pH 8.3)	2017/12/07			103	80 - 120	<1.0	mg/L	NC	20
8855713	Acidity (pH 4.5)	2017/12/07					<1.0	mg/L		
8855713	Acidity (pH 8.3)	2017/12/07			105	80 - 120	<1.0	mg/L		

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8856345	Dissolved Organic Carbon (C)	2017/12/08	106	80 - 120	113	80 - 120	<0.50	mg/L	17	20
8856346	Dissolved Organic Carbon (C)	2017/12/08	111	80 - 120	109	80 - 120	<0.50	mg/L	0	20
8857164	Acidity (pH 4.5)	2017/12/08					<1.0	mg/L	NC	20
8857164	Acidity (pH 8.3)	2017/12/08			103	80 - 120	<1.0	mg/L	NC	20
8857283	Total Phosphorus (P)	2017/12/08			98	80 - 120	<0.0020	mg/L		
8857298	Total Phosphorus (P)	2017/12/08	83	80 - 120	91	80 - 120	<0.0020	mg/L	NC	20
8857358	Bromide (Br)	2017/12/09	106	78 - 120	97	80 - 120	<0.010	mg/L	0.92	20
8857976	Dissolved Thiosulphate	2017/12/12	91	80 - 120	100	80 - 120	<0.20	mg/L		
8859767	Total Aluminum (Al)	2017/12/12	104	80 - 120	107	80 - 120	<0.00050	mg/L	NC	20
8859767	Total Iron (Fe)	2017/12/12	102	80 - 120	103	80 - 120	<0.0010	mg/L	NC	20
8859942	Orthophosphate (P)	2017/12/12	104	80 - 120	93	80 - 120	<0.0010	mg/L	1.7	20
8860241	Dissolved Organic Carbon (C)	2017/12/12	105	80 - 120	111	80 - 120	<0.50	mg/L	NC	20
8861368	Dissolved Chloride (Cl)	2017/12/12	120	80 - 120	105	80 - 120	<1.0	mg/L	1.6	20
8861734	Dissolved Phosphorus (P)	2017/12/13			103	80 - 120	<0.0020	mg/L		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

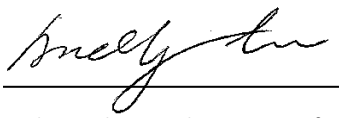
Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B7A7383
Report Date: 2017/12/15

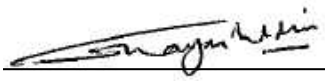
YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist



Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5, Toll Free (800) 665-8566

CHAIN OF CUSTODY RE

08448865

COC #: 30077/05 of 1

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required
Company Name:	Yukon Zinc Corporation	Company Name:		Quotation #:		☑ Regular TAT 5 days (Most analyses)
Contact Name:	Alex Wu	Contact Name:		P.O. #/ AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	705 - 1030 West Georgia Street	Address:		Project #:		Rush TAT (Surcharges will be applied)
	Vancouver PC: V6E 2Y3		PC:	Site Location:		☐ Same Day ☐ 2 Days
Phone:	604-684-5474	Phone:		Site #:		☐ 1 Day ☐ 3 Days
Email:	alex.wu@yukonzinc.com	Email:	YZC Group	Sampled By:		Date Required:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water	☐ Return Cooler
☐ CCME (Specify) ☐ Other (Specify)	☐ Ship Sample Bottles (Please Specify)
☐ Drinking Water ☐ BC Water Quality	

Rush Confirmation #:

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	VOC/VHr	MTBE	TEH	LEPH/HEPH	F2-F4	PHC-FHC	BTEX/VPH	EPH	PAH	CCME-FHC	Preserved?	Filtered?	Dissolved Metals	Preserved?	Filtered?	Dissolved Metals	Field Preserved?	Total Metals	Field Preserved?	Total Mercury	Sulphide	Fluoride	Chloride	COD	TDS	Alkalinity	Conductivity	pH	Ammonia	Nitrate	Nitrite	Package A	Total Phosphate and Ammonia	DOC	Total and WAD Cyanide	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYSE	LABORATORY USE ONLY: CUSTODY SEAL Y / N (Present / Intact); COOLER TEMPERATURES	COMMENTS
	Bottle															60 mL Yellow tube			60 mL Yellow tube																		120mL plastic	1 L plastic + 120 mL	120 mL plastic	120 mL plastic	120 mL plastic				
	Preservative															HNO3			HNO3																		HNO3	-	HNO3	H2SO4	NaOH				
	Filtered															✓	✓	-																		-	-	-	-	-				
1	T1		30/11/2017	9:45	Water											X	X	X	X																	X	X	X	X	X	12			Thiosulphate collected at 16:30 hrs at T1
2	Portal		30/11/2017	10:35	Water											X	X	X	X																	X	X	X	X	X	12			
3	W15		30/11/2017	14:05	Water											X	X	X	X																	X	X	X	X	X	12			Accidentally added HNO3 to the 120 mL plastic yellow bottle and 120mL plastic purple bottle
4	W16		30/11/2017	13:50	Water											X	X	X	X																	X	X	X	X	X	12			
5	W21		29/11/2017	10:00	Water											X	X	X	X																	X	X	X	X	X	12			
6	W22		29/11/2017	11:15	Water											X	X	X	X																	X	X	X	X	X	12			
7	W40		29/11/2017	11:35	Water											X	X	X	X																	X	X	X	X	X	12			
8	W71		29/11/2017	12:40	Water											X	X	X	X																	X	X	X	X	X	12			
9	W72		29/11/2017	13:05	Water											X	X	X	X																	X	X	X	X	X	12			
10	W73		29/11/2017	13:50	Water											X	X	X	X																	X	X	X	X	X	12			
11	W81		30/11/2017	13:25	Water											X	X	X	X																	X	X	X	X	X	12			
12	QUAL DUP		30/11/2017		Water											X	X	X	X																	X	X	X	X	X	12			
13	FIELD BLANKS		30/11/2017	16:10	Water																			X	X											X	X	X	X	X	7			
14	TRIP BLANK		30/11/2017		Water											X	X	X	X																	X	X	X	X	X	12			
15					Water																																							

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Billie Maje	17/12/01	830	Evelyn EVA SYCORA	2017/12/04	10:24

B7A7383_COC

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Your C.O.C. #: 08447101

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/12/18
Report #: R2493050
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7A7983
Received: 2017/12/04, 16:40

Sample Matrix: Water
Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	14	2017/12/07	2017/12/07	BBY6SOP-00037	SM 22 2310 B m
Acidity pH 4.5 & pH 8.3 (as CaCO3)	1	2017/12/07	2017/12/08	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	15	2017/12/06	2017/12/06	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	15	N/A	2017/12/06	BBY6SOP-00011	SM 22 4500-Cl- E m
Cyanide SAD (strong acid dissociable)	2	N/A	2017/12/07	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide SAD (strong acid dissociable)	13	N/A	2017/12/08	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide WAD (weak acid dissociable)	2	N/A	2017/12/07	BBY6SOP-00004	SM 22 4500-CN O m
Cyanide WAD (weak acid dissociable)	13	N/A	2017/12/08	BBY6SOP-00004	SM 22 4500-CN O m
Carbon (DOC) - field filtered/preserved (2)	12	N/A	2017/12/06	BBY6SOP-00003	SM 22 5310 C m
Carbon (DOC) - field filtered/preserved (2)	1	N/A	2017/12/07	BBY6SOP-00003	SM 22 5310 C m
Carbon (DOC) - unfiltered/unpreserved (2)	2	2017/12/06	2017/12/06	BBY6SOP-00003	SM 22 5310 C m
Conductance - water	15	2017/12/06	2017/12/06	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	5	N/A	2017/12/07	BBY6SOP-00048	SM 22 4500-F C m
Fluoride - Mining Clients	10	N/A	2017/12/08	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3) (3)	15	N/A	2017/12/07	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	13	N/A	2017/12/11	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	13	N/A	2017/12/08	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	15	2017/12/08	2017/12/08	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	15	N/A	2017/12/09	BBY7SOP-00002	EPA 6020B R2 m
Iodide, Thiosulphate, Thiocyanate (1)	1	N/A	2017/12/12	CAL SOP-00057	Dionex #034035 R09 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	13	N/A	2017/12/11	BBY WI-00033	Auto Calc
Elements by ICPMS Low Level (dissolved)	13	N/A	2017/12/09	BBY7SOP-00002	BCMOE BCLM Nov 2015
Na, K, Ca, Mg, S by CRC ICPMS (total)	15	N/A	2017/12/07	BBY WI-00033	Auto Calc
Elements by ICPMS Low Level (total)	15	N/A	2017/12/07	BBY7SOP-00003,	BCMOE BCLM Nov 2015
Ammonia-N (Preserved)	14	N/A	2017/12/07	BBY6SOP-00009	EPA 350.1 m
Ammonia-N (Preserved)	1	N/A	2017/12/12	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	15	N/A	2017/12/06	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	15	N/A	2017/12/06	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	15	N/A	2017/12/07	BBY WI-00033	Auto Calc

Your C.O.C. #: 08447101

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/12/18
Report #: R2493050
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7A7983
Received: 2017/12/04, 16:40

Sample Matrix: Water
Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Filter and HNO3 Preserve for Metals	12	N/A	2017/12/06	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (4)	15	2017/12/06	2017/12/06	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	15	N/A	2017/12/06	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	15	N/A	2017/12/06	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	15	2017/12/06	2017/12/07	BBY6SOP-00033	SM 22 2540 C m
Phosphorus-P (LL Tot, dissolved) - FF/FP	13	2017/12/06	2017/12/06	BBY6SOP-00013	SM 22 4500-P E m
Phosphorus-P (LL Tot, dissolved) - UF/UP	2	2017/12/06	2017/12/06	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	14	N/A	2017/12/06	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	1	N/A	2017/12/14	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	15	2017/12/06	2017/12/07	BBY6SOP-00034	SM 22 2540 D
Turbidity	15	N/A	2017/12/06	BBY6SOP-00027	SM 22 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your C.O.C. #: 08447101

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/12/18
Report #: R2493050
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7A7983

Received: 2017/12/04, 16:40

(1) This test was performed by Maxxam Calgary Environmental
(2) DOC present in the sample should be considered as non-purgeable DOC.
(3) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
(4) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP8726			SP8727			SP8728		
Sampling Date		2017/12/01 15:20			2017/12/01 13:55			2017/12/02 14:20		
COC Number		08447101			08447101			08447101		
	UNITS	T1	RDL	QC Batch	R1	RDL	QC Batch	PORTAL	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.160	0.020	8855730	0.042	0.020	8855730	0.230	0.020	8855730
Calculated Parameters										
Filter and HNO3 Preservation	N/A	FIELD		ONSITE	FIELD		ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	1080	0.50	8852062	120	0.50	8852062	518	0.50	8852062
Dissolved Hardness (CaCO3)	mg/L	1070	0.50	8852063	119	0.50	8852063	514	0.50	8852063
Nitrate (N)	mg/L	<0.20	0.20	8852775	0.26	0.20	8852775	<0.20	0.20	8852775
Misc. Inorganics										
Strong Acid Dissoc. Cyanide (CN)	mg/L	0.00253	0.00050	8855396	<0.00050	0.00050	8857121	0.00317	0.00050	8855396
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.00086	0.00050	8855425	<0.00050	0.00050	8857177	0.00095	0.00050	8855425
Dissolved Organic Carbon (C)	mg/L	16.0	0.50	8854035	0.74	0.50	8854035	1.33	0.50	8854035
Acidity (pH 4.5)	mg/L	4.8	1.0	8855713	<1.0	1.0	8855713	<1.0	1.0	8855713
Alkalinity (Total as CaCO3)	mg/L	<1.0	1.0	8854389	96.1	1.0	8854389	104	1.0	8854398
Acidity (pH 8.3)	mg/L	21.2	1.0	8855713	1.9	1.0	8855713	3.2	1.0	8855713
Alkalinity (PP as CaCO3)	mg/L	<1.0	1.0	8854389	<1.0	1.0	8854389	<1.0	1.0	8854398
Bicarbonate (HCO3)	mg/L	<1.0	1.0	8854389	117	1.0	8854389	127	1.0	8854398
Carbonate (CO3)	mg/L	<1.0	1.0	8854389	<1.0	1.0	8854389	<1.0	1.0	8854398
Hydroxide (OH)	mg/L	<1.0	1.0	8854389	<1.0	1.0	8854389	<1.0	1.0	8854398
Anions										
Orthophosphate (P)	mg/L	0.0027	0.0010	8853836	0.0092	0.0010	8853836	0.0023	0.0010	8853836
Dissolved Sulphate (SO4)	mg/L	1330 (1)	10	8854441	34.8	1.0	8854441	544 (1)	10	8854444
Dissolved Thiosulphate	mg/L	0.64	0.20	8857976						
Dissolved Chloride (Cl)	mg/L	120	1.0	8854438	<1.0	1.0	8854438	3.9	1.0	8854442
Nutrients										
Dissolved Phosphorus (P)	mg/L	0.0626	0.0020	8854090	0.0182	0.0020	8854082	0.0151	0.0020	8854090
Total Ammonia (N)	mg/L	0.49	0.020	8859595	<0.020	0.020	8855758	1.7	0.020	8855862
Nitrate plus Nitrite (N)	mg/L	<0.20 (2)	0.20	8854898	0.26 (2)	0.20	8854898	<0.20 (2)	0.20	8854902
Nitrite (N)	mg/L	<0.20 (2)	0.20	8854899	<0.20 (2)	0.20	8854899	<0.20 (2)	0.20	8854905
Total Phosphorus (P)	mg/L	0.0724	0.0020	8854084	0.0136	0.0020	8862739	0.0165	0.0020	8854084
Physical Properties										
Conductivity	uS/cm	2400	2.0	8854393	257	2.0	8854393	1260	2.0	8854401
pH	pH	4.00		8854391	7.79		8854391	7.81		8854399

RDL = Reportable Detection Limit
(1) Detection limits raised due to dilution to bring analyte within the calibrated range.
(2) RDL raised due to sample matrix interference.

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP8726			SP8727			SP8728		
Sampling Date		2017/12/01 15:20			2017/12/01 13:55			2017/12/02 14:20		
COC Number		08447101			08447101			08447101		
	UNITS	T1	RDL	QC Batch	R1	RDL	QC Batch	PORTAL	RDL	QC Batch
Physical Properties										
Total Suspended Solids	mg/L	<4.0	4.0	8853899	<4.0	4.0	8853899	17.3	4.0	8853899
Total Dissolved Solids	mg/L	2060	10	8854019	138	10	8854019	908	10	8854019
Turbidity	NTU	1.97	0.10	8854343	0.44	0.10	8854343	95.1	0.10	8854343
RDL = Reportable Detection Limit										

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP8729		SP8730		SP8731		
Sampling Date		2017/12/02 10:05		2017/12/02 10:35		2017/12/01 10:00		
COC Number		08447101		08447101		08447101		
	UNITS	W15	QC Batch	W16	QC Batch	W21	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.026	8855730	0.029	8855730	0.120	0.020	8856702
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	60.8	8852062	78.4	8852062	119	0.50	8852062
Dissolved Hardness (CaCO3)	mg/L	61.2	8852063	77.0	8852063	119	0.50	8852063
Nitrate (N)	mg/L	<0.20	8852775	<0.20	8852775	<0.20	0.20	8852775
Misc. Inorganics								
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8857121	<0.00050	8857121	<0.00050	0.00050	8857121
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8857177	<0.00050	8857177	<0.00050	0.00050	8857177
Dissolved Organic Carbon (C)	mg/L	1.09	8854035	1.18	8854035	2.93	0.50	8854035
Acidity (pH 4.5)	mg/L	<1.0	8855716	<1.0	8855713	<1.0	1.0	8855713
Alkalinity (Total as CaCO3)	mg/L	55.2	8854398	70.4	8854389	103	1.0	8854398
Acidity (pH 8.3)	mg/L	<1.0	8855716	<1.0	8855713	<1.0	1.0	8855713
Alkalinity (PP as CaCO3)	mg/L	<1.0	8854398	<1.0	8854389	<1.0	1.0	8854398
Bicarbonate (HCO3)	mg/L	67.3	8854398	85.9	8854389	126	1.0	8854398
Carbonate (CO3)	mg/L	<1.0	8854398	<1.0	8854389	<1.0	1.0	8854398
Hydroxide (OH)	mg/L	<1.0	8854398	<1.0	8854389	<1.0	1.0	8854398
Anions								
Orthophosphate (P)	mg/L	0.0015	8853836	0.0058	8853836	0.012	0.0010	8853836
Dissolved Sulphate (SO4)	mg/L	12.9	8854444	13.3	8854441	24.8	1.0	8854441
Dissolved Chloride (Cl)	mg/L	<1.0	8854442	<1.0	8854438	<1.0	1.0	8854438
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0048	8854082	0.0088	8854090	0.0185	0.0020	8854082
Total Ammonia (N)	mg/L	<0.020	8855862	<0.020	8855862	0.033	0.020	8855758
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8854902	<0.20 (1)	8854898	<0.20 (1)	0.20	8854898
Nitrite (N)	mg/L	<0.20 (1)	8854905	<0.20 (1)	8854899	<0.20 (1)	0.20	8854899
Total Phosphorus (P)	mg/L	<0.0020	8854084	0.0154	8854084	0.0226	0.0020	8854092
Physical Properties								
Conductivity	uS/cm	130	8854401	161	8854393	241	2.0	8854401
pH	pH	7.89	8854399	7.95	8854391	8.09		8854399
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8853899	<4.0	8853899	<4.0	4.0	8853899
Total Dissolved Solids	mg/L	72	8854019	82	8854019	134	10	8854019

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP8729		SP8730		SP8731		
Sampling Date		2017/12/02 10:05		2017/12/02 10:35		2017/12/01 10:00		
COC Number		08447101		08447101		08447101		
	UNITS	W15	QC Batch	W16	QC Batch	W21	RDL	QC Batch
Turbidity	NTU	0.16	8854343	0.47	8854343	0.46	0.10	8854343
RDL = Reportable Detection Limit								

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP8732		SP8733		SP8734		
Sampling Date		2017/12/01 11:00		2017/12/01 11:25		2017/12/01 12:15		
COC Number		08447101		08447101		08447101		
	UNITS	W22	QC Batch	W40	QC Batch	W71	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.078	8856702	0.077	8856702	0.690	0.020	8856702
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	168	8852062	169	8852062	411	0.50	8852062
Dissolved Hardness (CaCO3)	mg/L	164	8852063	168	8852063	413	0.50	8852063
Nitrate (N)	mg/L	<0.20	8852775	<0.20	8852775	<0.20	0.20	8852775
Misc. Inorganics								
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8857121	<0.00050	8857121	<0.00050	0.00050	8857121
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8857177	<0.00050	8857177	<0.00050	0.00050	8857177
Dissolved Organic Carbon (C)	mg/L	1.68	8854035	1.70	8854035	1.29	0.50	8854035
Acidity (pH 4.5)	mg/L	<1.0	8855716	<1.0	8855713	<1.0	1.0	8855713
Alkalinity (Total as CaCO3)	mg/L	134	8854398	133	8854389	281	1.0	8854389
Acidity (pH 8.3)	mg/L	2.8	8855716	<1.0	8855713	2.7	1.0	8855713
Alkalinity (PP as CaCO3)	mg/L	<1.0	8854398	<1.0	8854389	<1.0	1.0	8854389
Bicarbonate (HCO3)	mg/L	163	8854398	162	8854389	343	1.0	8854389
Carbonate (CO3)	mg/L	<1.0	8854398	<1.0	8854389	<1.0	1.0	8854389
Hydroxide (OH)	mg/L	<1.0	8854398	<1.0	8854389	<1.0	1.0	8854389
Anions								
Orthophosphate (P)	mg/L	0.0066	8853836	0.0067	8853836	0.0091	0.0010	8853836
Dissolved Sulphate (SO4)	mg/L	43.4	8854444	43.2	8854441	140	1.0	8854441
Dissolved Chloride (Cl)	mg/L	<1.0	8854442	<1.0	8854438	<1.0	1.0	8854438
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0148	8854082	0.0047	8854082	0.0110	0.0020	8854090
Total Ammonia (N)	mg/L	<0.020	8855758	0.035	8855862	<0.020	0.020	8855862
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8854902	<0.20 (1)	8854898	<0.20 (1)	0.20	8854898
Nitrite (N)	mg/L	<0.20 (1)	8854905	<0.20 (1)	8854899	<0.20 (1)	0.20	8854899
Total Phosphorus (P)	mg/L	0.0172	8854092	0.0115	8854084	0.0101	0.0020	8854084
Physical Properties								
Conductivity	uS/cm	333	8854401	326	8854393	735	2.0	8854393
pH	pH	8.15	8854399	8.11	8854391	8.05		8854391
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8853899	<4.0	8854065	<4.0	4.0	8854065
Total Dissolved Solids	mg/L	184	8854019	192	8854019	462	10	8854019

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP8732		SP8733		SP8734		
Sampling Date		2017/12/01 11:00		2017/12/01 11:25		2017/12/01 12:15		
COC Number		08447101		08447101		08447101		
	UNITS	**W22**	**QC Batch**	**W40**	**QC Batch**	**W71**	**RDL**	**QC Batch**
Turbidity	NTU	0.57	8854343	0.78	8854343	0.15	0.10	8854343
RDL = Reportable Detection Limit								

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP8735	SP8736		SP8737		
Sampling Date		2017/12/01 12:45	2017/12/01 13:15		2017/12/02 09:35		
COC Number		08447101	08447101		08447101		
	UNITS	W72	W73	QC Batch	W81	RDL	QC Batch
Misc. Inorganics							
Fluoride (F)	mg/L	0.180	0.058	8856702	0.029	0.020	8856702
Calculated Parameters							
Filter and HNO3 Preservation	N/A	FIELD	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	278	145	8852062	70.8	0.50	8852062
Dissolved Hardness (CaCO3)	mg/L	268	145	8852063	70.4	0.50	8852063
Nitrate (N)	mg/L	<0.20	<0.20	8852775	<0.20	0.20	8852775
Misc. Inorganics							
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	<0.00050	8857121	<0.00050	0.00050	8857121
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	<0.00050	8857177	<0.00050	0.00050	8857177
Dissolved Organic Carbon (C)	mg/L	2.11	1.57	8854035	0.56	0.50	8854035
Acidity (pH 4.5)	mg/L	<1.0	<1.0	8855713	<1.0	1.0	8855713
Alkalinity (Total as CaCO3)	mg/L	202	122	8854389	63.3	1.0	8854398
Acidity (pH 8.3)	mg/L	<1.0	<1.0	8855713	<1.0	1.0	8855713
Alkalinity (PP as CaCO3)	mg/L	<1.0	<1.0	8854389	<1.0	1.0	8854398
Bicarbonate (HCO3)	mg/L	246	149	8854389	77.2	1.0	8854398
Carbonate (CO3)	mg/L	<1.0	<1.0	8854389	<1.0	1.0	8854398
Hydroxide (OH)	mg/L	<1.0	<1.0	8854389	<1.0	1.0	8854398
Anions							
Orthophosphate (P)	mg/L	0.0076	0.0024	8853836	0.0042	0.0010	8853836
Dissolved Sulphate (SO4)	mg/L	76.1	29.3	8854441	12.8	1.0	8854441
Dissolved Chloride (Cl)	mg/L	<1.0	<1.0	8854438	<1.0	1.0	8854438
Nutrients							
Dissolved Phosphorus (P)	mg/L	0.0110	0.0038	8854090	0.0075	0.0020	8854090
Total Ammonia (N)	mg/L	0.041	<0.020	8855758	<0.020	0.020	8855758
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	<0.20 (1)	8854898	<0.20 (1)	0.20	8854898
Nitrite (N)	mg/L	<0.20 (1)	<0.20 (1)	8854899	<0.20 (1)	0.20	8854899
Total Phosphorus (P)	mg/L	0.0167	0.0048	8854092	0.0056	0.0020	8854092
Physical Properties							
Conductivity	uS/cm	508	286	8854393	149	2.0	8854401
pH	pH	8.11	8.11	8854391	7.95		8854399
Physical Properties							
Total Suspended Solids	mg/L	<4.0	<4.0	8854065	<4.0	4.0	8854065
Total Dissolved Solids	mg/L	306	172	8854019	70	10	8854019

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP8735	SP8736		SP8737		
Sampling Date		2017/12/01 12:45	2017/12/01 13:15		2017/12/02 09:35		
COC Number		08447101	08447101		08447101		
	UNITS	**W72**	**W73**	**QC Batch**	**W81**	**RDL**	**QC Batch**
Turbidity	NTU	1.01	0.24	8854343	0.39	0.10	8854343
RDL = Reportable Detection Limit							

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		SP8738		SP8739			SP8740		
Sampling Date		2017/12/02		2017/12/01 15:45			2017/12/02		
COC Number		08447101		08447101			08447101		
	UNITS	DUP1	QC Batch	FIELD BLANKS	RDL	QC Batch	TRIP BLANKS	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.042	8856702	<0.020	0.020	8856702	<0.020	0.020	8856702
Calculated Parameters									
Total Hardness (CaCO3)	mg/L	121	8852062	<0.50	0.50	8852062	<0.50	0.50	8852062
Dissolved Hardness (CaCO3)	mg/L						<0.50	0.50	8852063
Nitrate (N)	mg/L	0.36	8852775	<0.20	0.20	8852775	<0.20	0.20	8852775
Misc. Inorganics									
Strong Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8857121	<0.00050	0.00050	8857121	<0.00050	0.00050	8857121
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.00050	8857177	<0.00050	0.00050	8857177	<0.00050	0.00050	8857177
Dissolved Organic Carbon (C)	mg/L	0.74	8854030	<0.50	0.50	8854030	<0.50	0.50	8855355
Acidity (pH 4.5)	mg/L	<1.0	8855713	<1.0	1.0	8855707	<1.0	1.0	8857164
Alkalinity (Total as CaCO3)	mg/L	97.5	8854398	<1.0	1.0	8854331	<1.0	1.0	8854331
Acidity (pH 8.3)	mg/L	1.1	8855713	<1.0	1.0	8855707	<1.0	1.0	8857164
Alkalinity (PP as CaCO3)	mg/L	<1.0	8854398	<1.0	1.0	8854331	<1.0	1.0	8854331
Bicarbonate (HCO3)	mg/L	119	8854398	<1.0	1.0	8854331	<1.0	1.0	8854331
Carbonate (CO3)	mg/L	<1.0	8854398	<1.0	1.0	8854331	<1.0	1.0	8854331
Hydroxide (OH)	mg/L	<1.0	8854398	<1.0	1.0	8854331	<1.0	1.0	8854331
Anions									
Orthophosphate (P)	mg/L	0.0084	8853836	<0.0010	0.0010	8853836	<0.0010	0.0010	8853836
Dissolved Sulphate (SO4)	mg/L	34.6	8854444	<1.0	1.0	8854441	<1.0	1.0	8854441
Dissolved Chloride (Cl)	mg/L	<1.0	8854442	<1.0	1.0	8854438	<1.0	1.0	8854438
Nutrients									
Dissolved Phosphorus (P)	mg/L	0.0125	8853862	<0.0020	0.0020	8853862	<0.0020	0.0020	8854090
Total Ammonia (N)	mg/L	<0.020	8855758	<0.020	0.020	8855758	<0.020	0.020	8855862
Nitrate plus Nitrite (N)	mg/L	0.36 (1)	8854902	<0.20 (1)	0.20	8854898	<0.20 (1)	0.20	8854898
Nitrite (N)	mg/L	<0.20 (1)	8854905	<0.20 (1)	0.20	8854899	<0.20 (1)	0.20	8854899
Total Phosphorus (P)	mg/L	0.0126	8854092	<0.0020	0.0020	8854092	<0.0020	0.0020	8854084
Physical Properties									
Conductivity	uS/cm	259	8854401	<2.0	2.0	8854335	<2.0	2.0	8854335
pH	pH	7.88	8854399	5.49		8854334	5.50		8854334
Physical Properties									
Total Suspended Solids	mg/L	<4.0	8854065	<4.0	4.0	8854065	<4.0	4.0	8854065
Total Dissolved Solids	mg/L	144	8854019	<10	10	8854019	<10	10	8854019
Turbidity	NTU	0.24	8854343	<0.10	0.10	8854343	<0.10	0.10	8854343

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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MERCURY BY COLD VAPOR (WATER)

Maxxam ID		SP8726	SP8727	SP8728	SP8729	SP8730	SP8731	SP8732		
Sampling Date		2017/12/01 15:20	2017/12/01 13:55	2017/12/02 14:20	2017/12/02 10:05	2017/12/02 10:35	2017/12/01 10:00	2017/12/01 11:00		
COC Number		08447101	08447101	08447101	08447101	08447101	08447101	08447101		
	UNITS	T1	R1	PORTAL	W15	W16	W21	W22	RDL	QC Batch
Elements										
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8856384
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8856363
RDL = Reportable Detection Limit										

Maxxam ID		SP8733	SP8734	SP8735	SP8736	SP8737			SP8738		
Sampling Date		2017/12/01 11:25	2017/12/01 12:15	2017/12/01 12:45	2017/12/01 13:15	2017/12/02 09:35			2017/12/02		
COC Number		08447101	08447101	08447101	08447101	08447101			08447101		
	UNITS	W40	W71	W72	W73	W81	RDL	QC Batch	DUP1	RDL	QC Batch
Elements											
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8856384			
Total Mercury (Hg)	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8856363	<0.010	0.010	8856363
RDL = Reportable Detection Limit											

Maxxam ID		SP8739			SP8740		
Sampling Date		2017/12/01 15:45			2017/12/02		
COC Number		08447101			08447101		
	UNITS	FIELD BLANKS	RDL	QC Batch	TRIP BLANKS	RDL	QC Batch
Elements							
Dissolved Mercury (Hg)	ug/L				<0.010	0.010	8856384
Total Mercury (Hg)	ug/L	<0.010	0.010	8856363	<0.010	0.010	8856363
RDL = Reportable Detection Limit							

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8726		SP8727		SP8728		
Sampling Date		2017/12/01 15:20		2017/12/01 13:55		2017/12/02 14:20		
COC Number		08447101		08447101		08447101		
	UNITS	T1	RDL	R1	RDL	PORTAL	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	0.074	0.050	<0.010	0.010	<0.050	0.050	8857400
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.151	0.0025	0.00085	0.00050	0.00260	0.00050	8854008
Dissolved Antimony (Sb)	mg/L	0.0304	0.00010	0.000123	0.000020	0.000258	0.000020	8854008
Dissolved Arsenic (As)	mg/L	0.00851	0.00010	0.000308	0.000020	0.00310	0.000020	8854008
Dissolved Barium (Ba)	mg/L	0.0372	0.00010	0.129	0.000020	0.0261	0.000020	8854008
Dissolved Beryllium (Be)	mg/L	<0.000050	0.000050	<0.000010	0.000010	<0.000010	0.000010	8854008
Dissolved Bismuth (Bi)	mg/L	<0.000025	0.000025	<0.0000050	0.0000050	<0.0000050	0.0000050	8854008
Dissolved Boron (B)	mg/L	<0.050	0.050	<0.010	0.010	0.015	0.010	8854008
Dissolved Cadmium (Cd)	mg/L	0.0134	0.000025	0.0000053	0.0000050	0.000387	0.0000050	8854008
Dissolved Chromium (Cr)	mg/L	0.00055	0.00050	0.00016	0.00010	<0.00010	0.00010	8854008
Dissolved Cobalt (Co)	mg/L	0.00212	0.000025	0.0000818	0.0000050	0.00369	0.0000050	8854008
Dissolved Copper (Cu)	mg/L	0.177	0.00025	0.000302	0.000050	<0.000050	0.000050	8854008
Dissolved Iron (Fe)	mg/L	2.50	0.0050	0.0210	0.0010	7.32	0.0010	8854008
Dissolved Lead (Pb)	mg/L	0.164	0.000025	<0.0000050	0.0000050	0.0000060	0.0000050	8854008
Dissolved Lithium (Li)	mg/L	0.0086	0.0025	<0.00050	0.00050	0.0126	0.00050	8854008
Dissolved Manganese (Mn)	mg/L	0.595	0.00025	0.546	0.000050	1.09	0.000050	8854008
Dissolved Molybdenum (Mo)	mg/L	0.0244	0.00025	0.000919	0.000050	0.0106	0.000050	8854008
Dissolved Nickel (Ni)	mg/L	0.0108	0.00010	0.000233	0.000020	0.0155	0.000020	8854008
Dissolved Phosphorus (P)	mg/L	0.062	0.010	0.0140	0.0020	0.0124	0.0020	8854008
Dissolved Selenium (Se)	mg/L	0.358	0.00020	0.00491	0.000040	0.00120	0.000040	8854008
Dissolved Silicon (Si)	mg/L	2.04	0.25	4.07	0.050	3.83	0.050	8854008
Dissolved Silver (Ag)	mg/L	0.000598	0.000025	0.0000064	0.0000050	<0.0000050	0.0000050	8854008
Dissolved Strontium (Sr)	mg/L	1.80	0.00025	0.0944	0.000050	1.30	0.000050	8854008
Dissolved Thallium (Tl)	mg/L	0.000926	0.000010	<0.0000020	0.0000020	0.000236	0.0000020	8854008
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	<0.00020	0.00020	<0.00020	0.00020	8854008
Dissolved Titanium (Ti)	mg/L	<0.0025	0.0025	<0.00050	0.00050	<0.00050	0.00050	8854008
Dissolved Uranium (U)	mg/L	0.000601	0.000010	0.000479	0.0000020	0.00304	0.0000020	8854008
Dissolved Vanadium (V)	mg/L	<0.0010	0.0010	<0.00020	0.00020	<0.00020	0.00020	8854008
Dissolved Zinc (Zn)	mg/L	1.75	0.00050	0.00146	0.00010	0.234	0.00010	8854008
Dissolved Zirconium (Zr)	mg/L	<0.00050	0.00050	<0.00010	0.00010	<0.00010	0.00010	8854008
Dissolved Calcium (Ca)	mg/L	418	0.25	42.5	0.050	170	0.050	8852270
Dissolved Magnesium (Mg)	mg/L	5.38	0.25	3.15	0.050	21.6	0.050	8852270
Dissolved Potassium (K)	mg/L	34.3	0.25	1.17	0.050	26.0	0.050	8852270

