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March 27, 2024

Project #
60600398

Dear Sir:

Subject: Town of Inuvik – Water Licence No. G17L3-001
2023 Summary Report

On behalf of the Town of Inuvik, we are pleased to provide the Annual Report for 2023.

WATER DEMANDS, STATION 0036-1

The total volume of water used from the East Channel is listed in Table G17L3-001-1 attached. Water use remained well within the Licence limit throughout the year. It was also at ordinary levels relative to recent times: about 5.8% more than consumption in 2022. Water License G17L3-001 dictated the maximum volume of water that can be withdrawn from the East Channel is 1,000,000 m^3 per year. The total water demand in 2023 was approximately 74% of the maximum withdraw volume.

WASTEWATER VOLUMES

Annually, about 97 percent of the wastewater reaching Inuvik's lagoon is distributed and re-collected by the Town's above ground utilidor system. About three percent is distributed from Inuvik's truck fill point and is then re-collected by wastewater trucks.

There is no extraneous inflow, and rarely much loss to leakage. Inuvik will accept in its lagoon wastewater from a source other than the Town's water supply on a fee for service basis, but volumes being received are negligible. There are a few water uses which do not contribute to sewage (such as firefighting, and in summer, gardening and vehicle washing) but these are a very small portion of the total water usage and can be neglected. For practical purposes, inflow into the lagoon is essentially equal to the Town's metered production of water, reported in Table G17L3-001-1.

It is Inuvik's practice to obtain assurance from waste hauling contractors and waste generators that discharges to the lagoon from trucks will be restricted to wastewater of domestic origin and character. This wastewater shall not be contaminated by solvents, petroleum products, glycol, drilling fluids, or any other industrial waste of any sort in concentrations exceeding what would ordinarily be expected from domestic activities, such as washing of clothes and hands. Inuvik did not accept wastewater from sources outside the Town's boundaries during this year.

SEWAGE EFFLUENT QUANTITIES

Inuvik's lagoon is normally operated at a constant level, with a dike freeboard of 1.0 m or slightly more. Therefore, in normal operation, monthly quantities of effluent are about equal to monthly water use. The Lagoon level was normal and consistent throughout 2023.

Information on the Town's sludge removal activities can be found in the relevant section below.

SOLID WASTE DISPOSAL FACILITY OPERATIONS AND MAINTENANCE

In 2023, Inuvik's solid waste disposal facility was operated routinely. Based on rates from the Municipal Solid Waste Facility O&M Manual - Appendix A, the estimated municipal solid waste generated in 2023 was approximately 5,901 tonnes of Municipal Solid Waste, which used approximately 19,669 m^3 of space at the Municipal Solid Waste Facility. Detailed estimates are presented in Table G17L3-001-2, attached.

No other projects were undertaken, beyond routine covering and compaction of completed cells. Typically, Inuvik will accept Municipal Solid Waste from outside sources, though the quantities tend to be very low. The Town of Inuvik did not receive additional solid waste from outside sources in 2023.

In 2023, no collection event for household hazardous waste was undertaken.

SEWAGE EFFLUENT QUALITY MONITORING, STATION G17L3-0036-3

Lagoon effluent is sampled monthly, and laboratory test results are listed in Table G17L3-001-3, attached. As indicated in the table, samples were not completed in the month of January 2023 due to human error.

Generally, results are within typical ranges for the time of year. With the exception of oil and grease, which is over the limit of 5 mg/L since the sample was collected by skimming the surface of the discharge due to an insufficient amount of flow or a vertical dip in the winter months. Running averages of parameters measured in routine monthly samples, and pH measurements (which are not averaged), remained within license limits during the year. For the first four months of the year, the average calculations exclude the month of January due to the missed samples.

BOD_5 monitoring was changed to CBOD monitoring in the license renewal; the limit for CBOD was set at 135 mg/L, compared to 150 mg/L for BOD_5. There were no concerns with either parameter during the year. It is relevant that the full effluent CBOD load in the East Channel is not exerted at or close to Inuvik, in a concentrated way. Rather, it is distributed quite thinly far downstream, due to the slow BOD exertion rate in a northern river environment, especially at winter temperatures.

There were no concerns with Suspended Solids of Fecal Coliforms, as both parameters were within normal ranges and well below the license limits.

The Town does not have a standard for ammonia but is required to monitor for it. The ammonia levels all appeared to be within normal ranges.

SOLID WASTE DISPOSAL FACILITY RUN-OFF QUALITY MONITORING, STATIONS G06L3-001-4, -5 AND -9

Runoff from the Mt. Baldy Solid Waste Disposal Facility is sampled monthly during periods of flow. Station 0036-4 monitors flow westward; Station 0036-5 monitors near-shore water quality in a pond to the east; and SNP 0036-9 was added in the latest license renewal to monitor potential impacts of the Solid Waste Disposal Facilities on surface water at Boot Creek. Sample results are shown in Tables G17L3-001-4, -5, and -9 respectively.

Four tests were taken at each SNP station in 2023, during months of flow: June, July, August, and September.

Elevated readings for suspended solids were noted at Station 0036-5 in the months of August and September. If suspended solid results continue to be elevated in 2024 at this location, further investigation may be required.

PONDS AT LAGOON, STATIONS G17L3-001-6 AND -7; CONTROL STATION G17L3-001-8

Sampling of ponds adjacent to the lagoon is completed once per year, in September, starting in 2007. The purpose is to monitor for possible evidence of leakage from the lagoon. Samples are tested for the same parameters as lagoon effluent.

“Gate Pond”, Station 6, occupies a former small gravel quarry just outside the lagoon system’s west dike, adjacent to the west sludge cell. "Far Pond”, Station 7, is located just outside the lagoon system's west dike, opposite the middle-north part of the secondary cell, about 800 m northwest of Gate Pond and 250 m direct distance south of the outlet structure. Twin Lake is used as a background benchmark, and its Station 8 is located at the south end of North Twin Lake.

The 2023 sample results for these stations’ traditional parameters are shown in Table G17L3-001-6, 7 & 8. They are in line with the patterns of preceding years. Complete data for the stations is presented in the results appendix.

SOLID WASTE FACILITY FENCING PLAN

The Solid Waste Fencing Plan requirement (Part D, Item 15) was added to the 2017 licence renewal. The Plan was submitted on May 21, 2019. A design and tender was completed in 2022 for a new electric fence to close in the solid water facility. It is anticipated that the fence will be constructed in 2024.

SURVEILLANCE NETWORK PROGRAM (SNP) LOCATIONS

A map of the SNP Locations is attached. Active SNP location data is presented in the following table.

SNP #	Description	Purpose	Coordinates
0036-1	Raw Water Intake at the Mackenzie River Water Supply Facilities	To monitor monthly and annual quantity of water withdrawn for municipal purposes.	68°21'10.36" N, 133°43'35.53" W
0036-3	Decant Structure at Sewage Treatment Facilities	Site of Compliance. To monitor final effluent quality prior to discharge to the receiving environment and in case of an emergency decant.	68°22'20.58" N, 133°45'38.85" W
0036-4	Run-off below the Solid Waste Disposal Facilities	To monitor potential impacts of the Solid Waste Disposal Facilities on Surface water.	68°21'7" N, 133°41'1.3" W
0036-5	Run-off to two (2) tundra ponds southwest of Solid Waste Disposal Facilities	To monitor potential impacts of the Solid Waste Disposal Facilities on Surface water.	68°20'36.22" N, 133°40'32.41" W
0036-6	"Gate Pond" – near SW corner of Sewage Treatment Facility	To monitor potential impacts of the Sewage Lagoon on Surface Water	68°21'51.45" N, 133°44'1.00" W
0036-7	"Far Pond" – near the NW corner of Sewage Treatment Facility	To monitor potential impacts of the Sewage Lagoon on Surface Water	68°22'15.73" N, 133°45'41.60" W
0036-8	Twin Lakes at Happy Valley	Control for Sewage Lagoon Sampling	68°21'239.14" N, 133°44'28.10" W
0036-9	Boot Creek upstream of Boot Lake	To monitor potential impacts of the Solid Waste Disposal Facilities on Surface water.	68°21'13.35" N, 133°41'51.48" W

SOLIDS REMOVED FROM SEWAGE TREATMENT FACILITY

Sludge that had accumulated in the lagoon's primary cells since their commissioning in 1980 was transferred to the adjacent sludge holding cells in July 1993. A survey done in the fall of 2006 found that that subsequent sludge accumulations were still well below levels requiring the next transfer by dredging. The apparently reduced accumulation rate (relative to 1981-1993) may be due to a lagoon conditioner that Inuvik has been adding to the primary cells since the mid 1990's.

In many years, small amounts of settled and floating solids need to be removed from around ends of pipes passing through primary cell dikes. This is done with a backhoe; the solids being deposited in the sludge holding cells. Routine solids removal as described was not required for the year 2023.

Sludge removal was not performed in the summer of 2023.

INSPECTION OF LAGOON EARTHEN CONTAINMENT STRUCTURES

The 2023 inspection of lagoon dikes (Water Licence Condition D8) report is attached in Appendix C. There are no immediate concerns arising from the 2023 lagoon dike inspection. Routine maintenance work was done on the lagoon's earthwork dikes, and all dikes appear to be at or very near to design shapes and levels. Continued longitudinal cracking does indicate that at some point in the future, a major restoration project will be required.

CONSTRUCTION, MODIFICATIONS AND MAJOR MAINTENANCE WORK

In 2023, no modifications to the existing operating process were made. Routine maintenance work was completed as required.

UNAUTHORIZED DISCHARGES

There were no unauthorized discharges in 2023.

SPILL TRAINING AND COMMUNICATIONS EXERCISES

No additional training was completed. Spill kits and spill containment equipment were purchased in 2017 for implementation of actions identified in the Spill Containment Plan (2017), which was updated and submitted with the 2017 Water Licence renewal application.

ABANDONMENT, CLOSURE, AND RECLAMATION

No such projects were undertaken in 2023. The future of the Lake B – Hidden Lake water supply infrastructure needs to be confirmed but is expected to be abandoned at a future date.

CURRENT WATER LICENCE RELATED PLANS

Documents currently on file with the Water Board are summarized in the list below.

- Spill Contingency Plan: Revised February 2017 (AECOM)
- O&M Manual for the Solid Waste Disposal Facility: Revised April 2018 (AECOM)
- O&M Manual for the Water Treatment Facility: September 2018 (Napa Design and Construction)
- O&M Manual for the Sewage Treatment Facility: Revised June 2019 (AECOM)

CLOSURE

We trust that this submission fulfills the reporting requirements for the period referred to.

Sincerely,
AECOM Canada Ltd.

Hitendra Patel, P.Eng.
Senior Project Manager
Hitendra.Patel@aecom.com

Encl.
cc: GLWB – AlecSandra MacDonald, Regulatory Officer
Inuvik: Cynthia Pihlaja, S.A.O.; Daniel Dokunmu; Utilidor Shop
Inuvik Public Works Committee

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The attached Report (the "Report") has been prepared by AECOM Canada Ltd. ("AECOM") for the benefit of the Client ("Client") in accordance with the agreement between AECOM and Client, including the scope of work detailed therein (the "Agreement").

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- represents AECOM's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to AECOM which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

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AECOM: 2015-04-13

Appendix A


G17L3-001 - TOWN OF INUVIK - SNP STATION MAP
Hidden Lake
#9
#4
#3
#7
#6
#8
Inuvik
#5
Water Plant
Pumphouse
start
end
Image © 2018 DigitalGlobe
Image © 2018 DigitalGlobe
Google Earth
2002
Imagery Date: 8/17/2016 68°21'27.53" N 133°43'16.49" W elev 77 ft eye alt 16061 ft

INUVIK SURVEILLANCE NETWORK PROGRAM 2023 Table G17L3-001-1

WATER USE ("SNP")

Station 0036-1, Mackenzie River pumphouse. Measure quantities daily. Report by month.

The total volumes of water used from SNP 0036-1 are listed below.

2022 Month	Intake from the East Channel m^3
January	60,845
February	59,801
March	71,879
April	66,764
May	64,899
June	56,273
July	65,693
August	56,067
September	51,324
October	60,812
November	60,546
December	62,216
Total	737,119

Notes:

1. Quantities are well within Licence limits. No known concerns.

Solid Waste Generation 2023 Table G17L3-001-2

The total estimated solid waste generated is listed below.

Month 2021	Solid Waste Generated tonnes	Solid Waste Deposited m^3
January	501	1,671
February	453	1,509
March	501	1,671
April	485	1,617
May	501	1,671
June	485	1,617
July	501	1,671
August	501	1,671
September	485	1,617
October	501	1,671
November	485	1,617
December	501	1,671
Total	5,901	19,669

Notes:

1. Latest population estimates based on data from GNWT Bureau of Statistics as of July 1, 2022.

2. Solid Waste Generation estimates based on generation rates outlined in 2017 Inuvik Municipal Solid Waste Facility O&M Manual.

Station 0036-3, Sewage Discharge to Receiving Water.

SNP requirements. Sample monthly. Report parameters tabulated below.

