



Task Order#: 4502835071
 Line Item: 10
 Site#: 70511625
 Site Location: NORMAN WELLS,NT
 Project #: Surface Water Runoff
 Your C.O.C. #: 674191-01-01

Attention: Benjamin Fraser

Imperial Oil Resources Ltd.
 Bag Service 5000
 Norman Wells, NT
 CANADA XOE OVO

Report Date: 2023/05/11
 Report #: R3334824
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C332806

Received: 2023/05/09, 15:15

Sample Matrix: Water
 # Samples Received: 1

Analyses	Quantity	Laboratory Method	Analytical Method
Chloride/Sulphate by Auto Colourimetry	1	AB SOP-00020	SM24-4500-Cl/SO4-E m
Conductivity @25C	1	AB SOP-00005	SM 23 2510 B m
pH @25°C (1)	1	AB SOP-00005	SM 23 4500-H+B m
Phenols (4-AAP)	1	AB SOP-00088	EPA 9066 R0 m
Total Dissolved Solids (Filt. Residue)	1	AB SOP-00065	SM 23 2540 C m
Hydrocarbon by IR (Mineral oil & grease)	1	CAL SOP-00096	SM 23 5520C,F m
Total Suspended Solids (NFR)	1	AB SOP-00061	SM 24 2540 D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas 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. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard. All samples were analyzed within hold time unless otherwise flagged.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas 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 Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

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. When sampling is not conducted by Bureau Veritas, results relate to the supplied 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 CCME method requires 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 CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.



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Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Jasbirjit Kaur, Customer Solutions Representative
Email: Jasbirjit.KAUR@bureauveritas.com
Phone# (403)219-3651

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Scott Cantwell, General Manager responsible for Alberta Environmental laboratory operations.



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RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID			BQD338		
Sampling Date			2023/05/07 09:45		
COC Number			674191-01-01		
	UNITS	Criteria	LT II CULVERT	RDL	QC Batch
Misc. Inorganics					
Conductivity	uS/cm	-	400	2.0	A959329
pH	pH	6:9	7.48	N/A	A958824
Total Suspended Solids	mg/L	-	4.4	1.0	A957716
Total Dissolved Solids	mg/L	-	280	10	A957857
Anions					
Chloride (Cl)	mg/L	500	9.8	1.0	A958171
Misc. Organics					
Phenols	mg/L	0.14	<0.0015	0.0015	A957790
Total Petroleum Hydrocarbon	mg/L	5	<2.0	2.0	A956134
No Fill	No Exceedance				
Grey	Exceeds 1 criteria policy/level				
Black	Exceeds both criteria/levels				
RDL = Reportable Detection Limit					
N/A = Not Applicable					



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TEST SUMMARY

Bureau Veritas ID: BQD338
Sample ID: LT II CULVERT
Matrix: Water

Collected: 2023/05/07
Relinquished: 2023/05/07
Received: 2023/05/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride/Sulphate by Auto Colourimetry	KONE	A958171	N/A	2023/05/10	Erika Beatriz Reyes Osorio
Conductivity @25C	COND	A959329	N/A	2023/05/11	Jeanette Chavol Melo
pH @25°C	AT/ALK	A958824	N/A	2023/05/11	Jeanette Chavol Melo
Phenols (4-AAP)	TECH/4AAP	A957790	N/A	2023/05/10	Ming Dong
Total Dissolved Solids (Filt. Residue)	BAL	A957857	2023/05/10	2023/05/10	Eliza Javier Herrera
Hydrocarbon by IR (Mineral oil & grease)	IR	A956134	2023/05/10	2023/05/11	Zeynab (Sara) Naserifar
Total Suspended Solids (NFR)	BAL	A957716	2023/05/10	2023/05/10	Haydee Estilong



GENERAL COMMENTS

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

Package 1	4.0°C
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Note: C of C information incomplete, On the COC there was no Task order or Work order. We have proceeded with the 2023 Task order 4502835071 and work order for Surface water 70511625. Notified Benjamin Fraser via email.

Criteria: Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A956134	ZSN	Method Blank	Total Petroleum Hydrocarbon	2023/05/11	<2.0		mg/L	
A957716	HE1	Method Blank	Total Suspended Solids	2023/05/10	<1.0		mg/L	
A957790	MDO	Method Blank	Phenols	2023/05/10	<0.0015		mg/L	
A957857	EH2	Method Blank	Total Dissolved Solids	2023/05/10	<10		mg/L	
A958171	EBO	Method Blank	Chloride (Cl)	2023/05/10	<1.0		mg/L	
A959329	JVM	Method Blank	Conductivity	2023/05/11	<2.0		uS/cm	
A956134	ZSN	LCS	Total Petroleum Hydrocarbon	2023/05/11		96	%	70 - 130
A957716	HE1	LCS	Total Suspended Solids	2023/05/10		94	%	80 - 120
A957790	MDO	LCS	Phenols	2023/05/10		105	%	80 - 120
A957857	EH2	LCS	Total Dissolved Solids	2023/05/10		98	%	80 - 120
A958171	EBO	LCS	Chloride (Cl)	2023/05/10		99	%	80 - 120
A958824	JVM	LCS	pH	2023/05/10		100	%	97 - 103
A959329	JVM	LCS	Conductivity	2023/05/11		101	%	90 - 110

LCS: 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.



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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Gita Pokhrel, Laboratory Supervisor

Sandy Yuan, M.Sc., QP, Scientific Specialist



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