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8726		SP8727		SP8728		
Sampling Date		2017/12/01 15:20		2017/12/01 13:55		2017/12/02 14:20		
COC Number		08447101		08447101		08447101		
	UNITS	T1	RDL	R1	RDL	PORTAL	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	115	0.25	2.76	0.050	51.8	0.050	8852270
Dissolved Sulphur (S)	mg/L	517	15	10.9	3.0	184	3.0	8852270
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.166	0.0025	0.00252	0.00050	0.0124	0.00050	8853900
Total Antimony (Sb)	mg/L	0.0303	0.00010	0.000128	0.000020	0.000912	0.000020	8853900
Total Arsenic (As)	mg/L	0.00870	0.00010	0.000327	0.000020	0.00700	0.000020	8853900
Total Barium (Ba)	mg/L	0.0378	0.00010	0.124	0.000020	0.0266	0.000020	8853900
Total Beryllium (Be)	mg/L	<0.000050	0.000050	<0.000010	0.000010	<0.000010	0.000010	8853900
Total Bismuth (Bi)	mg/L	0.000030	0.000025	<0.0000050	0.0000050	0.0000055	0.0000050	8853900
Total Boron (B)	mg/L	<0.050	0.050	<0.010	0.010	0.017	0.010	8853900
Total Cadmium (Cd)	mg/L	0.0133	0.000025	<0.0000050	0.0000050	0.00106	0.0000050	8853900
Total Chromium (Cr)	mg/L	0.00058	0.00050	0.00016	0.00010	<0.00010	0.00010	8853900
Total Cobalt (Co)	mg/L	0.00207	0.000025	0.0000819	0.0000050	0.00375	0.0000050	8853900
Total Copper (Cu)	mg/L	0.184	0.00025	0.000340	0.000050	0.000528	0.000050	8853900
Total Iron (Fe)	mg/L	2.53	0.0050	0.0272	0.0010	9.06	0.0010	8853900
Total Lead (Pb)	mg/L	0.163	0.000025	0.0000054	0.0000050	0.00208	0.0000050	8853900
Total Lithium (Li)	mg/L	0.0097	0.0025	<0.00050	0.00050	0.0137	0.00050	8853900
Total Manganese (Mn)	mg/L	0.587	0.00025	0.543	0.000050	1.10	0.000050	8853900
Total Molybdenum (Mo)	mg/L	0.0239	0.00025	0.000886	0.000050	0.0105	0.000050	8853900
Total Nickel (Ni)	mg/L	0.0106	0.00010	0.000240	0.000020	0.0155	0.000020	8853900
Total Phosphorus (P)	mg/L	0.082	0.010	0.0156	0.0020	0.0228	0.0020	8853900
Total Selenium (Se)	mg/L	0.376	0.00020	0.00496	0.000040	0.00238	0.000040	8853900
Total Silicon (Si)	mg/L	2.19	0.25	4.38	0.050	4.28	0.050	8853900
Total Silver (Ag)	mg/L	0.000881	0.000025	0.0000157	0.0000050	0.0000089	0.0000050	8853900
Total Strontium (Sr)	mg/L	1.74	0.00025	0.0921	0.000050	1.27	0.000050	8853900
Total Thallium (Tl)	mg/L	0.000932	0.000010	<0.0000020	0.0000020	0.000256	0.0000020	8853900
Total Tin (Sn)	mg/L	<0.0010	0.0010	<0.00020	0.00020	<0.00020	0.00020	8853900
Total Titanium (Ti)	mg/L	<0.0025	0.0025	<0.00050	0.00050	<0.00050	0.00050	8853900
Total Uranium (U)	mg/L	0.000650	0.000010	0.000460	0.0000020	0.00308	0.0000020	8853900
Total Vanadium (V)	mg/L	<0.0010	0.0010	<0.00020	0.00020	<0.00020	0.00020	8853900
Total Zinc (Zn)	mg/L	1.75	0.00050	0.00130	0.00010	0.335	0.00010	8853900
Total Zirconium (Zr)	mg/L	<0.00050	0.00050	<0.00010	0.00010	<0.00010	0.00010	8853900
Total Calcium (Ca)	mg/L	424	0.25	42.8	0.050	170	0.050	8852091
Total Magnesium (Mg)	mg/L	5.51	0.25	3.26	0.050	22.8	0.050	8852091
Total Potassium (K)	mg/L	33.1	0.25	1.11	0.050	24.4	0.050	8852091
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8726		SP8727		SP8728		
Sampling Date		2017/12/01 15:20		2017/12/01 13:55		2017/12/02 14:20		
COC Number		08447101		08447101		08447101		
	UNITS	T1	RDL	R1	RDL	PORTAL	RDL	QC Batch
Total Sodium (Na)	mg/L	120	0.25	2.78	0.050	53.7	0.050	8852091
Total Sulphur (S)	mg/L	520	15	10.8	3.0	188	3.0	8852091
RDL = Reportable Detection Limit								

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8729		SP8730	SP8731	SP8732		
Sampling Date		2017/12/02 10:05		2017/12/02 10:35	2017/12/01 10:00	2017/12/01 11:00		
COC Number		08447101		08447101	08447101	08447101		
	UNITS	W15	QC Batch	W16	W21	W22	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	8857400	<0.010	<0.010	<0.010	0.010	8857400
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00197	8854008	0.00194	0.00259	0.00284	0.00050	8854008
Dissolved Antimony (Sb)	mg/L	<0.000020	8854008	0.000037	0.000080	0.000078	0.000020	8854008
Dissolved Arsenic (As)	mg/L	0.000098	8854008	0.000125	0.00147	0.000181	0.000020	8854008
Dissolved Barium (Ba)	mg/L	0.0234	8854008	0.0726	0.0508	0.0865	0.000020	8854008
Dissolved Beryllium (Be)	mg/L	<0.000010	8854008	<0.000010	<0.000010	<0.000010	0.000010	8854008
Dissolved Bismuth (Bi)	mg/L	<0.0000050	8854008	<0.0000050	<0.0000050	<0.0000050	0.0000050	8854008
Dissolved Boron (B)	mg/L	<0.010	8854008	<0.010	<0.010	<0.010	0.010	8854008
Dissolved Cadmium (Cd)	mg/L	0.0000066	8854008	0.0000779	0.0000088	0.0000259	0.0000050	8854008
Dissolved Chromium (Cr)	mg/L	0.00013	8854008	0.00013	0.00012	0.00026	0.00010	8854008
Dissolved Cobalt (Co)	mg/L	0.0000128	8854008	0.0000242	0.0000159	0.0000125	0.0000050	8854008
Dissolved Copper (Cu)	mg/L	0.000355	8854008	0.000438	0.000656	0.000404	0.000050	8854008
Dissolved Iron (Fe)	mg/L	0.0022	8854008	0.0095	0.0342	0.0045	0.0010	8854008
Dissolved Lead (Pb)	mg/L	0.0000443 (1)	8862534	0.0000054	<0.0000050	0.0000437	0.0000050	8854008
Dissolved Lithium (Li)	mg/L	<0.00050	8854008	<0.00050	0.00142	0.00225	0.00050	8854008
Dissolved Manganese (Mn)	mg/L	0.000154	8854008	0.0173	0.00190	0.000916	0.000050	8854008
Dissolved Molybdenum (Mo)	mg/L	0.000257	8854008	0.000453	0.00143	0.000775	0.000050	8854008
Dissolved Nickel (Ni)	mg/L	0.000085	8854008	0.000144	0.00166	0.00101	0.000020	8854008
Dissolved Phosphorus (P)	mg/L	0.0022	8854008	0.0071	0.0140	0.0212	0.0020	8854008
Dissolved Selenium (Se)	mg/L	0.000392	8854008	0.000760	0.000518	0.00101	0.000040	8854008
Dissolved Silicon (Si)	mg/L	2.86	8854008	3.20	3.29	4.62	0.050	8854008
Dissolved Silver (Ag)	mg/L	<0.0000050	8854008	<0.0000050	<0.0000050	<0.0000050	0.0000050	8854008
Dissolved Strontium (Sr)	mg/L	0.0374	8854008	0.0420	0.118	0.215	0.000050	8854008
Dissolved Thallium (Tl)	mg/L	<0.0000020	8854008	<0.0000020	<0.0000020	<0.0000020	0.0000020	8854008
Dissolved Tin (Sn)	mg/L	<0.00020	8854008	<0.00020	<0.00020	<0.00020	0.00020	8854008
Dissolved Titanium (Ti)	mg/L	<0.00050	8854008	<0.00050	<0.00050	<0.00050	0.00050	8854008
Dissolved Uranium (U)	mg/L	0.0000788	8854008	0.000296	0.00154	0.00172	0.0000020	8854008
Dissolved Vanadium (V)	mg/L	<0.00020	8854008	<0.00020	<0.00020	<0.00020	0.00020	8854008
Dissolved Zinc (Zn)	mg/L	0.00038	8854008	0.00395	0.00086	0.00727	0.00010	8854008
Dissolved Zirconium (Zr)	mg/L	<0.00010	8854008	<0.00010	<0.00010	<0.00010	0.00010	8854008
Dissolved Calcium (Ca)	mg/L	22.2	8852270	26.5	30.2	42.3	0.050	8852270
Dissolved Magnesium (Mg)	mg/L	1.43	8852270	2.65	10.5	14.1	0.050	8852270

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8729		SP8730	SP8731	SP8732		
Sampling Date		2017/12/02 10:05		2017/12/02 10:35	2017/12/01 10:00	2017/12/01 11:00		
COC Number		08447101		08447101	08447101	08447101		
	UNITS	W15	QC Batch	W16	W21	W22	RDL	QC Batch
Dissolved Potassium (K)	mg/L	0.406	8852270	0.523	1.13	0.948	0.050	8852270
Dissolved Sodium (Na)	mg/L	0.986	8852270	1.25	1.46	2.15	0.050	8852270
Dissolved Sulphur (S)	mg/L	3.5	8852270	3.7	7.2	13.4	3.0	8852270
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.00312	8853900	0.0182	0.0181	0.00929	0.00050	8853900
Total Antimony (Sb)	mg/L	<0.000020	8853900	0.000043	0.000086	0.000096	0.000020	8853900
Total Arsenic (As)	mg/L	0.000103	8853900	0.000167	0.00170	0.000210	0.000020	8853900
Total Barium (Ba)	mg/L	0.0223	8853900	0.0718	0.0504	0.0866	0.000020	8853900
Total Beryllium (Be)	mg/L	<0.000010	8853900	<0.000010	<0.000010	<0.000010	0.000010	8853900
Total Bismuth (Bi)	mg/L	<0.0000050	8853900	<0.0000050	<0.0000050	0.0000375	0.0000050	8853900
Total Boron (B)	mg/L	<0.010	8853900	<0.010	<0.010	<0.010	0.010	8853900
Total Cadmium (Cd)	mg/L	<0.0000050	8853900	0.0000950	0.0000100	0.0000339	0.0000050	8853900
Total Chromium (Cr)	mg/L	0.00013	8853900	0.00015	0.00018	0.00030	0.00010	8853900
Total Cobalt (Co)	mg/L	0.0000153	8853900	0.0000445	0.0000397	0.0000276	0.0000050	8853900
Total Copper (Cu)	mg/L	0.000346	8853900	0.000563	0.000750	0.000513	0.000050	8853900
Total Iron (Fe)	mg/L	0.0026	8853900	0.0501	0.0949	0.0779	0.0010	8853900
Total Lead (Pb)	mg/L	<0.0000050	8853900	0.0000140	0.0000234	0.000132	0.0000050	8853900
Total Lithium (Li)	mg/L	<0.00050	8853900	<0.00050	0.00156	0.00249	0.00050	8853900
Total Manganese (Mn)	mg/L	0.000240	8853900	0.0219	0.00988	0.00302	0.000050	8853900
Total Molybdenum (Mo)	mg/L	0.000258	8853900	0.000423	0.00143	0.000820	0.000050	8853900
Total Nickel (Ni)	mg/L	0.000093	8853900	0.000184	0.00176	0.00102	0.000020	8853900
Total Phosphorus (P)	mg/L	0.0038	8853900	0.0130	0.0238	0.0223	0.0020	8853900
Total Selenium (Se)	mg/L	0.000410	8853900	0.000844	0.000566	0.00108	0.000040	8853900
Total Silicon (Si)	mg/L	3.04	8853900	3.38	3.50	4.88	0.050	8853900
Total Silver (Ag)	mg/L	<0.0000050	8853900	<0.0000050	<0.0000050	<0.0000050	0.0000050	8853900
Total Strontium (Sr)	mg/L	0.0358	8853900	0.0418	0.114	0.204	0.000050	8853900
Total Thallium (Tl)	mg/L	<0.0000020	8853900	<0.0000020	<0.0000020	0.0000022	0.0000020	8853900
Total Tin (Sn)	mg/L	<0.00020	8853900	<0.00020	<0.00020	<0.00020	0.00020	8853900
Total Titanium (Ti)	mg/L	<0.00050	8853900	0.00095	0.00104	<0.00050	0.00050	8853900
Total Uranium (U)	mg/L	0.0000758	8853900	0.000303	0.00153	0.00168	0.0000020	8853900
Total Vanadium (V)	mg/L	<0.00020	8853900	0.00022	<0.00020	<0.00020	0.00020	8853900
Total Zinc (Zn)	mg/L	0.00020	8853900	0.00432	0.00124	0.00834	0.00010	8853900
Total Zirconium (Zr)	mg/L	<0.00010	8853900	<0.00010	<0.00010	<0.00010	0.00010	8853900
Total Calcium (Ca)	mg/L	21.9	8852091	26.8	30.0	42.9	0.050	8852091
Total Magnesium (Mg)	mg/L	1.45	8852091	2.75	10.6	14.7	0.050	8852091

RDL = Reportable Detection Limit

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8729		SP8730	SP8731	SP8732		
Sampling Date		2017/12/02 10:05		2017/12/02 10:35	2017/12/01 10:00	2017/12/01 11:00		
COC Number		08447101		08447101	08447101	08447101		
	UNITS	W15	QC Batch	W16	W21	W22	RDL	QC Batch
Total Potassium (K)	mg/L	0.381	8852091	0.496	1.07	0.903	0.050	8852091
Total Sodium (Na)	mg/L	0.980	8852091	1.29	1.48	2.25	0.050	8852091
Total Sulphur (S)	mg/L	3.8	8852091	3.8	7.4	14.0	3.0	8852091
RDL = Reportable Detection Limit								

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8733	SP8734	SP8735		SP8736		
Sampling Date		2017/12/01 11:25	2017/12/01 12:15	2017/12/01 12:45		2017/12/01 13:15		
COC Number		08447101	08447101	08447101		08447101		
	UNITS	W40	W71	W72	QC Batch	W73	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	8857400	<0.010	0.010	8857408
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00285	0.00108	0.00149	8854008	0.00171	0.00050	8854008
Dissolved Antimony (Sb)	mg/L	0.000077	0.000504	0.000169	8854008	0.000113	0.000020	8854008
Dissolved Arsenic (As)	mg/L	0.000174	0.000296	0.00128	8854008	0.000184	0.000020	8854008
Dissolved Barium (Ba)	mg/L	0.0877	0.0684	0.115	8854008	0.0906	0.000020	8854008
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	8854008	<0.000010	0.000010	8854008
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	8854008	<0.0000050	0.0000050	8854008
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	8854008	<0.010	0.010	8854008
Dissolved Cadmium (Cd)	mg/L	0.0000267	0.00231	0.000317	8854008	0.0000064	0.0000050	8854008
Dissolved Chromium (Cr)	mg/L	0.00028	<0.00010	<0.00010	8854008	0.00032	0.00010	8854008
Dissolved Cobalt (Co)	mg/L	0.0000142	0.0000114	0.0000816	8854008	0.0000120	0.0000050	8854008
Dissolved Copper (Cu)	mg/L	0.000375	0.000450	0.000366	8854008	0.000517	0.000050	8854008
Dissolved Iron (Fe)	mg/L	0.0057	0.0036	0.0454	8854008	0.0121	0.0010	8854008
Dissolved Lead (Pb)	mg/L	0.0000233	<0.0000050	<0.0000050	8854008	<0.0000050	0.0000050	8854008
Dissolved Lithium (Li)	mg/L	0.00231	0.00285	0.00221	8854008	0.00087	0.00050	8854008
Dissolved Manganese (Mn)	mg/L	0.00103	0.00184	0.207	8854008	0.00449	0.000050	8854008
Dissolved Molybdenum (Mo)	mg/L	0.000811	0.00433	0.00317	8854008	0.000515	0.000050	8854008
Dissolved Nickel (Ni)	mg/L	0.000954	0.0296	0.00424	8854008	0.000657	0.000020	8854008
Dissolved Phosphorus (P)	mg/L	0.0256	0.0128	0.0098	8854008	0.0051	0.0020	8854008
Dissolved Selenium (Se)	mg/L	0.00107	0.00833	0.00229	8854008	0.00116	0.000040	8854008
Dissolved Silicon (Si)	mg/L	4.64	4.21	4.79	8854008	4.42	0.050	8854008
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	8854008	<0.0000050	0.0000050	8854008
Dissolved Strontium (Sr)	mg/L	0.217	0.337	0.358	8854008	0.163	0.000050	8854008
Dissolved Thallium (Tl)	mg/L	0.0000022	0.0000022	<0.0000020	8854008	<0.0000020	0.0000020	8854008
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	8854008	<0.00020	0.00020	8854008
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	8854008	<0.00050	0.00050	8854008
Dissolved Uranium (U)	mg/L	0.00174	0.0114	0.00224	8854008	0.000755	0.0000020	8854008
Dissolved Vanadium (V)	mg/L	<0.00020	0.00023	<0.00020	8854008	<0.00020	0.00020	8854008
Dissolved Zinc (Zn)	mg/L	0.00803	0.690	0.0528	8854008	0.00141 (1)	0.00010	8862534
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	8854008	<0.00010	0.00010	8854008
Dissolved Calcium (Ca)	mg/L	43.1	114	68.3	8852270	38.9	0.050	8852270
Dissolved Magnesium (Mg)	mg/L	14.6	31.2	23.7	8852270	11.6	0.050	8852270

RDL = Reportable Detection Limit

(1) Dissolved greater than total. Reanalysis yields similar results.

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8733	SP8734	SP8735		SP8736		
Sampling Date		2017/12/01 11:25	2017/12/01 12:15	2017/12/01 12:45		2017/12/01 13:15		
COC Number		08447101	08447101	08447101		08447101		
	UNITS	W40	W71	W72	QC Batch	W73	RDL	QC Batch
Dissolved Potassium (K)	mg/L	1.02	0.793	0.868	8852270	0.357	0.050	8852270
Dissolved Sodium (Na)	mg/L	2.88	0.902	2.03	8852270	1.35	0.050	8852270
Dissolved Sulphur (S)	mg/L	13.3	42.9	23.3	8852270	8.7	3.0	8852270
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0122	0.00295	0.0304	8853900	0.00412	0.00050	8853900
Total Antimony (Sb)	mg/L	0.000093	0.000521	0.000177	8853900	0.000122	0.000020	8853900
Total Arsenic (As)	mg/L	0.000259	0.000332	0.00176	8853900	0.000232	0.000020	8853900
Total Barium (Ba)	mg/L	0.0905	0.0650	0.114	8853900	0.0872	0.000020	8853900
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	8853900	<0.000010	0.000010	8853900
Total Bismuth (Bi)	mg/L	0.0000567	<0.0000050	<0.0000050	8853900	<0.0000050	0.0000050	8853900
Total Boron (B)	mg/L	<0.010	<0.010	<0.010	8853900	<0.010	0.010	8853900
Total Cadmium (Cd)	mg/L	0.0000318	0.00231	0.000487	8853900	0.0000100	0.0000050	8853900
Total Chromium (Cr)	mg/L	0.00044	<0.00010	0.00013	8853900	0.00031	0.00010	8853900
Total Cobalt (Co)	mg/L	0.0000349	0.0000131	0.000143	8853900	0.0000156	0.0000050	8853900
Total Copper (Cu)	mg/L	0.000625	0.000497	0.000610	8853900	0.000556	0.000050	8853900
Total Iron (Fe)	mg/L	0.0890	0.0061	0.218	8853900	0.0370	0.0010	8853900
Total Lead (Pb)	mg/L	0.000132	0.0000061	0.0000699	8853900	0.0000058	0.0000050	8853900
Total Lithium (Li)	mg/L	0.00246	0.00298	0.00256	8853900	0.00094	0.00050	8853900
Total Manganese (Mn)	mg/L	0.00511	0.00197	0.239	8853900	0.0114	0.000050	8853900
Total Molybdenum (Mo)	mg/L	0.000805	0.00422	0.00331	8853900	0.000509	0.000050	8853900
Total Nickel (Ni)	mg/L	0.00109	0.0295	0.00483	8853900	0.000715	0.000020	8853900
Total Phosphorus (P)	mg/L	0.0364	0.0143	0.0217	8853900	0.0068	0.0020	8853900
Total Selenium (Se)	mg/L	0.00103	0.00930	0.00268	8853900	0.00112	0.000040	8853900
Total Silicon (Si)	mg/L	4.93	4.29	5.30	8853900	4.70	0.050	8853900
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	0.0000063	8853900	<0.0000050	0.0000050	8853900
Total Strontium (Sr)	mg/L	0.206	0.316	0.346	8853900	0.157	0.000050	8853900
Total Thallium (Tl)	mg/L	<0.0000020	0.0000021	<0.0000020	8853900	<0.0000020	0.0000020	8853900
Total Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	8853900	<0.00020	0.00020	8853900
Total Titanium (Ti)	mg/L	0.00053	<0.00050	0.00057	8853900	<0.00050	0.00050	8853900
Total Uranium (U)	mg/L	0.00169	0.0110	0.00218	8853900	0.000725	0.0000020	8853900
Total Vanadium (V)	mg/L	<0.00020	0.00024	0.00021	8853900	<0.00020	0.00020	8853900
Total Zinc (Zn)	mg/L	0.00814	0.680	0.0594	8853900	0.00060	0.00010	8853900
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	8853900	<0.00010	0.00010	8853900
Total Calcium (Ca)	mg/L	43.1	111	71.2	8852091	38.8	0.050	8852091
Total Magnesium (Mg)	mg/L	15.0	32.2	24.3	8852091	11.7	0.050	8852091
RDL = Reportable Detection Limit								

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8733	SP8734	SP8735		SP8736		
Sampling Date		2017/12/01 11:25	2017/12/01 12:15	2017/12/01 12:45		2017/12/01 13:15		
COC Number		08447101	08447101	08447101		08447101		
	UNITS	**W40**	**W71**	**W72**	**QC Batch**	**W73**	**RDL**	**QC Batch**
Total Potassium (K)	mg/L	0.956	0.737	0.828	8852091	0.330	0.050	8852091
Total Sodium (Na)	mg/L	3.14	0.890	2.07	8852091	1.35	0.050	8852091
Total Sulphur (S)	mg/L	14.1	41.7	24.4	8852091	8.4	3.0	8852091
RDL = Reportable Detection Limit								

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8737			SP8738		SP8739		
Sampling Date		2017/12/02 09:35			2017/12/02		2017/12/01 15:45		
COC Number		08447101			08447101		08447101		
	UNITS	W81	RDL	QC Batch	DUP1	QC Batch	FIELD BLANKS	RDL	QC Batch
ANIONS									
Bromide (Br)	mg/L	<0.010	0.010	8857408	<0.010	8857408	<0.010	0.010	8857408
Dissolved Metals by ICPMS									
Dissolved Aluminum (Al)	mg/L	0.00213	0.00050	8854008					
Dissolved Antimony (Sb)	mg/L	0.000028	0.000020	8854008					
Dissolved Arsenic (As)	mg/L	0.000104	0.000020	8854008					
Dissolved Barium (Ba)	mg/L	0.0554	0.000020	8854008					
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8854008					
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8854008					
Dissolved Boron (B)	mg/L	<0.010	0.010	8854008					
Dissolved Cadmium (Cd)	mg/L	0.0000364	0.0000050	8854008					
Dissolved Chromium (Cr)	mg/L	0.00013	0.00010	8854008					
Dissolved Cobalt (Co)	mg/L	0.0000213	0.0000050	8854008					
Dissolved Copper (Cu)	mg/L	0.000337	0.000050	8854008					
Dissolved Iron (Fe)	mg/L	0.0073	0.0010	8854008					
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	8854008					
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	8854008					
Dissolved Manganese (Mn)	mg/L	0.00949	0.000050	8854008					
Dissolved Molybdenum (Mo)	mg/L	0.000358	0.000050	8854008					
Dissolved Nickel (Ni)	mg/L	0.000119	0.000020	8854008					
Dissolved Phosphorus (P)	mg/L	0.0047	0.0020	8854008					
Dissolved Selenium (Se)	mg/L	0.000627	0.000040	8854008					
Dissolved Silicon (Si)	mg/L	3.09	0.050	8854008					
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8854008					
Dissolved Strontium (Sr)	mg/L	0.0413	0.000050	8854008					
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8854008					
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8854008					
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8854008					
Dissolved Uranium (U)	mg/L	0.000209	0.0000020	8854008					
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8854008					
Dissolved Zinc (Zn)	mg/L	0.00194	0.00010	8854008					
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8854008					
Dissolved Calcium (Ca)	mg/L	24.5	0.050	8852270					
Dissolved Magnesium (Mg)	mg/L	2.23	0.050	8852270					
Dissolved Potassium (K)	mg/L	0.474	0.050	8852270					

RDL = Reportable Detection Limit

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8737			SP8738		SP8739		
Sampling Date		2017/12/02 09:35			2017/12/02		2017/12/01 15:45		
COC Number		08447101			08447101		08447101		
	UNITS	W81	RDL	QC Batch	DUP1	QC Batch	FIELD BLANKS	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	1.14	0.050	8852270					
Dissolved Sulphur (S)	mg/L	3.7	3.0	8852270					
Total Metals by ICPMS									
Total Aluminum (Al)	mg/L	0.0128	0.00050	8853900	0.00237	8853900	<0.00050	0.00050	8853900
Total Antimony (Sb)	mg/L	0.000030	0.000020	8853900	0.000130	8853900	<0.000020	0.000020	8853900
Total Arsenic (As)	mg/L	0.000127	0.000020	8853900	0.000334	8853900	<0.000020	0.000020	8853900
Total Barium (Ba)	mg/L	0.0540	0.000020	8853900	0.124	8853900	0.000029	0.000020	8853900
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8853900	<0.000010	8853900	<0.000010	0.000010	8853900
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8853900	<0.0000050	8853900	<0.0000050	0.0000050	8853900
Total Boron (B)	mg/L	<0.010	0.010	8853900	<0.010	8853900	<0.010	0.010	8853900
Total Cadmium (Cd)	mg/L	0.0000424	0.0000050	8853900	0.0000052	8853900	<0.0000050	0.0000050	8853900
Total Chromium (Cr)	mg/L	0.00015	0.00010	8853900	0.00015	8853900	<0.00010	0.00010	8853900
Total Cobalt (Co)	mg/L	0.0000361	0.0000050	8853900	0.0000825	8853900	<0.0000050	0.0000050	8853900
Total Copper (Cu)	mg/L	0.000511	0.000050	8853900	0.000334	8853900	<0.000050	0.000050	8853900
Total Iron (Fe)	mg/L	0.0309	0.0010	8853900	0.0273	8853900	<0.0010	0.0010	8853900
Total Lead (Pb)	mg/L	0.0000155	0.0000050	8853900	0.0000051	8853900	0.0000093	0.0000050	8853900
Total Lithium (Li)	mg/L	<0.00050	0.00050	8853900	<0.00050	8853900	<0.00050	0.00050	8853900
Total Manganese (Mn)	mg/L	0.0114	0.000050	8853900	0.546	8853900	<0.000050	0.000050	8853900
Total Molybdenum (Mo)	mg/L	0.000349	0.000050	8853900	0.000884	8853900	<0.000050	0.000050	8853900
Total Nickel (Ni)	mg/L	0.000153	0.000020	8853900	0.000233	8853900	<0.000020	0.000020	8853900
Total Phosphorus (P)	mg/L	0.0078	0.0020	8853900	0.0109	8853900	<0.0020	0.0020	8853900
Total Selenium (Se)	mg/L	0.000604	0.000040	8853900	0.00524	8853900	<0.000040	0.000040	8853900
Total Silicon (Si)	mg/L	3.21	0.050	8853900	4.28	8853900	<0.050	0.050	8853900
Total Silver (Ag)	mg/L	<0.0000050	0.0000050	8853900	0.0000178	8853900	<0.0000050	0.0000050	8853900
Total Strontium (Sr)	mg/L	0.0405	0.000050	8853900	0.0920	8853900	<0.000050	0.000050	8853900
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8853900	<0.0000020	8853900	<0.0000020	0.0000020	8853900
Total Tin (Sn)	mg/L	<0.00020	0.00020	8853900	<0.00020	8853900	<0.00020	0.00020	8853900
Total Titanium (Ti)	mg/L	0.00057	0.00050	8853900	<0.00050	8853900	<0.00050	0.00050	8853900
Total Uranium (U)	mg/L	0.000210	0.0000020	8853900	0.000461	8853900	<0.0000020	0.0000020	8853900
Total Vanadium (V)	mg/L	<0.00020	0.00020	8853900	<0.00020	8853900	<0.00020	0.00020	8853900
Total Zinc (Zn)	mg/L	0.00226	0.00010	8853900	0.00141	8853900	<0.00010	0.00010	8864523
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8853900	<0.00010	8853900	<0.00010	0.00010	8853900
Total Calcium (Ca)	mg/L	24.7	0.050	8852091	43.1	8852091	<0.050	0.050	8852091
Total Magnesium (Mg)	mg/L	2.23	0.050	8852091	3.33	8852091	<0.050	0.050	8852091
Total Potassium (K)	mg/L	0.450	0.050	8852091	1.12	8852091	<0.050	0.050	8852091

RDL = Reportable Detection Limit

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8737			SP8738		SP8739		
Sampling Date		2017/12/02 09:35			2017/12/02		2017/12/01 15:45		
COC Number		08447101			08447101		08447101		
	UNITS	**W81**	**RDL**	**QC Batch**	**DUP1**	**QC Batch**	**FIELD BLANKS**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	1.14	0.050	8852091	2.86	8852091	<0.050	0.050	8852091
Total Sulphur (S)	mg/L	3.9	3.0	8852091	10.1	8852091	<3.0	3.0	8852091
RDL = Reportable Detection Limit									

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8740		
Sampling Date		2017/12/02		
COC Number		08447101		
	UNITS	TRIP BLANKS	RDL	QC Batch
ANIONS				
Bromide (Br)	mg/L	<0.010	0.010	8857408
Dissolved Metals by ICPMS				
Dissolved Aluminum (Al)	mg/L	<0.00050	0.00050	8854008
Dissolved Antimony (Sb)	mg/L	<0.000020	0.000020	8854008
Dissolved Arsenic (As)	mg/L	<0.000020	0.000020	8854008
Dissolved Barium (Ba)	mg/L	<0.000020	0.000020	8854008
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8854008
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8854008
Dissolved Boron (B)	mg/L	<0.010	0.010	8854008
Dissolved Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8854008
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8854008
Dissolved Cobalt (Co)	mg/L	<0.0000050	0.0000050	8854008
Dissolved Copper (Cu)	mg/L	<0.000050	0.000050	8854008
Dissolved Iron (Fe)	mg/L	<0.0010	0.0010	8854008
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	8854008
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	8854008
Dissolved Manganese (Mn)	mg/L	<0.000050	0.000050	8854008
Dissolved Molybdenum (Mo)	mg/L	<0.000050	0.000050	8854008
Dissolved Nickel (Ni)	mg/L	<0.000020	0.000020	8854008
Dissolved Phosphorus (P)	mg/L	<0.0020	0.0020	8854008
Dissolved Selenium (Se)	mg/L	<0.000040	0.000040	8854008
Dissolved Silicon (Si)	mg/L	<0.050	0.050	8854008
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8854008
Dissolved Strontium (Sr)	mg/L	<0.000050	0.000050	8854008
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8854008
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8854008
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8854008
Dissolved Uranium (U)	mg/L	<0.0000020	0.0000020	8854008
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8854008
Dissolved Zinc (Zn)	mg/L	<0.00010	0.00010	8854008
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8854008
Dissolved Calcium (Ca)	mg/L	<0.050	0.050	8852270
Dissolved Magnesium (Mg)	mg/L	<0.050	0.050	8852270
Dissolved Potassium (K)	mg/L	<0.050	0.050	8852270
RDL = Reportable Detection Limit				

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8740		
Sampling Date		2017/12/02		
COC Number		08447101		
	UNITS	TRIP BLANKS	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	<0.050	0.050	8852270
Dissolved Sulphur (S)	mg/L	<3.0	3.0	8852270
Total Metals by ICPMS				
Total Aluminum (Al)	mg/L	<0.00050	0.00050	8853900
Total Antimony (Sb)	mg/L	<0.000020	0.000020	8853900
Total Arsenic (As)	mg/L	<0.000020	0.000020	8853900
Total Barium (Ba)	mg/L	<0.000020	0.000020	8853900
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8853900
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8853900
Total Boron (B)	mg/L	<0.010	0.010	8853900
Total Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8853900
Total Chromium (Cr)	mg/L	<0.00010	0.00010	8853900
Total Cobalt (Co)	mg/L	<0.0000050	0.0000050	8853900
Total Copper (Cu)	mg/L	<0.000050	0.000050	8853900
Total Iron (Fe)	mg/L	<0.0010	0.0010	8853900
Total Lead (Pb)	mg/L	<0.0000050	0.0000050	8853900
Total Lithium (Li)	mg/L	<0.00050	0.00050	8853900
Total Manganese (Mn)	mg/L	<0.000050	0.000050	8853900
Total Molybdenum (Mo)	mg/L	<0.000050	0.000050	8853900
Total Nickel (Ni)	mg/L	<0.000020	0.000020	8853900
Total Phosphorus (P)	mg/L	<0.0020	0.0020	8853900
Total Selenium (Se)	mg/L	<0.000040	0.000040	8853900
Total Silicon (Si)	mg/L	<0.050	0.050	8853900
Total Silver (Ag)	mg/L	<0.0000050	0.0000050	8853900
Total Strontium (Sr)	mg/L	<0.000050	0.000050	8853900
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8853900
Total Tin (Sn)	mg/L	<0.00020	0.00020	8853900
Total Titanium (Ti)	mg/L	<0.00050	0.00050	8853900
Total Uranium (U)	mg/L	<0.0000020	0.0000020	8853900
Total Vanadium (V)	mg/L	<0.00020	0.00020	8853900
Total Zinc (Zn)	mg/L	<0.00010	0.00010	8853900
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8853900
Total Calcium (Ca)	mg/L	<0.050	0.050	8852091
Total Magnesium (Mg)	mg/L	<0.050	0.050	8852091
Total Potassium (K)	mg/L	<0.050	0.050	8852091
RDL = Reportable Detection Limit				

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		SP8740		
Sampling Date		2017/12/02		
COC Number		08447101		
	UNITS	**TRIP BLANKS**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	<0.050	0.050	8852091
Total Sulphur (S)	mg/L	<3.0	3.0	8852091
RDL = Reportable Detection Limit				

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.7°C
Package 2	5.0°C
Package 3	5.7°C

Sample SP8726 [T1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8727 [R1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Dissolved Phosphorus greater than total, reanalysis yields similar results.