SAMPLE RESULTS										AMBIENT CONDITIONS		
Date			pH	BOD/ CBOD mg/L	SS mg/L	NH3-N mg/L	Un-ionized Ammonia mg/L	Fecal Coli CFU/dL	Oil and Grease mg/L	Temp ° C	Wind km/h	OC/ Prcp
YYYY	MM	DD										
2023	01	00	Not recorded							NR	NR	NR
2023	02	14	7.0	16	7	14	0.04	6,000	9	-33	S 6	NR
2023	03	21	7.4	32	3	15	0.10	6,000	11	-22	E 13	NR
2023	04	11	7.4	46	3	16	0.10	5,500	2	-12	NW 5	NR
2023	05	16	7.4	31	8	11	0.07	6,000	17	-2	N 16	NR
2023	06	13	7.4	04	22	09	0.05	1,300	2	2	NE 12	NR
2023	07	11	7.7	04	23	04	0.05	10	6	7	N 12	NR
2023	08	16	7.5	04	14	06	0.05	900	6	12	SE 3	NR
2023	09	12	7.7	14	26	03	0.04	560	5	7	N 3	NR
2023	10	10	7.9	05	18	03	0.07	430	5	-2	SE 5	NR
2023	11	14	7.9	04	16	06	0.11	670	5	-15	NW 10	NR
2023	12	13	7.2	15	13	10	0.04	6,000	24	-15	W 17	NR

RUNNING AVERAGES OF SAMPLE RESULTS									
Item			pH	BOD/ CBOD mg/L	SS mg/L	NH3-N mg/L	Un-ionized Ammonia mg/L	Fecal Coli CFU/dL	Oil and Grease mg/L
Unit									
Limit, avg. 4 consec.			6-9	135	70	none	none	1,000,000	5 mg/L
2023	01	00	0.0				0.03		22.50
2023	02	14	7.0	12	8	10.1	0.04	9,021	26.00
2023	03	21	7.4	21	8	13.1	0.06	5,999	14.67
2023	04	11	7.4	31	4	15.2	0.08	5,828	7.33
2023	05	16	7.4	31	5	14.1	0.08	5,871	9.75
2023	06	13	7.4	28	9	12.8	0.08	4,005	8.00
2023	07	11	7.7	21	14	9.8	0.07	809	6.75
2023	08	16	7.5	11	17	7.2	0.05	515	7.75
2023	09	12	7.7	7	21	5.3	0.05	285	4.75
2023	10	10	7.9	7	20	3.9	0.05	216	5.50
2023	11	14	7.9	7	19	4.5	0.07	617	5.25
2023	12	13	7.2	10	18	5.5	0.07	992	9.75

Notes:

1 In the table header above, "avg. 4 con" is shorthand for "average of four consecutive samples". There is no average requirement for pH, only an upper and lower limit. Values presented for pH are monthly sample results.

2 In the graphs below, the red line (coded with suffix "a" in the key) shows the average of four consecutive samples. The thinner line shows individual monthly readings.

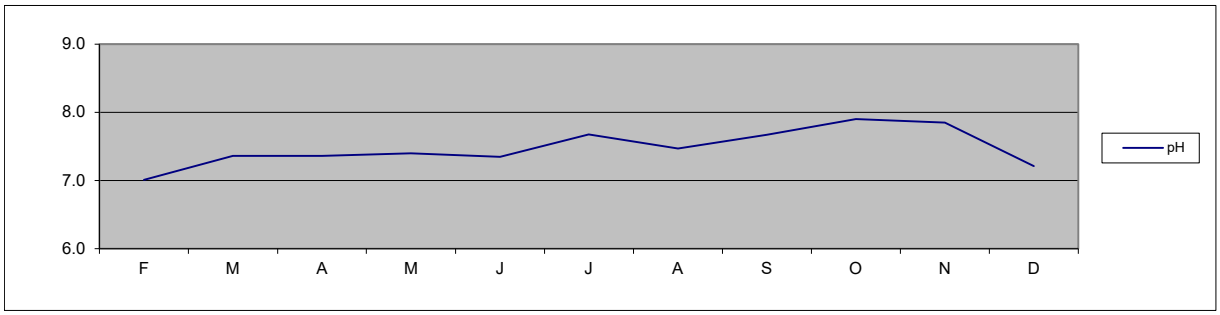
3 NR represents not reported in this sample.

4 Requirements in the new licence took affect July 1, 2017. Average reported for Fecal Coliforms changed from geometric to arithmetic averages at that time. Averages for CBOD were calculated using BOD where CBOD values were unavailable.

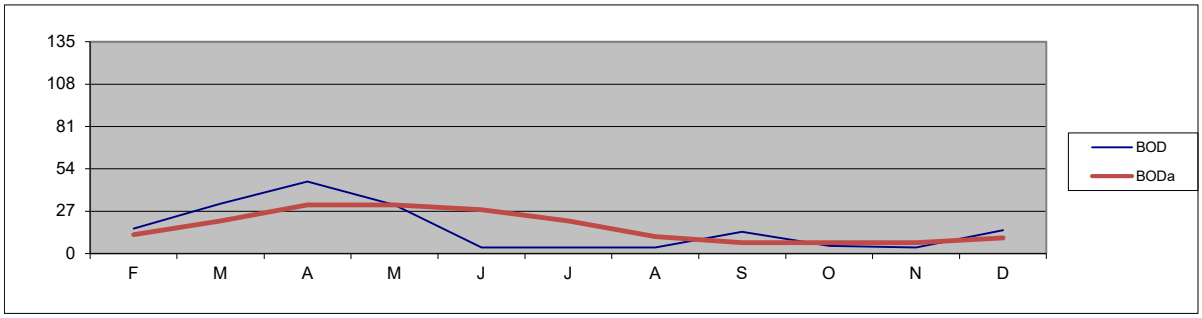
5 Samples were not taken in January 2023 due to human error. Reported averages for the first four months exclude January, and are therefore based on a three month average.

GRAPHS OF PARAMETERS MEASURED AT LAGOON OUTLET, STATION 0036-3

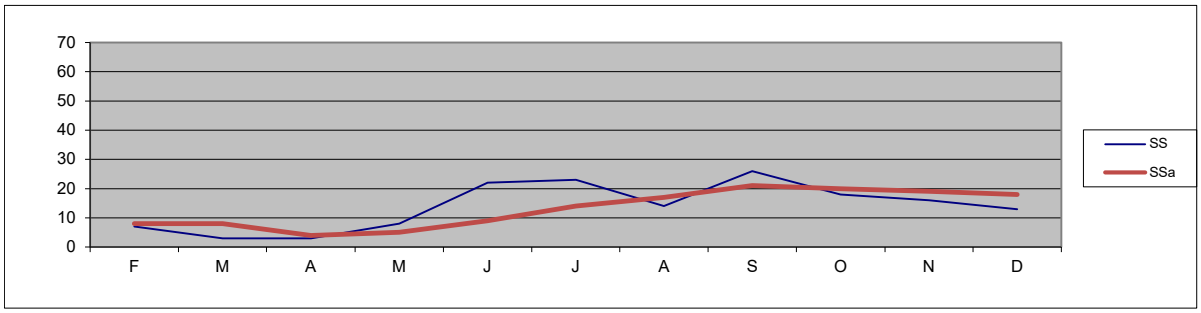
pH, BY MONTH 2023



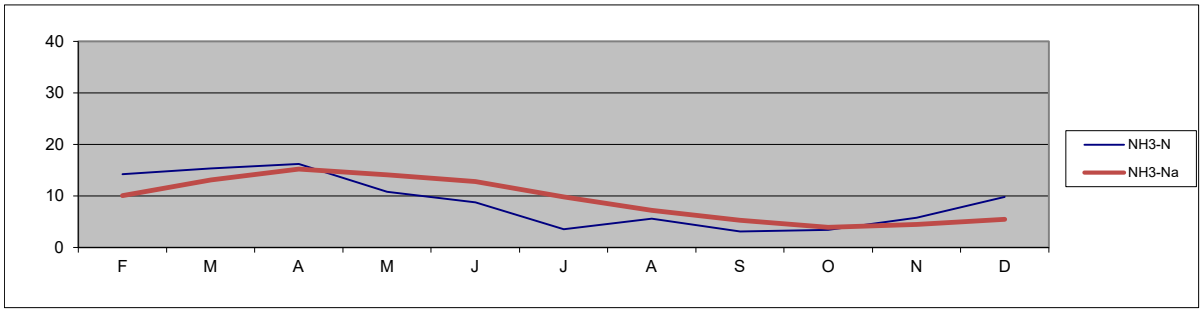
BOD5 / CBOD (mg/L), BY MONTH 2023



SUSPENDED SOLIDS (mg/L) BY MONTH 2023

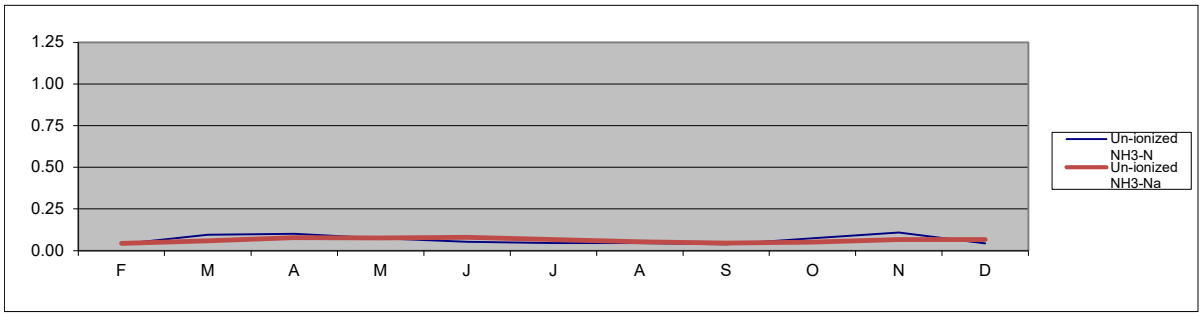


NH3-N (mg/L) BY MONTH 2023

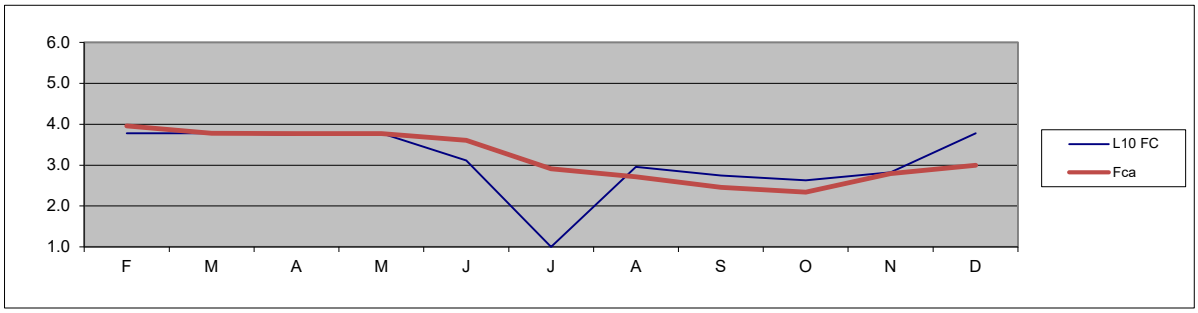


GRAPHS OF PARAMETERS MEASURED AT LAGOON OUTLET, STATION 0036-3

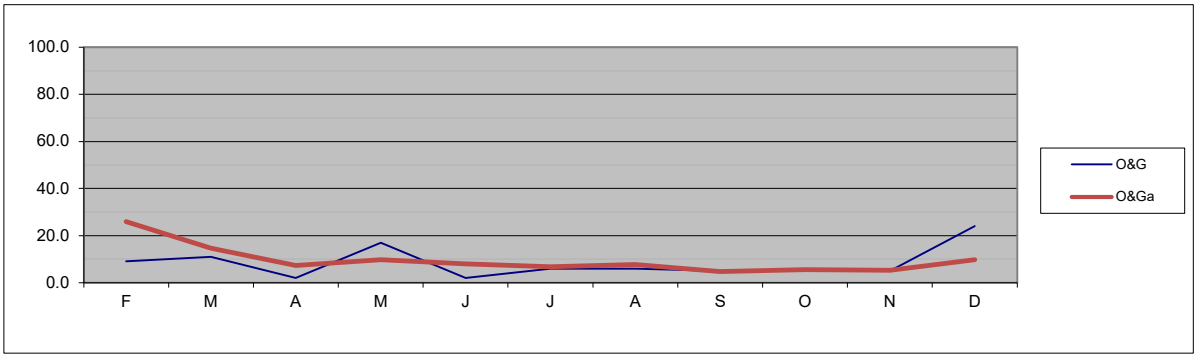
Un-ionized NH3-N (mg/L) BY MONTH 2023



FECAL COLIFORMS (LOG10 CFU/100 mL) BY MC 2023



Oil and Grease (mg/L) BY MONTH 2023



Note: the chart for Fecal Colifirms, shows the Log(10) of the measured value.

Note: Data charted are monthly measured values and running averages.
Averages are identified by the suffix "a".

INUVIK SURVEILLANCE NETWORK PROGRAM 2023 Table G17L3-001-4
RUNOFF WESTWARD FROM SOLID WASTE SITE

Station 0036-4 Sample monthly when there is flow. Report parameters tabulated below.

SAMPLE DATES & OBSERVATIONS			Temp ° C	Wind km/h	Sky	Prcp
May	Frozen - No Sample Taken					
June	13	2023	4	NR	NR	0
July	11	2023	0	NR	NR	0
August	16	2023	6	NR	NR	0
September	12	2023	3	NR	NR	0
October	Frozen - No Sample Taken					

SAMPLE ANALYSIS RESULTS					
Item		Date			
		June 13	Jul 11	Aug 16	Sep 12
pH	NA	7.98	7.86	7.85	7.83
Conductivity	uS/cm	2420	2360	2300	2290
Sodium	mg/L	154.0	185.0	174.0	172
Potassium	mg/L	34.0	37.2	35.3	34.4
Magnesium	mg/L	127.0	134.0	125.0	123
Calcium	mg/L	235	244	230	215
Cadmium	mg/L	0.0001	0.00002	<0.00002	0.00001
Chromium	mg/L	0.0020	0.0010	<0.001	0.001
Copper	mg/L	0.010	<0.002	<0.002	0.001
Iron	mg/L	3.3100	0.8100	0.4500	0.79
Lead	mg/L	0.003400	0.000300	<0.0002	0.0002
Mercury	mg/L	0.000045	0.000016	<0.000005	0.000013
Nickel	mg/L	0.0130	0.0120	0.0090	0.0102
Zinc	mg/L	0.032	<0.008	<0.008	<0.004
Sulphate	mg/L	NR	NR	NR	NR
Phosphate	mg/L	NR	NR	NR	NR
Phenols	mg/L	0.002	0.001	<0.001	0.001
BOD5	mg/L	<4	<4	<4	4
Oil & Grease	mg/L	NR	NR	NR	NR
Suspend. Solid	mg/L	80	20	162	176
TPH	mg/L	<0.1	<0.1	<0.1	<0.1

Notes:

1. "Phosphate" is reported as total P.

2. "NR" denotes Not Reported.