Sample SP8728 [PORTAL] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8729 [W15] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8730 [W16] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8731 [W21] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8732 [W22] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8733 [W40] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Orthophosphate greater than total, reanalysis yields similar results.

Sample SP8734 [W71] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8735 [W72] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

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Sample SP8736 [W73] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8737 [W81] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8738 [DUP1] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Carbon (DOC) - unfiltered/unpreserved . Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8739 [FIELD BLANKS] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample analyzed past method specified hold time for Carbon (DOC) - unfiltered/unpreserved . Sample analyzed past method specified hold time for Phosphorus-P (LL Tot, dissolved) - UF/UP. Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

Sample SP8740 [TRIP BLANKS] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Turbidity. Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level).

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER) Comments

Sample SP8726 [T1] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample SP8726 [T1] Elements by ICPMS Low Level (dissolved): RDL raised due to concentration over linear range, sample dilution required.
Sample SP8726 [T1] Elements by ICPMS Low Level (total): RDL raised due to concentration over linear range, sample dilution required.
Sample SP8728 [PORTAL] Bromide as Bromine (Br) by ICPMS: RDL raised due to sample matrix interference.
Sample SP8729, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample SP8736, Elements by ICPMS Low Level (dissolved): Test repeated.
Sample SP8739, Elements by ICPMS Low Level (total): Test repeated.

Results relate only to the items tested.

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Maxxam Job #: B7A7983
Report Date: 2017/12/18

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8853836	Orthophosphate (P)	2017/12/06	97	80 - 120	101	80 - 120	<0.0010	mg/L	NC	20
8853862	Dissolved Phosphorus (P)	2017/12/06	85	80 - 120	94	80 - 120	<0.0020	mg/L	11	20
8853899	Total Suspended Solids	2017/12/07	99	80 - 120	98	80 - 120	<4.0	mg/L	NC	20
8853900	Total Aluminum (Al)	2017/12/07	103	80 - 120	107	80 - 120	<0.00050	mg/L	11	20
8853900	Total Antimony (Sb)	2017/12/07	103	80 - 120	106	80 - 120	<0.000020	mg/L	5.7	20
8853900	Total Arsenic (As)	2017/12/07	104	80 - 120	108	80 - 120	<0.000020	mg/L	3.0	20
8853900	Total Barium (Ba)	2017/12/07	NC	80 - 120	105	80 - 120	<0.000020	mg/L	0.17	20
8853900	Total Beryllium (Be)	2017/12/07	102	80 - 120	108	80 - 120	<0.000010	mg/L	NC	20
8853900	Total Bismuth (Bi)	2017/12/07	93	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20
8853900	Total Boron (B)	2017/12/07	98	80 - 120	110	80 - 120	<0.010	mg/L	NC	20
8853900	Total Cadmium (Cd)	2017/12/07	102	80 - 120	106	80 - 120	<0.0000050	mg/L	NC	20
8853900	Total Chromium (Cr)	2017/12/07	98	80 - 120	104	80 - 120	<0.00010	mg/L	NC	20
8853900	Total Cobalt (Co)	2017/12/07	94	80 - 120	102	80 - 120	<0.0000050	mg/L	2.6	20
8853900	Total Copper (Cu)	2017/12/07	93	80 - 120	104	80 - 120	<0.000050	mg/L	5.7	20
8853900	Total Iron (Fe)	2017/12/07	NC	80 - 120	110	80 - 120	<0.0010	mg/L	1.1	20
8853900	Total Lead (Pb)	2017/12/07	94	80 - 120	104	80 - 120	<0.0000050	mg/L	2.8	20
8853900	Total Lithium (Li)	2017/12/07	97	80 - 120	108	80 - 120	<0.00050	mg/L	1.5	20
8853900	Total Manganese (Mn)	2017/12/07	NC	80 - 120	103	80 - 120	<0.000050	mg/L	1.6	20
8853900	Total Molybdenum (Mo)	2017/12/07	103	80 - 120	110	80 - 120	<0.000050	mg/L	8.9	20
8853900	Total Nickel (Ni)	2017/12/07	95	80 - 120	106	80 - 120	<0.000020	mg/L	9.6	20
8853900	Total Phosphorus (P)	2017/12/07					<0.0020	mg/L		
8853900	Total Selenium (Se)	2017/12/07	104	80 - 120	111	80 - 120	<0.000040	mg/L	NC	20
8853900	Total Silicon (Si)	2017/12/07					<0.050	mg/L	0.89	20
8853900	Total Silver (Ag)	2017/12/07	108	80 - 120	113	80 - 120	<0.0000050	mg/L	NC	20
8853900	Total Strontium (Sr)	2017/12/07	NC	80 - 120	105	80 - 120	<0.000050	mg/L	0.29	20
8853900	Total Thallium (Tl)	2017/12/07	94	80 - 120	103	80 - 120	<0.0000020	mg/L	NC	20
8853900	Total Tin (Sn)	2017/12/07	103	80 - 120	103	80 - 120	<0.00020	mg/L	NC	20
8853900	Total Titanium (Ti)	2017/12/07	89	80 - 120	107	80 - 120	<0.00050	mg/L	NC	20
8853900	Total Uranium (U)	2017/12/07	92	80 - 120	98	80 - 120	<0.0000020	mg/L	1.7	20
8853900	Total Vanadium (V)	2017/12/07	100	80 - 120	105	80 - 120	<0.00020	mg/L	NC	20
8853900	Total Zinc (Zn)	2017/12/07	NC	80 - 120	106	80 - 120	<0.00010	mg/L	1.6	20
8853900	Total Zirconium (Zr)	2017/12/07	101	80 - 120	103	80 - 120	<0.00010	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8854008	Dissolved Aluminum (Al)	2017/12/09	101	80 - 120	100	80 - 120	<0.00050	mg/L	5.3	20
8854008	Dissolved Antimony (Sb)	2017/12/09	104	80 - 120	102	80 - 120	<0.000020	mg/L	NC	20
8854008	Dissolved Arsenic (As)	2017/12/09	106	80 - 120	104	80 - 120	<0.000020	mg/L	2.9	20
8854008	Dissolved Barium (Ba)	2017/12/09	NC	80 - 120	102	80 - 120	<0.000020	mg/L	0.54	20
8854008	Dissolved Beryllium (Be)	2017/12/09	93	80 - 120	92	80 - 120	<0.000010	mg/L	NC	20
8854008	Dissolved Bismuth (Bi)	2017/12/09	97	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8854008	Dissolved Boron (B)	2017/12/09	93	80 - 120	95	80 - 120	<0.010	mg/L	NC	20
8854008	Dissolved Cadmium (Cd)	2017/12/09	101	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8854008	Dissolved Chromium (Cr)	2017/12/09	99	80 - 120	101	80 - 120	<0.00010	mg/L	NC	20
8854008	Dissolved Cobalt (Co)	2017/12/09	96	80 - 120	100	80 - 120	<0.0000050	mg/L	0.33	20
8854008	Dissolved Copper (Cu)	2017/12/09	96	80 - 120	101	80 - 120	<0.000050	mg/L	10	20
8854008	Dissolved Iron (Fe)	2017/12/09	NC	80 - 120	101	80 - 120	<0.0010	mg/L	1.6	20
8854008	Dissolved Lead (Pb)	2017/12/09	98	80 - 120	99	80 - 120	<0.0000050	mg/L	NC	20
8854008	Dissolved Lithium (Li)	2017/12/09	92	80 - 120	91	80 - 120	<0.00050	mg/L	0.72	20
8854008	Dissolved Manganese (Mn)	2017/12/09	NC	80 - 120	103	80 - 120	<0.000050	mg/L	0.019	20
8854008	Dissolved Molybdenum (Mo)	2017/12/09	110	80 - 120	106	80 - 120	<0.000050	mg/L	11	20
8854008	Dissolved Nickel (Ni)	2017/12/09	98	80 - 120	101	80 - 120	<0.000020	mg/L	6.2	20
8854008	Dissolved Phosphorus (P)	2017/12/09					<0.0020	mg/L		
8854008	Dissolved Selenium (Se)	2017/12/09	102	80 - 120	100	80 - 120	<0.000040	mg/L	NC	20
8854008	Dissolved Silicon (Si)	2017/12/09					<0.050	mg/L	0.62	20
8854008	Dissolved Silver (Ag)	2017/12/09	108	80 - 120	106	80 - 120	<0.0000050	mg/L	NC	20
8854008	Dissolved Strontium (Sr)	2017/12/09	NC	80 - 120	101	80 - 120	<0.000050	mg/L	0.31	20
8854008	Dissolved Thallium (Tl)	2017/12/09	101	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20
8854008	Dissolved Tin (Sn)	2017/12/09	102	80 - 120	98	80 - 120	<0.00020	mg/L	NC	20
8854008	Dissolved Titanium (Ti)	2017/12/09	101	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8854008	Dissolved Uranium (U)	2017/12/09	98	80 - 120	95	80 - 120	<0.0000020	mg/L	3.2	20
8854008	Dissolved Vanadium (V)	2017/12/09	103	80 - 120	102	80 - 120	<0.00020	mg/L	NC	20
8854008	Dissolved Zinc (Zn)	2017/12/09	NC	80 - 120	99	80 - 120	<0.00010	mg/L	2.0	20
8854008	Dissolved Zirconium (Zr)	2017/12/09	104	80 - 120	101	80 - 120	<0.00010	mg/L	NC	20
8854019	Total Dissolved Solids	2017/12/07	98	80 - 120	95	80 - 120	<10	mg/L	2.7	20
8854030	Dissolved Organic Carbon (C)	2017/12/06	103	80 - 120	100	80 - 120	<0.50	mg/L	13	20
8854035	Dissolved Organic Carbon (C)	2017/12/06	91	80 - 120	100	80 - 120	<0.50	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

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			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8854065	Total Suspended Solids	2017/12/07	117	80 - 120	100	80 - 120	<4.0	mg/L	3.4	20
8854082	Dissolved Phosphorus (P)	2017/12/06	86	80 - 120	95	80 - 120	<0.0020	mg/L	2.7	20
8854084	Total Phosphorus (P)	2017/12/06	84	80 - 120	95	80 - 120	<0.0020	mg/L	5.6	20
8854090	Dissolved Phosphorus (P)	2017/12/06			93	80 - 120	<0.0020	mg/L		
8854092	Total Phosphorus (P)	2017/12/06			93	80 - 120	<0.0020	mg/L		
8854331	Alkalinity (PP as CaCO3)	2017/12/06					<1.0	mg/L	NC	20
8854331	Alkalinity (Total as CaCO3)	2017/12/06	NC	80 - 120	97	80 - 120	<1.0	mg/L	1.4	20
8854331	Bicarbonate (HCO3)	2017/12/06					<1.0	mg/L	0.062	20
8854331	Carbonate (CO3)	2017/12/06					<1.0	mg/L	51 (1)	20
8854331	Hydroxide (OH)	2017/12/06					<1.0	mg/L	NC	20
8854334	pH	2017/12/06			101	97 - 103			0.60	20
8854335	Conductivity	2017/12/06			99	80 - 120	<2.0	uS/cm		
8854343	Turbidity	2017/12/06			103	80 - 120	<0.10	NTU	0.88	20
8854389	Alkalinity (PP as CaCO3)	2017/12/06					<1.0	mg/L	NC	20
8854389	Alkalinity (Total as CaCO3)	2017/12/06	NC	80 - 120	98	80 - 120	<1.0	mg/L	3.8	20
8854389	Bicarbonate (HCO3)	2017/12/06					<1.0	mg/L	3.8	20
8854389	Carbonate (CO3)	2017/12/06					<1.0	mg/L	NC	20
8854389	Hydroxide (OH)	2017/12/06					<1.0	mg/L	NC	20
8854391	pH	2017/12/06			101	97 - 103				
8854393	Conductivity	2017/12/06			100	80 - 120	<2.0	uS/cm		
8854398	Alkalinity (PP as CaCO3)	2017/12/06					<1.0	mg/L		
8854398	Alkalinity (Total as CaCO3)	2017/12/06	NC	80 - 120	100	80 - 120	<1.0	mg/L		
8854398	Bicarbonate (HCO3)	2017/12/06					<1.0	mg/L		
8854398	Carbonate (CO3)	2017/12/06					<1.0	mg/L		
8854398	Hydroxide (OH)	2017/12/06					<1.0	mg/L		
8854399	pH	2017/12/06			101	97 - 103				
8854401	Conductivity	2017/12/06			99	80 - 120	<2.0	uS/cm		
8854438	Dissolved Chloride (Cl)	2017/12/06	117	80 - 120	102	80 - 120	<1.0	mg/L	NC	20
8854441	Dissolved Sulphate (SO4)	2017/12/06	118	80 - 120	100	80 - 120	<1.0	mg/L	NC	20
8854442	Dissolved Chloride (Cl)	2017/12/06	110	80 - 120	102	80 - 120	<1.0	mg/L	0.62	20
8854444	Dissolved Sulphate (SO4)	2017/12/06	117	80 - 120	102	80 - 120	<1.0	mg/L	0.26	20
8854898	Nitrate plus Nitrite (N)	2017/12/06	100	80 - 120	102	80 - 120	<0.0020	mg/L	NC	25

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QUALITY ASSURANCE REPORT(CONT'D)

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			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8854899	Nitrite (N)	2017/12/06	95	80 - 120	96	80 - 120	<0.0020	mg/L	NC	25
8854902	Nitrate plus Nitrite (N)	2017/12/06			101	80 - 120	<0.0020	mg/L		
8854905	Nitrite (N)	2017/12/06			97	80 - 120	<0.0020	mg/L		
8855355	Dissolved Organic Carbon (C)	2017/12/07	99	80 - 120	111	80 - 120	<0.50	mg/L	NC	20
8855396	Strong Acid Dissoc. Cyanide (CN)	2017/12/07	104	80 - 120	97	80 - 120	<0.00050	mg/L	NC	20
8855425	Weak Acid Dissoc. Cyanide (CN)	2017/12/07			97	80 - 120	<0.00050	mg/L		
8855707	Acidity (pH 4.5)	2017/12/07					<1.0	mg/L	NC	20
8855707	Acidity (pH 8.3)	2017/12/07			103	80 - 120	<1.0	mg/L	NC	20
8855713	Acidity (pH 4.5)	2017/12/07					<1.0	mg/L		
8855713	Acidity (pH 8.3)	2017/12/07			105	80 - 120	<1.0	mg/L		
8855716	Acidity (pH 4.5)	2017/12/07					<1.0	mg/L		
8855716	Acidity (pH 8.3)	2017/12/07			109	80 - 120	<1.0	mg/L		
8855730	Fluoride (F)	2017/12/07	103	80 - 120	102	80 - 120	<0.020	mg/L	NC	20
8855758	Total Ammonia (N)	2017/12/07	NC	80 - 120	105	80 - 120	<0.020	mg/L	2.8	20
8855862	Total Ammonia (N)	2017/12/07	90	80 - 120	104	80 - 120	<0.020	mg/L	NC	20
8856363	Total Mercury (Hg)	2017/12/08	98	80 - 120	102	80 - 120	<0.010	ug/L	NC	20
8856384	Dissolved Mercury (Hg)	2017/12/08	99	80 - 120	98	80 - 120	<0.010	ug/L	NC	20
8856702	Fluoride (F)	2017/12/08	102	80 - 120	104	80 - 120	<0.020	mg/L		
8857121	Strong Acid Dissoc. Cyanide (CN)	2017/12/08	96	80 - 120	94	80 - 120	<0.00050	mg/L	2.3	20
8857164	Acidity (pH 4.5)	2017/12/08					<1.0	mg/L	NC	20
8857164	Acidity (pH 8.3)	2017/12/08			103	80 - 120	<1.0	mg/L	NC	20
8857177	Weak Acid Dissoc. Cyanide (CN)	2017/12/08	96	80 - 120	95	80 - 120	<0.00050	mg/L	11	20
8857400	Bromide (Br)	2017/12/09	NC	78 - 120	99	80 - 120	<0.010	mg/L	0.26	20
8857408	Bromide (Br)	2017/12/09	102	78 - 120	102	80 - 120	<0.010	mg/L	NC	20
8857976	Dissolved Thiosulphate	2017/12/12	91	80 - 120	100	80 - 120	<0.20	mg/L		
8859595	Total Ammonia (N)	2017/12/12	NC	80 - 120	109	80 - 120	<0.020	mg/L		
8862534	Dissolved Lead (Pb)	2017/12/14	96	80 - 120	99	80 - 120	<0.0000050	mg/L	4.4	20
8862534	Dissolved Zinc (Zn)	2017/12/14	100	80 - 120	104	80 - 120	<0.00010	mg/L		
8862739	Total Phosphorus (P)	2017/12/14	NC	80 - 120	108	80 - 120	<0.0020	mg/L	0.18	20

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QUALITY ASSURANCE REPORT(CONT'D)

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			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8864523	Total Zinc (Zn)	2017/12/18	103	80 - 120	108	80 - 120	<0.00010	mg/L	3.9	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

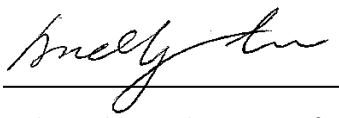
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Report Date: 2017/12/18

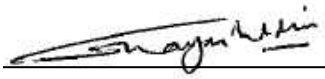
YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist



Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

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Page 1 of 1

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Yukon Zinc Corporation	Company Name:	Quotation #:	☑ Regular TAT 5 days (Most analyses)
Contact Name: Alex Wu	Contact Name:	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 705 - 1030 West Georgia Street	Address:	Project #:	Rush TAT (Surcharges will be applied)
Vancouver PC: V6E 2Y3	PC:	Site Location:	☐ Same Day ☐ 2 Days
Phone: 604-684-5474	Phone:	Site #:	☐ 1 Day ☐ 3 Days
Email: alex.wu@yukonzinc.com	Email: Y2C Group	Sampled By:	Date Required:
			Rush Confirmation #:

Regulatory Criteria	Special Instructions
☐ BC CSR Soil ☐ BC CSR Water	☐ Return Cooler
☐ CCME (Specify) ☐ Other (Specify)	☐ Ship Sample Bottles (Please Specify)
☐ Drinking Water ☐ BC Water Quality	

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VOC/HW	EPH	PAH	CCME PHC	Dissolved Metals	Dissolved Mercury	Total Metals	Total Mercury	Chloride	TSS	pH	Package A	Total Phosphate and Ammonia	DOC	Total and WAD Cyanide	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYSE
	Bottle									Sterile Yellow tube		Royal blue tube					120ml plastic	1L plastic + 250 mL plastic	120 mL plastic	250 mL plastic	120 mL plastic	
	Preservative									HNO3		HNO3					HCl	-	H2SO4	NaOH	NaOH	
	Filtered									✓	✓	-					-	-	-	-	-	
1	T1		01/12/2017	15:20	Water					X	X	X	X				X	X	X	X	12	
2	R1		01/12/2017	13:55	Water					X	X	X	X				X	X	X	X	12	
3	Portal		02/12/2017	14:20	Water					X	X	X	X				X	X	X	X	12	
4	W15		02/12/2017	10:05	Water					X	X	X	X				X	X	X	X	12	
5	W16		02/12/2017	10:35	Water					X	X	X	X				X	X	X	X	12	
6	W21		01/12/2017	10:00	Water					X	X	X	X				X	X	X	X	12	
7	W22		01/12/2017	11:00	Water					X	X	X	X				X	X	X	X	12	
8	W40		01/12/2017	11:25	Water					X	X	X	X				X	X	X	X	11	
9	W71		01/12/2017	12:15	Water					X	X	X	X				X	X	X	X	12	
10	W72		01/12/2017	12:45	Water					X	X	X	X				X	X	X	X	12	
11	W73		01/12/2017	13:15	Water					X	X	X	X				X	X	X	X	12	
12	W81		02/12/2017	9:35	Water					X	X	X	X				X	X	X	X	12	
13	DUP1		02/12/2017		Water							X	X				X	X	X	X	8	
14	FIELD BLANKS		01/12/2017	15:45	Water							X	X				X	X	X	X	8	
15	TRIP BLANK		02/12/2017		Water					X	X	X	X				X	X	X	X	12	
16					Water																	

LABORATORY USE ONLY

CUSTODY SEAL Y / N		COOLER TEMPERATURES
Present	Intact	
Y	Y	0.9.2
Y	Y	3.2.3
Y	Y	0.0.1-2

COOLING MEDIA PRESENT: Y / N

COMMENTS

Preservation added by sampling analysis

Missing one disc. Metals bottle because of contamination by samples

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Bill Maze	17/12/02	17:00	Brenden Lyske	2017/12/05	15:43
			Brenden Lyske		

RECEIVED IN WHITEHORSE
Alyssa @ 16:40
2017-12-04
TEMP: 7.5 5.1 6.6


B7A7983_COC

Appendix F: Wolverine EEM Cycle 3 Interpretive Report, November 29, 2017

ALEXCO ENVIRONMENTAL GROUP

WOLVERINE PROJECT

Metal Mining Effluent Regulations Environmental Effects Monitoring Cycle 3 Interpretive Report

FINAL

November 29, 2017

Prepared for:

YUKON ZINC CORPORATION

DISTRIBUTION LIST

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1	Environment Canada
1	Yukon Zinc Corporation

ALEXCO ENVIRONMENTAL GROUP INC. SIGNATURES

Report prepared by: Catherine Henry — 11/29/2017

Catherine Henry, M.Sc.
Environmental Scientist

Report reviewed by: — 11/29/2017

David Petkovich, B. Sc., P. Biol.
Aquatic Scientist

Report reviewed by: — 11/29/2017

T. Scott Keesey
Sr. Environmental Manager

EXECUTIVE SUMMARY

The Wolverine Mine became subject to Section 7 of the MMER on June 3, 2009, when, prior to construction of the TSF, water from the underground mine was treated and periodically released to Go Creek. The mine was since put in temporary closure in January 2015. The first two EEM cycles were conducted in 2011 and 2014 and this Cycle 3 Interpretive Report documents methods, data and results pertaining to in situ biological monitoring studies (benthos) and derived conclusions.

Wolverine's Cycle 3 EEM program consists of a benthic invertebrate community survey, supporting environmental variables and water quality monitoring. The benthic invertebrate communities of Go Creek, Bunker Creek and Pup Creek were sampled as per the study design following a Multiple Control Impact design (MCI). Organisms were collected in respect of a quantitative method at the same sampling locations, similar seasonal timing and methodology implemented in Cycles 1 and 2 and described in the Cycle 3 Study Design. At each benthic invertebrate sampling station, substrate and habitat characteristics, water velocity and sampling depth was recorded where possible. In situ water quality measures and water samples for chemical analysis were also collected from each study area.

Results of benthic invertebrate studies showed that upper Go Creek (W16) had high density and low evenness (D), while lower Go Creek (W12) had much lower density but greater evenness (D). The two reference sites were generally similar to each other and fell between the two Go Creek sites in terms of density and evenness. Richness was similar at all sites and Bray-Curtis distance was generally greater at the two exposure sites than at the reference sites. Because there is no mine effluent being discharged in Go Creek, the above results could be interpreted as natural variability in baseline conditions. It is however also possible that prior mine development and previous operations have resulted in enrichment enhancing benthic invertebrate density at W16.

Water chemistry analysis of samples collected at the two exposure and two reference sites during the benthic invertebrate study is generally consistent with historical values, with most parameters in Go Creek being lower than the historical average. No exceedance of the CCME guidelines for the protection of aquatic life (PAL) or the BCMOE guidelines were observed at any of the sites in August 2017.

Stream morphology measurements made during the first and second biological monitoring studies were confirmed during Cycle 3 and indicate that both W13 and W76 provide similar physical habitat for benthic invertebrates, and are adequate reference sites.

Under temporary closure, Wolverine Mine's routine water quality monitoring program included two stations in the exposure area and one station in the reference area. Results of routine water quality monitoring found exceedances for total aluminum, cadmium and copper exceedances in upper Go Creek (W16) and total and dissolved cadmium, total selenium and total zinc in Bunker Creek. With the exception of total zinc, these parameters have historically shown exceedances of the CCME PAL guidelines at these same locations.

Although some differences were observed in the benthic invertebrate communities and in water quality between the sites, habitat characteristics indicate that refences sites are similar to the exposure sites and that differences observed are primarily due to natural variability. There is no effluent-related impact on benthic invertebrate communities or water quality since the mine has not been discharging any effluent to Go Creek. It is however possible that runoff from the mine footprint could have some influence on benthic communities and water quality at the near field Go Creek site. Natural differences noted during the three EEM cycles should be taken into consideration for eventual interpretation of effects monitoring data.

TABLE OF CONTENTS

1. INTRODUCTION 1
1.1 BACKGROUND 5
1.2 OBJECTIVES 5
2. METHODS 5
2.1 BENTHIC INVERTEBRATE COMMUNITY SURVEY 5
2.1.1 Study Area 6
2.1.2 Sample Collection and Processing 8
2.2 SUPPORTING ENVIRONMENTAL VARIABLES 8
2.3 WATER QUALITY MONITORING 9
3. RESULTS 9
3.1 BENTHIC INVERTEBRATE COMMUNITY SURVEY 9
3.1.1 Benthic Invertebrate Community Structure 9
3.1.2 Water Quality 17
3.1.3 Other Supporting Environmental Variables 20
3.2 WATER QUALITY MONITORING 21
4. CONCLUSION AND RECOMMENDATIONS 24
5. SCHEDULE 24
6. REFERENCES 25

LIST OF TABLES

Table 2-1: Benthic Invertebrate Sampling Locations. 6

Table 3-1: Benthic Invertebrate Community Descriptive Statistics. 10

Table 3-2: Benthic Invertebrate Community Statistical Comparisons among Lightning Creek Study Areas. 15

Table 3-3: In situ water quality measurements collected at benthic invertebrate community stations. 17

Table 3-4: Water chemistry of Go Creek, Pup Creek and Bunker Creek sampled during Wolverine benthic surveys, August 2017. 18

Table 3-5: Stream Habitat Characteristics, August 2017. 20

Table 3-6: Surface Water Quality Summary for Go Creek Exposure Area Stations and Bunker Creek Reference Area, 2015-2017 22

LIST OF FIGURES

Figure 1-1: Project Location (Source: Lorax, 2014). 2

Figure 1-2: Industrial Complex Layout. 3

Figure 1-3: Area Overview (Source: Lorax, 2014). 4

Figure 2-1: EEM Benthic Invertebrate Sampling Locations (Source: Lorax, 2014). 7

Figure 3-1: Boxplot of Benthic Invertebrate Density. 11

Figure 3-2: Boxplot of Benthic Invertebrate Richness. 11

Figure 3-3: Boxplot of Simpson's Evenness (D). 12

Figure 3-4: Boxplot of Bray-Curtis Dissimilarity Index (W13 Median). 12

Figure 3-5: Boxplot of Bray-Curtis Dissimilarity Index (W76 Median). 13

Figure 3-6: Ammonia, total aluminum and total iron at benthic invertebrate sampling locations, August 2017. 19

Figure 3-7: Total Antimony, arsenic, cadmium, chromium, copper, lead, nickel, selenium and zinc at benthic invertebrate sampling locations, August 2017. 20

Figure 3-8: Surface Water Quality Monitoring Stations (Source: Lorax, 2014). 23

LIST OF APPENDICES

APPENDIX A-1 BENTHIC INVERTEBRATE COMMUNITY SURVEY DATA PHOTO LOG

APPENDIX A-2 BENTHIC INVERTEBRATE COMMUNITY SURVEY DATA BENTHIC INVERTEBRATES LABORATORY RESULTS AND QA/QC

APPENDIX A-3 BENTHIC INVERTEBRATE COMMUNITY SURVEY DATA STATISTICAL TESTS RESULTS

APPENDIX A-4 BENTHIC INVERTEBRATE COMMUNITY SURVEY DATA BENTHIC INVERTEBRATE SURVEY SURFACE WATER QUALITY LABORATORY RESULTS

APPENDIX B WATER QUALITY MONITORING RESULTS

GLOSSARY

Benthic invertebrates: organisms that live in or on the bottom sediments of rivers, streams, and lakes. Benthic invertebrates are an integral component of aquatic ecosystems and provide valuable biological information to assess potential effects of metal toxicity and nutrient enrichment on a system.

Bray-Curtis similarity index: similarity of taxa making up the benthic invertebrate community.

Genus: a principal taxonomic category that ranks above species and below family.

Hess sampler: cylindrical with enclosed sides and an open top sampler intended for sampling macrobenthos in shallow, flowing waters.

Multiple Control-Impact Design: multiple sites in space sampled more or less simultaneously allowing one or more sampling units with which you can compare results with the unit(s) in which the mechanism is potentially operating at different levels.

Phylum: a principal taxonomic category that ranks above class and below kingdom.

Riparian vegetation: plant habitats and communities along the river margins and banks.

Simpson's Evenness: relative abundance of the taxa making up the benthic invertebrate community.

Substrate: material that rests at the bottom of a stream.

Taxon: a taxonomic group of any rank, such as a species, family, or class.

Taxonomic Richness: number of different species represented in an ecological community.

LIST OF ACRONYMS AND ABBREVIATIONS

ACG	Access Consulting Group
AEG	Alexco Environmental Group Inc.
ANOVA	Analysis of Variance
BCMOE	British Columbia Ministry of Environment
°C	degree Celsius
CCME	Canadian Council of Ministers of the Environment
DO	Dissolved Oxygen
EC	Environment Canada
EEM	Environmental Effects Monitoring
g/L	gram per litre
LOM	Life of Mine
MCI	Multiple Control Impact
mg/L	milligram per litre
MMER	Metal Mining Effluent Regulations
mV	millivolt
NTU	Nephelometric Turbidity Unit
ORP	Oxidation Reduction Potential
PAL	Protection of Aquatic Life
QA/QC	Quality Assurance/Quality Control
RDL	Reportable Detection Limit
SPC	Specific Conductance
TDS	Total Dissolved Solids
tpd	tonnes per day
TSF	Tailings Storage Facility
TSS	Total Suspended Solids
µS/cm	micro Siemen per centimeter
WQ	Water Quality
WUL	Water Use License
YG	Yukon Government
YZC	Yukon Zinc Corporation

1. INTRODUCTION

The Wolverine Mine, owned and operated by Yukon Zinc Corporation (YZC), is a zinc-silver-copper-lead-gold underground mine, with on-site milling capabilities of 1,700 tonnes per day (tpd) to produce copper, lead and zinc concentrates. The Wolverine Mine is located in the southeastern Yukon near the headwaters of the Wolverine Lake watershed within the Kaska Nation Traditional Territory (see Figure 1-1). YZC completed major site construction throughout 2009 and 2010. Mill commissioning commenced in 2011 and commercial production of 1,020 tpd or 60% of rate mill capacity over a 30-day period was achieved March 1, 2012. Production first achieved 1,700 tpd in January 2013. The original estimated life-of-mine (LOM) was nine years, based on a 5.2 M tonne mineable reserve. On January 27, 2015, however, YZC announced that it was temporarily shutting down operations at the Wolverine Mine, due to unfavourable market conditions, putting the site in "Temporary Closure" which is its current status.

Site access is via air, or via a 24 km long access road, which connects with the Robert Campbell Highway at km 190. During this temporary closure period, the access road is only available during the snow-free period; otherwise access via air is year round.

The main industrial complex consists of a processing plant, concentrate load-out, 246-man camp, sewage treatment plant, and offices. Other infrastructure includes two waste rock storage pads, tailings storage facility, airstrip, access road, power plant, and fuel facilities. The industrial complex and waste rock & ore storage facilities are located on the topographic divide between the Wolverine Creek watershed and the Go Creek watershed (Figure 1-2). The discharge compliance point is located in the Go Creek drainage. Go Creek flows into Money Creek, which in turn flows into Frances Lake, part of the Liard watershed (see Figure 1-3).

Tailings from the mill, when operational, were placed in a lined tailings storage facility (TSF) in the Go Creek watershed. Water use and waste discharge at the mine is in accordance with Type A Water License QZ04-065 (WUL) issued by the Yukon Water Board. During operations, all potentially contaminated water collected from the underground workings, surface runoff, and sewage treatment plant was pumped to the TSF. During the temporary closure period, the underground workings have been left to fill with groundwater and the overflow is pumped to the TSF. All other sources of potentially contaminated water (i.e., surface runoff collected in ditches and sumps) are trucked to the TSF. To date, no effluent has been discharged from the TSF. In the fall of 2017, the combined volume of tailings and water was 1,187,158 m^3, which corresponds to about 78% of the TSF volume capacity.

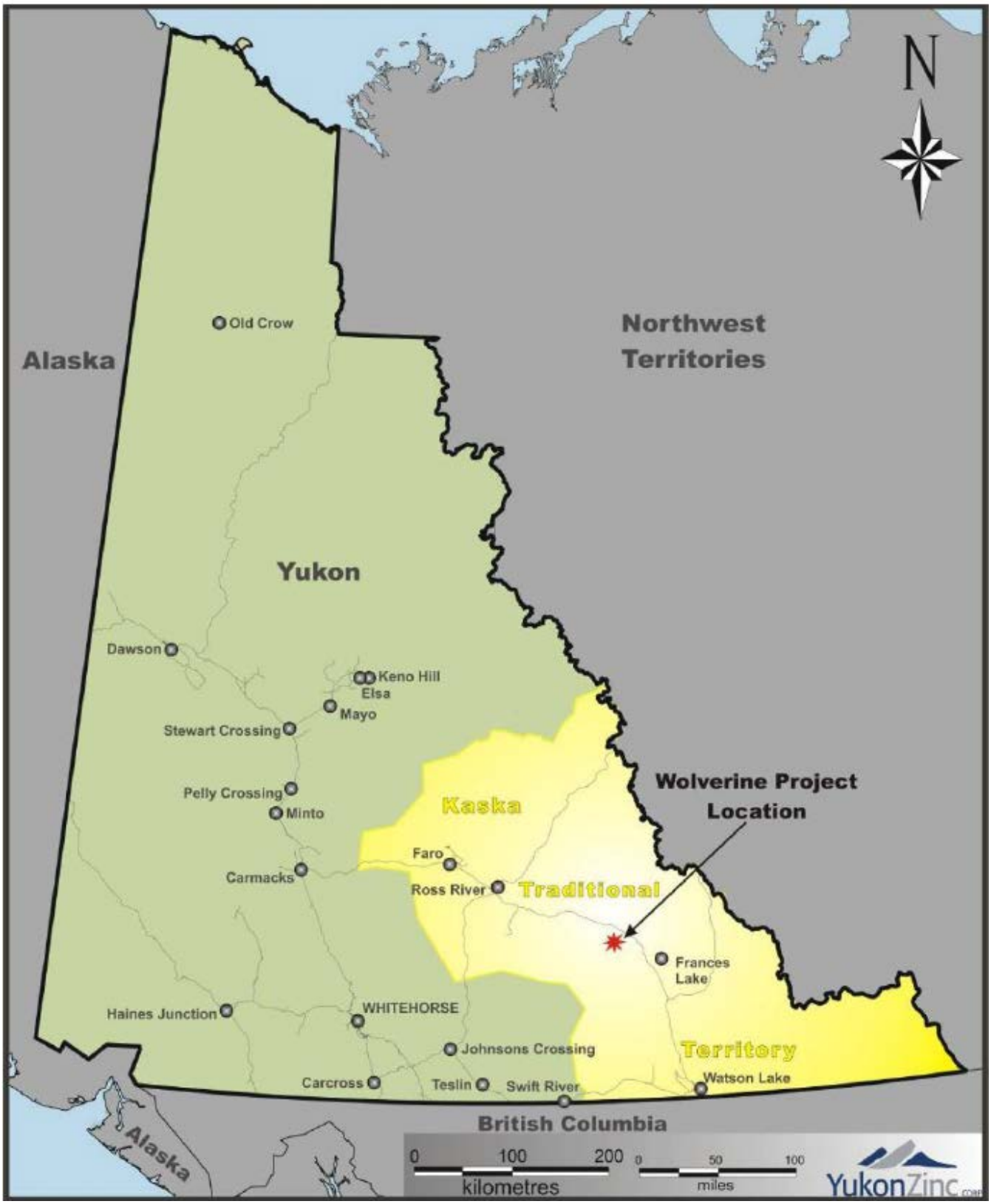
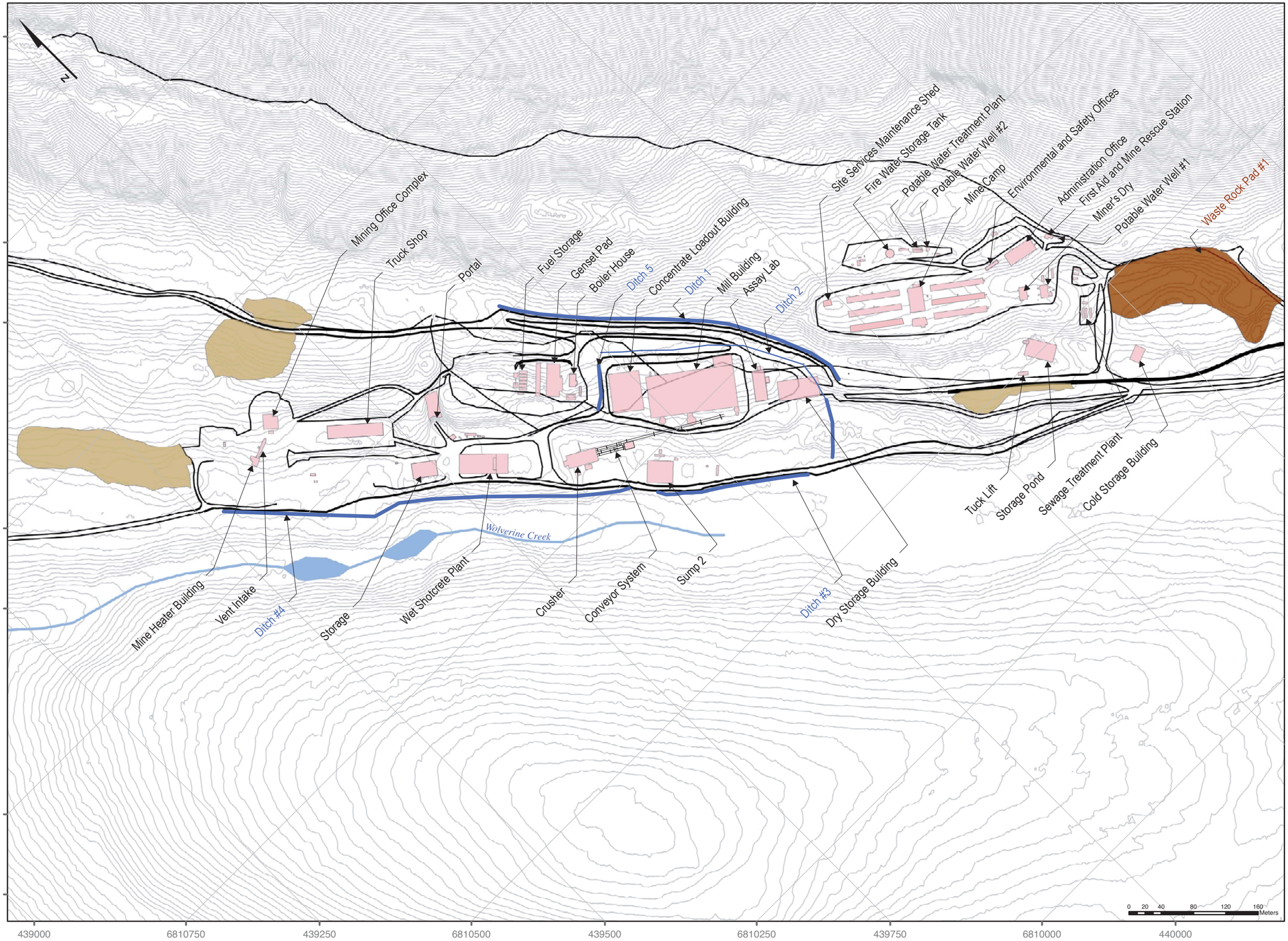


Figure 1-1: Project Location *(Source: Lorax, 2014)*.

YukonZinc CORP

Figure 1-2
Wolverine Mine: Industrial Complex
Layout



Ditch
Existing Road
Mine Access Road
Infrastructure
Organic Stockpile
Waste Rock Pad

Topography

Contour
Watercourse
Waterbody

Date: 22/12/2016
Author: H.Seeley, P.Geo, Wolfbear Geological Consulting

Coordinate System: NAD 1983 UTM Zone 9N
Projection: Transverse Mercator
Datum: North American 1983

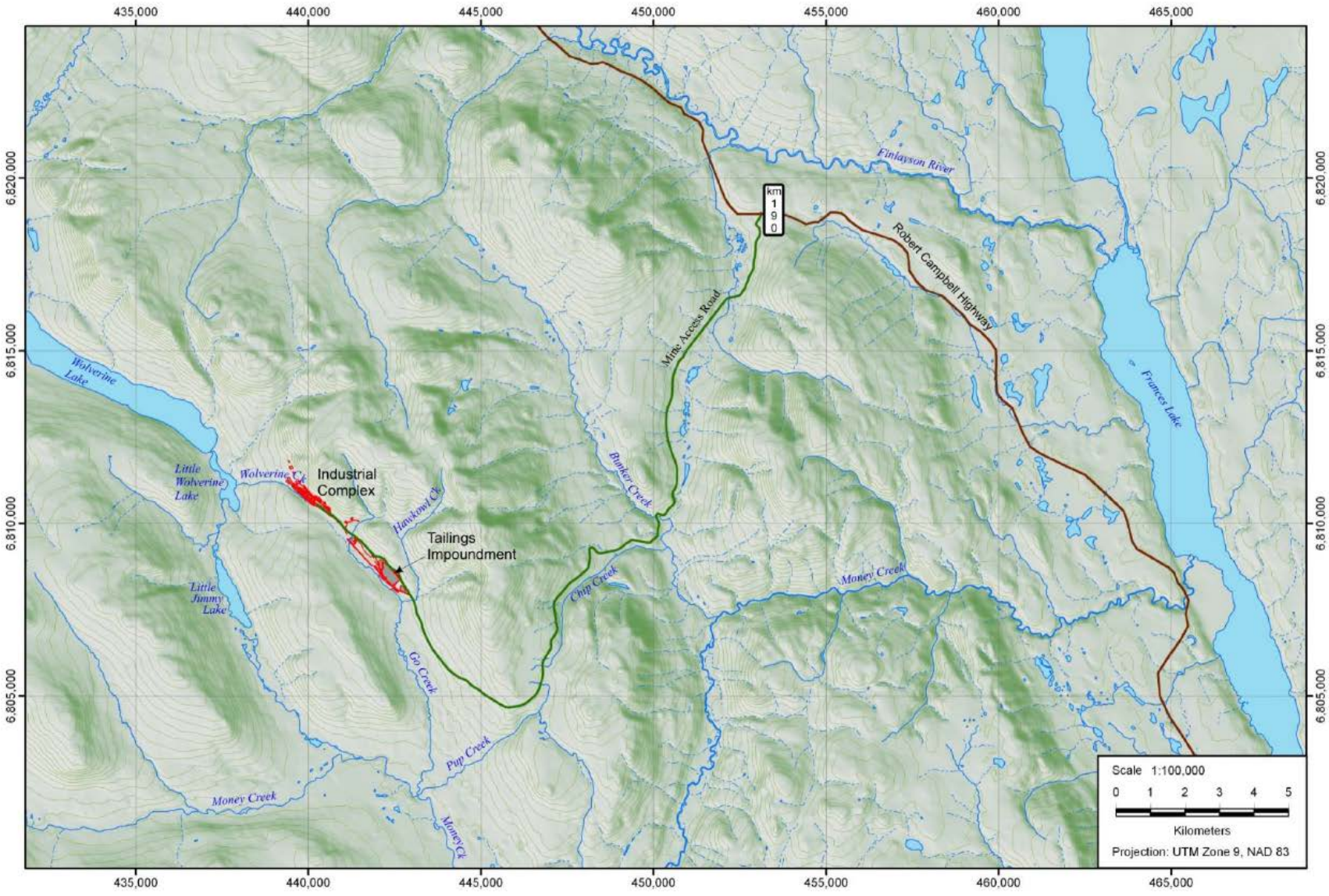


Figure 1-3: Area Overview *(Source: Lorax, 2014).*

1.1 BACKGROUND

Federal effluent regulations for the metal mining industry (Metal Mining Effluent Regulations (MMER) of the Fisheries Act) came into effect in June 2002 and were last updated in May 2016 (Government of Canada, 2016). These regulations, administered under the federal Fisheries Act, apply to mining and milling operations that discharge effluent(s) at a rate greater than 50 m^3/day. The MMER outline requirements for routine effluent monitoring, acute lethality testing, and Environmental Effects Monitoring (EEM). The objective of EEM is to determine whether mining activity is causing an effect on fish, benthic invertebrate communities and/or the use of fisheries resources (based on mercury accumulation in fish tissues).

The Wolverine Mine became subject to Section 7 of the MMER on June 3, 2009, when, prior to construction of the TSF, water from the underground mine was treated and periodically released to Go Creek according to the conditions in Water Use License QZ01-051 (B License). Direct discharge of mine contact water was discontinued in October 2009. Since then, all mine contact water has been directed to the TSF.

YZC submitted a first EEM study design in June 2010. Field work to complete the studies described in the first study design was conducted in early September 2011 and the first interpretive report was submitted in December 2011. A study design for the second EEM cycle was submitted for regulatory approval in March 2014. Field work was carried out in September 2014, and the second interpretive report was submitted in December 2014. The study design for this third EEM cycle was submitted to Environment Canada (EC) in September 2016 and the study was implemented in August 2017.

1.2 OBJECTIVES

This Cycle 3 Interpretive Report documents methods, data and results pertaining to in situ biological monitoring studies (benthos) and derived conclusions.

Strict QA/QC procedures were adhered to throughout the study and are further described in the various sections of the report.

2. METHODS

Wolverine's Cycle 3 EEM program consists of a benthic invertebrate community survey, supporting environmental variables and water quality. As described in the study design, fish population and fish tissue surveys were not required because the Wolverine Mine is not discharging effluent to Go Creek. Similarly, effluent characterization, sublethal and acute toxicity tests have not been conducted as the mine is not discharging to the receiving environment. Sampling was conducted on August 22-23, 2017 by environmental consultants.

2.1 BENTHIC INVERTEBRATE COMMUNITY SURVEY

The benthic invertebrate communities of Go Creek, Bunker Creek and Pup Creek were sampled as per the study design following a Multiple Control Impact design (MCI). Organisms were collected in respect of a quantitative method at the same sampling locations, similar seasonal timing and methodology implemented in Cycles 1 and 2 and described in the Cycle 3 Study Design, in order to facilitate the detection of any effects, as per the MMER. However, because the three EEM benthic invertebrate surveys were conducted under largely baseline conditions (no mine effluent discharge), the differences observed likely represent natural variability rather than effects. It is recognised however that mine

development and previous operations have resulted in disturbances and placement of structures and mined and milled materials on surface that could influence conditions in the downstream aquatic environment.

2.1.1 STUDY AREA

The exposure area is the approximately 7 km length of Go Creek between the effluent discharge point and the confluence with Money Creek. Benthic invertebrate sampling took place at two locations in Go Creek: Station W16 (near field) and Station W12 at the mouth of Go Creek (far field).

Reference sites established for benthic invertebrate monitoring are lower Pup Creek (station W13) and Bunker Creek upstream of the road (station W76). These locations are in streams with similar physical characteristics to Go Creek that have not had any exposure to effluent or run-off from the mine footprint.

Table 2-1 presents the sampling locations coordinates and Figure 2-1 shows their location relative to the main mine features.

Table 2-1: Benthic Invertebrate Sampling Locations.

Station	Description	Type	Sample Replicates	Latitude	Longitude
W16	Go Creek below Tailings Facility	Exposure Near Field	A, B, C, D, E	61°24'05.0" N	130°04'34.0" W
W12	Go Creek above Money Creek	Exposure Far Field	A, B, C	61°20'59.0" N	130°03'46.4" W
			D	61°20'59.2" N	130°03'45.1" W
			E	61°20'59.2" N	130°03'44.0" W
W13	Pup Creek	Reference	A, B, C, D, E	61°20'57.0" N	130°03'43.9" W
W76	Bunker Creek above road crossing	Reference	A, B, C, D, E	61°25'21.1" N	129°56'09.8" W

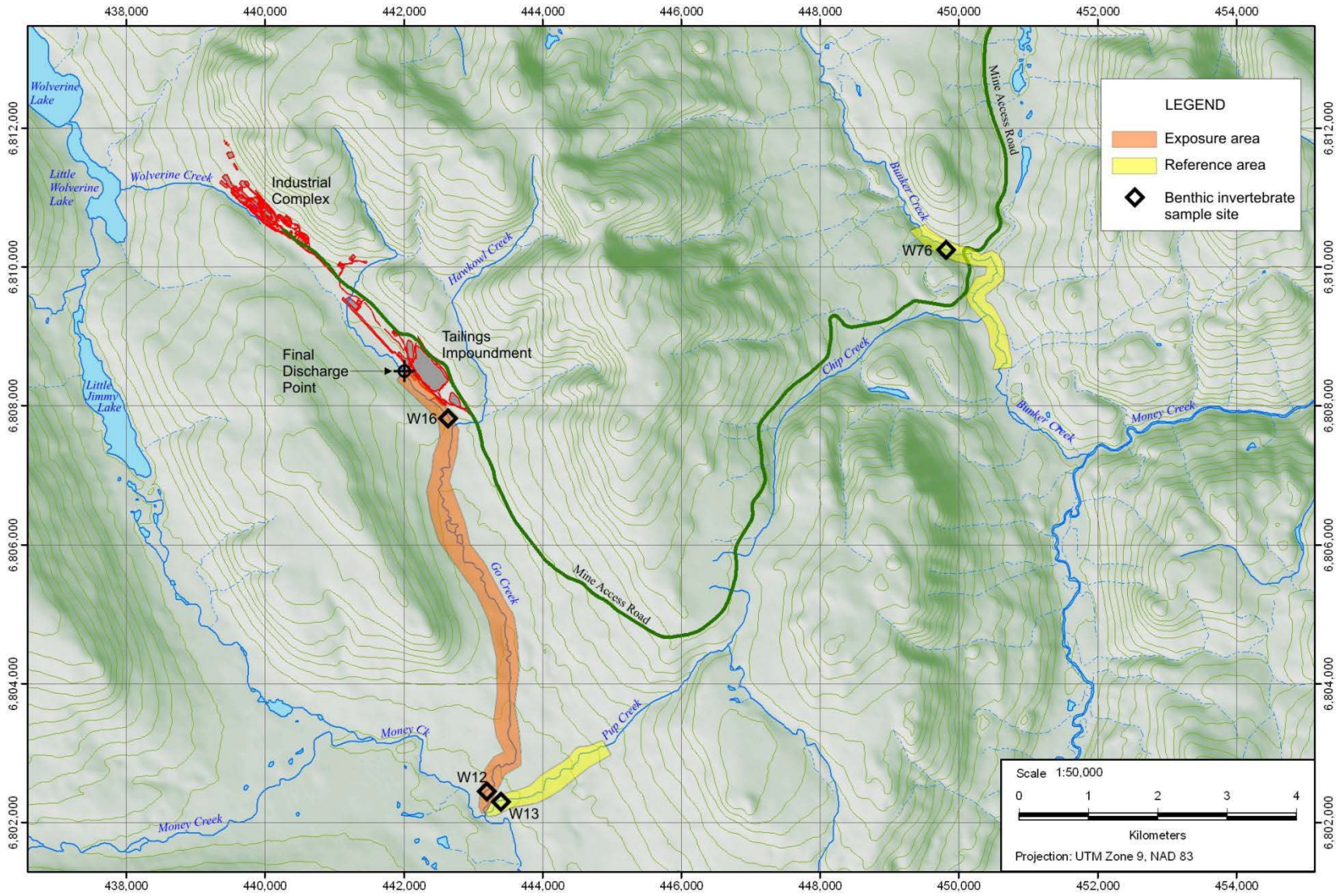


Figure 2-1: EEM Benthic Invertebrate Sampling Locations *(Source: Lorax, 2014).*

2.1.2 SAMPLE COLLECTION AND PROCESSING

Survey methodology followed the recommendations in the EEM Guidance Document and was consistent with methods used during previous EEM cycles. Riffle zones were sampled using a Hess sampler (0.086 m^2 area, 243 µm mesh size). Sampling targeted a longitudinal stretch of the stream that includes one pool/riffle sequence, although pools are uncommon in the streams being surveyed. Five replicates were collected in each area with a minimum separation of three times the bank-full width between stations. Three subsamples (i.e. Hess sampler sets) were collected for 5 minutes each and were composited to make up a replicate.

Benthic invertebrate samples were preserved with 10% buffered formalin to fix the tissues of the organisms quickly, shipped to and processed by a qualified laboratory (Sandpiper Biological Consulting Ltd.) using standard sorting methods which adhere to EEM Quality Assurance/Quality Control (QA/QC) protocols (i.e., Environment Canada 2002, 2012). Sample material greater than 250 µm in diameter was examined under a stereomicroscope at a magnification of at least ten times by a technician. All benthic organisms were removed from the sample debris and placed into vials containing 70% ethanol according to major taxonomic groups (i.e., phyla and orders). A senior taxonomist then enumerated and identified the benthic organisms to the lowest practical level (typically genus or species) using the most up-to-date taxonomic keys, which exceeds minimum "family level" requirements of Environment Canada (2012). Note should be taken that a different taxonomy lab was used during the previous two cycles (Cordillera Consulting).

Lab QA/QC measures included split checks and resorts, details of which can be found in Appendix A-2.

2.2 SUPPORTING ENVIRONMENTAL VARIABLES

Stream sediments, as a supporting variable for the benthic invertebrate survey, have not been collected during previous EEM cycles, because the benthic invertebrate sampling for the Wolverine project took place in riffle zones with mainly cobble and gravel substrate. Because the sampling locations for benthic invertebrates were kept consistent with previous studies during Cycle 3, no stream sediment samples were collected.

At each benthic invertebrate sampling station, substrate characteristics (e.g., type and approximate size), water velocity and sampling depth was recorded where possible. Habitat descriptions, including general stream morphology, substrate features, riparian vegetation species, percent canopy coverage, available in-stream cover and any other observations relevant to the biological surveys were recorded at each station/study area. Photos were taken at each site to document conditions (see Appendix A-1).

Supporting in situ water quality measures included water temperature, dissolved oxygen (DO), specific conductance (SPC), pH, total dissolved solids (TDS), oxidation-reduction potential (ORP) and turbidity, measured with a calibrated YSI Pro Plus at each benthic invertebrate station. Water samples for chemical analysis were also collected from each study area (i.e., the two effluent-exposed areas and two reference areas). All water samples were collected from approximately mid-depth with the collection bottle facing upstream to avoid any potential influence of the sampler. Samples were field filtered and preserved where needed. Samples were kept cool prior to and during transport back to Maxxam Analytics' Laboratory for analysis of EEM-related variables including hardness, alkalinity, aluminum, arsenic, cadmium, copper, iron, lead, mercury, molybdenum, nickel, zinc, total suspended solids, ammonia, nitrate and ^{226}radium (Environment Canada, 2012). Additional data obtained as part of metal scans is also be available, and is provided in Appendix A-4. Quality control and quality assurance samples (duplicate and trip blank) were collected/carried and given the same treatment as the other water samples.

2.3 WATER QUALITY MONITORING

Wolverine Mine's water quality monitoring program included four sites in the exposure area (W16, W81, W80 and W12) as well as a station on Go Creek upstream of the TSF (W31) during baseline collection and operations periods. In 2012, an additional station (W85) was established on Go Creek approximately 200 m downstream of the final effluent discharge point, to provide a better characterization of water quality and flow in the near field receiving environment. The reference area on Bunker Creek is sampled at stations W73 and W76. Station W76 is located upstream of the access road crossing on Bunker Creek and is not sampled on a regular basis. Pup Creek station W13 is not routinely monitored, but is a component of MMER EEM studies.

All water quality sampling methods, analytical parameters, quality assurance/quality control sampling and analyses, sample storage and shipping methods are conducted in accordance with Environment Canada (2012a). Water quality monitoring samples are shipped to an accredited laboratory (Maxxam Analytics' Laboratory) and analyzed for the same suite of variables outlined in Section 2.2 above. Water quality monitoring results collected since the submission of the Wolverine Cycle 3 Study Design and up to the time of preparation of the Cycle 3 EEM Interpretive Report are summarized and discussed therein.

3. RESULTS

3.1 BENTHIC INVERTEBRATE COMMUNITY SURVEY

The following section presents results of the benthic invertebrate community survey and supporting environmental variables collected on August 22 and 23, 2017.

3.1.1 BENTHIC INVERTEBRATE COMMUNITY STRUCTURE

Descriptive statistics for the selected benthic invertebrate community structure endpoints are presented in Table 3-1 below, and boxplots of the four primary EEM metrics are shown in Figures 3-1 to 3-5. Complete laboratory results, including QA/QC analysis are presented in Appendix A-2. Note that organisms that could not be identified at the family level were reported as a separate category as per EEM Guidance Document (EC, 2012).

Table 3-1: Benthic Invertebrate Community Descriptive Statistics.

Endpoint	Site	n	Mean	Median	Standard Error	Standard Deviation	Minimum	Maximum	95% Confidence Interval of the Mean	
									Lower Bound	Upper Bound
Density	W16	5	12202	13302	1173.2	2623.3	8705	15221	9902.9	14501.7
	W12	5	1261	1279	210.7	471.1	589	1845	848.3	1674.2
	W13	5	4702	5016	533.8	1193.6	3279	6306	3655.3	5747.8
	W76	5	5404	4686	1422.4	3180.6	2205	10659	2616.0	8191.7
Richness	W16	5	29.2	28	1.4	3.1	26	33	26.5	31.9
	W12	5	26.6	27	1.2	2.7	23	30	24.2	29.0
	W13	5	31.4	32	1.6	3.6	26	36	28.3	34.5
	W76	5	31	31	1.2	2.7	28	35	28.6	33.4
Simpson's Evenness (D)	W16	5	0.059	0.062	0.004	0.009	0.048	0.071	0.051	0.067
	W12	5	0.318	0.310	0.052	0.116	0.189	0.485	0.216	0.420
	W13	5	0.149	0.118	0.034	0.076	0.089	0.273	0.083	0.216
	W76	5	0.140	0.126	0.012	0.026	0.116	0.174	0.117	0.163
Bray-Curtis Index (W13 Median)	W16	5	0.586	0.609	0.032	0.071	0.477	0.653	0.524	0.649
	W12	5	0.722	0.726	0.039	0.088	0.631	0.858	0.646	0.799
	W13	5	0.185	0.154	0.044	0.098	0.113	0.349	0.100	0.271
	W76	5	0.422	0.418	0.037	0.082	0.337	0.525	0.351	0.494
Bray-Curtis Index (W76 Median)	W16	5	0.645	0.663	0.029	0.065	0.551	0.709	0.587	0.702
	W12	5	0.650	0.645	0.049	0.111	0.512	0.813	0.553	0.747
	W13	5	0.423	0.399	0.038	0.084	0.337	0.560	0.349	0.496
	W76	5	0.240	0.184	0.072	0.161	0.073	0.478	0.099	0.381

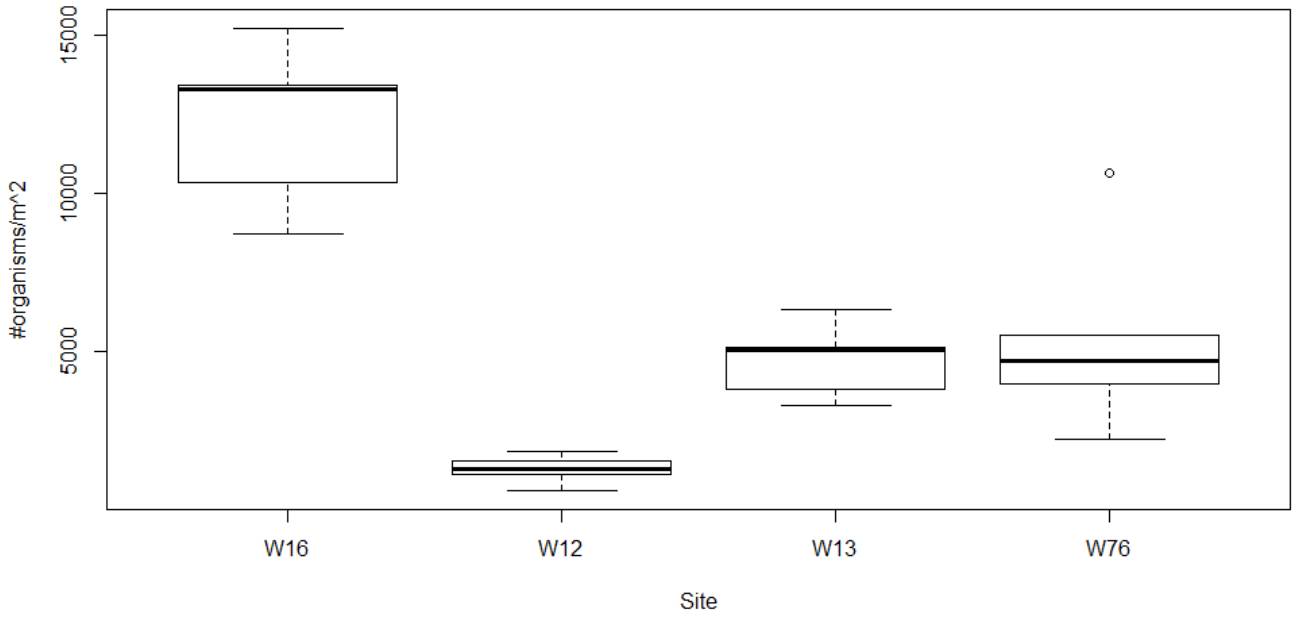


Figure 3-1: Boxplot of Benthic Invertebrate Density.

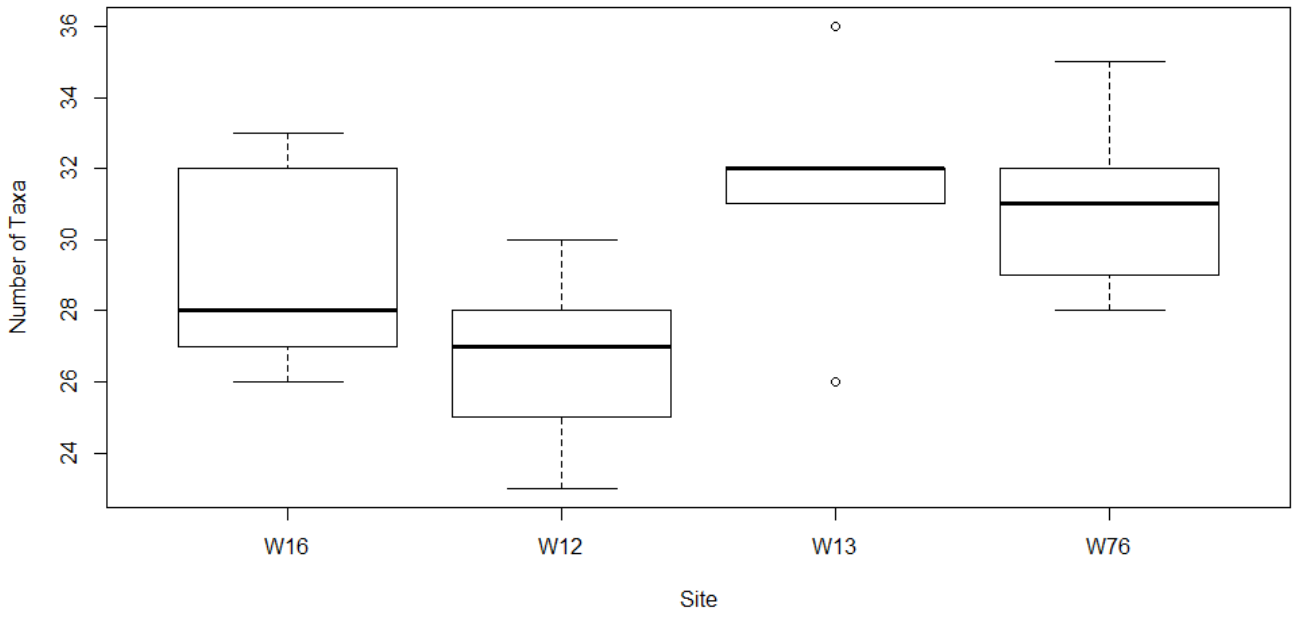


Figure 3-2: Boxplot of Benthic Invertebrate Richness.