3. TPH value listed is summation of F1 and F2.

INUVIK SURVEILLANCE NETWORK PROGRAM 2023 Table G17L3-001-5
RUNOFF WESTWARD FROM SOLID WASTE SITE

Station 0036-5 Sample monthly when there is flow. Report parameters tabulated below.

SAMPLE DATES & OBSERVATIONS			Temp ° C	Wind km/h	Sky	Prcp
May	Frozen - No Sample Taken					
June	13	2023	4	NR	NR	0
July	11	2023	0	NR	NR	0
August	16	2023	6	NR	NR	0
September	12	2023	3	NR	NR	0
October	Frozen - No Sample Taken					

SAMPLE ANALYSIS RESULTS					
Item		Date			
		June 13	Jul 11	Aug 16	Sep 12
pH	NA	7.45	7.78	7.07	6.96
Conductivity	uS/cm	472	1070	1050	1090
Sodium	mg/L	16.1	30.0	40.3	21.3
Potassium	mg/L	21.3	90.0	69.8	23.7
Magnesium	mg/L	16.4	32.0	42.0	64.1
Calcium	mg/L	41.6	80	110	249
Cadmium	mg/L	0.00003	0.00001	0.00048	0.002
Chromium	mg/L	<0.005	<0.0005	0.0231	0.079
Copper	mg/L	0.002	<0.001	0.032	0.14
Iron	mg/L	0.7000	0.6200	33.6000	127
Lead	mg/L	0.000100	<0.0001	0.013100	0.048
Mercury	mg/L	0.000042	0.000041	<0.00005	0.000011
Nickel	mg/L	0.0026	0.002200	0.0385	0.168
Zinc	mg/L	0.004	0.004	0.163	1.09
Sulphate	mg/L	NR	NR	NR	NR
Phosphate	mg/L	NR	NR	NR	NR
Phenols	mg/L	<0.001	0.001	0.001	<0.001
BOD5	mg/L	<4	<4	54	163
Oil & Grease	mg/L	NR	NR	NR	NR
Suspend. Solid	mg/L	9	9	10900	5360
TPH	mg/L	<0.1	<0.1	<0.1	<0.1

Notes:

1. "Phosphate" is reported as total P.

2. "NR" denotes Not Reported.

3. TPH value listed is summation of F1 and F2.

INUVIK SURVEILLANCE NETWORK PROGRAM 2023 Table G17L3-001-9
RUNOFF WESTWARD FROM SOLID WASTE SITE

Station 0036-9 Sample monthly when there is flow. Report parameters tabulated below.

SAMPLE DATES & OBSERVATIONS			Temp ° C	Wind km/h	Sky	Prcp
May	Frozen - No Sample Taken					
June	13	2023	4	NR	NR	0
July	11	2023	0	NR	NR	0
August	16	2023	6	NR	NR	0
September	12	2023	3	NR	NR	0
October	Frozen - No Sample Taken					

SAMPLE ANALYSIS RESULTS					
Item		Date			
		June 13	Jul 11	Aug 16	Sep 12
pH	NA	7.39	7.78	7.62	7.03
Conductivity	uS/cm	468	2520	889	267
Sodium	mg/L	18.6	146.0	45	9.9
Potassium	mg/L	2.0	5.3	2	0.9
Magnesium	mg/L	17.7	95.7	36	11
Calcium	mg/L	47.1	285	102	27.1
Cadmium	mg/L	0.00001	<0.00002	<0.00001	<0.00001
Chromium	mg/L	0.0005	<0.001	<0.0005	<0.0005
Copper	mg/L	0.001	<0.002	<0.001	0.002
Iron	mg/L	0.0500	0.3800	0.5400	0.45
Lead	mg/L	<0.0001	<0.0002	<0.0001	<0.0001
Mercury	mg/L	0.000039	<0.000005	<0.000005	0.000023
Nickel	mg/L	0.0064	0.0040	0.0040	0.0065
Zinc	mg/L	0.005	0.008	<0.004	0.004
Sulphate	mg/L	NR	NR	NR	NR
Phosphate	mg/L	NR	NR	NR	NR
Phenols	mg/L	<0.001	0.001	0.001	<0.001
BOD5	mg/L	<4	<4	<4	<4
Oil & Grease	mg/L	NR	NR	NR	NR
Suspend. Solid	mg/L	<5	11	8	2
TPH	mg/L	<0.1	<0.1	<0.1	<0.1

Notes:

1. "Phosphate" is reported as total P.

2. "NR" denotes Not Reported.

3. TPH value listed is summation of F1 and F2.

INUVIK SURVEILLANCE NETWORK PROGRAM **2023** **Table G17L3-001-6, 7 & 8**
MONITORING OF PONDS NEAR LAGOON

Station 0036-6, "Gate Pond", W dike, SW, near gate. 68º 21' 51.45" N: 133^{O} 44' 1.00" W
Station 0036-7, "Far Pond", W dike, mid-north. 68º 22' 15.73" N: 133^{O} 45' 41.60" W
Station 0036-8, control, Twin Lakes at Happy Valley. 68º 21' 239.14" N: 133^{O} 44' 28.10" W

SNP requirements. Sample annually. Report parameters tabulated below.
Reports are due for the calendar year by March 31.

Date			SNP #	SAMPLE RESULTS					AMBIENT CONDITIONS		
				pH	BOD_5	SS	NH3-N	Fecal Coli	Temp	Wind	Sky
					mg/L	mg/L	mg/L	CFU/dL	° C	km/h	
2023	09	12	6	8.3	<4	2	3.32	<10	3	NE 13	Cloudy
2023	09	12	7	8.3	<4	16	<0.025	<10			
2023	09	12	8	7.9	<4	2	12.60	<10			

Note: Results from recent earlier years are included below for comparison.

Date			SNP #	SAMPLE RESULTS					AMBIENT CONDITIONS		
				pH	BOD_5	SS	NH3-N	Fecal Coli	Temp	Wind	Sky
					mg/L	mg/L	mg/L	CFU/dL	° C	km/h	
2022	09	20	6	7.7	<4	9	14.00	<10	7	N 3	-
2022	09	20	7	8.1	<4	7	0.028	10			
2022	09	20	8	8.2	>4	9	2.72	<10			
2021	09	21	6	7.3	5	6	1.12	<10	2	N 26	-
2021	09	21	7	7.9	<4	3	0.071	<10			
2021	09	21	8	8.0	<4	6	3.86	10			
2020	09	16	6	8.0	<4	5	7.6	40	4	N 15	-
2020	09	16	7	8.3	<4	<2	<0.025	<10			
2020	09	16	8	8.1	6	12	1.9	<10			
2019	09	11	6	7.9	<4	<2	12.1	<10	17	WNW 17	Partly Cloudy
2019	09	11	7	8.1	<4	3	<0.025	<10			
2019	09	11	8	8.2	<4	<2	1.5	20			
2018	09	12	6	7.8	<4	1	8.9	1	-4	E 13	Partly Cloudy
2018	09	12	7	8.3	<4	3	<0.025	1			
2018	09	12	8	8.1	<4	<2	0.5	<1			
2017	09	13	6	7.8	<4	19	nd	2	11	SE 12	Clear
2017	09	13	7	8.0	<4	<1	nd	2			
2017	09	13	8	8.0	<4	10	nd	<1			
2016	09	13	6	8.1	<4	2	14.1	<1	0	E 18	Cloudy
2016	09	13	7	8.1	<4	<1	<0.025	<1			
2016	09	13	8	8.1	<4	2	3.1	2			
2015	09	08	6	7.7	<4	3	12.8	2	1	NW 4	Cloudy
2015	09	08	7	8.4	<4	<7	<0.025	<1			
2015	09	08	8	8.2	<4	8	1.6	1			
2014	10	07	6	7.7	<4	4	12.4	81	-3	NW 30	Snow
2014	10	07	7	8.0	<4	4	<0.05	<1			
2014	10	07	8	8.1	<4	47	1.9	1			
2013	09	24	6	7.8	<4	<1	14.4	2	0	NE 5	Cloudy
2013	09	24	7	8.1	<4	15	<0.05	24			
2013	09	24	8	8.1	<4	<2	1.9	<1			
2012	09	18	6	8.1	<4	3	10.4	4	7	S 10	Clear
2012	09	18	7	8.3	<4	<1	<0.05	1			
2012	09	18	8	8.2	<4	<2	3.4	2			
2011	09	19	6	8.0	<4	<2	13.6	<1	0	NE 15	Cloudy
2011	09	19	7	8.3	<4	<2	<0.05	<1			
2011	09	19	8	8.1	<4	6	1.6	<1			
2010	09	21	6	7.8	<4	<1	14.3	1	1	NW 15	Cloudy
2010	09	21	7	8.1	<4	<1	<0.05	<1			
2010	09	21	8	8.1	<4	50	2.6	<1			
2009	09	28	6	7.1	<4	3	11.2	<1	-3	NW 4	Snow
2009	09	28	7	8.2	5	6	<0.05	<1			
2009	09	28	8	7.8	<4	6	2.8	<1			
2008	09	15	6	7.7	<4	5	10.0	1	-3	E 12	Clear
2008	09	15	7	8.6	<4	3	<0.05	<1			
2008	09	15	8	8.3	<4	6	1.3	<1			
2007	11	14	6	7.2	<4	13	8.9	<1	-12	SE 07	Snow
2007	11	14	7	7.3	14	303	0.3	1			
2007	11	14	8	7.4	5	6	4.3	<1			

AECOM

Appendix B

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Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1634825**
Control Number:
Date Received: Feb 27, 2023
Date Reported: Mar 6, 2023
Report Number: 2847458

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

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Analytical Report

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Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1634825**
Control Number:
Date Received: Feb 27, 2023
Date Reported: Mar 6, 2023
Report Number: 2847458

Reference Number	1634825-1
Sample Date	Feb 14, 2023
Sample Time	09:50
Sample Location	
Sample Description	Sewage Lagoon / SNP0036-3 / 6 / In / 4.4 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Inhibited	mg/L	16			4
Oil and Grease	Total	mg/L	9			5
pH adjustment	adjustment required		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	14.2			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.0399			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	22000			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	7			2
Routine Water						
pH	15 °C	pH	7.01			
Temperature of observed pH		°C	15			
pH			6.99			1
Temperature of observed pH		°C	19.6			

Approved by:

Benjamin Morris, B.Sc
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Quality Control

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Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1634825**
Control Number:
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Date Reported: Mar 6, 2023
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Aggregate Organic Constituents

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Oil and Grease	mg/L	40	37	43	yes
Date Acquired:	February 27, 2023				
Biochemical Oxygen	mg/L	175	140	228	yes
Date Acquired:	March 01, 2023				

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	0	-0.051	0.051	yes
Date Acquired:	March 01, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	6.99	6.520	7.480	yes
Date Acquired:	March 01, 2023				
Ammonium - N	mg/L	3.01	2.730	3.330	yes
Date Acquired:	March 01, 2023				
Ammonium - N	mg/L	0.798	0.740	0.860	yes
Date Acquired:	March 01, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Ammonium - N	mg/L	<0.025	<0.025	10	0.100	yes
Date Acquired:	March 01, 2023					

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired:	March 01, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	184	176	211	yes
Date Acquired:	March 01, 2023				
Solids	mg/L	14	10	22	yes
Date Acquired:	March 01, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	49	51	10	2	yes
Date Acquired:	March 01, 2023					

Routine Water

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
pH		9.17	8.90	9.44	yes
Temperature of observed	°C	19.7	15.5	24.5	yes
Date Acquired:	February 28, 2023				
pH		6.87	6.79	6.97	yes
Temperature of observed	°C	19.9	15.5	24.5	yes
Date Acquired:	February 28, 2023				

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Quality Control

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Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1634825**
Control Number:
Date Received: Feb 27, 2023
Date Reported: Mar 6, 2023
Report Number: 2847458

Routine Water - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
pH		7.63	7.64	0	0.10	yes
Date Acquired: February 28, 2023						

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Methodology and Notes

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Company: Town of Inuvik

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Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1634825**
Control Number:
Date Received: Feb 27, 2023
Date Reported: Mar 6, 2023
Report Number: 2847458

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Feb 28, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Mar 1, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Mar 1, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Feb 28, 2023	Element Calgary
Oil and Grease in water	US EPA	*	n-Hexane Extractable Material and Silica Gel Treated n-Hexane Extractable Material by Extraction and Gravimetry, 1664	Feb 28, 2023	Element Edmonton - Roper Road
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Feb 27, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Mar 1, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Exova Testing Advising Assuring

www.exova.com

Project Information

Project ID	SNP 0036- 3
Project Name	
Project Location	Inuvik
Legal Location	
PO/AFE#	100104
Proj. Acct.Code	

Billing Information:

Company	Town of Inuvik
Address	Box 1160 2 Firth Street Inuvik, NT X0E 0T0
Attention	Rick Campbell
Phone	(867) 777-8615
Cell	(867) 678-5388
Fax	(867) 777-8601
E-mail	rcampbell@town.inuvik.nt.ca
Agreement ID	2909
Copy of Report	

Copy of Report To:

Company	Aecom - Edmonton
Address	Suite 101 18817 Stony Plain Road Edmonton, AB T5S 0C2
Attention	Li Wang
Phone	(780) 453-0710
Cell	
Fax	
E-mail	li.wang@aecom.com
Copy of invoice	

RUSH Priority

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

Date Required

As Indicated | All Analysis

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples

Signature

Sample Custody (please print)

Sampled by: Argus Dillon

Company: Town of Inuvik

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

Date: Feb 14/23 Initial: AD

Report Results								
	X	E-Mail		Online		PDF		QA/QC Report
		Mail	X	Fax		Excel		

Special Instructions/Comments (please include contact information including ph. # if different from above).

Sampler: note weather:

Temp -31 C, precip 0, Wind dir NW Vel 5 km/h

Indicate Regulatory Requirements below

Sample Identification	Location	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil & Grease				
1 SNP0036-3	Sewage Lagoon	6"	Feb 14/23 9.50am		Dip	5	x	x	x	x	x	x				
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

This section for Lab use only

Date/Time stamp: FEB 27 PM 2023

Indicate below any deficiencies in the condition of samples:

	Were Exova supplies used?
	Was there any damage to the shipping container?
	Were the containers packaged well?
	Were the expected number of samples received (document below)?
	Are samples within recommended holding times/temp?

Environmental Sample Information Sheet

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

Please indicate any potentially hazordous samples

Control #

Page 1 of 1

Lot: 1634825 COC

Shipping: COD Y/N

Cooler temp: 4.4

and size of coolers received:

Delivery Method:

Waybill:

Received by: SW

Element
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X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1634829**
Control Number:
Date Received: Feb 27, 2023
Date Reported: Mar 3, 2023
Report Number: 2847463

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

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Analytical Report

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Box 1160
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Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1634829**
Control Number:
Date Received: Feb 27, 2023
Date Reported: Mar 3, 2023
Report Number: 2847463

Reference Number	1634829-1
Sample Date	Feb 14, 2023
Sample Time	NA
Sample Location	
Sample Description	1 Navy Rd. / Truck Fill / 13.0°C / Free Res/021
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trihalomethanes Screen - Water						
Chloroform		mg/L	0.052			0.001
Bromodichloromethane		mg/L	0.007			0.001
Dibromochloromethane		mg/L	<0.001			0.001
Bromoform		mg/L	<0.001			0.001
Total Trihalomethanes		mg/L	0.059			0.001
Trihalomethanes - Surrogate Recovery						
Dibromofluoromethane	EPA Surrogate	%	102			50-140
Toluene-d8	EPA Surrogate	%	100			50-140
Bromofluorobenzene	EPA Surrogate	%	100			50-140

Approved by:

Jimmy Tran
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
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X0E 0T0
Attn: Rick Campbell
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Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1634829**
Control Number:
Date Received: Feb 27, 2023
Date Reported: Mar 3, 2023
Report Number: 2847463

Trihalomethanes - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Dibromofluoromethane	%	95.19	50	140	yes
Toluene-d8	%	99.51	50	140	yes
Bromofluorobenzene	%	98.95	50	140	yes
Date Acquired:	March 01, 2023				

Trihalomethanes Screen - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	0	-0.002	0.002	yes
Bromodichloromethane	ng	0	-0.002	0.002	yes
Dibromochloromethane	ng	0	-0.002	0.002	yes
Bromoform	ng	0	-0.002	0.002	yes
Date Acquired:	March 01, 2023				

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	92.00	80	120	yes
Bromodichloromethane	ng	85.60	80	120	yes
Dibromochloromethane	ng	92.20	80	120	yes
Bromoform	ng	92.20	80	120	yes
Date Acquired:	March 01, 2023				

Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Chloroform	mg/L	0.037	0.038	30	0.002	yes
Bromodichloromethane	mg/L	0.014	0.014	30	0.002	yes
Dibromochloromethane	mg/L	0.003	0.003	30	0.002	yes
Bromoform	mg/L	<0.001	<0.001	30	0.002	yes
Date Acquired:	March 01, 2023					

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1634829**
Control Number:
Date Received: Feb 27, 2023
Date Reported: Mar 3, 2023
Report Number: 2847463

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
THM - Water	US EPA	*	Volatile Organic Compounds by GCMS / Purge and Trap for Aqueous Samples, 8260B/5030B	Mar 1, 2023	Element Calgary

** Reference Method Modified*

References

US EPA — US Environmental Protection Agency Test Methods

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

Exova Testing Advising Assuring

www.exova.com

Project Information

Project ID	SNP 0036- 3
Project Name	
Project Location	Inuvik
Legal Location	
PO/AFE#	100104
Proj. Acct.Code	

Billing Information:

Company	Town of Inuvik
Address	Box 1160 2 Firth Street
	Inuvik, NT X0E 0T0
Attention	Rick Campbell
Phone	(867) 777-8615
Cell	(867) 678-5388
Fax	(867) 777-8601
E-mail	rcampbell@town.inuvik.nt.ca
Agreement ID	2909
Copy of Report	

Copy of Report To:

Company	Aecom - Edmonton
Address	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention	Li Wang
Phone	(780) 453-0710
Cell	
Fax	
E-mail	li.wang@aecom.com
Copy of invoice	

RUSH Priority

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

Date Required

As Indicated | All Analysis

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples

Signature

Sample Custody (please print)

Sampled by: Arlo Clarkson

Company Town of Inuvik

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

Date: Feb 14/23 Initial: AC

Report Results								
	X	E-Mail		Online		PDF		QA/QC Report
		Mail	X	Fax		Excel		

Special Instructions/Comments (please include contact information including ph. # if different from above).

Sampler: note weather:

Temp -31 C, precip D, Wind dir NW Vel 5 km/h

Indicate Regulatory Requirements below

Sample Identification	Location	Free res	Date/Time sampled	Matrix	Sampling method	Number of Containers ↓	THM
1 Truck Fill	1 Navy Rd	D. 21	Feb 14/23		Grab	2	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

This section for Lab use only

Date/Time stamp:

FEB 27 PM 2:02

Indicate below any deficiencies in the condition of samples:

	Were Exova supplies used?
	Was there any damage to the shipping container?
	Were the containers packaged well?
	Were the expected number of samples received (document below)?
	Are samples within recommended holding times/temp?

Environmental Sample Information Sheet

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

Please indicate any potentially hazordous samples

Control #

Page 1 of 1

Indicate lot number or affix label

Lot: 1634829 COC

Shipping: COD Y/N

Cooler temp: 13.0

and size of coolers received:

Delivery Method:

Waybill:

Received by: SW

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1639948**
Control Number:
Date Received: Mar 22, 2023
Date Reported: Mar 29, 2023
Report Number: 2855198

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Mar 24, 2023 - Sample 1639948-1; 8572429: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

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T6B 3J4, Canada

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F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1639948**
Control Number:
Date Received: Mar 22, 2023
Date Reported: Mar 29, 2023
Report Number: 2855198

Reference Number	1639948-1
Sample Date	Mar 21, 2023
Sample Time	NA
Sample Location	
Sample Description	Sewage Lagoon / SNP0036-3 / 4.9 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Inhibited	mg/L	32			4
Oil and Grease	Total	mg/L	11			5
pH adjustment	adjustment required		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	15.3			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.0962			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	31000			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	3			2
Routine Water						
pH	15 °C	pH	7.36			
Temperature of observed pH		°C	15			
pH			7.44			1
Temperature of observed pH		°C	20.6			

Approved by:

Anthony Neumann, MSc
General Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

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W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1639948**
Control Number:
Date Received: Mar 22, 2023
Date Reported: Mar 29, 2023
Report Number: 2855198

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Mar 23, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Mar 29, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Mar 27, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Mar 23, 2023	Element Calgary
Oil and Grease in water	US EPA	*	n-Hexane Extractable Material and Silica Gel Treated n-Hexane Extractable Material by Extraction and Gravimetry, 1664	Mar 23, 2023	Element Edmonton - Roper Road
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Mar 28, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Mar 23, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Mar 24, 2023 - Sample 1639948-1; 8572429: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

Exova Testing Advising Assuring

www.exova.com

Project Information

Project ID	SNP 0036- 3
Project Name	
Project Location	Inuvik
Legal Location	
PO/AFE#	100104
Proj. Acct.Code	

Billing Information:

Company	Town of Inuvik
Address	Box 1160 2 Firth Street
	Inuvik, NT X0E 0T0
Attention	Rick Campbell
Phone	(867) 777-8615
Cell	(867) 678-5388
Fax	(867) 777-8601
E-mail	rcampbell@town.inuvik.nt.ca
Agreement ID	2909
Copy of Report	

Copy of Report To:

Company	Aecom - Edmonton
Address	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention	Li Wang
Phone	(780) 453-0710
Cell	
Fax	
E-mail	li.wang@aecom.com
Copy of invoice	

RUSH Priority

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

Date Required

As Indicated [ ] All Analysis

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples

Signature

Sample Custody (please print)

Sampled by: Angus Dillon

Company Town of Inuvik

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

Date: March 21/23 Initial: AD

This section for Lab use only

Date/Time stamp:

Report Results								
	X	E-Mail		Online		PDF		QA/QC Report
		Mail	X	Fax		Excel		

Special Instructions/Comments (please include contact information including ph. # if different from above).

Sampler: note weather:

Temp -9 C, precip _____, Wind dir ESE Vel 13 km/h

Indicate Regulatory Requirements below

	Sample Identification	Location	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil & Grease				
1	SNP0036-3	Sewage Lagoon	6"	March 21/23 9:32A		Dip	5	x	x	x	x	x	x				
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

Indicate below any deficiencies in the condition of samples:

	Were Exova supplies used?
	Was there any damage to the shipping container?
	Were the containers packaged well?
	Were the expected number of samples received (document below)?
	Are samples within recommended holding times/temp?

Environmental Sample Information Sheet

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

Please indicate any potentially hazardous samples

Control #

Page 1 of 1

Lot: 1639948 COC

Shipping:

COD Y/N

Cooler temp: 4.9

and size of coolers received:

Delivery Method:

Waybill:

Received by: PS

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

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W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name: Inuvik, NT
Project Location:
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1643788**
Control Number:
Date Received: Apr 12, 2023
Date Reported: Apr 19, 2023
Report Number: 2861378

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

Element
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W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name: Inuvik, NT
Project Location:
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1643788**
Control Number:
Date Received: Apr 12, 2023
Date Reported: Apr 19, 2023
Report Number: 2861378

Reference Number	1643788-1
Sample Date	Apr 11, 2023
Sample Time	09:00
Sample Location	
Sample Description	SNP0036-3 / Sewage Lagoon / 6 / In / 9.3°C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	5 Day	mg/L	46			4
Biochemical Oxygen Demand	Inhibited	mg/L	29			4
Oil and Grease	Total	mg/L	6			5
pH adjustment	adjustment required		No			
Inorganic Nonmetallic Parameters						
Ammonium - N		mg/L	16.2			0.025
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Total Coliforms	Membrane Filtration	CFU/100 mL	>80000			1
Fecal Coliforms	Membrane Filtration	CFU/100 mL	>60000			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	3			2
Routine Water						
pH			7.36			1

Approved by:

Anthony Neumann, MSc
General Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

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W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name: Inuvik, NT
Project Location:
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1643788**
Control Number:
Date Received: Apr 12, 2023
Date Reported: Apr 19, 2023
Report Number: 2861378

Aggregate Organic Constituents

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Biochemical Oxygen	mg/L	1.15	-4	4	yes
Date Acquired: April 14, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**	**Passed QC**
Oil and Grease	mg/L	38	37	43	yes
Date Acquired: April 13, 2023					
Biochemical Oxygen	mg/L	190	140	228	yes
Date Acquired: April 12, 2023					

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	-0.009	-0.051	0.051	yes
Date Acquired: April 18, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**	**Passed QC**
Ammonium - N	mg/L	6.91	6.520	7.480	yes
Date Acquired: April 18, 2023					
Ammonium - N	mg/L	2.98	2.730	3.330	yes
Date Acquired: April 18, 2023					
Ammonium - N	mg/L	0.766	0.740	0.860	yes
Date Acquired: April 18, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Ammonium - N	mg/L	5.74	5.70	10	0.100	yes
Date Acquired: April 18, 2023						

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired: April 13, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**	**Passed QC**
Solids	mg/L	190	176	211	yes
Date Acquired: April 13, 2023					
Solids	mg/L	15	10	22	yes
Date Acquired: April 13, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	3	3	10	2	yes
Date Acquired: April 13, 2023						

Routine Water

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
pH		9.14	8.90	9.44	yes
Temperature of observed	°C	20.6	15.5	24.5	yes
Date Acquired: April 13, 2023					

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T6B 3J4, Canada

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W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name: Inuvik, NT
Project Location:
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1643788**
Control Number:
Date Received: Apr 12, 2023
Date Reported: Apr 19, 2023
Report Number: 2861378

Routine Water - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
pH		6.87	6.79	6.97		yes
Temperature of observed	°C	20.4	15.5	24.5		yes
Date Acquired: April 13, 2023						
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
pH		8.26	8.19	0	0.10	yes
Date Acquired: April 13, 2023						

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

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F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name: Inuvik, NT
Project Location:
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1643788**
Control Number:
Date Received: Apr 12, 2023
Date Reported: Apr 19, 2023
Report Number: 2861378

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Apr 13, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Apr 18, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Apr 17, 2023	Element Edmonton - Roper Road
BOD in water	APHA	*	BOD: 5-Day Test, 5210 B	Apr 14, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Apr 13, 2023	Element Calgary
Coliforms - Membrane Filtration	APHA		Standard Total Coliform Membrane Filter Procedure, 9222 B	Apr 13, 2023	Element Calgary
Oil and Grease in water	US EPA	*	n-Hexane Extractable Material and Silica Gel Treated n-Hexane Extractable Material by Extraction and Gravimetry, 1664	Apr 13, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Apr 13, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

element
www.Element.com

Project Information

Project ID:	SNP 0036-3
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	Rick Campbell
Phone:	(867) 777-8615
Cell:	(867) 678-5388
Fax:	(867) 777-8601
E-mail:	rcampbell@town.inuvik.nt.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Angus Dillon
Company: Town of Inuvik

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

Signature:
Date/Time: April 11/23 9:06 AM

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil and Grease
1	SNP0036-3	Sewage Lagoon	6'			April 11/23 9:00AM		Dip	5		x	x	x	x	x	x
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

Enter tests above (✓ relevant samples below)

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Lot: 1643788 COC

Temp. received: 9.3 °C
Date/Time stamp: APR 12 PM 4:26
Delivery Method:
Waybill:
Received by:

Control #

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1643851**
Control Number:
Date Received: Apr 12, 2023
Date Reported: Apr 14, 2023
Report Number: 2861460

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Apr 13, 2023 - Free Res 0.34, Total Res 0.48

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1643851**
Control Number:
Date Received: Apr 12, 2023
Date Reported: Apr 14, 2023
Report Number: 2861460

Reference Number	1643851-1
Sample Date	Apr 11, 2023
Sample Time	08:47
Sample Location	
Sample Description	Truck Fill / Truck Fill / 9.3 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trihalomethanes Screen - Water						
Chloroform		mg/L	0.035			0.001
Bromodichloromethane		mg/L	0.006			0.001
Dibromochloromethane		mg/L	<0.001			0.001
Bromoform		mg/L	<0.001			0.001
Total Trihalomethanes		mg/L	0.041			0.001
Trihalomethanes - Surrogate Recovery						
Dibromofluoromethane	EPA Surrogate	%	94			50-140
Toluene-d8	EPA Surrogate	%	96			50-140
Bromofluorobenzene	EPA Surrogate	%	101			50-140