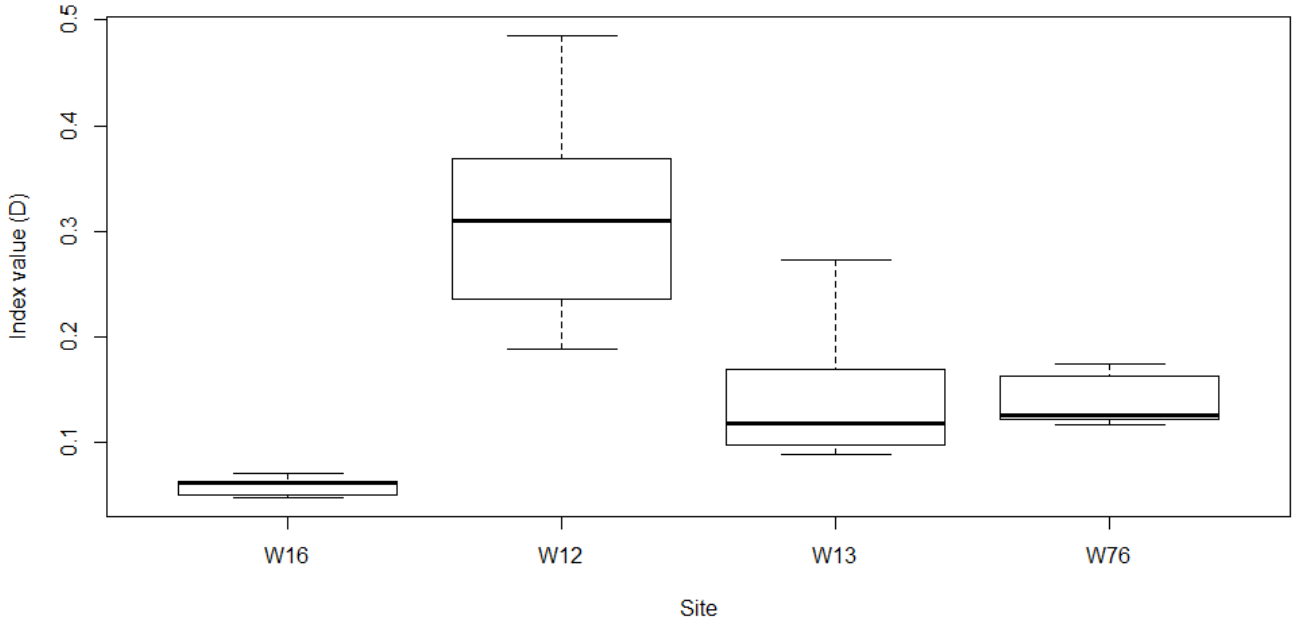


Figure 3-3: Boxplot of Simpson's Evenness (D).

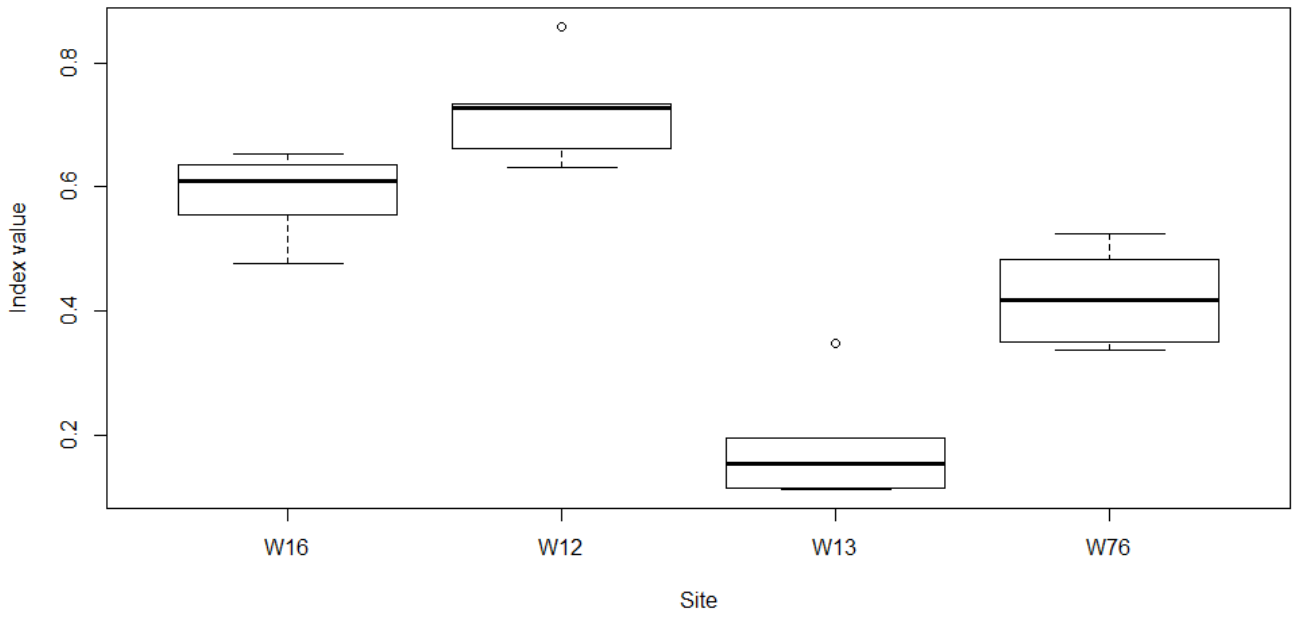


Figure 3-4: Boxplot of Bray-Curtis Dissimilarity Index (W13 Median).

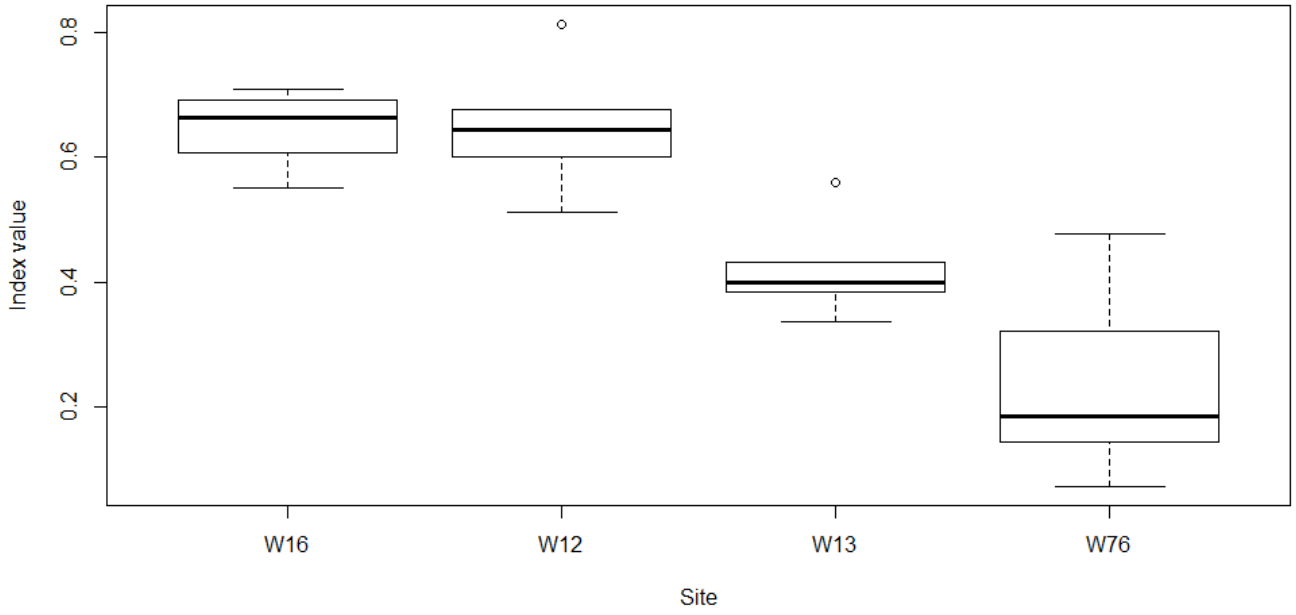


Figure 3-5: Boxplot of Bray-Curtis Dissimilarity Index (W76 Median).

Results of statistical tests (see Table 3-2 and Appendix A-3 for statistical assumptions tests results) indicate that mean invertebrate density (total number of invertebrates of all taxa per m^2) is significantly different between three of the four groups, with the highest value at W16 (near field exposure site) and the lowest at W12 (far field exposure site). The magnitude of the difference between those two sites is of 9.2 W13 standard deviations (SD) or 3.4 W76 SDs. The two reference sites are not significantly different from each other. The first EEM cycle had found similar differences between the two exposure sites, and no significant difference between the two reference sites and the near field exposure site (W16). The second EEM cycle found no significant difference between any of the sites.

No significant difference was found in family level taxonomic richness (number of different taxa) between any of the sites during EEM cycle 3. The first EEM cycle had found W12 to have greater diversity than the other 3 sites, and the second cycle had similar results with the exception of W76 being equal to W12. The second cycle found overall lower richness at all sites than cycles 1 and 3.

Simpson's evenness index is a measure of the relative abundance of the taxa making up the community. It was calculated at the family level according to the equation:

$$D = \frac{1/\sum_{i=1}^{n} p_i^2}{n}$$

Where p_i = proportion of individuals of the i^{th} taxa

n = total number of taxa

D ranges between 0 and 1, where a value of 0 represents infinite unevenness and 1 represents complete evenness. The far field exposure site (W12) had a significantly higher D value than the two references sites, which are not significantly different from each other but significantly higher than the near field exposure site (W16). Results of EEM cycle 2 were similar with W16 significantly less diverse than W12, but W16 was equal to the two reference sites. During cycle 1, W16 was also less diverse than W12 but the two reference sites were equal to W12.

The Bray-Curtis index is a measure of the similarity of taxa making up the community. It was calculated at the family level according to the equation below:

$$d_{ij} = \frac{\sum_{k=1}^{n} |x_{ik} - x_{jk}|}{\sum_{k=1}^{n} (x_{ik} + x_{jk})}$$

Where d_{ij} = similarity between sample *i* and the reference site median *j*

n = total number of taxa

x_{ik} = number of individuals of taxa *k* for sample *i*

The value d_{ij} ranges between 0 and 1, where a value of 0 represents exact similarity and 1 represents infinite dissimilarity. The Bray-Curtis index is calculated for each sample as the similarity between the sample and the median of reference samples. In this case it was calculated relative to W13 and to W76 medians. When comparing to W13 median, W16 has a higher value (greater dissimilarity) than W13 and W12 has a higher value than W76. The two exposure sites are equal, but of the two reference sites, W76 is more dissimilar than W13. When comparing to W76 median, the near field exposure site (W16) is equal to its corresponding reference site (W13) while the far field exposure site (W12) is more dissimilar than its corresponding reference site (W76). The two exposure sites are equal and the two reference sites are equal. Because there are fewer significant differences when using W76 median, it would theoretically make a better reference site, however EEM cycle 2 reached the opposite conclusion, and cycle 1 returned greater dissimilarity in the Go Creek sites than in the two reference sites, comparing to either W13 or W76, which was interpreted as a false positive effect. Community composition changes over time and caution should be taken when comparing sites to determine mine related impacts.

Table 3-2: Benthic Invertebrate Community Statistical Comparisons among Lightning Creek Study Areas.

Endpoint	Significant difference? [1]	Power [2]	Pairwise comparisons [3]	p-value	Significant difference? [4]	Magnitude of difference [5]		Conclusion
						# W13 SDs	# W76 SDs	
Abundance	Yes (p=1.1E-0.6)	1	W16-W12	0.0000005	Yes	9.17	3.44	W16>W12>W13=W76
			W16-W13	0.0074073	Yes	6.28	2.36	
			W16-W76	0.0098722	Yes	5.70	2.14	
			W12-W13	0.0003135	Yes	-2.88	-1.08	
			W12-W76	0.0002385	Yes	-3.47	-1.30	
			W13-W76	0.9989486	No	-	-	
Richness	Yes (p=0.09096)	0.9996	W16-W12	0.5486388	No	-	-	W16=W12=W13=W76
			W16-W13	0.6716738	No	-	-	
			W16-W76	0.7883658	No	-	-	
			W12-W13	0.100673	No	-	-	
			W12-W76	0.1448979	No	-	-	
			W13-W76	0.7883658	No	-	-	
Simpson's Evenness (D)	Yes (p=6.137e-06)	1	W16-W12	0.0000024	Yes	-3.42	-9.84	W12>W13=W76>W16
			W16-W13	0.0032485	Yes	-1.19	-3.44	
			W16-W76	0.0028443	Yes	-1.07	-3.09	
			W12-W13	0.0060258	Yes	2.22	6.40	
			W12-W76	0.0068839	Yes	2.34	6.75	
			W13-W76	0.9998951	No	-	-	
Bray-Curtis Index (W13 Median)	Yes (p=2.037e-07)	1	W16-W12	0.0922673	No	-	-	W16>W13 W12>W76 W16=W12 W76>W13
			W16-W13	0.0000075	Yes	4.11	4.90	
			W16-W76	0.0352224	No	-	-	
			W12-W13	0.0000002	Yes	5.50	6.57	
			W12-W76	0.0002216	Yes	3.07	3.67	

Endpoint	Significant difference? [1]	Power [2]	Pairwise comparisons [3]	p-value	Significant difference? [4]	Magnitude of difference [5]		Conclusion
						# W13 SDs	# W76 SDs	
			W13-W76	0.0022341	Yes	-2.43	-2.90	
Bray-Curtis Index (W76 Median)	Yes (p=4.976e-05)	1	W16-W12	0.999848	No	-	-	W16=W13 W12>W76 W16=W12 W13=W76
			W16-W13	0.0278854	No	-	-	
			W16-W76	0.0001566	Yes	4.81	2.52	
			W12-W13	0.0240777	No	-	-	
			W12-W76	0.0001361	Yes	4.87	2.55	
			W13-W76	0.0822235	No	-	-	

[1] *ANOVA; based on α = 0.10*

[2] *α = β = 0.1*

[3] *Tukey's HSD*

[4] *p-value is compared to level of significance of 0.0167 obtained using a Bonferroni adjustment for 6 pairwise comparisons (0.1/6)*

[5] *Minimum effect size detectable = 0.958 SDs*

Overall, upper Go Creek (W16) was found to have high density and low evenness (D), while lower Go Creek (W12) has a much lower density but greater evenness (D). The two reference sites are generally similar to each other and fall between the two Go Creek sites in terms of density and evenness. Richness is similar at all sites and Bray-Curtis distance is generally greater at the two exposure sites than at the reference sites. Because there is no mine effluent being discharged in Go Creek, the above results could be interpreted as natural variability in baseline conditions. It is however also possible that prior mine development and previous operations have resulted in enrichment enhancing benthic invertebrate density at W16.

3.1.2 WATER QUALITY

In situ water quality data recorded during the August 2017 benthic sampling event are presented in Table 3-1. Overall, in situ parameters were similar from one station to another, aside from a minor temperature difference at Pup Creek (W13) and lower Go Creek (W12).

Table 3-3: In situ water quality measurements collected at benthic invertebrate community stations.

Station	W16 (Exposure)	W12 (Exposure)	W13 (Reference)	W76 (Reference)
Date and Time	23-Aug-2017 17:50	23-Aug-2017 12:50	23-Aug-2017 14:00	22-Aug-2017 12:55
Temperature (°C)	6.8	7.7	4.9	6.4
Dissolved Oxygen (mg/L)	10.34	10.54	11.27	11.10
Specific Conductance (µS/cm)	155.6	152.9	119.9	203.9
Total Dissolved Solids (g/L)	0.10	0.10	0.08	0.13
pH (pH units)	7.71	7.61	7.35	7.91
Oxidation-Reduction Potential (mV)	83.7	149.3	145.9	120.4
Turbidity (NTU)	0.0	0.0	0.0	0.0

Water chemistry analysis of samples collected at the two exposure and two reference sites during the benthic invertebrate study is generally consistent with historical values, with most parameters in Go Creek being lower than the historical average. Selected parameters (listed in the MMER or constituents historically known to be elevated) are presented in Table 3-2, while complete results are available in Appendix A-4. No exceedance of the CCME guidelines for the protection of aquatic life (PAL) or the BCMOE guidelines were observed at any of the sites in August 2017. For parameters that have hardness or pH dependant guidelines, the guideline was calculated based on the measured hardness or pH value for each site.

Table 3-4: Water chemistry of Go Creek, Pup Creek and Bunker Creek sampled during Wolverine benthic surveys, August 2017.

Parameter	Units	W16	W12	W13	W76	Guideline
Physical Tests						
pH	pH	8.08	8.06	8.01	8.16	6.5-9
Conductivity	µS/cm	168	164	129	218	-
TSS	mg/L	<4.0	<4.0	<4.0	<4.0	Narrative
TDS	mg/L	92	104	90	108	-
Hardness	mg/L	79.5	79	62.2	109	-
Turbidity	NTU	0.39	0.3	0.38	0.48	-
Anions						
Fluoride	mg/L	0.038	0.047	0.039	0.049	0.12
Dissolved Sulphate	mg/L	12.2	15.5	2.5	18.7	-
Nutrients						
Ammonia-N	mg/L	<0.020	<0.020	0.045	<0.020	0.239 [1]
Nitrate-N	mg/L	0.27	<0.20	<0.20	<0.20	3
Nitrite-N [2]	mg/L	<0.20	<0.20	<0.20	<0.20	0.06
Total Phosphorus-P	mg/L	0.0059	0.0057	0.0038	0.0032	-
Total and Dissolved Metals						
Aluminum- Total	mg/L	0.0143	0.023	0.0105	0.00795	5 µg/L if pH < 6.5 100 µg/L if pH ≥ 6.5
Aluminum- Dissolved	mg/L	0.0056	0.00501	0.00703	0.00349	$e^{(1.209 - 2.426 (pH) + 0.286 (pH)^2)}$ if pH < 6.5 100 µg/L if pH ≥ 6.5
Antimony- Total	mg/L	0.000053	0.000045	0.000025	0.000106	0.02
Arsenic- Total	mg/L	0.000145	0.000229	0.000111	0.000257	0.005
Cadmium- Total	mg/L	0.000069	0.00002	0.000014	0.000009	0.04 µg/L if hardness (as $CaCO_3$) < 17 mg/L $10^{(0.83(\log[hardness]) - 2.46)}$ if hardness ≥ 17 mg/L and ≤ 280 mg/L 0.37 µg/L if hardness > 280 mg/L
Cadmium- Dissolved	mg/L	0.000068	0.000013	0.000012	0.000005	
Chromium- Total	mg/L	<0.00010	0.00011	0.00017	0.00028	0.001
Copper- Total	mg/L	0.000744	0.000806	0.000466	0.00105	2 µg/L if hardness (as $CaCO_3$) ≤ 82 mg/L or unknown $0.2 * e^{(0.8545[\ln(hardness)]-1.465)}$ if hardness ≥ 82 mg/L and ≤ 180 mg/L 4 µg/L if hardness > 180 mg/L
Iron- Total	mg/L	0.0441	0.103	0.0064	0.0629	0.3
Lead- Total	mg/L	0.00001	0.000034	<0.000005	0.000008	1 µg/L if hardness (as $CaCO_3$) ≤ 60 mg/L or unknown $e^{(1.273[\ln(hardness)]-4.705)}$ if hardness > 60 mg/L and ≤ 180 mg/L 7 µg/L if hardness > 180 mg/L
Mercury- Total	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	0.000026
Molybdenum- Total	mg/L	0.000412	0.000371	0.000268	0.000451	0.073
Nickel- Total	mg/L	0.000281	0.000362	0.000279	0.000765	25 µg/L if hardness (as $CaCO_3$) ≤ 60 mg/L or unknown $e^{(0.76[\ln(hardness)]+1.06)}$ if hardness > 60 mg/L and ≤ 180 mg/L 150 µg/L if hardness > 180 mg/L
Selenium- Total	mg/L	0.000733	0.000693	0.000202	0.000725	0.001

Parameter	Units	W16	W12	W13	W76	Guideline
Silver- Total	mg/L	<0.000005	<0.000005	<0.000005	<0.000005	0.00025
Zinc- Total	mg/L	0.00312	0.00078	0.00031	0.00029	0.03

[1] *Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.*

[2] *RDL is greater than guideline and does not allow to identify exceedances (RDL raised due to sample matrix interference)*

CCME Guidelines for Protection of Aquatic Life

BC-MOE Maximum Guidelines for Aquatic Life

Figures 3-1 and 3-2 show a comparison of selected parameters between the sites. Half of the reportable detection limit (RDL) was used in the graphs where results were below the RDL. Parameters that had higher concentrations in Go Creek include aluminum, cadmium, iron, lead and zinc, while antimony, arsenic, chromium, copper and nickel had higher concentration in Bunker Creek. Only ammonia had a higher concentration in Pup Creek. Note that some nutrients (nitrate and phosphorus) were found to be slightly higher at W16, which could result in enrichment consistent with the greater benthic invertebrate density found at that site.

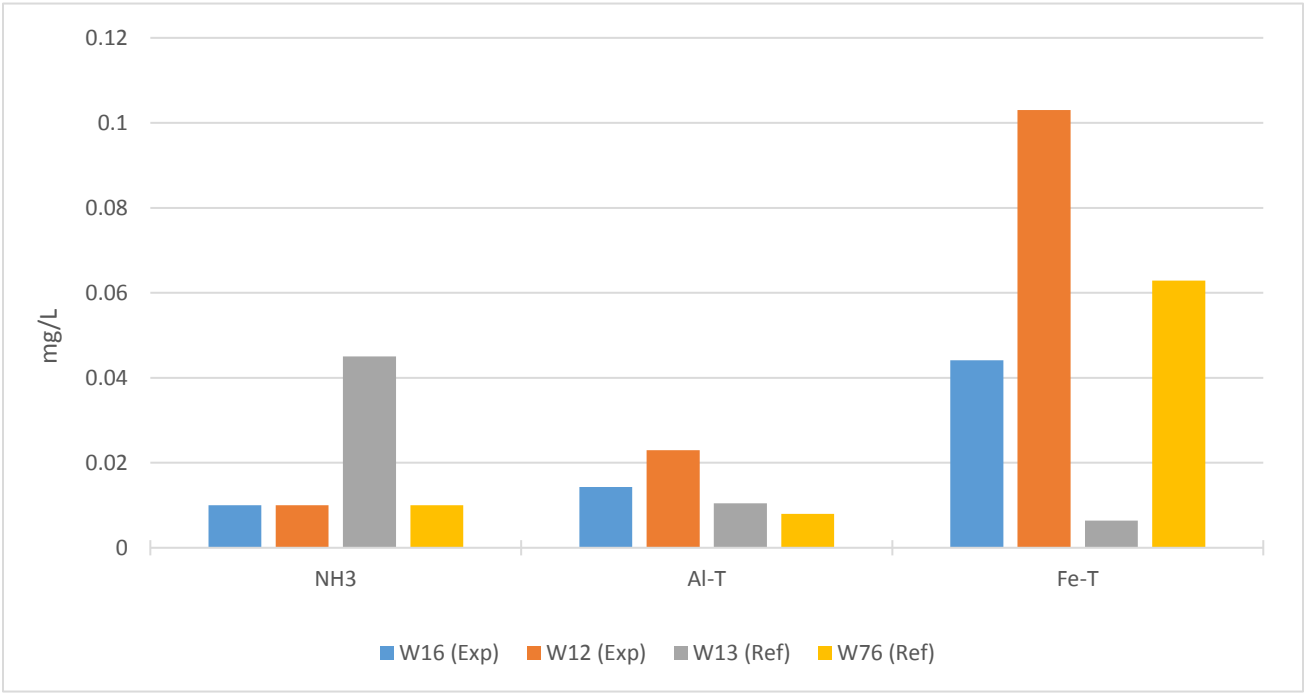


Figure 3-6: Ammonia, total aluminum and total iron at benthic invertebrate sampling locations, August 2017.

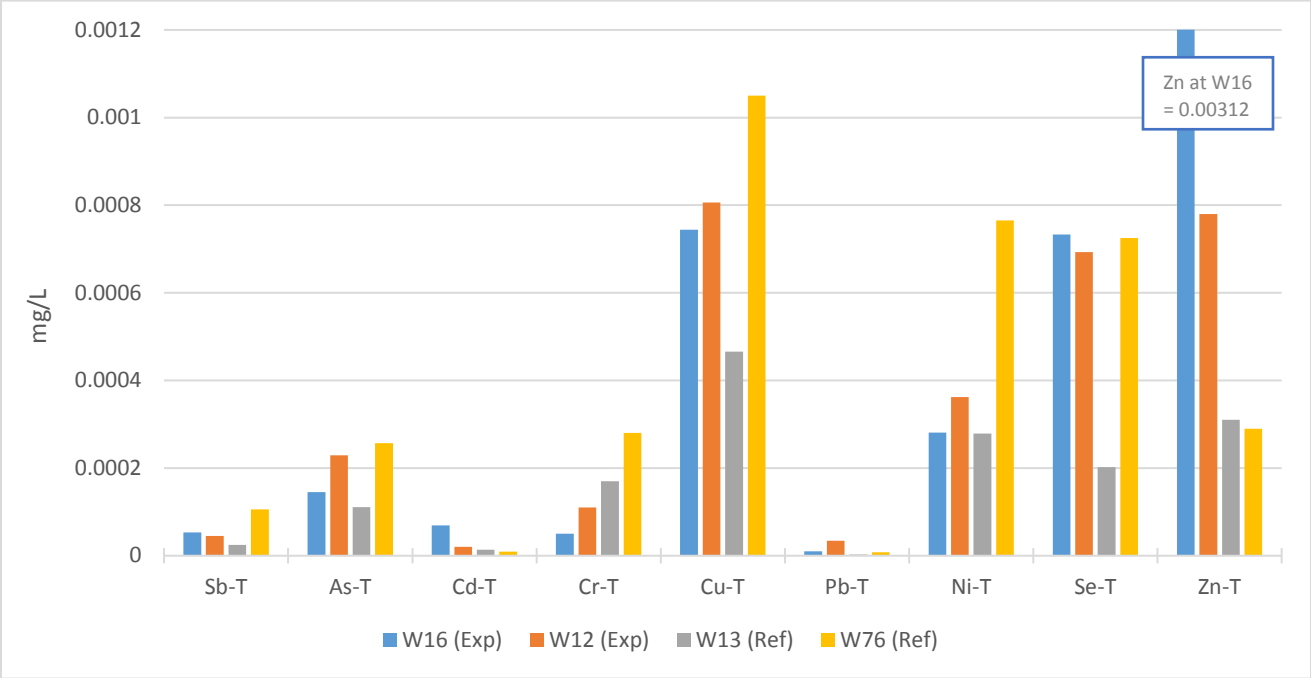


Figure 3-7: Total Antimony, arsenic, cadmium, chromium, copper, lead, nickel, selenium and zinc at benthic invertebrate sampling locations, August 2017.

3.1.3 OTHER SUPPORTING ENVIRONMENTAL VARIABLES

Stream morphology measurements made during the first and second biological monitoring studies were confirmed during Cycle 3 and indicate that lower Pup Creek is physically similar to upper Go Creek, with similar catchment area, stream width, depth, gradient, and substrate composition. The Bunker Creek reference site has a larger catchment area than the Pup Creek or Go Creek sites, therefore discharge rate was greater at site W76 than the other three sites. Other physical characteristics at W76, including wetted width, depth, habitat type, and substrate type, were similar to W12 in lower Go Creek. Overall, all four sites are moderate gradient, shallow streams with predominantly cobble/gravel substrate, with abundant riffle habitats. These characteristics indicate that both W13 and W76 provide similar physical habitat for benthic invertebrates, and are adequate reference sites. Table 3-3 summarizes the stream habitat characteristics of the exposure and reference sites collected in August 2017.

Table 3-5: Stream Habitat Characteristics, August 2017.

Measurement	Units	W16	W12	W13	W76
Catchment Area	km^2	10	36	7	53
Gradient	%	4	2	2	3
Bankfull Width	m	1.3	4.5	1	4.5
Wetted Width	m	1.25	3	0.8	3.4
Median Depth	m	0.2	0.35	0.25	0.35
Habitat type	-	n/a	riffle/run	riffle/run	riffle/run
Discharge	m^3/s	0.186	0.763 *	n/a	0.738

Measurement	Units	W16	W12	W13	W76
Substrate Type (relative abundance)					
Boulder	%	0	5	5	10
Cobble	%	10	25	25	50
Gravel	%	35	50	55	30
Sand	%	40	15	10	5
Silt	%	15	5	5	5
Clay	%	0	0	0	0
Substrate Embededness	%	n/a	n/a	n/a	n/a
Woody Debris	-	rare	none	none	rare
Dams	-	non	none	none	none
Stream Shading	%	30	<25	60	25
Aquatic Plants (relative abundance)					
Periphyton	%	30	40	10	40
Filamentous	%	10	10	25	20
Macrophytes	%	60	50	65	40

** Discharge value from July 1, 2017 (no discharge measurement taken in August 2017)*

3.2 WATER QUALITY MONITORING

Go Creek, Bunker Creek and Pup Creek water quality data from 2009 to 2015 were presented in the Wolverine Mine EEM Cycle 3 Study Design, while more recent results from 2017 are presented in Table 3-4 below (complete lab results are available in Appendix B). The water quality monitoring stations locations are shown on Figure 3-3. Parameters exceeding the CCME guideline for the Protection of Aquatic Life (PAL) are highlighted in red. Total aluminum, cadmium and copper exceedances were observed in upper Go Creek (W16) on July 10, 2017, and total and dissolved cadmium (May 31, 2017), total selenium (Dec 14, 2016 and May 31, 2017) and total zinc (May 31, 2017) exceedances were observed in Bunker Creek. With the exception of total zinc, these parameters have historically shown exceedances of the CCME PAL guidelines at these same locations, as discussed in the Wolverine Cycle 3 Study Design. Note that the reportable detection limit (RDL) for nitrite-N is higher than the guideline and exceedances may go unidentified. The August 23, 2017 sample result for nitrite at W16 however was greater than the RDL. The fact that no mine effluent is being discharged to Go Creek indicates that parameters for which exceedances were observed are likely naturally elevated. Further discussion of water quality results is presented in the annual reports submitted under the WUL.

Table 3-6: Surface Water Quality Summary for Go Creek Exposure Area Stations and Bunker Creek Reference Area, 2015-2017.

Parameter	Units	W16				W12			W73									Guideline
		27/06/2017	10/07/2017	23/08/2017	01/09/2017	28/06/2017	10/07/2017	23/08/2017	25/04/2016	18/07/2016	10/10/2016	14/12/2016	31/05/2017	27/06/2017	09/07/2017	17/08/2017	01/09/2017	
Physical Tests																		
pH	pH	8.03	8.04	8.08	7.98	8.03	8.03	8.06	8.15	8.12	8.13	8.08	8.29	8.07	8.13	8.15	8.17	6.5-9
Conductivity	µS/cm	144	132	168	164	143	143	164	198	221	234	280	603	172	174	210	228	-
TSS	mg/L	<4.0	14.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	Narrative
Hardness	mg/L	69.7	63.6	79.5	77.1	68.6	67.7	79.0	93.5	123	117	138	326	83.1	85.5	105	114	-
DOC	mg/L	2.8	3.6		1.61	2	2.8		4.23					3.3	3.8	2.7	2.54	-
Dissolved Anions																		
Fluoride	mg/L	0.031	0.032	0.038	0.034	0.039	0.040	0.047	0.046	0.048	0.047	0.063	0.540	0.039	0.041	0.049	0.053	0.12
Sulphate	mg/L	10.9	9.97	12.2	12.6	14.4	13.7	15.5	15	19.5	25	25.3	97.7	15.6	15.9	21	21.0	-
Nutrients																		
Ammonia-N	mg/L	0.073	0.052	<0.02	0.04	0.03	0.15	<0.02	0.031	0.022	0.049	0.071	0.019	0.058	0.069	<0.02	0.034	0.239*
Nitrate-N	mg/L	<0.2	<0.2	0.27	0.29	<0.2	<0.2	<0.2	0.28	<0.2	0.24	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3
Nitrite-N	mg/L	<0.2	<0.2	0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.06
Total Phosphorus-P	mg/L	0.0064	0.0378	0.0059	0.0054	0.0082	0.0095	0.0057	0.025	0.0072	0.0030	0.0093		0.0059	0.0061	0.0051	0.0038	-
Total and Dissolved Metals																		
Aluminum- Total	mg/L	0.0192	0.144	0.0143	0.0092	0.0305	0.0363	0.0230	0.0266	0.0108	0.00534	0.00957	0.0347	0.0211	0.0165	0.012	0.0082	5 µg/L if pH < 6.5 100 µg/L if pH ≥ 6.5
Aluminum- Dissolved	mg/L	0.01	0.0117	0.00560	0.0046	0.00702	0.0183	0.00501	0.00719	0.00512	0.00267	0.00224	0.0115	0.0058	0.00679	0.00374	0.0029	$e^{(1.209 - 2.426 (pH) + 0.286 (pH)^2)}$ if pH < 6.5 100 µg/L if pH ≥ 6.5
Antimony- Total	mg/L	0.000062	0.000136	0.000053	0.000047	0.000061	0.000044	0.000045	0.000078	0.000109	0.000094	0.000103	0.000379	0.000099	0.000102	0.000107	0.00011	0.02
Arsenic- Total	mg/L	0.00016	0.000248	0.000145	0.000136	0.000217	0.000196	0.000229	0.000324	0.000251	0.000229	0.000255	0.000435	0.000221	0.000242	0.00026	0.000255	0.005
Cadmium- Total	mg/L	0.0000632	0.000113	0.0000690	0.0000720	0.0000191	0.0000210	0.0000200	0.000015	0.000011	0.0000100	<0.000005	0.00144	0.0000089	0.0000108	0.000008	0.0000090	0.04 µg/L if hardness (as $CaCO_3$) < 17 mg/L $10^{(0.83(\log[hardness]) - 2.46)}$ if hardness ≥ 17 mg/L and ≤ 280 mg/L 0.37 µg/L if hardness > 280 mg/L
Cadmium- Dissolved	mg/L	0.0000552	0.0000631	0.0000680	0.0000694	0.0000119	0.0000183	0.0000130	0.000012	0.000013	0.0000060	0.000007	0.00124	0.0000064	0.0000065	0.000008	0.000006	
Chromium- Total	mg/L	0.0001	0.00046	<0.0001	0.0001	0.00013	0.00021	0.00011	<0.0005	0.00027	0.00029	0.0003	0.00011	0.00028	0.00034	0.0003	0.0003	0.001
Copper- Total	mg/L	0.00114	0.00331	0.000744	0.000631	0.00107	0.00101	0.000806	0.00174	0.00115	0.000801	0.000572	0.00093	0.00143	0.00176	0.00111	0.000937	2 µg/L if hardness (as $CaCO_3$) ≤ 82 mg/L or unknown 0.2 * $e^{(0.8545[\ln(hardness)]-1.465)}$ if hardness ≥ 82 mg/L and ≤ 180 mg/L 4 µg/L if hardness > 180 mg/L
Iron- Total	mg/L	0.0349	0.239	0.0441	0.0359	0.0849	0.0965	0.103	0.256	0.0598	0.0508	0.0683	0.127	0.0548	0.0562	0.0733	0.0567	0.3
Lead- Total	mg/L	0.0000	0.00135	0.0000100	<0.000005	0.0000	0.0000470	0.0000340	<0.00005	0.000031	0.0000750	0.0000580	0.000145	0.0000	0.0000167	0.000019	0.0000050	1 µg/L if hardness (as $CaCO_3$) ≤ 60 mg/L or unknown $e^{(1.273[\ln(hardness)]-4.705)}$ if hardness > 60 mg/L and ≤ 180 mg/L 7 µg/L if hardness > 180 mg/L
Mercury- Total	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001					<0.00001	<0.00001	<0.00001	<0.00001	0.000026
Molybdenum- Total	mg/L	0.000407	0.000377	0.000412	0.000407	0.000372	0.000343	0.000371	0.000413	0.000567	0.000466	0.000505	0.00416	0.000395	0.000417	0.000448	0.00051	0.073
Nickel- Total	mg/L	0.000358	0.00065	0.000281	0.000242	0.000408	0.000464	0.000362	0.00112	0.000797	0.000623	0.000599	0.0275	0.00089	0.000991	0.000893	0.000741	25 µg/L if hardness (as $CaCO_3$) ≤ 60 mg/L or unknown $e^{(0.76[\ln(hardness)]+1.06)}$ if hardness > 60 mg/L and ≤ 180 mg/L 150 µg/L if hardness > 180 mg/L
Selenium- Total	mg/L	0.000928	0.000701	0.000733	0.000765	0.00093	0.000745	0.000693	0.000668	0.000674	0.000683	0.00103	0.00701	0.00053	0.000601	0.00072	0.000765	0.001
Silver- Total	mg/L	<0.000005	0.000013	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	0.000005	<0.000005	<0.000005	<0.000005	<0.000005	0.00025
Zinc- Total	mg/L	0.00288	0.0130	0.00312	0.00288	0.00089	0.00095	0.00078	0.0015	0.001	0.00079	0.00074	0.443	0.00032	0.00032	0.0006	0.00025	0.03

** Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.*

CCME Guidelines for Protection of Aquatic Life

BCMOE Maximum Guidelines for Aquatic Life

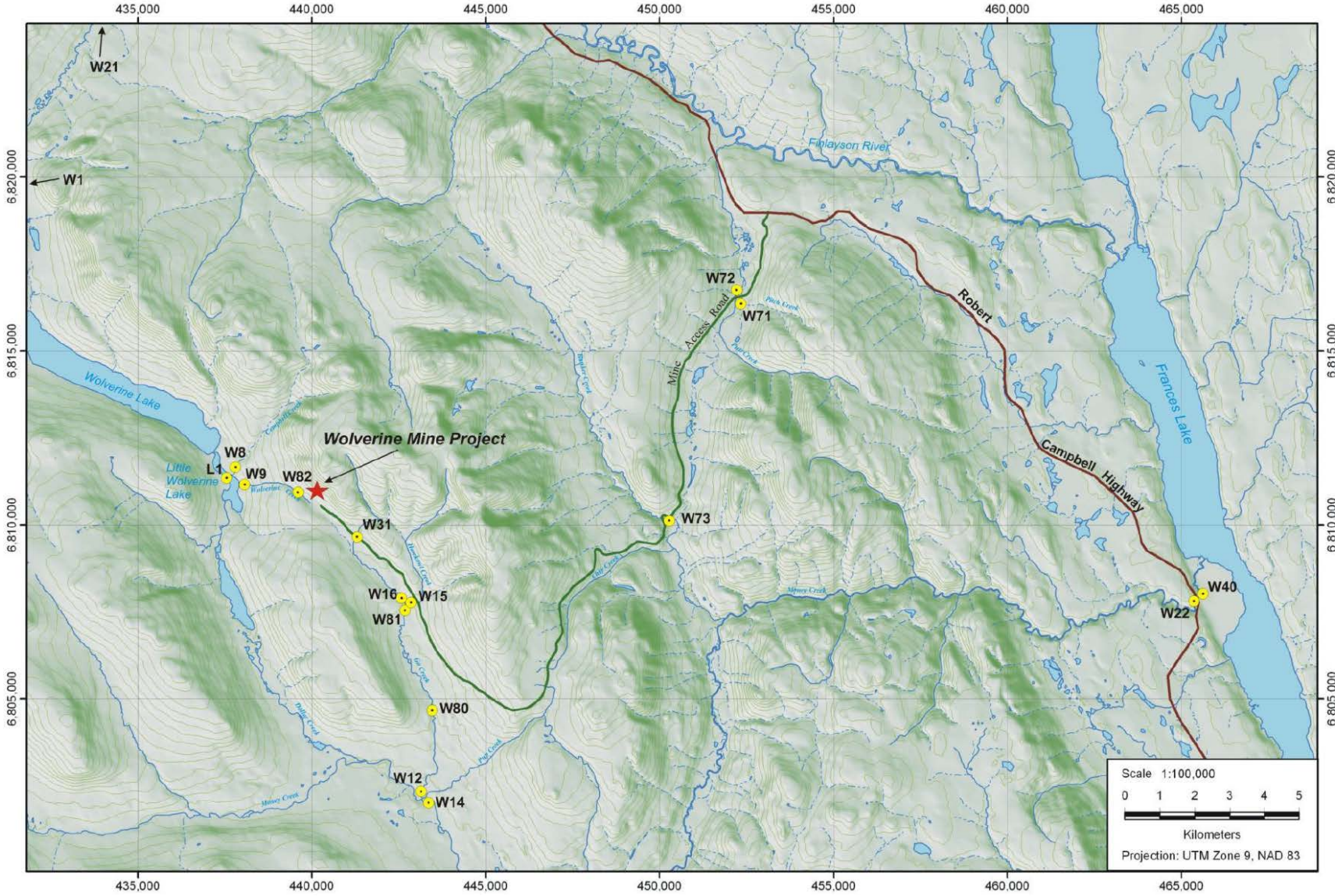


Figure 3-8: Surface Water Quality Monitoring Stations *(Source: Lorax, 2014).*

4. CONCLUSION AND RECOMMENDATIONS

Although some differences were observed in the benthic invertebrate communities and in water quality between the sites, habitat characteristics indicate that refences sites are similar to the exposure sites and that differences observed are primarily due to natural variability. There is no effluent-related impact on benthic invertebrate communities or water quality since the mine has not been discharging any effluent to Go Creek. It is however possible that runoff from the mine footprint could have some influence on benthic communities and water quality at the near field Go Creek site. Natural differences noted during the three EEM cycles should be taken into consideration for eventual interpretation of effects monitoring data.

The baseline data obtained during the first three EEM cycles should be used to run a priori power analysis, making use of site-specific baseline estimate of natural variance, to determine benthic invertebrate sample size required for the next cycle.

Should the mine start discharging effluent to Go Creek before the next EEM cycle, effluent characterization, sublethal and acute toxicity testing as well as a fish study will be included in the EEM Cycle 4 Study Design. Given the results of fisheries investigations previously carried out at site and summarized in the study design, a fish laboratory study is recommended to mitigate for naturally low populations.

It is also recommended that routine water quality samples analyses use a lower detection limit for nitrite, in order to enable detection of potential guideline exceedances.

5. SCHEDULE

Based on the EEM schedule prescribed in the MMER, the next Wolverine Mine EEM Biological Study Interpretive Report must be submitted to Environment Canada no later than December 3rd, 2020. Accordingly, a Study Design pertaining to the next EEM biological studies must be submitted to Environment Canada at least six months prior to implementation of the field portion of the study, which would be approximately February 2020.

6. REFERENCES

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APPENDIX A-1
Benthic Invertebrate Community Survey Data

PHOTO LOG



Photo 1: W16 looking upstream



Photo 2: W16 looking downstream



Photo 3: W12 looking upstream



Photo 4: W12 looking downstream



Photo 5: W12 looking across



Photo 6: W13 looking upstream



Photo 7: W13 looking downstream



Photo 8: W13



Photo 9: W76 looking upstream



Photo 10: W76 looking downstream



Photo 11: W76 looking across



Photo 12: W75 substrate

APPENDIX A-2
Benthic Invertebrate Community Survey Data

BENTHIC INVERTEBRATES LABORATORY RESULTS AND QA/QC

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

Yukon Zinc- Wolverine Creek 2017																							
All numbers reported are totals				**W12-A**	**W12-B**	**W12-C**	**W12-D**	**W12-E**	**W13-A**	**W13-B**	**W13-C**	**W13-D**	**W13-E**	**W16-A**	**W16-B**	**W16-C**	**W16-D**	**W16-E**	**W76-A**	**W76-B**	**W76-C**	**W76-D**	**W76-E**
	Family																						
Ephemeroptera																							
Ephemeroptera			A				1			1									1	1			
	Unid J or Damaged		N	34	2	4	6	4	1	1	1	6	2	5	14		10	4	594	127	35	119	168
	Ameletidae		N							1	1		1								1		1
	Baetidae		N	71	8	43	14	64	4	2	1	1	1	104	114	139	208	125	36	16	7	38	39
	Caenidae		N																				
	Ephemerellidae		N	5	1	5	1	4			1		1						13	10	4	18	18
	Heptageniidae		N	2	9	8	24	4	1	2	5	7	12	1	9	2	6		26	19	4	14	14
	Leptophlebiidae		N																				
Plecoptera																							
Plecoptera A			**A**																				
	Unid J or Damaged		N	70	14	22	33	15	161	131	125	328	95	43	56	42	43	50	208	39	27	72	91
	Capniidae		N	76	7	8	9	1	56	78	44	66	60	7	5		9	27	64	31	12	35	24
	Chloroperlidae		N	34	8	1	15		60	31	77	91	99	22	46	29	45	48	83	104	27	92	121
	Leuctridae		N							3	1	3	7				1		8	15	3	17	26
	Nemouridae		N	33	6	13	16	31	28	19	37	64	53	74	44	35	58	38	17	13	3	22	19
	Peltoperlidae		N																				
	Perlidae		N																				
	Perlodidae		N	3		1	5	6	12		10	27	21	9	20	10	8	3	12	3	1	1	5
	Pteronarcyidae		N																				
	Taeniopterygidae		N	1		1			1													1	1
Trichoptera																							
Trichoptera			A										1		1								
Trichoptera			P					1									1	5					
	Unid J or Damaged		N	1	2	6	6	9	4	10	3	7	6	11	18	2	5	2	31	7	11	7	11
	Apataniidae		N																				
	Brachycentridae		N	2	5	4	6	15											5	3		3	
	Glossosomatidae		N	31	14	7	13	11		1				38	2	20	2	20	25	16	95	187	104
	Hydropsychidae		N	3	2	1		2						4			5	2	3	4		15	3
	Hydroptilidae		N																				
	Lepidostomatidaae		N																				
	Leptoceridae		N																				
	Limnephilidae		N							6	1	4	5			3	1	3					
	Philopotamidae		N																				
	Polycentropodidae		N																				
	Rhyacophilidae		N	6		3	10	2	31	10	11	24	8	13	13	13	16	13	10	4	3	2	2
	Uenoidae		N		1	1	1		74	28	68	205	161	20	7	10	9	10	2		2		
Coleoptera																							
Coleoptera A			A																				
Coleoptera L			L																				
Coleptera Unid J			L																				
	Carabidae		L																				
	Coccinellidae		A																				
	Curculionidae		A																				
	Dytiscidae		A																				
	Dytiscidae		L																				
	Elmidae		L																				

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

Yukon Zinc- Wolverine Creek 2017																							
All numbers reported are totals				**W12-A**	**W12-B**	**W12-C**	**W12-D**	**W12-E**	**W13-A**	**W13-B**	**W13-C**	**W13-D**	**W13-E**	**W16-A**	**W16-B**	**W16-C**	**W16-D**	**W16-E**	**W76-A**	**W76-B**	**W76-C**	**W76-D**	**W76-E**
	Family																						
	Elmidae		A																				
	Haliplidae		L																				
	Haliplidae		A																				
	Hydrophilidae		L																				
	Hydrophilidae		A																				
	Scotylidae		A																				
	Staphylinidae		L																				
	Staphylinidae		A																				
Megaloptera	Sialidae																						
Diptera																							
Diptera	Unid J or Damaged		L	11	15	15	17	11	6	11	2	1	11					7	1		1		
Diptera A			A	1	1	3	1	2	1	1		2	2				1	1	4	8	4	4	7
Diptera	P		P	1		12				2								1	1	1			
	Athericidae		L																				
	Blephariceridae		L																				
	Ceratopogonidae		L	1			1												2	3			
	Chaoboridae		L																				
	Chironomidae		A				1		1			1		1		1				1			5
	Chironomidae		P	3	1		8	7	12	22	9	18	7	18	10	8	13	14	12	12	12	28	49
	Chironomidae		L	60	29	114	56	154	689	504	763	534	116	1983	1603	2712	3145	2633	1176	382	269	441	631
	Deuterophlebiidae		L																				
	Dixidae		L																				
	Dixidae		P																				
	Ephydridae		L																				
	Empididae		L	3	8	19	9	11		1	1	1	1	8	5	45	37	35	26	9	2	3	2
	Empididae		P												1		1		1				
	Muscidae		L																				
	Psychodidae		L						1	1	1					2	3	1	4	111			
	Simuliidae		A																				
	Simuliidae		L		2	1	1	2	1			6	3	13	19	4	10	9				9	2
	Simuliidae		P								2	5		2		1					1		
	Stratiomyidae		L																				
	Tabanidae		L																				
	Thaumaleidae		L																				
	Tipulidae		L	2					1	2			1	9	1	11	12	14	8	2		1	2
	Tipulidae		A																				
Collembola																							
	Unid J										1		1										
	Hypogastruridae																						
	Isotomidae														4								
	Onychiuridae																						
	Sminthuridae																						
Hemiptera																							
	Unid J											1											
	Adult								1				2										
	Gerridae																						
	Corixidae																						

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

Yukon Zinc- Wolverine Creek 2017																							
All numbers reported are totals			**W12-A**	**W12-B**	**W12-C**	**W12-D**	**W12-E**	**W13-A**	**W13-B**	**W13-C**	**W13-D**	**W13-E**	**W16-A**	**W16-B**	**W16-C**	**W16-D**	**W16-E**	**W76-A**	**W76-B**	**W76-C**	**W76-D**	**W76-E**
	Family																						
Homoptera																							
	Unid J or Damaged								1		1												
	Adult																						
	Aphididae	A																					
	Aphididae terr.	N	1		1	8	6		2	1	1	1	1								1		
	Cicadellidae																						
Hymenoptera	Unid J or Damaged																						
	Adult					1						3								1		1	
	Formicidae																						
Lepidoptera																							
		A																					
		L																		1			
Psocoptera	(Terr.)																						
Thysanoptera																							
Araneae	terr																						
Mite	terr																						
Hydracarina																							
	Unid or Damaged		4			6	1	18	15	49	116	48	87	84	65	69	113	156	24	12	36	30	
	Arrenuridae																						
	Aturidae		7	1	2	2	5	1		2	1	1	34	19	12	25	37	72	21	9	14	11	
	Hygrobatidae		1								1		4	4	4	12	4	12				3	
	Feltriidae		1	2	2		3	107	50	54	35	36	57	62	45	74	78	52	8	7	16	13	
	Lebertiidae		1					6	6	7	13	9	42	18	14	17	29	14	2	1	3	1	
	Phthiracaridae																						
	Oribatidae											1											
	Oxidae																						
	Pionidae																						
	Sperchontidae		2					5	3	4	9	4	7	5	5	4	5	20	8	8	8	8	
	Torrenticolidae																						
	Hydryphantidae																				1		
	Unionicolidae																						
Amphipoda																							
	Unid J																						
	Gammaridae																						
	Hyalellidae																						
Cladocera																							
	Unid J																						
	Bosminidae																						
	Chydoridae			1																			
	Daphnidae																						
	Eurycercinae																						
	Polyphemidae																						

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

Yukon Zinc- Wolverine Creek 2017																							
All numbers reported are totals			**W12-A**	**W12-B**	**W12-C**	**W12-D**	**W12-E**	**W13-A**	**W13-B**	**W13-C**	**W13-D**	**W13-E**	**W16-A**	**W16-B**	**W16-C**	**W16-D**	**W16-E**	**W76-A**	**W76-B**	**W76-C**	**W76-D**	**W76-E**
	Family																						
	Chydoridae																		1				
	Sididae																						
Copepoda																							
	Calanoida																						
	Cyclopoida						2										8		1				
	Harpacticoida								1														
Ostracoda																							
	Unid									3	9	16	13		16	33	45	16					1
	Candonidae		2		1	5	9		21	25	32	40	12	36	20	31	17	4			1		
	Cyprididae																						
	Cypdidodea																						
Hirudinea	Unid J																						
	Glossiphoniidae																						
	Erpobdellidae																						
Oligochaeta	Unid J																						
	Enchytraidae			12	19	3	9	2	6	7	2	1	14	1	14	5	6	9	3				1
	Lumbriculidae										1	6	2										
	Lumbricidae (Terr.)																						
	Tubificidae																						
	Naididae																						
Mollusca																							
	Acroloxidae																						
Bivalva	Unid J																						
	Pisidiinae																						
	Sphaeriidae																						
Gastropoda	Unid J	Terr									1	2					1	2					
	Lymnaeidae																						
	Physidae																						
	Planorbidae																						
	Valvatidae																						
	Ancylidae																						
Platyhelminthes																							
	Planariidae								1	1	2	4											
	Unid J or Dam																						
Hydra																							
Nematoda			4	1	14	6	7	9	6	3	3		12	25	183	8	25	22	12	6	1	8	
Odonata																							
	Anisoptera	Unid J/D																					
	Coengrionidae																						
	Gomphidae																						
	Corduliidae																						

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

Yukon Zinc- Wolverine Creek 2017																								
All numbers reported are totals				**W12-A**	**W12-B**	**W12-C**	**W12-D**	**W12-E**	**W13-A**	**W13-B**	**W13-C**	**W13-D**	**W13-E**	**W16-A**	**W16-B**	**W16-C**	**W16-D**	**W16-E**	**W76-A**	**W76-B**	**W76-C**	**W76-D**	**W76-E**
	Family																						
Chilopoda																							
Diplopoda																							
Salmoniforme	Salmonidae																						
Legend																							
A=adult																							
Unid J = Unidentified Juvenille																							
Unid = Unidentified																							
L=Larva																							
P=pupa																							
terr=terrestrial																							

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

		Split check		Resorts				
QA/QC		16B	16B	12A	13D	16B	76A	
	Subsample fraction	1/8	1/8					
	Family							
				None found				
Ephemeroptera								
Ephemeroptera A								
	Unid J or Damaged	3						
	Ameletidae							
	Baetidae	14	12					
	Caenidae							
	Ephemerellidae							
	Heptageniidae	1	1					
	Leptophlebiidae							
Plecoptera								
Plecoptera A								
	Unid J or Damaged	4	7			2		
	Capniidae							
	Chloroperlidae	4	5					1
	Leuctridae							
	Nemouridae					1		
	Peltoperlidae							
	Perlidae							
	Perlodidae							
	Taeniopterygidae							
Trichoptera								
Trichoptera A								
Trichoptera P								
	Unid J or Damaged		3					
	Apataniidae							
	Brachycentridae							
	Glossosomatidae							
	Hydropsychidae							
	Hydroptilidae							
	Lepidostomatidaae							
	Leptoceridae							
	Limnephilidae							
	Philopotamidae							
	Polycentropodidae							
	Rhyacophilidae							
	Uenoidae							
Coleoptera								
Coleoptera A								
Coleoptera L								
Coleptera Unid J								
	Carabidae							

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

		Split check		Resorts			
QA/QC		16B	16B	12A	13D	16B	76A
	Curculionidae A						
	Dytiscidae A						
	Dytiscidae L						
	Elmidae L						
	Elmidae A						
	Haliplidae L						
	Scotylidae A						
	Staphylinidae L						
	Staphylinidae A						
Megaloptera	Sialidae						
Diptera							
Diptera	Unid J or Damaged						
Diptera A							
Diptera	P						
	Athericidae						
	Blephariceridae						
	Ceratopogonidae						
	Chaoboridae						
	Chironomidae Adult						
	Chironomidae Pupa						
	Chironomidae L	144	150			7	5
	Deuterophlebiidae						
	Dixidae						
	Ephydridae						
	Empididae L						
	Empididae P						
	Muscidae						
	Psychodidae						
	Simuliidae A						
	Simuliidae L	2	2				
	Simuliidae P						
	Stratiomyidae						
	Tipulidae L						
	Tipulidae A						
Collembola							
	Unid J						
	Hypogastruridae						
	Isotomidae	1					
	Sminthuridae						
Hemiptera							
	Unid J						
	Adult						
	Gerridae						
	Corixidae						

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

		Split check		Resorts			
QA/QC		16B	16B	12A	13D	16B	76A
Homoptera							
	Unid J or Damaged						
	Adult						
	Aphididae A						
	Aphididae N						
	Cicadellidae						
Hymenoptera	Unid J or Damaged						
	Adult						
	Formicidae						
Lepidoptera L							
	A						
	Unid or damaged						
Psocoptera	(Terr.)						
Thysanoptera							
Araneae	terr						
Hydracarina							
	Unid or Damaged	10	8			8	
	Arrenuridae						
	Aturidae	2	2				
	Hygrobatidae		1				
	Feltriidae	7	8				
	Lebertiidae	3	1				1
	Unionicolidae						
	Oripodidae						
	Sperchontidae	1					
	Torrenticolidae						
	Oxidae						
	Hydryphantidae						
Amphipoda							
	Unid J						
	Gammaridae						
	Hyalellidae						
Cladocera							
	Unid J						
	Bosminidae						
	Chydoridae						
	Daphnidae						
	Eurycercinae						
	Polyphemidae						
	Chydoridae						
	Sididae						

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

		Split check		Resorts			
QA/QC		16B	16B	12A	13D	16B	76A
Copepoda							
	Calanoida						
	Cyclopoida						
	Harpacticoida						
Ostracoda							
	Candonidae	5	4				
	Cyprididae						
	Unid						
Hirudinea	Unid J						
	Glossiphoniidae						
Oligochaeta	Unid J						
	Enchytraidae						
	Lumbriculidae						
	Lumbricidae (Terr.)						
	Tubificidae						
	Naididae						
Mollusca							
	Acroloxidae						
Bivalva							
	Pisidiinae						
	Sphaeriidae						
Gastropoda							
	Unid J or Damaged						
	Lymnaeidae						
	Physidae						
	Planorbidae						
	Valvatidae						
	Ancylidae						
Platyhelminthes							
	Planariidae						
	Unid J or Dam						
Hydra							
Nematoda		3	3				
Odonata	Unid J						
	Coengrionidae						
	Gomphidae						
	Corduliidae						

APPENDIX A-2
Benthic Invertebrate Laboratory Results and QA/QC

	Split check		Resorts			
QA/QC	16B	16B	12A	13D	16B	76A
Chilopoda						
Diplopoda						
Salmoniformes Salmonidae						

Legend

A=adult
Unid J = Unidentified Juvenille
Unid = Unidentified
L=Larva
P=pupa
terr=terrestrial

APPENDIX A-3
Benthic Invertebrate Community Survey Data

STATISTICAL TESTS RESULTS

APENDIX A-3
Statitical Tests Results

Endpoint	Site	n	Mean	Median	Normal Distribution? *	Equality of Variances? **	Data transformation successful to normalize/make variances	Outliers ? ***
Abundance	W16	5	12202	13302	Yes (p=0.6405)	No (p=0.01117)	Yes log10 (p=0.2716)	No
	W12	5	1261	1279	Yes (p=0.9865)			
	W13	5	4702	5016	Yes (p=0.7673)			
	W76	5	5404	4686	Yes (p=0.3461)			
Richness	W16	5	29.2	28	Yes (p=0.3317)	Yes (p=0.9432)	-	No
	W12	5	26.6	27	Yes (p=0.9796)		-	
	W13	5	31.4	32	Yes (p=0.5733)		-	
	W76	5	31	31	Yes (p=0.8327)		-	
Simpson's Evenness (D)	W16	5	0.059	0.062	Yes (p=0.5782)	No (p=0.0005113)	Yes log10 (p=0.1566)	No
	W12	5	0.318	0.310	Yes (p=0.8829)			
	W13	5	0.149	0.118	Yes (p=0.1876)			
	W76	5	0.140	0.126	Yes (p=0.1901)			
Bray-Curtis Index (W13 Median)	W16	5	0.586	0.609	Yes (p=0.5001)	Yes (p=0.9462)	-	No
	W12	5	0.722	0.726	Yes (p=0.5886)		-	
	W13	5	0.185	0.154	Yes (p=0.1151)		-	
	W76	5	0.422	0.418	Yes (p=0.5515)		-	
Bray-Curtis Index (W76 Median)	W16	5	0.645	0.663	Yes (p=0.5865)	Yes (p=0.3559)	-	No
	W12	5	0.650	0.645	Yes (p=0.9244)		-	
	W13	5	0.423	0.399	Yes (p=0.4188)		-	
	W76	5	0.240	0.184	Yes (p=0.6759)		-	

*Shapiro-Wilk Test
** Bartlett test
*** Outliers defined as observations with Studentized residuals <-4 or >4

APPENDIX A-4
Benthic Invertebrate Community Survey Data

SURFACE WATER QUALITY LABORATORY RESULTS

Your C.O.C. #: 08442809

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/06
Report #: R2439636
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772636
Received: 2017/08/25, 10:50

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Acidity pH 4.5 & pH 8.3 (as CaCO3)	6	N/A	2017/08/28	BBY6SOP-00037	SM 22 2310 B m
Alkalinity - Water	3	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 2320 B m
Alkalinity - Water	3	2017/08/28	2017/08/29	BBY6SOP-00026	SM 22 2320 B m
Chloride by Automated Colourimetry	6	N/A	2017/08/28	BBY6SOP-00011	SM 22 4500-Cl- E m
Conductance - water	3	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 2510 B m
Conductance - water	3	2017/08/28	2017/08/29	BBY6SOP-00026	SM 22 2510 B m
Fluoride - Mining Clients	6	N/A	2017/08/29	BBY6SOP-00048	SM 22 4500-F C m
Hardness Total (calculated as CaCO3)	6	N/A	2017/08/30	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3)	6	N/A	2017/08/31	BBY WI-00033	Auto Calc
Mercury (Dissolved) by CVAF	1	N/A	2017/08/29	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Dissolved) by CVAF	5	N/A	2017/08/30	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Mercury (Total) by CVAF	6	2017/08/30	2017/08/30	BBY7SOP-00015	BCMOE BCLM Oct2013 m
Bromide as Bromine (Br) by ICPMS	6	N/A	2017/08/28	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	6	N/A	2017/08/31	BBY7SOP-00002	EPA 6020B R2 m
Elements by ICPMS Low Level (dissolved)	6	N/A	2017/08/30	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	6	N/A	2017/08/30	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Elements by ICPMS Low Level (total)	6	N/A	2017/08/29	BBY7SOP-00003,	BCLM2005,EPA6020bR2m
Ammonia-N (Preserved)	6	N/A	2017/08/31	BBY6SOP-00009	EPA 350.1 m
Nitrate+Nitrite (N) (low level)	6	N/A	2017/08/26	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrite (N) (low level)	6	N/A	2017/08/26	BBY6SOP-00010	SM 22 4500-NO3- I m
Nitrogen - Nitrate (as N) Low Level Calc	6	N/A	2017/08/29	BBY6SOP-00010	SM 22 4500-NO3- I m
Filter and HNO3 Preserve for Metals	5	N/A	2017/08/30	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (2)	3	2017/08/28	2017/08/28	BBY6SOP-00026	SM 22 4500-H+ B m
pH Water (2)	3	2017/08/28	2017/08/29	BBY6SOP-00026	SM 22 4500-H+ B m
Orthophosphate by Konelab (low level)	6	N/A	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Sulphate by Automated Colourimetry	5	N/A	2017/08/28	BBY6SOP-00017	SM 22 4500-SO42- E m
Sulphate by Automated Colourimetry	1	N/A	2017/08/29	BBY6SOP-00017	SM 22 4500-SO42- E m
Total Dissolved Solids (Filt. Residue)	1	2017/08/29	2017/08/30	BBY6SOP-00033	SM 22 2540 C m
Total Dissolved Solids (Filt. Residue)	5	2017/08/30	2017/08/31	BBY6SOP-00033	SM 22 2540 C m

Your C.O.C. #: 08442809

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/06
Report #: R2439636
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772636
Received: 2017/08/25, 10:50

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Phosphorus-P (LL Tot, dissolved) - FF/FP	6	2017/08/29	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Total Phosphorus - Low Level	6	N/A	2017/08/29	BBY6SOP-00013	SM 22 4500-P E m
Total Suspended Solids	1	2017/08/28	2017/08/29	BBY6SOP-00034	SM 22 2540 D
Total Suspended Solids	5	2017/08/30	2017/08/30	BBY6SOP-00034	SM 22 2540 D
Turbidity	6	N/A	2017/08/28	BBY6SOP-00027	SM 22 2130 B m
Radium 226 in Water Subcontract (1)	5	N/A	2017/09/06		

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Maxxam Kitimat (From Burnaby)
(2) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

Your C.O.C. #: 08442809

Attention:Mary Mioska

YUKON ZINC CORPORATION
Whitehorse
Suite 705-1030 W. Georgia St
Vancouver, BC
CANADA V6E 2Y3

Report Date: 2017/09/06
Report #: R2439636
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B772636
Received: 2017/08/25, 10:50

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Veronica De Guzman, B.Sc., Project Manager
Email: VDeGuzman@maxxam.ca
Phone# (604) 734 7276
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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU8996		RU8997		RU8998		
Sampling Date		2017/08/23 18:30		2017/08/23 12:50		2017/08/23 14:00		
COC Number		08442809		08442809		08442809		
	UNITS	W16	QC Batch	W12	QC Batch	W13	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.038	8742181	0.047	8742181	0.039	0.020	8742181
Parameter								
Subcontract Parameter	N/A	ATTACHED	8749293	ATTACHED	8749293	ATTACHED	N/A	8749293
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE	FIELD		ONSITE
Total Hardness (CaCO3)	mg/L	79.5	8738933	79.0	8738933	62.2	0.50	8738933
Nitrate (N)	mg/L	0.27	8738420	<0.20	8738420	<0.20	0.20	8738420
Misc. Inorganics								
Dissolved Hardness (CaCO3)	mg/L	80.9	8738935	84.9	8738935	64.8	0.50	8738935
Acidity (pH 4.5)	mg/L	<1.0	8740524	<1.0	8740527	<1.0	1.0	8740524
Alkalinity (Total as CaCO3)	mg/L	73.7	8740988	69.4	8740988	64.5	1.0	8740988
Acidity (pH 8.3)	mg/L	<1.0	8740524	<1.0	8740527	<1.0	1.0	8740524
Alkalinity (PP as CaCO3)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8740988
Bicarbonate (HCO3)	mg/L	89.9	8740988	84.6	8740988	78.7	1.0	8740988
Carbonate (CO3)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8740988
Hydroxide (OH)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8740988
Anions								
Orthophosphate (P)	mg/L	0.0020	8742309	0.0024	8742309	0.0017	0.0010	8742309
Dissolved Sulphate (SO4)	mg/L	12.2	8742363	15.5	8741087	2.5	1.0	8741085
Dissolved Chloride (Cl)	mg/L	<1.0	8741084	<1.0	8741086	<1.0	1.0	8741084
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0043	8742351	0.0046	8742351	0.0038	0.0020	8742351
Total Ammonia (N)	mg/L	<0.020	8744851	<0.020	8744851	0.045	0.020	8744851
Nitrate plus Nitrite (N)	mg/L	0.48 (1)	8739690	<0.20 (1)	8739690	<0.20 (1)	0.20	8739690
Nitrite (N)	mg/L	0.20 (1)	8739691	<0.20 (1)	8739691	<0.20 (1)	0.20	8739691
Total Phosphorus (P)	mg/L	0.0057	8742358	0.0072	8742358	0.0042	0.0020	8742358
Physical Properties								
Conductivity	uS/cm	168	8740996	164	8740996	129	2.0	8740996
pH	pH	8.08	8740995	8.06	8740995	8.01		8740995
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8742704	<4.0	8742704	<4.0	4.0	8742704
Total Dissolved Solids	mg/L	92	8742757	104	8742757	90	10	8742757

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) RDL raised due to sample matrix interference.