Approved by:

Mike Yohemas, BSc
General Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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T1Y 5L3, Canada

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W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1643851**
Control Number:
Date Received: Apr 12, 2023
Date Reported: Apr 14, 2023
Report Number: 2861460

Trihalomethanes - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Dibromofluoromethane	%	95.71	50	140	yes
Toluene-d8	%	98.64	50	140	yes
Bromofluorobenzene	%	100.09	50	140	yes

Date Acquired: April 13, 2023

Trihalomethanes Screen - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	0	-0.002	0.002	yes
Bromodichloromethane	ng	0	-0.002	0.002	yes
Dibromochloromethane	ng	0	-0.002	0.002	yes
Bromoform	ng	0	-0.002	0.002	yes

Date Acquired: April 13, 2023

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	97.20	80	120	yes
Bromodichloromethane	ng	97.60	80	120	yes
Dibromochloromethane	ng	102.60	80	120	yes
Bromoform	ng	100.80	80	120	yes

Date Acquired: April 13, 2023

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
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E: info.Calgary@element.com
W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1643851**
Control Number:
Date Received: Apr 12, 2023
Date Reported: Apr 14, 2023
Report Number: 2861460

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
THM - Water	US EPA	*	Volatile Organic Compounds by GCMS / Purge and Trap for Aqueous Samples, 8260B/5030B	Apr 13, 2023	Element Calgary

** Reference Method Modified*

References

US EPA — US Environmental Protection Agency Test Methods

Comments:

- Apr 13, 2023 - Free Res 0.34, Total Res 0.48

element
www.Element.com

Project Information

Project ID:	Yearly Samples
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	Rick Campbell
Phone:	(867) 777-8615
Cell:	(867) 678-5388
Fax:	(867) 777-8601
E-mail:	rcampbell@town.inuvik.nt.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Arlo Clarkson
Company: Town of Inuvik
I authorize Element to proceed with the work indicated on this form:
Signature: Arlo C
Date/Time: April 11/23 9:05 AM

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above):

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Free Res	Total Res	Sampling method	# Containers	MeOH Field Preserved? ✓	THMs
1	Yearly THM Sample	Truck Fill			April 11/23 9:04A	0.34	0.48	Grab	2		X
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Enter tests above (✓ relevant samples below)

Please indicate any potentially hazardous samples

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Page 1 of 1
ED 120-005
Control #

Lot: 1643851 COC

Temp. received: 9.3°C
Date/Time stamp: APR 12 PM 4:26
Delivery Method:
Waybill:
Received by: PS

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1651747**
Control Number:
Date Received: May 17, 2023
Date Reported: May 24, 2023
Report Number: 2874441

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

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Edmonton, Alberta
T6B 3J4, Canada

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F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1651747**
Control Number:
Date Received: May 17, 2023
Date Reported: May 24, 2023
Report Number: 2874441

Reference Number	1651747-1
Sample Date	May 16, 2023
Sample Time	NA
Sample Location	
Sample Description	SNP0036-3 / Sewage Lagoon / 8.7 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Inhibited	mg/L	31			4
Oil and Grease	Total	mg/L	<2			2
pH adjustment	required prior to O&G extraction		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	10.8			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.0481			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	16900			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	8			2
Routine Water						
pH	15 °C	pH	7.21			
Temperature of observed pH		°C	15			
pH			7.40			1
Temperature of observed pH		°C	19.7			

Approved by:

Max Hewitt
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1651747**
Control Number:
Date Received: May 17, 2023
Date Reported: May 24, 2023
Report Number: 2874441

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	May 18, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	May 18, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	May 17, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	May 18, 2023	Element Calgary
Oil and Grease in water (VAN)	BCELM	*	Oil & Grease in Water - Direct Hexane Extraction, Oil & Grease	May 19, 2023	Element Vancouver
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	May 24, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	May 18, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

APHA	Standard Methods for the Examination of Water and Wastewater
BCELM	B.C. Environmental Laboratory Manual

element
www.Element.com

Project Information

Project ID:	SNP 0036-3
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	Rick Campbell
Phone:	(867) 777-8615
Cell:	(867) 678-5388
Fax:	(867) 777-8601
E-mail:	rcampbell@town.inuvik.nt.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Arlo Clarkson
Company: Town of Inuvik

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

Signature: Arlo C
Date/Time: May 16/23 9:05am

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required _____

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Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil and Grease							
			in cm	m						Enter tests above (✓ relevant samples below)												
1	SNP0036-3	Sewage Lagoon	12in		May 16/23		Dip	5		x	x	x	x	x	x							
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

MAY 17 03:31

Please indicate any potentially hazardous samples

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Page _____ of _____ Control #

ED 120-005

Lot: 1651747 COC

Temp. received: 6.7°C
Date/Time stamp: May 16 9:05am
Delivery Method: Hand
Waybill:
Received by: PS

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

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Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658506**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 26, 2023
Report Number: 2883953

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

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Edmonton, Alberta
T6B 3J4, Canada

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E: info.Edmonton@element.com
W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658506**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 26, 2023
Report Number: 2883953

Reference Number	1658506-1
Sample Date	Jun 13, 2023
Sample Time	09:30
Sample Location	
Sample Description	SNP0036-3 / Sewage Lagoon / 10 / In / 3.6°C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	9			4
Oil and Grease	Total	mg/L	17			2
pH adjustment	required prior to O&G extraction		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	8.78			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.0538			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	1300			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	22			2
Routine Water						
pH	15 °C	pH	7.35			
Temperature of observed pH		°C	15			
pH			7.42			1
Temperature of observed pH		°C	19.6			

Approved by:

Max Hewitt
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
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T6B 3J4, Canada

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E: info.Edmonton@element.com
W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658506**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 26, 2023
Report Number: 2883953

Aggregate Organic Constituents

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Oil and Grease	mg/L	217	172	219	yes
Date Acquired: June 19, 2023					
Oil and Grease	mg/L	<2	-2	2	yes
Date Acquired: June 19, 2023					
Biochemical Oxygen	mg/L	172	140	228	yes
Date Acquired: June 16, 2023					

Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Oil and Grease	mg/L	217	216	20	5	yes
Date Acquired: June 19, 2023						

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	-0.006	-0.025	0.025	yes
Date Acquired: June 22, 2023					

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	6.85	6.520	7.480	yes
Date Acquired: June 22, 2023					
Ammonium - N	mg/L	2.93	2.730	3.330	yes
Date Acquired: June 22, 2023					
Ammonium - N	mg/L	0.768	0.740	0.860	yes
Date Acquired: June 22, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Ammonium - N	mg/L	0.059	0.060	10	0.100	yes
Date Acquired: June 22, 2023						

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired: June 22, 2023					

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	208	176	211	yes
Date Acquired: June 22, 2023					
Solids	mg/L	22	10	22	yes
Date Acquired: June 22, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	104	103	10	2	yes
Date Acquired: June 22, 2023						

Routine Water

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
pH		9.21	8.90	9.44	yes

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Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658506**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 26, 2023
Report Number: 2883953

Routine Water - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
Temperature of observed	°C	19.2	15.5	24.5		yes
Date Acquired: June 21, 2023						
pH		6.89	6.79	6.97		yes
Temperature of observed	°C	19.0	15.5	24.5		yes
Date Acquired: June 21, 2023						
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
pH		7.52	7.54	0	0.10	yes
Date Acquired: June 21, 2023						

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Methodology and Notes

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Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658506**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 26, 2023
Report Number: 2883953

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Jun 21, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Jun 22, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Jun 16, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Jun 16, 2023	Element Calgary
Oil and Grease in water (VAN)	BCELM	*	Oil & Grease in Water - Direct Hexane Extraction, Oil & Grease	Jun 19, 2023	Element Vancouver
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Jun 16, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Jun 22, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

APHA	Standard Methods for the Examination of Water and Wastewater
BCELM	B.C. Environmental Laboratory Manual

Exova Testing Advising Assuring

www.exova.com

Project Information

Project ID	SNP 0036- 3
Project Name	
Project Location	Inuvik
Legal Location	
PO/AFE#	100104
Proj. Acct.Code	

Billing Information:

Company	Town of Inuvik
Address	Box 1160 2 Firth Street
	Inuvik, NT X0E 0T0
Attention	Rick Campbell
Phone	(867) 777-8615
Cell	(867) 678-5388
Fax	(867) 777-8601
E-mail	rcampbell@town.inuvik.nt.ca
Agreement ID	2909
Copy of Report	

Copy of Report To:

Company	Aecom - Edmonton
Address	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention	Li Wang
Phone	(780) 453-0710
Cell	
Fax	
E-mail	li.wang@aecom.com
Copy of invoice	

RUSH Priority

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

Date Required | As Indicated [ ] | All Analysis

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples

Signature

Sample Custody (please print)

Sampled by: Dave K

Company Town of Inuvik

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

Date: 06-13-23 Initial: K

This section for Lab use only

Date/Time stamp:

Report Results								
	X	E-Mail		Online		PDF		QA/QC Report
		Mail	X	Fax		Excel		

Special Instructions/Comments (please include contact information including ph. # if different from above).

Sampler: note weather:

Temp_____C, precip_____, Wind dir_____Vel_____km/h

Indicate Regulatory Requirements below

	Sample Identification	Location	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers ↓	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil & Grease				
1	SNP0036-3	Sewage Lagoon	10"	06-13-23 930 AM		Dip	5	x	x	x	x	x	x				
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

Indicate below any deficiencies in the condition of samples:

	Were Exova supplies used?
	Was there any damage to the shipping container?
	Were the containers packaged well?
	Were the expected number of samples received (document below)?
	Are samples within recommended holding times/temp?

Environmental Sample Information Sheet

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

Please indicate any potentially hazordous samples

Control #

Page 1 of 1

Lot: 1658506 COC

Shipping: COD Y/N

Cooler temp: 3.6

and size of coolers received:

JUN 15 PM12:45

Delivery Method: Courier

Waybill:

Received by: PS

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T6B 3J4, Canada

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Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
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X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658513**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 27, 2023
Report Number: 2883963

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Jun 23, 2023 - Sample 1658513-3; 8683147: Sample 1658513-3: There was insufficient sample volume to reach a detection limit of 2 mg/L for TSS analysis. The detection limit was adjusted accordingly.
- Jun 27, 2023 - Sample 1658513-2; 8683146: Some trace total metal results were less than dissolved metal results for sample 1658513-2. The results were verified and are within expected measurement uncertainty.

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Analytical Report

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X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658513**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 27, 2023
Report Number: 2883963

	Reference Number	1658513-1	1658513-2	1658513-3
	Sample Date	Jun 13, 2023	Jun 13, 2023	Jun 13, 2023
	Sample Time	09:04	08:45	09:17
	Sample Location			
	Sample Description	Pit N/W of Dump / SNP0036-4 / 8 / In / 3.6°C	Pond S/E of Dump / SNP0036-5 / 4 / In / 3.6°C	Creek N/W of Dump / SNP0036-9 / 24 / In / 3.6°C
	Matrix	Water	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	<4	<4	<4	4
Phenol		mg/L	0.002	<0.001	<0.001	0.001
Inorganic Nonmetallic Parameters						
Phosphorus	Total	mg/L	0.13	0.36	<0.05	0.05
Metals Dissolved						
Subsample			Lab Filtered	Lab Filtered	Lab Filtered	
Metals Total						
Aluminum	Total	mg/L	0.47	0.07	0.07	0.02
Calcium	Total	mg/L	245	42.3	49.0	0.2
Iron	Total	mg/L	3.31	0.70	0.57	0.05
Magnesium	Total	mg/L	135	16.6	18.5	0.2
Manganese	Total	mg/L	0.908	0.072	0.175	0.005
Potassium	Total	mg/L	35.8	21.2	2.1	0.4
Silicon	Total	mg/L	5.80	0.08	1.17	0.05
Sodium	Total	mg/L	161	15.9	19.1	0.4
Sulfur	Total	mg/L	238	26.4	57.5	0.3
Mercury	Total	mg/L	0.000045	0.000042	0.000039	0.000005
Antimony	Total	mg/L	<0.0004	0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.002	0.0014	0.0007	0.0002
Barium	Total	mg/L	0.060	0.048	0.014	0.001
Beryllium	Total	mg/L	<0.0002	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.001	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	1.58	0.038	0.057	0.002
Cadmium	Total	mg/L	0.0001	0.00003	0.00001	0.00001
Chromium	Total	mg/L	0.002	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	0.002	0.0003	0.0003	0.0001
Copper	Total	mg/L	0.01	0.002	0.002	0.001
Lead	Total	mg/L	0.0034	0.0001	<0.0001	0.0001
Lithium	Total	mg/L	0.045	0.006	0.011	0.001
Molybdenum	Total	mg/L	<0.002	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.016	0.0026	0.0064	0.0005
Selenium	Total	mg/L	<0.0004	<0.0002	<0.0002	0.0002
Silver	Total	mg/L	0.00002	<0.00001	<0.00001	0.00001
Strontium	Total	mg/L	0.951	0.126	0.155	0.001
Thallium	Total	mg/L	<0.0001	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.002	<0.001	<0.001	0.001

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658513**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 27, 2023
Report Number: 2883963