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YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU8996		RU8997		RU8998		
Sampling Date		2017/08/23 18:30		2017/08/23 12:50		2017/08/23 14:00		
COC Number		08442809		08442809		08442809		
	UNITS	**W16**	**QC Batch**	**W12**	**QC Batch**	**W13**	**RDL**	**QC Batch**
Turbidity	NTU	0.39	8740677	0.30	8740677	0.38	0.10	8740677
RDL = Reportable Detection Limit								

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Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		RU8999		RU9770		RU9000		
Sampling Date		2017/08/22 12:55		2017/08/23 19:00		2017/08/25 10:50		
COC Number		08442809		08442809		08442809		
	UNITS	W76	QC Batch	DUP	QC Batch	TRAVEL BLANK	RDL	QC Batch
Misc. Inorganics								
Fluoride (F)	mg/L	0.049	8742181	0.039	8742274	<0.020	0.020	8742181
Parameter								
Subcontract Parameter	N/A	ATTACHED	8749293	ATTACHED	8749293		N/A	
Calculated Parameters								
Filter and HNO3 Preservation	N/A	FIELD	ONSITE	FIELD	ONSITE			
Total Hardness (CaCO3)	mg/L	109	8738933	80.4	8738933	<0.50	0.50	8738933
Nitrate (N)	mg/L	<0.20	8738420	<0.20	8738420	<0.20	0.20	8738420
Misc. Inorganics								
Dissolved Hardness (CaCO3)	mg/L	116	8738935	84.6	8738935	<0.50	0.50	8738935
Acidity (pH 4.5)	mg/L	<1.0	8740524	<1.0	8740527	<1.0	1.0	8740527
Alkalinity (Total as CaCO3)	mg/L	96.0	8740988	74.5	8740988	<1.0	1.0	8741002
Acidity (pH 8.3)	mg/L	<1.0	8740524	<1.0	8740527	<1.0	1.0	8740527
Alkalinity (PP as CaCO3)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8741002
Bicarbonate (HCO3)	mg/L	117	8740988	90.9	8740988	<1.0	1.0	8741002
Carbonate (CO3)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8741002
Hydroxide (OH)	mg/L	<1.0	8740988	<1.0	8740988	<1.0	1.0	8741002
Anions								
Orthophosphate (P)	mg/L	0.0021	8742309	0.0022	8742309	0.0012	0.0010	8742309
Dissolved Sulphate (SO4)	mg/L	18.7	8741085	12.2	8741087	<1.0	1.0	8741087
Dissolved Chloride (Cl)	mg/L	<1.0	8741084	<1.0	8741086	<1.0	1.0	8741086
Nutrients								
Dissolved Phosphorus (P)	mg/L	0.0044	8742351	0.0043	8742351	<0.0020	0.0020	8742351
Total Ammonia (N)	mg/L	<0.020	8744851	<0.020	8744851	<0.020	0.020	8744851
Nitrate plus Nitrite (N)	mg/L	<0.20 (1)	8739690	<0.20 (1)	8739690	<0.20 (1)	0.20	8739690
Nitrite (N)	mg/L	<0.20 (1)	8739691	<0.20 (1)	8739691	<0.20 (1)	0.20	8739691
Total Phosphorus (P)	mg/L	0.0048	8742358	0.0054	8742358	0.0055	0.0020	8742358
Physical Properties								
Conductivity	uS/cm	218	8740996	167	8740996	<2.0	2.0	8741005
pH	pH	8.16	8740995	8.07	8740995	5.51		8741004
Physical Properties								
Total Suspended Solids	mg/L	<4.0	8740936	<4.0	8742704	<4.0	4.0	8742704
Total Dissolved Solids	mg/L	108	8741598	106	8742757	<10	10	8742763
Turbidity	NTU	0.48	8740677	0.45	8740682	<0.10	0.10	8740677

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

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YUKON ZINC CORPORATION

MERCURY BY COLD VAPOR (WATER)

Maxxam ID		RU8996	RU8997		RU8998		RU8999		RU9770		
Sampling Date		2017/08/23 18:30	2017/08/23 12:50		2017/08/23 14:00		2017/08/22 12:55		2017/08/23 19:00		
COC Number		08442809	08442809		08442809		08442809		08442809		
	UNITS	W16	W12	QC Batch	W13	QC Batch	W76	QC Batch	DUP	RDL	QC Batch
Elements											
Dissolved Mercury (Hg)	ug/L	<0.010	<0.010	8742496	<0.010	8741218	<0.010	8742496	<0.010	0.010	8742603
Total Mercury (Hg)	ug/L	<0.010	<0.010	8742477	<0.010	8742477	<0.010	8742477	<0.010	0.010	8742604
RDL = Reportable Detection Limit											

Maxxam ID		RU9000		
Sampling Date		2017/08/25 10:50		
COC Number		08442809		
	UNITS	TRAVEL BLANK	RDL	QC Batch
Elements				
Dissolved Mercury (Hg)	ug/L	<0.010	0.010	8742496
Total Mercury (Hg)	ug/L	<0.010	0.010	8742477
RDL = Reportable Detection Limit				

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Maxxam Job #: B772636
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YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU8996	RU8997	RU8998	RU8999	RU9770		
Sampling Date		2017/08/23 18:30	2017/08/23 12:50	2017/08/23 14:00	2017/08/22 12:55	2017/08/23 19:00		
COC Number		08442809	08442809	08442809	08442809	08442809		
	UNITS	W16	W12	W13	W76	DUP	RDL	QC Batch
ANIONS								
Bromide (Br)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8740819
Dissolved Metals by ICPMS								
Dissolved Aluminum (Al)	mg/L	0.00560	0.00501	0.00703	0.00349	0.00578	0.00050	8740288
Dissolved Antimony (Sb)	mg/L	0.000055	0.000046	0.000027	0.000108	0.000054	0.000020	8740288
Dissolved Arsenic (As)	mg/L	0.000141	0.000237	0.000122	0.000241	0.000134	0.000020	8740288
Dissolved Barium (Ba)	mg/L	0.0723	0.0670	0.0602	0.0712	0.0768	0.000020	8740288
Dissolved Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8740288
Dissolved Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8740288
Dissolved Cadmium (Cd)	mg/L	0.0000680	0.0000130	0.0000120	0.0000050	0.0000640	0.0000050	8740288
Dissolved Chromium (Cr)	mg/L	<0.00010	<0.00010	0.00016	0.00027	<0.00010	0.00010	8740288
Dissolved Cobalt (Co)	mg/L	0.0000360	0.0000300	0.0000150	0.0000160	0.0000350	0.0000050	8740288
Dissolved Copper (Cu)	mg/L	0.000652	0.000669	0.000447	0.00100	0.000652	0.000050	8740288
Dissolved Iron (Fe)	mg/L	0.0259	0.0495	0.0017	0.0335	0.0260	0.0010	8740288
Dissolved Lead (Pb)	mg/L	0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Lithium (Li)	mg/L	<0.00050	<0.00050	<0.00050	0.00065	<0.00050	0.00050	8740288
Dissolved Manganese (Mn)	mg/L	0.0142	0.0141	<0.000050	0.00579	0.0145	0.000050	8740288
Dissolved Molybdenum (Mo)	mg/L	0.000413	0.000375	0.000270	0.000462	0.000415	0.000050	8740288
Dissolved Nickel (Ni)	mg/L	0.000240	0.000318	0.000290	0.000747	0.000267	0.000020	8740288
Dissolved Phosphorus (P)	mg/L	0.0053	0.0052	0.0026	0.0043	0.0042	0.0020	8740288
Dissolved Selenium (Se)	mg/L	0.000736	0.000707	0.000225	0.000767	0.000726	0.000040	8740288
Dissolved Silicon (Si)	mg/L	3.04	3.35	4.81	4.04	3.06	0.050	8740288
Dissolved Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740288
Dissolved Strontium (Sr)	mg/L	0.0534	0.0528	0.0226	0.115	0.0544	0.000050	8740288
Dissolved Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000020	8740288
Dissolved Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8740288
Dissolved Titanium (Ti)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	8740288
Dissolved Uranium (U)	mg/L	0.000229	0.000303	0.000124	0.000369	0.000236	0.0000020	8740288
Dissolved Vanadium (V)	mg/L	<0.00020	<0.00020	0.00038	<0.00020	<0.00020	0.00020	8740288
Dissolved Zinc (Zn)	mg/L	0.00278	0.00043	0.00031	0.00025	0.00287	0.00010	8740288
Dissolved Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8740288
Dissolved Calcium (Ca)	mg/L	26.9	26.0	19.8	31.1	28.3	0.050	8738650
Dissolved Magnesium (Mg)	mg/L	3.32	4.83	3.70	9.21	3.41	0.050	8738650
Dissolved Potassium (K)	mg/L	0.521	0.629	0.515	0.261	0.544	0.050	8738650

RDL = Reportable Detection Limit

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YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU8996	RU8997	RU8998	RU8999	RU9770		
Sampling Date		2017/08/23 18:30	2017/08/23 12:50	2017/08/23 14:00	2017/08/22 12:55	2017/08/23 19:00		
COC Number		08442809	08442809	08442809	08442809	08442809		
	UNITS	W16	W12	W13	W76	DUP	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	1.16	1.16	1.25	1.14	1.20	0.050	8738650
Dissolved Sulphur (S)	mg/L	4.0	5.5	<3.0	6.3	3.7	3.0	8738650
Total Metals by ICPMS								
Total Aluminum (Al)	mg/L	0.0143	0.0230	0.0105	0.00795	0.0161	0.00050	8740644
Total Antimony (Sb)	mg/L	0.000053	0.000045	0.000025	0.000106	0.000054	0.000020	8740644
Total Arsenic (As)	mg/L	0.000145	0.000229	0.000111	0.000257	0.000145	0.000020	8740644
Total Barium (Ba)	mg/L	0.0734	0.0662	0.0599	0.0688	0.0760	0.000020	8740644
Total Beryllium (Be)	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000010	8740644
Total Bismuth (Bi)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740644
Total Boron (B)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	8740644
Total Cadmium (Cd)	mg/L	0.0000690	0.0000200	0.0000140	0.0000090	0.0000690	0.0000050	8740644
Total Chromium (Cr)	mg/L	<0.00010	0.00011	0.00017	0.00028	0.00010	0.00010	8740644
Total Cobalt (Co)	mg/L	0.0000440	0.0000550	0.0000190	0.0000220	0.0000470	0.0000050	8740644
Total Copper (Cu)	mg/L	0.000744	0.000806	0.000466	0.00105	0.000716	0.000050	8740644
Total Iron (Fe)	mg/L	0.0441	0.103	0.0064	0.0629	0.0456	0.0010	8740644
Total Lead (Pb)	mg/L	0.0000100	0.0000340	<0.0000050	0.0000080	0.0000090	0.0000050	8740644
Total Lithium (Li)	mg/L	<0.00050	<0.00050	<0.00050	0.00064	<0.00050	0.00050	8740644
Total Manganese (Mn)	mg/L	0.0164	0.0206	0.000301	0.0111	0.0163	0.000050	8740644
Total Molybdenum (Mo)	mg/L	0.000412	0.000371	0.000268	0.000451	0.000408	0.000050	8740644
Total Nickel (Ni)	mg/L	0.000281	0.000362	0.000279	0.000765	0.000259	0.000020	8740644
Total Phosphorus (P)	mg/L	0.0059	0.0057	0.0038	0.0032	0.0058	0.0020	8740644
Total Selenium (Se)	mg/L	0.000733	0.000693	0.000202	0.000725	0.000730	0.000040	8740644
Total Silicon (Si)	mg/L	3.07	3.32	4.88	4.52	3.08	0.050	8740644
Total Silver (Ag)	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0000050	8740644
Total Strontium (Sr)	mg/L	0.0531	0.0494	0.0225	0.104	0.0534	0.000050	8740644
Total Thallium (Tl)	mg/L	<0.0000020	<0.0000020	<0.0000020	<0.0000020	<0.0000020	0.0000020	8740644
Total Tin (Sn)	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00020	8740644
Total Titanium (Ti)	mg/L	0.00052	0.00053	<0.00050	<0.00050	<0.00050	0.00050	8740644
Total Uranium (U)	mg/L	0.000238	0.000299	0.000129	0.000369	0.000234	0.0000020	8740644
Total Vanadium (V)	mg/L	<0.00020	<0.00020	0.00039	<0.00020	<0.00020	0.00020	8740644
Total Zinc (Zn)	mg/L	0.00312	0.00078	0.00031	0.00029	0.00294	0.00010	8740644
Total Zirconium (Zr)	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00010	8740644
Total Calcium (Ca)	mg/L	26.1	24.6	19.0	29.1	26.8	0.050	8738937
Total Magnesium (Mg)	mg/L	3.46	4.27	3.57	8.78	3.28	0.050	8738937
Total Potassium (K)	mg/L	0.549	0.562	0.497	0.243	0.533	0.050	8738937

RDL = Reportable Detection Limit

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Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU8996	RU8997	RU8998	RU8999	RU9770		
Sampling Date		2017/08/23 18:30	2017/08/23 12:50	2017/08/23 14:00	2017/08/22 12:55	2017/08/23 19:00		
COC Number		08442809	08442809	08442809	08442809	08442809		
	UNITS	**W16**	**W12**	**W13**	**W76**	**DUP**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	1.19	1.03	1.23	1.10	1.20	0.050	8738937
Total Sulphur (S)	mg/L	4.0	5.2	<3.0	6.3	4.0	3.0	8738937
RDL = Reportable Detection Limit								

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9000		
Sampling Date		2017/08/25 10:50		
COC Number		08442809		
	UNITS	TRAVEL BLANK	RDL	QC Batch
ANIONS				
Bromide (Br)	mg/L	<0.010	0.010	8740819
Dissolved Metals by ICPMS				
Dissolved Aluminum (Al)	mg/L	<0.00050	0.00050	8740288
Dissolved Antimony (Sb)	mg/L	<0.000020	0.000020	8740288
Dissolved Arsenic (As)	mg/L	<0.000020	0.000020	8740288
Dissolved Barium (Ba)	mg/L	<0.000020	0.000020	8740288
Dissolved Beryllium (Be)	mg/L	<0.000010	0.000010	8740288
Dissolved Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Boron (B)	mg/L	<0.010	0.010	8740288
Dissolved Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Chromium (Cr)	mg/L	<0.00010	0.00010	8740288
Dissolved Cobalt (Co)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Copper (Cu)	mg/L	<0.000050	0.000050	8740288
Dissolved Iron (Fe)	mg/L	<0.0010	0.0010	8740288
Dissolved Lead (Pb)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Lithium (Li)	mg/L	<0.00050	0.00050	8740288
Dissolved Manganese (Mn)	mg/L	<0.000050	0.000050	8740288
Dissolved Molybdenum (Mo)	mg/L	<0.000050	0.000050	8740288
Dissolved Nickel (Ni)	mg/L	<0.000020	0.000020	8740288
Dissolved Phosphorus (P)	mg/L	<0.0020	0.0020	8740288
Dissolved Selenium (Se)	mg/L	<0.000040	0.000040	8740288
Dissolved Silicon (Si)	mg/L	<0.050	0.050	8740288
Dissolved Silver (Ag)	mg/L	<0.0000050	0.0000050	8740288
Dissolved Strontium (Sr)	mg/L	<0.000050	0.000050	8740288
Dissolved Thallium (Tl)	mg/L	<0.0000020	0.0000020	8740288
Dissolved Tin (Sn)	mg/L	<0.00020	0.00020	8740288
Dissolved Titanium (Ti)	mg/L	<0.00050	0.00050	8740288
Dissolved Uranium (U)	mg/L	<0.0000020	0.0000020	8740288
Dissolved Vanadium (V)	mg/L	<0.00020	0.00020	8740288
Dissolved Zinc (Zn)	mg/L	<0.00010	0.00010	8740288
Dissolved Zirconium (Zr)	mg/L	<0.00010	0.00010	8740288
Dissolved Calcium (Ca)	mg/L	<0.050	0.050	8738650
Dissolved Magnesium (Mg)	mg/L	<0.050	0.050	8738650
Dissolved Potassium (K)	mg/L	<0.050	0.050	8738650
RDL = Reportable Detection Limit				

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9000		
Sampling Date		2017/08/25 10:50		
COC Number		08442809		
	UNITS	TRAVEL BLANK	RDL	QC Batch
Dissolved Sodium (Na)	mg/L	<0.050	0.050	8738650
Dissolved Sulphur (S)	mg/L	<3.0	3.0	8738650
Total Metals by ICPMS				
Total Aluminum (Al)	mg/L	<0.00050	0.00050	8740644
Total Antimony (Sb)	mg/L	<0.000020	0.000020	8740644
Total Arsenic (As)	mg/L	<0.000020	0.000020	8740644
Total Barium (Ba)	mg/L	<0.000020	0.000020	8740644
Total Beryllium (Be)	mg/L	<0.000010	0.000010	8740644
Total Bismuth (Bi)	mg/L	<0.0000050	0.0000050	8740644
Total Boron (B)	mg/L	<0.010	0.010	8740644
Total Cadmium (Cd)	mg/L	<0.0000050	0.0000050	8740644
Total Chromium (Cr)	mg/L	<0.00010	0.00010	8740644
Total Cobalt (Co)	mg/L	<0.0000050	0.0000050	8740644
Total Copper (Cu)	mg/L	<0.000050	0.000050	8740644
Total Iron (Fe)	mg/L	<0.0010	0.0010	8740644
Total Lead (Pb)	mg/L	<0.0000050	0.0000050	8740644
Total Lithium (Li)	mg/L	<0.00050	0.00050	8740644
Total Manganese (Mn)	mg/L	<0.000050	0.000050	8740644
Total Molybdenum (Mo)	mg/L	<0.000050	0.000050	8740644
Total Nickel (Ni)	mg/L	<0.000020	0.000020	8740644
Total Phosphorus (P)	mg/L	<0.0020	0.0020	8740644
Total Selenium (Se)	mg/L	<0.000040	0.000040	8740644
Total Silicon (Si)	mg/L	<0.050	0.050	8740644
Total Silver (Ag)	mg/L	<0.0000050	0.0000050	8740644
Total Strontium (Sr)	mg/L	<0.000050	0.000050	8740644
Total Thallium (Tl)	mg/L	<0.0000020	0.0000020	8740644
Total Tin (Sn)	mg/L	<0.00020	0.00020	8740644
Total Titanium (Ti)	mg/L	<0.00050	0.00050	8740644
Total Uranium (U)	mg/L	<0.0000020	0.0000020	8740644
Total Vanadium (V)	mg/L	<0.00020	0.00020	8740644
Total Zinc (Zn)	mg/L	<0.00010	0.00010	8740644
Total Zirconium (Zr)	mg/L	<0.00010	0.00010	8740644
Total Calcium (Ca)	mg/L	<0.050	0.050	8738937
Total Magnesium (Mg)	mg/L	<0.050	0.050	8738937
Total Potassium (K)	mg/L	<0.050	0.050	8738937
RDL = Reportable Detection Limit				

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Maxxam Job #: B772636
Report Date: 2017/09/06

YUKON ZINC CORPORATION

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		RU9000		
Sampling Date		2017/08/25 10:50		
COC Number		08442809		
	UNITS	**TRAVEL BLANK**	**RDL**	**QC Batch**
Total Sodium (Na)	mg/L	<0.050	0.050	8738937
Total Sulphur (S)	mg/L	<3.0	3.0	8738937
RDL = Reportable Detection Limit				

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.7°C

Sample RU8996 [W16] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU8997 [W12] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU8998 [W13] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU8999 [W76] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Nitrate+Nitrite (N) (low level). Sample was analyzed past method specified hold time for Nitrite (N) (low level). Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Sample RU9000 [TRAVEL BLANK] : Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level). {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.}

Sample RU9770 [DUP] : Sample was analyzed past method specified hold time for Turbidity. {Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.} Sample was analyzed past method specified hold time for Orthophosphate by Konelab (low level).

Results relate only to the items tested.

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Maxxam Job #: B772636
Report Date: 2017/09/06

QUALITY ASSURANCE REPORT

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8739690	Nitrate plus Nitrite (N)	2017/08/26	NC	80 - 120	103	80 - 120	<0.0020	mg/L	NC	25
8739691	Nitrite (N)	2017/08/26	NC	80 - 120	97	80 - 120	<0.0020	mg/L	1.9	25
8740288	Dissolved Aluminum (Al)	2017/08/30	106	80 - 120	109	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Antimony (Sb)	2017/08/30	99	80 - 120	97	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Arsenic (As)	2017/08/30	103	80 - 120	101	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Barium (Ba)	2017/08/30	NC	80 - 120	99	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Beryllium (Be)	2017/08/30	104	80 - 120	100	80 - 120	<0.000010	mg/L	NC	20
8740288	Dissolved Bismuth (Bi)	2017/08/30	97	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Boron (B)	2017/08/30	104	80 - 120	103	80 - 120	<0.010	mg/L	NC	20
8740288	Dissolved Cadmium (Cd)	2017/08/30	102	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Chromium (Cr)	2017/08/30	97	80 - 120	96	80 - 120	<0.00010	mg/L	NC	20
8740288	Dissolved Cobalt (Co)	2017/08/30	94	80 - 120	96	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Copper (Cu)	2017/08/30	94	80 - 120	96	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Iron (Fe)	2017/08/30	104	80 - 120	102	80 - 120	<0.0010	mg/L	NC	20
8740288	Dissolved Lead (Pb)	2017/08/30	99	80 - 120	100	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Lithium (Li)	2017/08/30	106	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Manganese (Mn)	2017/08/30	NC	80 - 120	97	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Molybdenum (Mo)	2017/08/30	105	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Nickel (Ni)	2017/08/30	96	80 - 120	98	80 - 120	<0.000020	mg/L	NC	20
8740288	Dissolved Phosphorus (P)	2017/08/30					<0.0020	mg/L	NC	20
8740288	Dissolved Selenium (Se)	2017/08/30	107	80 - 120	106	80 - 120	<0.000040	mg/L	NC	20
8740288	Dissolved Silicon (Si)	2017/08/30					<0.050	mg/L	NC	20
8740288	Dissolved Silver (Ag)	2017/08/30	105	80 - 120	106	80 - 120	<0.0000050	mg/L	NC	20
8740288	Dissolved Strontium (Sr)	2017/08/30	NC	80 - 120	101	80 - 120	<0.000050	mg/L	NC	20
8740288	Dissolved Thallium (Tl)	2017/08/30	100	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20
8740288	Dissolved Tin (Sn)	2017/08/30	96	80 - 120	94	80 - 120	<0.00020	mg/L	NC	20
8740288	Dissolved Titanium (Ti)	2017/08/30	112	80 - 120	92	80 - 120	<0.00050	mg/L	NC	20
8740288	Dissolved Uranium (U)	2017/08/30	105	80 - 120	101	80 - 120	<0.0000020	mg/L	NC	20
8740288	Dissolved Vanadium (V)	2017/08/30	98	80 - 120	97	80 - 120	<0.00020	mg/L	NC	20
8740288	Dissolved Zinc (Zn)	2017/08/30	99	80 - 120	98	80 - 120	<0.00010	mg/L	NC	20
8740288	Dissolved Zirconium (Zr)	2017/08/30					<0.00010	mg/L	NC	20
8740524	Acidity (pH 4.5)	2017/08/28					<1.0	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8740524	Acidity (pH 8.3)	2017/08/28			93	80 - 120	<1.0	mg/L	0.87	20
8740527	Acidity (pH 4.5)	2017/08/28					<1.0	mg/L	NC	20
8740527	Acidity (pH 8.3)	2017/08/28			95	80 - 120	<1.0	mg/L	7.7	20
8740644	Total Aluminum (Al)	2017/08/29	109	80 - 120	112	80 - 120	<0.00050	mg/L	NC	20
8740644	Total Antimony (Sb)	2017/08/29	100	80 - 120	98	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Arsenic (As)	2017/08/29	101	80 - 120	103	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Barium (Ba)	2017/08/29	NC	80 - 120	104	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Beryllium (Be)	2017/08/29	107	80 - 120	104	80 - 120	<0.000010	mg/L	NC	20
8740644	Total Bismuth (Bi)	2017/08/29	95	80 - 120	97	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Boron (B)	2017/08/29	108	80 - 120	106	80 - 120	<0.010	mg/L	NC	20
8740644	Total Cadmium (Cd)	2017/08/29	98	80 - 120	99	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Chromium (Cr)	2017/08/29	101	80 - 120	103	80 - 120	<0.00010	mg/L	NC	20
8740644	Total Cobalt (Co)	2017/08/29	100	80 - 120	101	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Copper (Cu)	2017/08/29	98	80 - 120	103	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Iron (Fe)	2017/08/29	96	80 - 120	101	80 - 120	<0.0010	mg/L	NC	20
8740644	Total Lead (Pb)	2017/08/29	102	80 - 120	104	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Lithium (Li)	2017/08/29	109	80 - 120	108	80 - 120	<0.00050	mg/L	NC	20
8740644	Total Manganese (Mn)	2017/08/29	NC	80 - 120	101	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Molybdenum (Mo)	2017/08/29	100	80 - 120	100	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Nickel (Ni)	2017/08/29	99	80 - 120	102	80 - 120	<0.000020	mg/L	NC	20
8740644	Total Phosphorus (P)	2017/08/29					<0.0020	mg/L	NC	20
8740644	Total Selenium (Se)	2017/08/29	98	80 - 120	101	80 - 120	<0.000040	mg/L	NC	20
8740644	Total Silicon (Si)	2017/08/29					<0.050	mg/L	NC	20
8740644	Total Silver (Ag)	2017/08/29	104	80 - 120	108	80 - 120	<0.0000050	mg/L	NC	20
8740644	Total Strontium (Sr)	2017/08/29	NC	80 - 120	103	80 - 120	<0.000050	mg/L	NC	20
8740644	Total Thallium (Tl)	2017/08/29	98	80 - 120	99	80 - 120	<0.0000020	mg/L	NC	20
8740644	Total Tin (Sn)	2017/08/29	96	80 - 120	98	80 - 120	<0.00020	mg/L	NC	20
8740644	Total Titanium (Ti)	2017/08/29	100	80 - 120	100	80 - 120	<0.00050	mg/L	NC	20
8740644	Total Uranium (U)	2017/08/29	105	80 - 120	104	80 - 120	<0.0000020	mg/L	NC	20
8740644	Total Vanadium (V)	2017/08/29	103	80 - 120	100	80 - 120	<0.00020	mg/L	NC	20
8740644	Total Zinc (Zn)	2017/08/29	102	80 - 120	106	80 - 120	<0.00010	mg/L	NC	20
8740644	Total Zirconium (Zr)	2017/08/29					<0.00010	mg/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8740677	Turbidity	2017/08/28			103	80 - 120	<0.10	NTU	3.7	20
8740682	Turbidity	2017/08/28			103	80 - 120	<0.10	NTU	7.3	20
8740819	Bromide (Br)	2017/08/28	NC	78 - 120	97	80 - 120	<0.010	mg/L	0.46	20
8740936	Total Suspended Solids	2017/08/29	108	80 - 120	97	80 - 120	<4.0	mg/L	4.5	20
8740988	Alkalinity (PP as CaCO3)	2017/08/28					<1.0	mg/L	NC	20
8740988	Alkalinity (Total as CaCO3)	2017/08/28	NC	80 - 120	98	80 - 120	<1.0	mg/L	0.90	20
8740988	Bicarbonate (HCO3)	2017/08/28					<1.0	mg/L	0.90	20
8740988	Carbonate (CO3)	2017/08/28					<1.0	mg/L	NC	20
8740988	Hydroxide (OH)	2017/08/28					<1.0	mg/L	NC	20
8740995	pH	2017/08/28			102	97 - 103			0.36	20
8740996	Conductivity	2017/08/28			101	80 - 120	<2.0	uS/cm	0.62	20
8741002	Alkalinity (PP as CaCO3)	2017/08/29					<1.0	mg/L	NC	20
8741002	Alkalinity (Total as CaCO3)	2017/08/29	NC	80 - 120	99	80 - 120	<1.0	mg/L	NC	20
8741002	Bicarbonate (HCO3)	2017/08/29					<1.0	mg/L	NC	20
8741002	Carbonate (CO3)	2017/08/29					<1.0	mg/L	NC	20
8741002	Hydroxide (OH)	2017/08/29					<1.0	mg/L	NC	20
8741004	pH	2017/08/29			102	97 - 103			4.6	20
8741005	Conductivity	2017/08/29			102	80 - 120	<2.0	uS/cm	NC	20
8741084	Dissolved Chloride (Cl)	2017/08/28	95	80 - 120	98	80 - 120	<1.0	mg/L	NC	20
8741085	Dissolved Sulphate (SO4)	2017/08/28	100	80 - 120	95	80 - 120	<1.0	mg/L	6.2	20
8741086	Dissolved Chloride (Cl)	2017/08/28	NC	80 - 120	96	80 - 120	<1.0	mg/L	1.4	20
8741087	Dissolved Sulphate (SO4)	2017/08/28	NC	80 - 120	95	80 - 120	<1.0	mg/L	2.5	20
8741218	Dissolved Mercury (Hg)	2017/08/29	100	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8741598	Total Dissolved Solids	2017/08/30	96	80 - 120	91	80 - 120	<10	mg/L	4.3	20
8742181	Fluoride (F)	2017/08/29	102	80 - 120	104	80 - 120	<0.020	mg/L	4.3	20
8742274	Fluoride (F)	2017/08/29	104	80 - 120	106	80 - 120	<0.020	mg/L	0	20
8742309	Orthophosphate (P)	2017/08/29	105	80 - 120	100	80 - 120	<0.0010	mg/L	3.9	20
8742351	Dissolved Phosphorus (P)	2017/08/29	93	80 - 120	103	80 - 120	<0.0020	mg/L	9.9	20
8742358	Total Phosphorus (P)	2017/08/29	100	80 - 120	102	80 - 120	<0.0020	mg/L	2.4	20
8742363	Dissolved Sulphate (SO4)	2017/08/29	NC	80 - 120	101	80 - 120	<1.0	mg/L	1.6	20
8742477	Total Mercury (Hg)	2017/08/30	98	80 - 120	99	80 - 120	<0.010	ug/L	NC	20
8742496	Dissolved Mercury (Hg)	2017/08/30	94	80 - 120	98	80 - 120	<0.010	ug/L	NC	20

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Maxxam Job #: B772636
Report Date: 2017/09/06

QUALITY ASSURANCE REPORT(CONT'D)

YUKON ZINC CORPORATION

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8742603	Dissolved Mercury (Hg)	2017/08/30	96	80 - 120	95	80 - 120	<0.010	ug/L	NC	20
8742604	Total Mercury (Hg)	2017/08/30	103	80 - 120	105	80 - 120	<0.010	ug/L	NC	20
8742704	Total Suspended Solids	2017/08/30	116	80 - 120	95	80 - 120	<4.0	mg/L	NC	20
8742757	Total Dissolved Solids	2017/08/31	102	80 - 120	98	80 - 120	<10	mg/L	5.4	20
8742763	Total Dissolved Solids	2017/08/31	106	80 - 120	90	80 - 120	<10	mg/L	7.8	20
8744851	Total Ammonia (N)	2017/08/31	96	80 - 120	112	80 - 120	<0.020	mg/L	NC	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

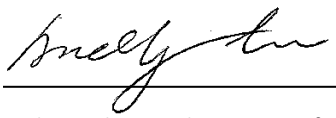
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Maxxam Job #: B772636
Report Date: 2017/09/06

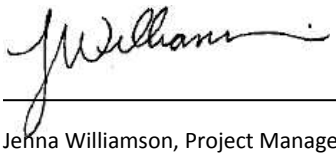
YUKON ZINC CORPORATION

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Ph.D., P.Chem., Scientific Specialist



Jenna Williamson, Project Manager 1

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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BBY FCD-00077/05

Page ____ of ____

Burnaby: 4606 Canada Way, Burnaby, BC V5G 1K5, Toll Free (800) 665-8566

Invoice Information

Company Name: Yukon Zinc Corporation
Contact Name: Alex Wu
Address: 705 - 1030 West Georgia Street
Vancouver PC: V6E 2Y3
Phone: 604-684-5474
Email: alex.wu@yukonzinc.com

Report Information (if differs from invoice)

Company Name: Adrienne Turcotte Consulting
Contact Name: Adrienne Turcotte
Address: 102-8832 W.4th Avenue
Vancouver BC PC: V6R 1P8
Phone: 778-772-2222
Email: YZC Group turcotte.adrienne@gmail.com

Project Information

Quotation #:
P.O. #/ AFE#:
Project #:
Site Location:
Site #:
Sampled By:

Turnaround Time (TAT) Required

☒ Regular TAT 5 days (Most analyses)

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Rush TAT (Surcharges will be applied)
☐ Same Day ☐ 2 Days
☐ 1 Day ☐ 3 Days

Date Required:

Rush Confirmation #:

Regulatory Criteria

☐ BC CSA Soil ☐ BC CSR Water
☐ CCME (Specify) ☐ Other (Specify)
☐ Drinking Water ☐ BC Water Quality

Special Instructions

☐ Return Cooler
☐ Ship Sample Bottles (Please Specify)

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	BTEX/VPH	EPH	PAH	CCME PHC	Dissolved Metals	Dissolved Mercury	Total Metals	Total Mercury	Chloride	TDS	pH	Nitrate	Package A	Total Phosphate and Ammonia	Radium 226	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	COMMENTS
	Bottle									50 mL falcon tube	50 mL falcon tube	50 mL falcon tube	50 mL falcon tube				120mL plastic	1 L plastic + 120 mL plastic	120 mL plastic	1L plastic			
	Preservative									HNO3	Hcl	HNO3	HCl				NONE	-	NONE	HNO3			
	Filtered									✓	✓	-	-				-	-	-				
1	W16		17-08-23	18:30	Water					X	X	X	X		X	X	X	XX	X	X			
2	W12		17-08-23	12:50	Water					X	X	X	X		X	X	X	XX	X	X			
3	W13		17-08-23	14:00	Water					X	X	X	X		X	X	X	XX	X	X			
4	W76		17-08-22	12:55	Water					X	X	X	X		X	X	X	XX	X	X			
5	DUP		17-08-23	18:00	Water					X	X	X	X		X	X	X	XX	X	X			
6	Travel Blank				Water					X	X	X	X		X	X	X	XX	X	X			

[LABORATORY USE ONLY]
CUSTODY SEAL
ICE/ICE PACKS
TEMPERATURES
Present: Intact:
4.4.3
COOLING MEDIA PRESENT:

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Adrienne Turcotte	17-08-24	9:00	Laurel Beaver	2017/08/25	10:50

B772636_COC

Maxxam
A Bureau Veritas Group Company

Your Project #: B772636

Attention:Veronica De Guzman

Maxxam Analytics
4606 Canada Way
Burnaby, BC
Canada V5G 1K5

Report Date: 2017/09/06
Report #: R4688786
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7I6775
Received: 2017/08/29, 10:16

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Radium Isotopes by Alpha Spectrometry (1)	4	N/A	2017/09/03	BQL SOP-00006 BQL SOP-00017 BQL SOP-00032	Alpha Spectrometry
Radium Isotopes by Alpha Spectrometry (1)	1	N/A	2017/09/04	BQL SOP-00006 BQL SOP-00017 BQL SOP-00032	Alpha Spectrometry

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
(1) Radium-226 results have not been corrected for blanks.

Your Project #: B772636

Attention:Veronica De Guzman

Maxxam Analytics
4606 Canada Way
Burnaby, BC
Canada V5G 1K5

Report Date: 2017/09/06
Report #: R4688786
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7I6775
Received: 2017/08/29, 10:16

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Simona Vatamanescu, Project Manager
Email: SVatamanescu@maxxam.ca
Phone# (905)826-3080
==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B7I6775
Report Date: 2017/09/06

Maxxam Analytics
Client Project #: B772636

RESULTS OF ANALYSES OF WATER

Maxxam ID		FAI150	FAI153	FAI154	FAI155	FAI156		
Sampling Date		2017/08/23 18:30	2017/08/23 12:50	2017/08/23 14:00	2017/08/22 12:55	2017/08/23 19:00		
	UNITS	**RU8996-W16**	**RU8997-W12**	**RU8998-W13**	**RU8999-W76**	**RU9770-DUP**	**RDL**	**QC Batch**
Radium-226	Bq/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	5140810

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6790 Kitimat Rd, Unit 4, Mississauga, ON L5N 5L9 Phone: (905) 826-3080 Fax: (905) 826-4151 Toll Free: 1 877-726-3080 www.maxxam.ca

GENERAL COMMENTS

Results relate only to the items tested.

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Maxxam Job #: B7I6775
Report Date: 2017/09/06

Maxxam Analytics
Client Project #: B772636

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
5140810	FA5	Spiked Blank	Radium-226	2017/09/03		101	%	85 - 115
5140810	FA5	Method Blank	Radium-226	2017/09/03	<0.010		Bq/L	
5140810	FA5	RPD	Radium-226	2017/09/03	NC		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

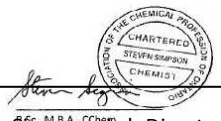
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Maxxam Job #: B7I6775
Report Date: 2017/09/06

Maxxam Analytics
Client Project #: B772636

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Steven Simpson, Lab Director

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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APPENDIX B
WATER QUALITY MONITORING RESULTS

APPENDIX B

Water Quality Monitoring Data July 2015 to September 2017

Stn.Code		W16	W16	W16	W16	W16	W16
Collect Date/Time		Baseline	Baseline	27/06/2017	10/07/2017	23/08/2017	01/09/2017
Sample Class		Average	95th %	B753882	B757212	B772636	B775568
Temperature °C	degrees C			0.1	0.4	3.7	1.1
Conductivity	umhos/cm	135	153	144	132	168	164
Total Hardness (CaCO3)	mg/L	69	79	69.7	63.6	79.5	77.1
Total Suspended Solids	mg/L	7	15	<4.0	14.0	<4.0	<4.0
Total Dissolved Solids	mg/L			84	84	92	110
pH	s.u.	7.8	8.1	8.03	8.04	8.08	7.98
Turbidity	NTU	0.9	4.7	0.38	5.71	0.39	0.28
Dissolved Organic Carbon	mg/L	2.2	5.2	2.8	3.6		1.61
Alkalinity (Total as CaCO3)	mg/L			60.1	58.2	73.7	73.4
Total Acidity	mg/L			<0.5	<0.5	<1.0	<1.0
Bromide (Br)	mg/L			<0.01	<0.01	<0.01	<0.01
Chloride (Cl)	mg/L			0.56	<0.5	<1.0	<1.0
Fluoride (F)	mg/L	0.04	0.063	0.031	0.032	0.038	0.034
Sulphate (SO4)	mg/L	8	11	10.9	9.97	12.2	12.6
Ammonia (N)	mg/L	0.016	0.049	0.073	0.052	<0.02	0.04
Nitrate (N)	mg/L	0.056	0.126	<0.2	<0.2	0.27	0.29
Nitrite (N)	mg/L	0.002	0.005	<0.2	<0.2	0.20	<0.2
Dissolved Phosphorus (P)	mg/L	0.011	0.028				
Orthophosphate (P)	mg/L			<0.001	0.0065	0.0020	0.0025
Total Aluminum (Al)	mg/L	0.035	0.088	0.0192	0.144	0.0143	0.0092
Total Antimony (Sb)	mg/L	0.00012	0.0005	0.000062	0.000136	0.000053	0.000047
Total Arsenic (As)	mg/L	0.00025	0.0005	0.00016	0.000248	0.000145	0.000136
Total Cadmium (Cd)	mg/L	0.00008	0.00012	0.0000632	0.000113	0.0000690	0.0000720
Total Calcium (Ca)	mg/L			23.2	21.0	26.1	25.5
Total Chromium (Cr)	mg/L	0.00065	0.0014	0.0001	0.00046	<0.0001	0.0001
Total Cobalt (Co)	mg/L			0.0000405	0.000218	0.0000440	0.0000370
Total Copper (Cu)	mg/L	0.00101	0.00282	0.00114	0.00331	0.000744	0.000631
Total Iron (Fe)	mg/L	0.089	0.332	0.0349	0.239	0.0441	0.0359
Total Lead (Pb)	mg/L	0.00014	0.0005	0.0000	0.00135	0.0000100	<0.000005
Total Magnesium (Mg)	mg/L			2.88	2.68	3.46	3.29
Total Manganese (Mn)	mg/L			0.00973	0.0214	0.0164	0.016
Total Mercury (Hg)	mg/L	0.000013	0.00002	<0.00001	<0.00001	<0.00001	<0.00001
Total Molybdenum (Mo)	mg/L	0.00048	0.001	0.000407	0.000377	0.000412	0.000407
Total Nickel (Ni)	mg/L	0.00054	0.001	0.000358	0.00065	0.000281	0.000242
Total Phosphorous (P)	mg/L			0.0064	0.0378	0.0059	0.0054
Total Potassium (K)	mg/L			0.408	0.31	0.549	0.571
Total Selenium (Se)	mg/L	0.00062	0.001	0.000928	0.000701	0.000733	0.000765
Total Silicon (Si)	mg/L			2.78	2.79	3.07	2.89
Total Silver (Ag)	mg/L	0.00001	0.00002	<0.000005	0.000013	<0.000005	<0.000005
Total Sodium (Na)	mg/L			1.07	0.94	1.19	1.25
Total Strontium (Sr)	mg/L			0.0443	0.0408	0.0531	0.051
Total Thallium (Tl)	mg/L			<0.000002	0.0000027	<0.000002	<0.000002
Total Vanadium (V)	mg/L			<0.0002	0.00053	<0.0002	<0.0002
Total Zinc (Zn)	mg/L	0.0065	0.0161	0.00288	0.0130	0.00312	0.00288

APPENDIX B

Water Quality Monitoring Data July 2015 to September 2017

Stn.Code		W16	W16	W16	W16	W16	W16
Collect Date/Time		Baseline	Baseline	27/06/2017	10/07/2017	23/08/2017	01/09/2017
Sample Class		Average	95th %	B753882	B757212	B772636	B775568
Dissolved Aluminum (Al)	mg/L	0.008	0.023	0.01	0.0117	0.00560	0.0046
Dissolved Antimony (Sb)	mg/L			0.000067	0.000114	0.000055	0.000048
Dissolved Arsenic (As)	mg/L			0.00015	0.000157	0.000141	0.000128
Dissolved Cadmium (Cd)	mg/L			0.0000552	0.0000631	0.0000680	0.0000694
Dissolved Calcium (Ca)	mg/L			23.4	20.9	26.9	27.3
Dissolved Chromium (Cr)	mg/L			0.00011	<0.0001	<0.0001	<0.0001
Dissolved Cobalt (Co)	mg/L			0.0000287	0.0000363	0.0000360	0.0000329
Dissolved Copper (Cu)	mg/L			0.00103	0.00125	0.000652	0.000578
Dissolved Iron (Fe)	mg/L	0.022	0.045	0.0221	0.0239	0.0259	0.0248
Dissolved Lead (Pb)	mg/L			0.0000	0.0000902	0.0000050	<0.000005
Dissolved Magnesium (Mg)	mg/L			2.85	2.56	3.32	3.29
Dissolved Manganese (Mn)	mg/L			0.00824	0.00687	0.0142	0.0139
Dissolved Mercury (Hg)	mg/L			<0.00001	<0.00001	<0.00001	<0.00001
Dissolved Molybdenum (Mo	mg/L			0.0004	0.000384	0.000413	0.000381
Dissolved Nickel (Ni)	mg/L			0.000355	0.000388	0.000240	0.000234
Dissolved Phosphorus (P)	mg/L			0.0048	0.0064	0.0053	0.0045
Dissolved Potassium (K)	mg/L			0.403	0.314	0.521	0.576
Dissolved Selenium (Se)	mg/L			0.000956	0.000669	0.000736	0.000845
Dissolved Silicon (Si)	mg/L			2.77	3.01	3.04	3.02
Dissolved Silver (Ag)	mg/L			<0.000005	<0.000005	<0.000005	<0.000005
Dissolved Sodium (Na)	mg/L			1.04	0.865	1.16	1.26
Dissolved Strontium (Sr)	mg/L			0.0444	0.0419	0.0534	0.0493
Dissolved Thallium (Tl)	mg/L			<0.000002	<0.000002	<0.000002	<0.000002
Dissolved Vanadium (V)	mg/L			<0.0002	0.00020	<0.0002	<0.0002
Dissolved Zinc (Zn)	mg/L			0.0026	0.00330	0.00278	0.00267
Weak Acid Dissoc. Cyanide (	mg/L			<0.0005	<0.0005		<0.001
Total Cyanide	mg/L						

APPENDIX B

Water Quality Monitoring Data July 2015 to September 2017

Stn.Code		W12	W12	W12	W12	W12
Collect Date/Time		Baseline	Baseline	28/06/2017	10/07/2017	23/08/2017
Sample Class		Average	95th %	B753882	B757212	B772636
Temperature °C	degrees C			0.1	0.4	3.7
Conductivity	umhos/cm	146	170	143	143	164
Total Hardness (CaCO3)	mg/L	72	88	68.6	67.7	79.0
Total Suspended Solids	mg/L	5	11	<4.0	<4.0	<4.0
Total Dissolved Solids	mg/L			74	98	104
pH	s.u.	7.8	8.1	8.03	8.03	8.06
Turbidity	NTU	0.9	2.2	0.34	0.49	0.30
Dissolved Organic Carbon	mg/L	2.1	4.3	2	2.8	
Alkalinity (Total as CaCO3)	mg/L			57.9	60.1	69.4
Total Acidity	mg/L			<0.5	<0.5	<1.0
Bromide (Br)	mg/L			<0.01	<0.01	<0.01
Chloride (Cl)	mg/L			<0.5	<0.5	<1.0
Fluoride (F)	mg/L	0.056	0.072	0.039	0.040	0.047
Sulphate (SO4)	mg/L	13	18	14.4	13.7	15.5
Ammonia (N)	mg/L	0.014	0.053	0.03	0.15	<0.02
Nitrate (N)	mg/L	0.035	0.123	<0.2	<0.2	<0.2
Nitrite (N)	mg/L	0.006	0.005	<0.2	<0.2	<0.2
Dissolved Phosphorus (P)	mg/L	0.007	0.014			
Orthophosphate (P)	mg/L			<0.001	0.0034	0.0024
Total Aluminum (Al)	mg/L	0.032	0.079	0.0305	0.0363	0.0230
Total Antimony (Sb)	mg/L	0.00012	0.0005	0.000061	0.000044	0.000045
Total Arsenic (As)	mg/L	0.0003	0.0005	0.000217	0.000196	0.000229
Total Cadmium (Cd)	mg/L	0.00003	0.00006	0.0000191	0.0000210	0.0000200
Total Calcium (Ca)	mg/L			21.9	21.5	24.6
Total Chromium (Cr)	mg/L	0.00055	0.00117	0.00013	0.00021	0.00011
Total Cobalt (Co)	mg/L			0.0000583	0.0000580	0.0000550
Total Copper (Cu)	mg/L	0.00108	0.00271	0.00107	0.00101	0.000806
Total Iron (Fe)	mg/L	0.09	0.229	0.0849	0.0965	0.103
Total Lead (Pb)	mg/L	0.00017	0.00062	0.0000	0.0000470	0.0000340
Total Magnesium (Mg)	mg/L			3.4	3.37	4.27
Total Manganese (Mn)	mg/L			0.0113	0.0123	0.0206
Total Mercury (Hg)	mg/L	0.000013	0.00002	<0.00001	<0.00001	<0.00001
Total Molybdenum (Mo)	mg/L	0.00051	0.001	0.000372	0.000343	0.000371
Total Nickel (Ni)	mg/L	0.0006	0.00163	0.000408	0.000464	0.000362
Total Phosphorous (P)	mg/L			0.0082	0.0095	0.0057
Total Potassium (K)	mg/L			0.427	0.385	0.562
Total Selenium (Se)	mg/L	0.00091	0.00126	0.00093	0.000745	0.000693
Total Silicon (Si)	mg/L			2.74	2.93	3.32
Total Silver (Ag)	mg/L	0.00001	0.00002	<0.000005	<0.000005	<0.000005
Total Sodium (Na)	mg/L			0.933	0.953	1.03
Total Strontium (Sr)	mg/L			0.0413	0.0425	0.0494
Total Thallium (Tl)	mg/L			<0.000002	<0.000002	<0.000002
Total Vanadium (V)	mg/L			0.00025	<0.0002	<0.0002
Total Zinc (Zn)	mg/L	0.0031	0.0055	0.00089	0.00095	0.00078

APPENDIX B

Water Quality Monitoring Data July 2015 to September 2017

Stn.Code		W12	W12	W12	W12	W12
Collect Date/Time		Baseline	Baseline	28/06/2017	10/07/2017	23/08/2017
Sample Class		Average	95th %	B753882	B757212	B772636
Dissolved Aluminum (Al)	mg/L	0.009	0.031	0.00702	0.0183	0.00501
Dissolved Antimony (Sb)	mg/L			0.000062	0.000036	0.000046
Dissolved Arsenic (As)	mg/L			0.000198	0.000197	0.000237
Dissolved Cadmium (Cd)	mg/L			0.0000119	0.0000183	0.0000130
Dissolved Calcium (Ca)	mg/L			21.3	21.8	26.0
Dissolved Chromium (Cr)	mg/L			<0.0001	0.00010	<0.0001
Dissolved Cobalt (Co)	mg/L			0.000025	0.0000419	0.0000300
Dissolved Copper (Cu)	mg/L			0.000855	0.000945	0.000669
Dissolved Iron (Fe)	mg/L	0.031	0.082	0.0289	0.0500	0.0495
Dissolved Lead (Pb)	mg/L			<0.000005	0.0000248	<0.000005
Dissolved Magnesium (Mg)	mg/L			3.34	3.35	4.83
Dissolved Manganese (Mn)	mg/L			0.00577	0.00755	0.0141
Dissolved Mercury (Hg)	mg/L			<0.00001	<0.00001	<0.00001
Dissolved Molybdenum (Mc	mg/L			0.000352	0.000327	0.000375
Dissolved Nickel (Ni)	mg/L			0.000292	0.000303	0.000318
Dissolved Phosphorus (P)	mg/L			0.0043	0.0069	0.0052
Dissolved Potassium (K)	mg/L			0.41	0.405	0.629
Dissolved Selenium (Se)	mg/L			0.000846	0.000778	0.000707
Dissolved Silicon (Si)	mg/L			2.65	3.06	3.35
Dissolved Silver (Ag)	mg/L			<0.000005	<0.000005	<0.000005
Dissolved Sodium (Na)	mg/L			0.916	0.880	1.16
Dissolved Strontium (Sr)	mg/L			0.041	0.0406	0.0528
Dissolved Thallium (Tl)	mg/L			<0.000002	<0.000002	<0.000002
Dissolved Vanadium (V)	mg/L			<0.0002	<0.0002	<0.0002
Dissolved Zinc (Zn)	mg/L			0.00031	0.00102	0.00043
Weak Acid Dissoc. Cyanide (	mg/L					
Total Cyanide	mg/L					

APPENDIX B

Water Quality Monitoring Data July 2015 to September 2017

Stn.Code		W73	W73	W73	W73	W73	W73
Collect Date/Time		Baseline	Baseline	25/04/2016	18/07/2016	10/10/2016	14/12/2016
Sample Class		Average	95th %	B632583	B660054	B690400	B6B2438
Temperature °C	degrees C			4.7	3.7	1.2	6.7
Conductivity	umhos/cm	227	294	198	221	234	280
Total Hardness (CaCO3)	mg/L	117	161	93.5	123	117	138
Total Suspended Solids	mg/L	5	5	<4.0	<4.0	<4.0	<4.0
Total Dissolved Solids	mg/L			104	130	118	168
pH	s.u.	8.1	8.2	8.15	8.12	8.13	8.08
Turbidity	NTU	0.5	1.1	1.23	0.51	0.46	0.42
Dissolved Organic Carbon	mg/L	2.6	7	4.23			
Alkalinity (Total as CaCO3)	mg/L			89.6	98.3	99.4	124
Total Acidity	mg/L			<0.5	<0.5	<0.5	<0.5
Bromide (Br)	mg/L			<0.01	<0.01	<0.01	<0.01
Chloride (Cl)	mg/L			0.79	<0.5	<1.0	<0.5
Fluoride (F)	mg/L	0.064	0.093	0.046	0.048	0.047	0.063
Sulphate (SO4)	mg/L	19	30	15	19.5	25	25.3
Ammonia (N)	mg/L	0.008	0.02	0.031	0.022	0.049	0.071
Nitrate (N)	mg/L	0.059	0.13	0.28	<0.2	0.24	<0.2
Nitrite (N)	mg/L	0.003	0.006	<0.2	<0.2	<0.2	<0.2
Dissolved Phosphorus (P)	mg/L	0.007	0.012				
Orthophosphate (P)	mg/L			0.0054	0.0021	0.0012	0.0038
Total Aluminum (Al)	mg/L	0.017	0.052	0.0266	0.0108	0.00534	0.00957
Total Antimony (Sb)	mg/L	0.00013	0.0002	0.000078	0.000109	0.000094	0.000103
Total Arsenic (As)	mg/L	0.00027	0.0005	0.000324	0.000251	0.000229	0.000255
Total Cadmium (Cd)	mg/L	0.00002	0.00004	0.000015	0.000011	0.0000100	<0.000005
Total Calcium (Ca)	mg/L			23.9	34.3	32.5	36.3
Total Chromium (Cr)	mg/L	0.00076	0.0014	<0.0005	0.00027	0.00029	0.0003
Total Cobalt (Co)	mg/L			0.000051	0.000028	0.0000190	0.0000130
Total Copper (Cu)	mg/L	0.00131	0.0028	0.00174	0.00115	0.000801	0.000572
Total Iron (Fe)	mg/L	0.054	0.142	0.256	0.0598	0.0508	0.0683
Total Lead (Pb)	mg/L	0.00007	0.00011	<0.00005	0.000031	0.0000750	0.0000580
Total Magnesium (Mg)	mg/L			8.21	9.08	8.67	11.6
Total Manganese (Mn)	mg/L			0.0393	0.0141	0.00810	0.0122
Total Mercury (Hg)	mg/L	0.000011	0.00002	<0.00001			
Total Molybdenum (Mo)	mg/L	0.00051	0.00066	0.000413	0.000567	0.000466	0.000505
Total Nickel (Ni)	mg/L	0.00095	0.00189	0.00112	0.000797	0.000623	0.000599
Total Phosphorous (P)	mg/L			0.025	0.0072	0.0030	0.0093
Total Potassium (K)	mg/L			0.56	0.265	0.249	0.32
Total Selenium (Se)	mg/L	0.00081	0.0013	0.000668	0.000674	0.000683	0.00103
Total Silicon (Si)	mg/L			4.07	4.48	4.15	4.66
Total Silver (Ag)	mg/L	0.00001	0.00002	<0.000005	<0.000005	<0.000005	<0.000005
Total Sodium (Na)	mg/L			1.01	1.17	1.11	1.36
Total Strontium (Sr)	mg/L			0.092	0.116	0.113	0.149
Total Thallium (Tl)	mg/L			<0.000002	<0.000002	<0.000002	<0.000002
Total Vanadium (V)	mg/L			<0.0005	<0.0002	<0.0002	<0.0002
Total Zinc (Zn)	mg/L	0.003	0.0126	0.0015	0.001	0.00079	0.00074

APPENDIX B

Water Quality Monitoring Data July 2015 to September 2017

Stn.Code		W73	W73	W73	W73	W73	W73
Collect Date/Time		Baseline	Baseline	25/04/2016	18/07/2016	10/10/2016	14/12/2016
Sample Class		Average	95th %	B632583	B660054	B690400	B6B2438
Dissolved Aluminum (Al)	mg/L	0.005	0.012	0.00719	0.00512	0.00267	0.00224
Dissolved Antimony (Sb)	mg/L			0.000094	0.000112	0.000094	0.000114
Dissolved Arsenic (As)	mg/L			0.000255	0.000259	0.000209	0.000183
Dissolved Cadmium (Cd)	mg/L			0.000012	0.000013	0.0000060	0.000007
Dissolved Calcium (Ca)	mg/L			24.7	33.5	33.4	35.6
Dissolved Chromium (Cr)	mg/L			0.00022	0.00027	0.00028	0.00029
Dissolved Cobalt (Co)	mg/L			0.000023	0.000017	0.0000130	0.0000080
Dissolved Copper (Cu)	mg/L			0.00122	0.00146	0.000775	0.000478
Dissolved Iron (Fe)	mg/L	0.018	0.041	0.125	0.0318	0.0343	0.0194
Dissolved Lead (Pb)	mg/L			<0.000005	0.000625	0.0000190	0.000012
Dissolved Magnesium (Mg)	mg/L			8.21	9.74	8.66	11.3
Dissolved Manganese (Mn)	mg/L			0.00642	0.00452	0.00524	0.0019
Dissolved Mercury (Hg)	mg/L			<0.00001			
Dissolved Molybdenum (Mo	mg/L			0.000385	0.000502	0.000465	0.000569
Dissolved Nickel (Ni)	mg/L			0.00094	0.00082	0.000574	0.000548
Dissolved Phosphorus (P)	mg/L			0.0175	0.0051	<0.002	0.004
Dissolved Potassium (K)	mg/L			0.525	0.274	0.250	0.327
Dissolved Selenium (Se)	mg/L			0.000368	0.000641	0.000665	0.000953
Dissolved Silicon (Si)	mg/L			4.06	4.3	4.13	4.47
Dissolved Silver (Ag)	mg/L			<0.000005	0.000005	<0.000005	<0.000005
Dissolved Sodium (Na)	mg/L			0.988	1.25	1.15	1.31
Dissolved Strontium (Sr)	mg/L			0.0935	0.11	0.113	0.151
Dissolved Thallium (Tl)	mg/L			<0.000002	<0.000002	<0.000002	<0.000002
Dissolved Vanadium (V)	mg/L			<0.0002	<0.0002	<0.0002	<0.0002
Dissolved Zinc (Zn)	mg/L			0.00162	0.00221	0.00062	0.0005
Weak Acid Dissoc. Cyanide (	mg/L			<0.0005			
Total Cyanide	mg/L						

APPENDIX B

Water Quality Monitoring Data July 2015 to September 2017

Stn.Code		**W73**	**W73**	**W73**	**W73**	**W73**
Collect Date/Time		**31/05/2017**	**27/06/2017**	**09/07/2017**	**17/08/2017**	**01/09/2017**
Sample Class		**B743263**	**B753882**	**B757212**	**B770851**	**B775568**
Temperature °C	degrees C	7.3	0.1	0.4	0.6	1.1
Conductivity	umhos/cm	603	172	174	210	228
Total Hardness (CaCO3)	mg/L	326	83.1	85.5	105	114
Total Suspended Solids	mg/L	<4.0	<4.0	<4.0	<4.0	<4.0
Total Dissolved Solids	mg/L	348	94	96	94	120
pH	s.u.	8.29	8.07	8.13	8.15	8.17
Turbidity	NTU	0.49	0.84	0.57	0.45	0.62
Dissolved Organic Carbon	mg/L		3.3	3.8	2.7	2.54
Alkalinity (Total as CaCO3)	mg/L	243	68.6	74.4	91.4	99
Total Acidity	mg/L	<0.5	<0.5	<0.5	<1.0	<1.0
Bromide (Br)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Chloride (Cl)	mg/L	0.57	<0.5	<0.5	<1.0	<1.0
Fluoride (F)	mg/L	0.540	0.039	0.041	0.049	0.053
Sulphate (SO4)	mg/L	97.7	15.6	15.9	21	21.0
Ammonia (N)	mg/L	0.019	0.058	0.069	<0.02	0.034
Nitrate (N)	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrite (N)	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Dissolved Phosphorus (P)	mg/L					
Orthophosphate (P)	mg/L	0.0080	0.0011	0.0038	0.0017	0.0017
Total Aluminum (Al)	mg/L	0.0347	0.0211	0.0165	0.012	0.0082
Total Antimony (Sb)	mg/L	0.000379	0.000099	0.000102	0.000107	0.00011
Total Arsenic (As)	mg/L	0.000435	0.000221	0.000242	0.00026	0.000255
Total Cadmium (Cd)	mg/L	0.00144	0.0000089	0.0000108	0.000008	0.0000090
Total Calcium (Ca)	mg/L	84.6	23.6	24.0	28.9	30.2
Total Chromium (Cr)	mg/L	0.00011	0.00028	0.00034	0.0003	0.0003
Total Cobalt (Co)	mg/L	0.000242	0.0000369	0.0000390	0.000025	0.0000220
Total Copper (Cu)	mg/L	0.00093	0.00143	0.00176	0.00111	0.000937
Total Iron (Fe)	mg/L	0.127	0.0548	0.0562	0.0733	0.0567
Total Lead (Pb)	mg/L	0.000145	0.0000	0.0000167	0.000019	0.0000050
Total Magnesium (Mg)	mg/L	27.9	5.87	6.21	8.1	9.26
Total Manganese (Mn)	mg/L	0.0390	0.0069	0.0101	0.0115	0.0106
Total Mercury (Hg)	mg/L		<0.00001	<0.00001	<0.00001	<0.00001
Total Molybdenum (Mo)	mg/L	0.00416	0.000395	0.000417	0.000448	0.00051
Total Nickel (Ni)	mg/L	0.0275	0.00089	0.000991	0.000893	0.000741
Total Phosphorous (P)	mg/L		0.0059	0.0061	0.0051	0.0038
Total Potassium (K)	mg/L	0.72	0.198	0.182	0.228	0.283
Total Selenium (Se)	mg/L	0.00701	0.00053	0.000601	0.00072	0.000765
Total Silicon (Si)	mg/L	3.51	3.51	4.05	4.31	4.05
Total Silver (Ag)	mg/L	<0.00001	<0.000005	<0.000005	<0.000005	<0.000005
Total Sodium (Na)	mg/L	0.85	0.877	0.868	1.02	1.15
Total Strontium (Sr)	mg/L	0.240	0.0709	0.0767	0.099	0.114
Total Thallium (Tl)	mg/L	0.0000050	<0.000002	<0.000002	<0.000002	<0.000002
Total Vanadium (V)	mg/L	0.00034	<0.0002	<0.0002	<0.0002	<0.0002
Total Zinc (Zn)	mg/L	0.443	0.00032	0.00032	0.0006	0.00025

APPENDIX B

Water Quality Monitoring Data July 2015 to September 2017

Stn.Code		**W73**	**W73**	**W73**	**W73**	**W73**
Collect Date/Time		**31/05/2017**	**27/06/2017**	**09/07/2017**	**17/08/2017**	**01/09/2017**
Sample Class		**B743263**	**B753882**	**B757212**	**B770851**	**B775568**
Dissolved Aluminum (Al)	mg/L	0.0115	0.0058	0.00679	0.00374	0.0029
Dissolved Antimony (Sb)	mg/L	0.000360	0.000113	0.000100	0.000104	0.000111
Dissolved Arsenic (As)	mg/L	0.000339	0.000203	0.000220	0.000249	0.000232
Dissolved Cadmium (Cd)	mg/L	0.00124	0.0000064	0.0000065	0.000008	0.000006
Dissolved Calcium (Ca)	mg/L	88.3	24.3	23.7	29.7	31.7
Dissolved Chromium (Cr)	mg/L	<0.0001	0.00028	0.00033	0.00024	0.00025
Dissolved Cobalt (Co)	mg/L	0.000165	0.0000184	0.0000235	0.000015	0.0000108
Dissolved Copper (Cu)	mg/L	0.000707	0.00146	0.00162	0.000953	0.000869
Dissolved Iron (Fe)	mg/L	0.0172	0.0258	0.0245	0.0349	0.0287
Dissolved Lead (Pb)	mg/L	0.000170	0.0000	<0.000005	<0.000005	<0.000005
Dissolved Magnesium (Mg)	mg/L	29.2	5.82	6.06	7.91	9.43
Dissolved Manganese (Mn)	mg/L	0.0317	0.0031	0.00423	0.00576	0.00477
Dissolved Mercury (Hg)	mg/L		<0.00001	<0.00001	<0.00001	<0.00001
Dissolved Molybdenum (Mo	mg/L	0.00405	0.000407	0.000410	0.000460	0.000452
Dissolved Nickel (Ni)	mg/L	0.0261	0.00081	0.000886	0.0007	0.000696
Dissolved Phosphorus (P)	mg/L	0.0218	0.0034	0.0034	0.004	0.0033
Dissolved Potassium (K)	mg/L	0.750	0.192	0.179	0.235	0.28
Dissolved Selenium (Se)	mg/L	0.00768	0.000534	0.000643	0.000727	0.000831
Dissolved Silicon (Si)	mg/L	3.96	3.55	3.95	5.07	4.35
Dissolved Silver (Ag)	mg/L	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005
Dissolved Sodium (Na)	mg/L	0.905	0.9	0.843	1.02	1.21
Dissolved Strontium (Sr)	mg/L	0.236	0.0723	0.0760	0.111	0.106
Dissolved Thallium (Tl)	mg/L	0.0000040	<0.000002	<0.000002	<0.000002	<0.000002
Dissolved Vanadium (V)	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Dissolved Zinc (Zn)	mg/L	0.414	0.00012	0.00039	0.00043	0.00022
Weak Acid Dissoc. Cyanide (	mg/L					
Total Cyanide	mg/L					