	Reference Number	1658513-1	1658513-2	1658513-3	
	Sample Date	Jun 13, 2023	Jun 13, 2023	Jun 13, 2023	
	Sample Time	09:04	08:45	09:17	
	Sample Location				
	Sample Description	Pit N/W of Dump / SNP0036-4 / 8 / In / 3.6°C	Pond S/E of Dump / SNP0036-5 / 4 / In / 3.6°C	Creek N/W of Dump / SNP0036-9 / 24 / In / 3.6°C	
	Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Metals Total - Continued						
Titanium	Total	mg/L	0.015	0.0008	0.0011	0.0005
Uranium	Total	mg/L	<0.001	<0.0005	<0.0005	0.0005
Vanadium	Total	mg/L	0.0031	0.0016	0.0005	0.0001
Zinc	Total	mg/L	0.032	0.004	0.005	0.004
Zirconium	Total	mg/L	<0.002	<0.001	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	80	9	<5	2
Routine Water						
pH			7.98	7.45	7.39	1
Temperature of observed pH		°C	19.1	19.0	19.2	
Electrical Conductivity	at 25 °C	µS/cm	2420	472	468	1
Electrical Conductivity	at 25 °C	dS/m	2.42	0.472	0.468	0.001
Calcium	Dissolved	meq/L	11.7	2.08	2.35	0.01
Calcium	Dissolved	mg/L	235	41.6	47.1	0.2
Magnesium	Dissolved	meq/L	10.4	1.35	1.46	0.01
Magnesium	Dissolved	mg/L	127	16.4	17.7	0.2
Sodium	Dissolved	meq/L	6.70	0.70	0.81	0.02
Sodium	Dissolved	mg/L	154	16.1	18.6	0.4
Potassium	Dissolved	meq/L	0.88	0.54	0.05	0.01
Potassium	Dissolved	mg/L	34	21.3	2.0	0.4
Chloride	Dissolved	mg/L	101	57.0	7.6	0.4
Chloride		meq/L	2.85	1.61	0.22	0.01
Sulfate (SO4)	Dissolved	mg/L	650	78.8	170	0.9
Sulfate-S		meq/L	13.5	1.64	3.54	
Sulfate-S	Dissolved	mg/L	217	26.3	56.7	0.3
Total Dissolved Solids	Estimated	mg/L	1550	302	300	1
SAR	Dissolved		2.0	0.5	0.6	
Mono-Aromatic Hydrocarbons - Water						
Benzene		mg/L	<0.001	<0.001	<0.001	0.001
Toluene		mg/L	<0.0004	<0.0004	<0.0004	0.0004
Ethylbenzene		mg/L	<0.0010	<0.0010	<0.0010	0.0010
Total Xylenes (m,p,o)		mg/L	<0.001	<0.001	<0.001	0.001
4-Bromofluorobenzene	Surrogate	%	97	97	98	70-130
Toluene-d8	Surrogate	%	101	100	100	70-130
Volatile Petroleum Hydrocarbons - Water						
F1 -BTEX		mg/L	<0.1	<0.1	<0.1	0.1

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Analytical Report

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X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658513**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 27, 2023
Report Number: 2883963

Reference Number	1658513-1	1658513-2	1658513-3
Sample Date	Jun 13, 2023	Jun 13, 2023	Jun 13, 2023
Sample Time	09:04	08:45	09:17
Sample Location			
Sample Description	Pit N/W of Dump / SNP0036-4 / 8 / In / 3.6°C	Pond S/E of Dump / SNP0036-5 / 4 / In / 3.6°C	Creek N/W of Dump / SNP0036-9 / 24 / In / 3.6°C
Matrix	Water	Water	Water

Analyte	Units	Results	Results	Results	Nominal Detection Limit
Volatile Petroleum Hydrocarbons - Water - Continued					
F1 C6-C10	mg/L	<0.1	<0.1	<0.1	0.1
F2 C10-C16	mg/L	<0.1	<0.1	<0.1	0.1

Approved by:

Randy Neumann, BSc
Director

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Quality Control

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Aggregate Organic Constituents

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Phenol	mg/L	0	-0.001	0.001	yes
Date Acquired:	June 21, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Biochemical Oxygen	mg/L	172	140	228	yes
Phenol	mg/L	0.075	0.069	0.079	yes
Date Acquired:	June 21, 2023				
Phenol	mg/L	0.014	0.013	0.017	yes
Date Acquired:	June 21, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Phenol	mg/L	0.002	0.001	10	0.002	yes
Date Acquired:	June 21, 2023					

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Phosphorus	mg/L	-0.015	-0.05	0.05	yes
Date Acquired:	June 20, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Phosphorus	mg/L	7.55	7.51	8.35	yes
Date Acquired:	June 20, 2023				
Phosphorus	mg/L	3.90	3.68	4.46	yes
Date Acquired:	June 20, 2023				
Phosphorus	mg/L	1.91	1.75	2.17	yes
Date Acquired:	June 20, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Phosphorus	mg/L	0.13	0.12	10	0.20	yes
Date Acquired:	June 20, 2023					

Metals Dissolved

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Sulfur	mg/L	0.138919	-0.3	0.2	yes
Date Acquired:	June 26, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Sulfur	mg/L	150	141.6	156.6	yes
Date Acquired:	June 26, 2023				
Sulfur	mg/L	9.6	9.1	10.6	yes
Date Acquired:	June 26, 2023				
Sulfur	mg/L	3.0	2.7	3.1	yes
Date Acquired:	June 26, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Sulfur	mg/L	75.6	74.7	10	0.1	yes
Date Acquired:	June 26, 2023					

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Quality Control

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Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658513**
Control Number:
Date Received: Jun 15, 2023
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Metals Total

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Aluminum	mg/L	0.00644659	-0.02	0.02	yes
Calcium	mg/L	0.00436551	-0.1	0.1	yes
Iron	mg/L	0.00559801	-0.01	0.02	yes
Magnesium	mg/L	0.00252277	-0.04	0.04	yes
Manganese	mg/L	-3.9932e-005	-0.005	0.005	yes
Potassium	mg/L	0.0852888	-0.1	0.2	yes
Silicon	mg/L	-0.0137337	-0.03	0.04	yes
Sodium	mg/L	-0.00172622	-0.4	0.4	yes
Sulfur	mg/L	-0.0488336	-0.1	0.2	yes
Antimony	µg/L	0.00510225	-0.2	0.2	yes
Arsenic	µg/L	0.0064257	-0.2	0.2	yes
Barium	µg/L	0.13931	-1	1	yes
Beryllium	µg/L	-0.011135	-0.1	0.1	yes
Bismuth	µg/L	0.0234411	-0.5	0.5	yes
Boron	µg/L	1.15024	-1	3	yes
Cadmium	µg/L	0.000162599	-0.007	0.012	yes
Chromium	µg/L	0.0353144	-0.5	0.5	yes
Cobalt	µg/L	-0.000108641	-0.1	0.1	yes
Copper	µg/L	0.046825	-1	1	yes
Lead	µg/L	0.00180375	-0.1	0.1	yes
Lithium	µg/L	0.0599811	-1	1	yes
Molybdenum	µg/L	-0.0171096	-1	1	yes
Nickel	µg/L	0.0525274	-0.5	0.5	yes
Selenium	µg/L	0.00367192	-0.2	0.2	yes
Silver	µg/L	0.000761024	-0.02	0.10	yes
Strontium	µg/L	0.220052	-1	1	yes
Thallium	µg/L	-0.0167071	-0.05	0.05	yes
Tin	µg/L	0.025749	-1	1	yes
Titanium	µg/L	0.0446792	-0.5	0.5	yes
Uranium	µg/L	0.00420726	-0.5	0.5	yes
Vanadium	µg/L	0.00106016	-0.1	0.1	yes
Zinc	µg/L	0.0241392	-4	4	yes
Zirconium	µg/L	0.0201238	-1	1	yes
Mercury	µg/L	0.0003093	-0.054000	0.054000	yes
Date Acquired:	June 23, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Aluminum	mg/L	4.21	3.61	4.45	yes
Calcium	mg/L	52.3	47.6	54.2	yes
Iron	mg/L	2.10	1.90	2.20	yes
Magnesium	mg/L	21.2	17.88	21.86	yes
Manganese	mg/L	0.536	0.472	0.568	yes
Potassium	mg/L	51.6	47.1	54.9	yes
Silicon	mg/L	2.11	1.93	2.19	yes
Sodium	mg/L	51.5	47.0	57.2	yes

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Quality Control

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X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1658513**
Control Number:
Date Received: Jun 15, 2023
Date Reported: Jun 27, 2023
Report Number: 2883963

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Sulfur	mg/L	10.3	9.2	11.2	yes
Antimony	µg/L	11.8	10.8	13.2	yes
Arsenic	µg/L	11.0	10.4	12.8	yes
Barium	µg/L	58	54	68	yes
Beryllium	µg/L	6.3	5.3	6.5	yes
Bismuth	µg/L	30.1	26.2	35.8	yes
Boron	µg/L	119	102	139	yes
Cadmium	µg/L	0.64	0.543	0.675	yes
Chromium	µg/L	28.8	26.5	33.7	yes
Cobalt	µg/L	5.8	5.2	6.8	yes
Copper	µg/L	58	53	67	yes
Lead	µg/L	5.8	5.2	7.1	yes
Lithium	µg/L	58	53	77	yes
Molybdenum	µg/L	59	56	66	yes
Nickel	µg/L	29.1	27.6	32.8	yes
Selenium	µg/L	11.7	9.7	12.7	yes
Silver	µg/L	6.01	5.39	7.13	yes
Strontium	µg/L	58	55	65	yes
Thallium	µg/L	2.93	2.70	3.60	yes
Tin	µg/L	61	56	66	yes
Titanium	µg/L	29.0	26.6	35.7	yes
Uranium	µg/L	30.5	25.7	36.3	yes
Vanadium	µg/L	5.9	5.1	7.2	yes
Zinc	µg/L	55	53	65	yes
Zirconium	µg/L	60	53	67	yes
Date Acquired: June 22, 2023					
Antimony	µg/L	39.8	37.5	43.1	yes
Arsenic	µg/L	38.7	36.5	43.5	yes
Barium	µg/L	193	183	212	yes
Beryllium	µg/L	20.0	17.1	21.9	yes
Bismuth	µg/L	96.2	88.1	107.9	yes
Boron	µg/L	375	343	436	yes
Cadmium	µg/L	2.10	1.910	2.210	yes
Chromium	µg/L	96.5	90.0	110.0	yes
Cobalt	µg/L	19.3	18.1	21.7	yes
Copper	µg/L	195	188	212	yes
Lead	µg/L	19.2	18.5	21.5	yes
Lithium	µg/L	189	173	222	yes
Molybdenum	µg/L	197	182	218	yes
Nickel	µg/L	96.8	90.0	110.0	yes
Selenium	µg/L	40.3	36.7	43.3	yes
Silver	µg/L	19.8	18.00	22.00	yes
Strontium	µg/L	195	171	231	yes
Thallium	µg/L	9.64	9.01	10.99	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Tin	µg/L	202	190	218	yes
Titanium	µg/L	98.1	93.2	107.0	yes
Uranium	µg/L	98.2	90.2	109.0	yes
Vanadium	µg/L	19.5	16.9	22.1	yes
Zinc	µg/L	193	183	218	yes
Zirconium	µg/L	202	188	218	yes
Date Acquired: June 22, 2023					
Antimony	µg/L	12.0	10.8	13.2	yes
Arsenic	µg/L	11.5	10.8	13.2	yes
Barium	µg/L	58	54	66	yes
Beryllium	µg/L	5.7	5.3	6.5	yes
Bismuth	µg/L	29.2	26.8	32.8	yes
Boron	µg/L	115	108	130	yes
Cadmium	µg/L	0.63	0.546	0.672	yes
Chromium	µg/L	28.7	27.1	32.5	yes
Cobalt	µg/L	5.8	5.3	6.5	yes
Copper	µg/L	59	54	66	yes
Lead	µg/L	5.7	5.4	6.6	yes
Lithium	µg/L	58	54	66	yes
Molybdenum	µg/L	58	53	64	yes
Nickel	µg/L	29.1	26.9	32.9	yes
Selenium	µg/L	12.3	10.7	13.1	yes
Silver	µg/L	5.96	5.38	6.46	yes
Strontium	µg/L	58	54	65	yes
Thallium	µg/L	2.91	2.70	3.30	yes
Tin	µg/L	60	54	66	yes
Titanium	µg/L	29.1	26.9	32.9	yes
Uranium	µg/L	29.6	27.0	33.0	yes
Vanadium	µg/L	5.8	5.6	6.4	yes
Zinc	µg/L	58	55	67	yes
Zirconium	µg/L	59	54	66	yes
Mercury	mg/L	0.000098	0.000070	0.000130	yes
Date Acquired: June 23, 2023					
Antimony	µg/L	2.0	1.8	2.1	yes
Arsenic	µg/L	1.9	1.8	2.1	yes
Barium	µg/L	9	9	11	yes
Beryllium	µg/L	1.0	0.8	1.1	yes
Bismuth	µg/L	4.8	4.6	5.4	yes
Boron	µg/L	21	18	22	yes
Cadmium	µg/L	0.11	0.087	0.117	yes
Chromium	µg/L	4.8	4.6	5.3	yes
Cobalt	µg/L	1.0	0.9	1.1	yes
Copper	µg/L	10	9	11	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Lead	µg/L	1.0	0.9	1.1	yes
Lithium	µg/L	10	9	11	yes
Molybdenum	µg/L	10	9	10	yes
Nickel	µg/L	4.9	4.6	5.4	yes
Selenium	µg/L	2.0	1.8	2.2	yes
Silver	µg/L	0.99	0.92	1.06	yes
Strontium	µg/L	10	9	11	yes
Thallium	µg/L	0.46	0.44	0.56	yes
Tin	µg/L	10	9	11	yes
Titanium	µg/L	4.8	4.4	5.5	yes
Uranium	µg/L	4.9	4.6	5.4	yes
Vanadium	µg/L	1.0	0.9	1.1	yes
Zinc	µg/L	10	9	11	yes
Zirconium	µg/L	10	9	12	yes
Mercury	mg/L	0.000019	0.000006	0.000036	yes
Date Acquired:	June 23, 2023				
Aluminum	mg/L	20.6	18.88	20.92	yes
Calcium	mg/L	252	231.3	258.9	yes
Iron	mg/L	10.1	9.32	10.28	yes
Magnesium	mg/L	102	92.78	104.72	yes
Manganese	mg/L	2.55	2.290	2.590	yes
Potassium	mg/L	254	234.2	261.8	yes
Silicon	mg/L	10.3	9.13	10.93	yes
Sodium	mg/L	253	228.8	269.4	yes
Sulfur	mg/L	151	135.5	165.3	yes
Date Acquired:	June 22, 2023				
Aluminum	mg/L	4.25	3.60	4.40	yes
Calcium	mg/L	52.7	46.5	56.5	yes
Iron	mg/L	2.11	1.87	2.27	yes
Magnesium	mg/L	20.7	18.05	22.07	yes
Manganese	mg/L	0.538	0.466	0.568	yes
Potassium	mg/L	51.0	45.4	55.5	yes
Silicon	mg/L	2.10	1.90	2.10	yes
Sodium	mg/L	52.0	45.9	55.9	yes
Sulfur	mg/L	10.2	9.3	11.3	yes
Date Acquired:	June 22, 2023				
Aluminum	mg/L	0.42	0.36	0.44	yes
Calcium	mg/L	5.2	4.8	5.5	yes
Iron	mg/L	0.21	0.19	0.22	yes
Magnesium	mg/L	2.1	1.84	2.20	yes
Manganese	mg/L	0.053	0.047	0.059	yes
Potassium	mg/L	5.0	4.6	5.6	yes
Silicon	mg/L	0.19	0.17	0.23	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
Sodium	mg/L	5.1	4.8	5.6		yes
Sulfur	mg/L	3.0	2.8	3.3		yes
Date Acquired: June 22, 2023						
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
Aluminum	mg/L	1.02	1.04	15	0.03	yes
Calcium	mg/L	47.4	47.9	15	0.6	yes
Iron	mg/L	0.09	0.08	15	0.20	yes
Magnesium	mg/L	14.1	14.3	15	0.40	yes
Manganese	mg/L	<0.005	<0.005	15	0.010	yes
Potassium	mg/L	0.7	0.7	15	1.2	yes
Silicon	mg/L	1.68	1.69	15	0.10	yes
Sodium	mg/L	7.0	7.0	15	1.2	yes
Sulfur	mg/L	20.8	21.1	15	0.1	yes
Antimony	µg/L	<0.4	<0.4	15	0.4	yes
Arsenic	µg/L	2	2	15	0.4	yes
Barium	µg/L	60	59	15	2	yes
Beryllium	µg/L	<0.2	<0.2	15	0.2	yes
Bismuth	µg/L	<1	<1	15	1.1	yes
Boron	µg/L	1580	1620	15	4	yes
Cadmium	µg/L	0.1	0.1	15	0.022	yes
Chromium	µg/L	2	2	15	1.1	yes
Cobalt	µg/L	2	2	15	0.2	yes
Copper	µg/L	10	10	15	2	yes
Lead	µg/L	3.4	3.4	15	0.2	yes
Lithium	µg/L	45	46	15	2	yes
Molybdenum	µg/L	<2	<2	15	2	yes
Nickel	µg/L	16	15	15	1.1	yes
Selenium	µg/L	<0.4	<0.4	15	0.4	yes
Silver	µg/L	0.02	0.02	15	0.22	yes
Strontium	µg/L	951	936	15	2	yes
Thallium	µg/L	<0.1	<0.1	15	0.11	yes
Tin	µg/L	<2	<2	15	2	yes
Titanium	µg/L	15	15	15	1.1	yes
Uranium	µg/L	<1	<1	15	1.1	yes
Vanadium	µg/L	3.1	3.1	15	0.2	yes
Zinc	µg/L	32	31	15	2	yes
Zirconium	µg/L	<2	<2	15	2	yes
Mercury	mg/L	<0.000005	<0.000005	10	0.000030	yes
Date Acquired: June 23, 2023						

Mono-Aromatic Hydrocarbons - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Benzene	ng	0	-0.002	0.002	yes
Toluene	ng	0	-0.0015	0.0015	yes

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Mono-Aromatic Hydrocarbons - Water - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ethylbenzene	ng	0	-0.0015	0.0015	yes
Total Xylenes (m,p,o)	ng	0	-0.002	0.002	yes
Styrene	ng	0	-0.002	0.002	yes
Date Acquired: June 19, 2023					
Calibration Check	**Units**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Passed QC**
Benzene	ng	96.07	80	120	yes
Toluene	ng	92.95	80	120	yes
Ethylbenzene	ng	90.04	80	120	yes
m,p-Xylene	ng	91.88	80	120	yes
Total Xylenes (m,p,o)	ng	92.95	80	120	yes
Styrene	ng	97.49	80	120	yes
Date Acquired: June 19, 2023					

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired: June 22, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**	**Passed QC**
Solids	mg/L	208	176	211	yes
Date Acquired: June 22, 2023					
Solids	mg/L	22	10	22	yes
Date Acquired: June 22, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	104	103	10	2	yes
Date Acquired: June 22, 2023						

Routine Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloride	mg/L	0.2	-0.4	0.4	yes
Calcium	mg/L	0.03669	-0.2	0.2	yes
Magnesium	mg/L	0.00829074	-0.1	0.1	yes
Sodium	mg/L	6.01111e-005	-0.4	0.4	yes
Potassium	mg/L	0.043335	-0.4	0.4	yes
Date Acquired: June 26, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**	**Passed QC**
Chloride	mg/L	2080	1847.4	2256.0	yes
Date Acquired: June 23, 2023					
Electrical Conductivity	dS/m	32.6	27.200	36.800	yes
Date Acquired: June 21, 2023					
pH		9.21	8.90	9.44	yes
Temperature of observed	°C	19.2	15.5	24.5	yes

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Routine Water - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Electrical Conductivity	dS/m	2.76	2.631	2.829	yes
Calcium	mg/L	248	230.0	260.0	yes
Magnesium	mg/L	99.1	92.6	104.6	yes
Sodium	mg/L	251	234.6	259.2	yes
Potassium	mg/L	255	229.0	259.0	yes
Date Acquired: June 26, 2023					
pH		6.89	6.79	6.97	yes
Temperature of observed	°C	19.0	15.5	24.5	yes
Electrical Conductivity	dS/m	0.076	0.069	0.085	yes
Chloride	mg/L	81.1	74.9	86.9	yes
Calcium	mg/L	50.0	44.9	56.9	yes
Magnesium	mg/L	19.5	17.9	22.0	yes
Sodium	mg/L	49.1	47.3	52.7	yes
Potassium	mg/L	49.4	45.8	55.8	yes
Date Acquired: June 26, 2023					
Chloride	mg/L	14.9	13.3	16.5	yes
Calcium	mg/L	5.0	4.7	5.4	yes
Magnesium	mg/L	2.0	1.9	2.2	yes
Sodium	mg/L	4.9	4.7	5.7	yes
Potassium	mg/L	4.8	4.6	5.6	yes
Date Acquired: June 26, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
pH		7.42	7.42	0	0.10	yes
Electrical Conductivity	dS/m	0.974	0.984	10	0.002	yes
Chloride	mg/L	27.0	26.9	10	0.5	yes
Calcium	mg/L	71.6	70.4	10	0.6	yes
Magnesium	mg/L	48.4	48.1	10	0.7	yes
Sodium	mg/L	61.4	60.3	10	1.2	yes
Potassium	mg/L	20.6	20.1	10	1.2	yes
Date Acquired: June 26, 2023						

Volatile Petroleum Hydrocarbons - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
F1 -BTEX	ng	0	-0.3	0.3	yes
F1 C6-C10	ng	0	-0.3	0.3	yes
F2 C10-C16	ng	0	-0.3	0.3	yes
Date Acquired: June 19, 2023					

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
F2 C10-C16	ng	98.30	80	120	yes
Date Acquired: June 19, 2023					

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Methodology and Notes

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Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	Conductivity, 2510 B	Jun 21, 2023	Element Edmonton - Roper Road
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Jun 21, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Jun 16, 2023	Element Edmonton - Roper Road
BTEX-CCME - Water	US EPA	*	Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Jun 19, 2023	Element Calgary
Chloride in Water	APHA	*	Automated Ferricyanide Method, 4500-Cl- E	Jun 23, 2023	Element Edmonton - Roper Road
Mercury (Total) in water	EPA	*	Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry, 245.7	Jun 23, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	APHA/USEPA	*	Metals By Inductively Coupled Plasma/Mass Spectrometry, APHA 3125 B / USEPA 200.2, 200.8	Jun 22, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Jun 22, 2023	Element Edmonton - Roper Road
Metals Trace (Dissolved) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Jun 26, 2023	Element Edmonton - Roper Road
Metals Trace (Total) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Jun 22, 2023	Element Edmonton - Roper Road
Phenol in water	APHA	*	Direct Photometric Method, 5530 D	Jun 21, 2023	Element Edmonton - Roper Road
Phosphorus - Total in Water	APHA	*	Automated Ascorbic Acid Reduction Method, 4500-P F	Jun 20, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Jun 22, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Jun 23, 2023 - Sample 1658513-3; 8683147: Sample 1658513-3: There was insufficient sample volume to reach a detection limit of 2 mg/L for TSS analysis. The detection limit was adjusted accordingly.
- Jun 27, 2023 - Sample 1658513-2; 8683146: Some trace total metal results were less than dissolved metal results for sample 1658513-2. The results were verified and are within expected measurement uncertainty.

Element
7217 Roper Road NW
Edmonton, Alberta
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Methodology and Notes

Bill To:	Town of Inuvik Box 1160 2 Firth Street Inuvik, NT, Canada X0E 0T0
Attn:	Rick Campbell
Sampled By:	Dave K.
Company:	Town of Inuvik

Project ID:	SNP 0036-4, 5 & 9
Project Name:	
Project Location:	Inuvik
LSD:	
P.O.:	100104
Proj. Acct. code:	

Lot ID:	**1658513**
Control Number:	
Date Received:	Jun 15, 2023
Date Reported:	Jun 27, 2023
Report Number:	2883963

Exova Testing Advising Assuring

www.exova.com

Project Information

Project ID	SNP 0036- 4,5 & 9.
Project Name	
Project Location	Inuvik
Legal Location	
PO/AFE#	100104
Proj. Acct.Code	

Billing Information:

Company	Town of Inuvik
Address	Box 1160 2 Firth Street
	Inuvik, NT X0E 0T0
Attention	Rick Campbell
Phone	(867) 777-8615
Cell	(867) 678-5388
Fax	(867) 777-8601
E-mail	rcampbell@town.inuvik.nt.ca
Agreement ID	2909
Copy of Report	

Copy of Report To:

Company	Aecom - Edmonton
Address	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention	Li Wang
Phone	(780) 453-0710
Cell	
Fax	
E-mail	li.wang@aecom.com
Copy of invoice	

RUSH Priority

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

Date Required

As Indicated | | All Analysis

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples

Signature

Sample Custody (please print)

Sampled by: Dave K

Company Town of Inuvik

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

Date: 06-13-23 Initial:

This section for Lab use only

Date/Time stamp:

Report Results								
	X	E-Mail		Online		PDF		QA/QC Report
		Mail	X	Fax		Excel		

Special Instructions/Comments (please include contact information including ph. # if different from above). Dissolved S,P,C is Sodium, Potassium and Calcium.

Sampler: note weather:

Temp_____C, precip_____, Wind dir_____Vel_____km/h

Indicate Regulatory Requirements below

	Sample Identification	Location	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers ↓	CCMEBF12W	Total Metal+Total mercury	pH	CBOD5	Suspended Solids	Total Phosphate	Sulphate	Total Phenols	Conductivity	Dissolved S,P,C
1	SNP0036-4	Pit N/W of Dump	8"	06-13-23 9:41am		Dip	8	x	x	x	x	x	x	x	x	x	x
2	SNP0036-5	Pond S/E of Dump	4"	06-13-23 8:45 am		Dip	8	x	x	x	x	x	x	x	x	x	x
3	SNP0036-9	Creek N/Wof Dump	24"	06-13-23 9:17 am		Dip	8	x	x	x	x	x	x	x	x	x	x
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

Indicate below any deficiencies in the condition of samples:

	Were Exova supplies used?
	Was there any damage to the shipping container?
	Were the containers packaged well?
	Were the expected number of samples received (document below)?
	Are samples within recommended holding times/temp?

Environmental Sample Information Sheet

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

Please indicate any potentially hazardous samples

Control #

Page 1 of 1

Indicate lot number or affix lot label here:

Lot: 1658513 COC

Shipping: COD Y/N

Cooler temp: 3.6

and size of coolers received:

JUN 15 PM12:45

Delivery Method: Received

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

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F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664732**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 19, 2023
Report Number: 2893156

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

Element
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Edmonton, Alberta
T6B 3J4, Canada

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W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664732**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 19, 2023
Report Number: 2893156

Reference Number	1664732-1
Sample Date	Jul 11, 2023
Sample Time	09:52
Sample Location	
Sample Description	SNP0036-3 / Sewage Lagoon / 4 / In / 0.3°C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	13			4
Oil and Grease	Total	mg/L	<2			2
pH adjustment	required prior to O&G extraction		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	3.54			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.0461			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	10			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	23			2
Routine Water						
pH	15 °C	pH	7.68			
Temperature of observed pH		°C	15			
pH			7.74			1
Temperature of observed pH		°C	21.3			

Approved by:

Randy Neumann, BSc
Director

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664732**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 19, 2023
Report Number: 2893156

Aggregate Organic Constituents

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Oil and Grease	mg/L	199	172	219	yes
Date Acquired: July 18, 2023					
Oil and Grease	mg/L	<2	-2	2	yes
Date Acquired: July 18, 2023					
Biochemical Oxygen	mg/L	199	140	228	yes
Date Acquired: July 12, 2023					

Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Oil and Grease	mg/L	199	198	20	5	yes
Date Acquired: July 18, 2023						

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	-0.007	-0.025	0.025	yes
Date Acquired: July 18, 2023					

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	6.89	6.520	7.480	yes
Date Acquired: July 18, 2023					
Ammonium - N	mg/L	2.98	2.730	3.330	yes
Date Acquired: July 18, 2023					
Ammonium - N	mg/L	0.810	0.740	0.860	yes
Date Acquired: July 18, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Ammonium - N	mg/L	22.7	23.0	10	0.100	yes
Date Acquired: July 18, 2023						

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired: July 18, 2023					

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	21	10	22	yes
Date Acquired: July 18, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	886	819	10	2	yes
Date Acquired: July 18, 2023						

Routine Water

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
pH		9.18	8.90	9.44	yes
Temperature of observed	°C	20.2	15.5	24.5	yes
Date Acquired: July 14, 2023					

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Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664732**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 19, 2023
Report Number: 2893156

Routine Water - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
pH		6.87	6.79	6.97		yes
Temperature of observed	°C	20.1	15.5	24.5		yes
Date Acquired: July 14, 2023						
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
pH		7.15	7.17	0	0.10	yes
Date Acquired: July 14, 2023						

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Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664732**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 19, 2023
Report Number: 2893156

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Jul 14, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Jul 18, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Jul 12, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Jul 13, 2023	Element Calgary
Oil and Grease in water (VAN)	BCELM	*	Oil & Grease in Water - Direct Hexane Extraction, Oil & Grease	Jul 18, 2023	Element Vancouver
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Jul 12, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Jul 18, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

APHA	Standard Methods for the Examination of Water and Wastewater
BCELM	B.C. Environmental Laboratory Manual

element
www.Element.com

Project information

Project ID:	SNP 0036-3
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	Rick Campbell
Phone:	(867) 777-8615
Cell:	(867) 678-5388
Fax:	(867) 777-8601
E-mail:	rcampbell@town.inuvik.nt.ca
Agreement ID:	2909
Copy of Report:	(YES) NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Arlo Clarkson
Company: Town of Inuvik

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

Signature: Arlo C
Date/Time:

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil and Grease	
											Enter tests above (✓ relevant samples below)						
1	SNP0036-3	Sewage Lagoon	4.0		m	9:57 am		Dip	5		x	x	x	x	x	x	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page _____ of _____ Control #

ED 120-005

Indicate lot # or affix barcode here

Lot: 1664732 COC

Temp. received: 6.7 °C

Date/Time stamp:

Delivery Method: Courier MOT

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664740**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 20, 2023
Report Number: 2893170

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Jul 19, 2023 - Sample 1664740-3; 8728548: Some trace total metal results were less than dissolved metal results for sample 1664740-3. The results were verified and are within expected measurement uncertainty.

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664740**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 20, 2023
Report Number: 2893170

	Reference Number	1664740-1	1664740-2	1664740-3	
	Sample Date	Jul 11, 2023	Jul 11, 2023	Jul 11, 2023	
	Sample Time	09:28	09:08	09:42	
	Sample Location				
	Sample Description	Pit N/W of Dump / SNP0036-4 / 2 / In / 0.3°C	Pond S/E of Dump / SNP0036-5 / 20 / In / 0.3°C	Creek N/W of Dump / SNP0036-9 / 10 / In / 0.3°C	
	Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	<4	<4	<4	4
Phenol		mg/L	0.001	0.001	0.001	0.001
Inorganic Nonmetallic Parameters						
Phosphorus	Total	mg/L	<0.05	0.30	<0.05	0.05
Metals Dissolved						
Subsample			Lab Filtered	Lab Filtered	Lab Filtered	
Metals Total						
Aluminum	Total	mg/L	0.10	0.07	<0.04	0.02
Calcium	Total	mg/L	244	79.9	285	0.2
Iron	Total	mg/L	0.81	0.62	0.38	0.05
Magnesium	Total	mg/L	134	32.0	95.7	0.2
Manganese	Total	mg/L	0.582	0.241	1.41	0.005
Potassium	Total	mg/L	37.2	90.0	5.3	0.4
Silicon	Total	mg/L	4.91	0.34	2.87	0.05
Sodium	Total	mg/L	185	30.3	146	0.4
Sulfur	Total	mg/L	230	33.1	362	0.3
Mercury	Total	mg/L	0.000016	0.000041	<0.000005	0.000005
Antimony	Total	mg/L	<0.0004	<0.0002	<0.0004	0.0002
Arsenic	Total	mg/L	0.002	0.0028	0.0009	0.0002
Barium	Total	mg/L	0.11	0.128	0.023	0.001
Beryllium	Total	mg/L	<0.0002	<0.0001	<0.0002	0.0001
Bismuth	Total	mg/L	<0.001	<0.0005	<0.001	0.0005
Boron	Total	mg/L	1.55	0.053	0.335	0.002
Cadmium	Total	mg/L	0.00002	0.00001	<0.00002	0.00001
Chromium	Total	mg/L	0.001	<0.0005	<0.001	0.0005
Cobalt	Total	mg/L	0.001	0.0004	0.0007	0.0001
Copper	Total	mg/L	<0.002	<0.001	<0.002	0.001
Lead	Total	mg/L	0.0003	<0.0001	<0.0002	0.0001
Lithium	Total	mg/L	0.053	0.015	0.063	0.001
Molybdenum	Total	mg/L	<0.002	<0.001	<0.002	0.001
Nickel	Total	mg/L	0.012	0.0022	0.0040	0.0005
Selenium	Total	mg/L	<0.0004	<0.0002	<0.0004	0.0002
Silver	Total	mg/L	<0.00002	<0.00001	<0.00002	0.00001
Strontium	Total	mg/L	0.916	0.289	1.25	0.001
Thallium	Total	mg/L	<0.0001	<0.00005	<0.0001	0.00005
Tin	Total	mg/L	<0.002	<0.001	<0.002	0.001

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664740**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 20, 2023
Report Number: 2893170

Reference Number	1664740-1	1664740-2	1664740-3
Sample Date	Jul 11, 2023	Jul 11, 2023	Jul 11, 2023
Sample Time	09:28	09:08	09:42
Sample Location			
Sample Description	Pit N/W of Dump / SNP0036-4 / 2 / In / 0.3°C	Pond S/E of Dump / SNP0036-5 / 20 / In / 0.3°C	Creek N/W of Dump / SNP0036-9 / 10 / In / 0.3°C
Matrix	Water	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Titanium	Total	mg/L	0.0040	0.0005	<0.001	0.0005
Uranium	Total	mg/L	0.001	<0.0005	0.0028	0.0005
Vanadium	Total	mg/L	0.001	0.0014	0.0003	0.0001
Zinc	Total	mg/L	<0.008	0.004	0.008	0.004
Zirconium	Total	mg/L	<0.002	<0.001	<0.002	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	20	9	11	2
Routine Water						
pH			7.86	7.78	7.78	1
Temperature of observed pH		°C	20.1	20.0	20.0	
Electrical Conductivity	at 25 °C	µS/cm	2360	1070	2520	1
Electrical Conductivity	at 25 °C	dS/m	2.36	1.07	2.52	0.001
Calcium	Dissolved	meq/L	11.1	3.84	16.2	0.01
Calcium	Dissolved	mg/L	222	77.0	324	0.2
Magnesium	Dissolved	meq/L	9.91	2.60	8.97	0.01
Magnesium	Dissolved	mg/L	121	31.6	109	0.2
Sodium	Dissolved	meq/L	7.50	1.27	7.24	0.02
Sodium	Dissolved	mg/L	172	29.2	166	0.4
Potassium	Dissolved	meq/L	0.88	2.27	0.15	0.01
Potassium	Dissolved	mg/L	34	88.6	5.9	0.4
Chloride	Dissolved	mg/L	109	210	64.0	0.4
Chloride		meq/L	3.07	5.93	1.81	0.01
Sulfate (SO4)	Dissolved	mg/L	595	96.1	1190	0.9
Sulfate-S		meq/L	12.4	2.00	24.7	
Sulfate-S	Dissolved	mg/L	198	32.0	396	0.3
Total Dissolved Solids	Estimated	mg/L	1510	682	1610	1
SAR	Dissolved		2.3	0.7	2.0	
Mono-Aromatic Hydrocarbons - Water						
Benzene		mg/L	<0.001	<0.001	<0.001	0.001
Toluene		mg/L	<0.0004	<0.0004	<0.0004	0.0004
Ethylbenzene		mg/L	<0.0010	<0.0010	<0.0010	0.0010
Total Xylenes (m,p,o)		mg/L	<0.001	<0.001	<0.001	0.001
4-Bromofluorobenzene	Surrogate	%	92	93	93	70-130
Toluene-d8	Surrogate	%	100	99	103	70-130
Volatile Petroleum Hydrocarbons - Water						
F1 -BTEX		mg/L	<0.1	<0.1	<0.1	0.1

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664740**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 20, 2023
Report Number: 2893170

Reference Number	1664740-1	1664740-2	1664740-3
Sample Date	Jul 11, 2023	Jul 11, 2023	Jul 11, 2023
Sample Time	09:28	09:08	09:42
Sample Location			
Sample Description	Pit N/W of Dump / SNP0036-4 / 2 / In / 0.3°C	Pond S/E of Dump / SNP0036-5 / 20 / In / 0.3°C	Creek N/W of Dump / SNP0036-9 / 10 / In / 0.3°C
Matrix	Water	Water	Water

Analyte	Units	Results	Results	Results	Nominal Detection Limit
Volatile Petroleum Hydrocarbons - Water - Continued					
F1 C6-C10	mg/L	<0.1	<0.1	<0.1	0.1
F2 C10-C16	mg/L	<0.1	<0.1	<0.1	0.1

Approved by:

Randy Neumann, BSc
Director

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Aggregate Organic Constituents

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Phenol	mg/L	0	-0.001	0.001		yes
Date Acquired:	July 14, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**		**Passed QC**
Biochemical Oxygen	mg/L	199	140	228		yes
Phenol	mg/L	0.077	0.069	0.079		yes
Date Acquired:	July 14, 2023					
Phenol	mg/L	0.014	0.013	0.017		yes
Date Acquired:	July 14, 2023					
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
Phenol	mg/L	0.001	0.001	10	0.002	yes
Date Acquired:	July 14, 2023					

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Phosphorus	mg/L	-0.007	-0.05	0.05		yes
Date Acquired:	July 14, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**		**Passed QC**
Phosphorus	mg/L	7.82	7.51	8.35		yes
Date Acquired:	July 14, 2023					
Phosphorus	mg/L	3.86	3.68	4.46		yes
Date Acquired:	July 14, 2023					
Phosphorus	mg/L	1.92	1.75	2.17		yes
Date Acquired:	July 14, 2023					
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
Phosphorus	mg/L	0.40	0.45	10	0.20	yes
Date Acquired:	July 14, 2023					

Metals Dissolved

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Sulfur	mg/L	0.00473039	-0.3	0.2		yes
Date Acquired:	July 14, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**		**Passed QC**
Sulfur	mg/L	150	141.6	156.6		yes
Date Acquired:	July 14, 2023					
Sulfur	mg/L	9.7	9.1	10.6		yes
Date Acquired:	July 14, 2023					
Sulfur	mg/L	2.9	2.7	3.1		yes
Date Acquired:	July 14, 2023					
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
Sulfur	mg/L	3.7	3.9	10	0.1	yes
Date Acquired:	July 14, 2023					

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Proj. Acct. code:

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Metals Total

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Mercury	µg/L	0.003608	-0.054000	0.054000	yes
Antimony	µg/L	0.00239249	-0.2	0.2	yes
Arsenic	µg/L	0.0112347	-0.2	0.2	yes
Barium	µg/L	0.0215985	-1	1	yes
Beryllium	µg/L	0	-0.1	0.1	yes
Bismuth	µg/L	0.00595651	-0.5	0.5	yes
Boron	µg/L	1.63851	-1	3	yes
Cadmium	µg/L	-5.73589e-006	-0.007	0.012	yes
Chromium	µg/L	0.0379599	-0.5	0.5	yes
Cobalt	µg/L	0.000253728	-0.1	0.1	yes
Copper	µg/L	0.0386847	-1	1	yes
Lead	µg/L	0.00379012	-0.1	0.1	yes
Lithium	µg/L	0.0201488	-1	1	yes
Molybdenum	µg/L	0.0521847	-1	1	yes
Nickel	µg/L	0.0514688	-0.5	0.5	yes
Selenium	µg/L	0.00681773	-0.2	0.2	yes
Silver	µg/L	0.000780373	-0.02	0.10	yes
Strontium	µg/L	0.0152707	-1	1	yes
Thallium	µg/L	0.00175066	-0.05	0.05	yes
Tin	µg/L	0.00738604	-1	1	yes
Titanium	µg/L	0.0270388	-0.5	0.5	yes
Uranium	µg/L	0.00188646	-0.5	0.5	yes
Vanadium	µg/L	-0.00892147	-0.1	0.1	yes
Zinc	µg/L	0.257771	-4	4	yes
Zirconium	µg/L	0.0102979	-1	1	yes
Aluminum	mg/L	-0.00523866	-0.02	0.02	yes
Calcium	mg/L	0.00890024	-0.1	0.1	yes
Iron	mg/L	-0.00529292	-0.01	0.02	yes
Magnesium	mg/L	0.00369876	-0.04	0.04	yes
Manganese	mg/L	2.43856e-005	-0.005	0.005	yes
Potassium	mg/L	0.106977	-0.1	0.2	yes
Silicon	mg/L	-0.00637667	-0.03	0.04	yes
Sodium	mg/L	0.0581344	-0.4	0.4	yes
Sulfur	mg/L	-0.0732326	-0.1	0.2	yes

Date Acquired: July 14, 2023

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Antimony	µg/L	11.5	10.8	13.2	yes
Arsenic	µg/L	11.1	10.4	12.8	yes
Barium	µg/L	58	54	68	yes
Beryllium	µg/L	5.9	5.3	6.5	yes
Bismuth	µg/L	29.5	26.2	35.8	yes
Boron	µg/L	120	102	139	yes
Cadmium	µg/L	0.61	0.543	0.675	yes
Chromium	µg/L	29.6	26.5	33.7	yes

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Lot ID: **1664740**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 20, 2023
Report Number: 2893170

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Cobalt	µg/L	5.9	5.2	6.8	yes
Copper	µg/L	59	53	67	yes
Lead	µg/L	5.8	5.2	7.1	yes
Lithium	µg/L	57	53	77	yes
Molybdenum	µg/L	60	56	66	yes
Nickel	µg/L	29.6	27.6	32.8	yes
Selenium	µg/L	11.3	9.7	12.7	yes
Silver	µg/L	5.95	5.39	7.13	yes
Strontium	µg/L	58	55	65	yes
Thallium	µg/L	2.96	2.70	3.60	yes
Tin	µg/L	60	56	66	yes
Titanium	µg/L	30.2	26.6	35.7	yes
Uranium	µg/L	29.4	25.7	36.3	yes
Vanadium	µg/L	6.0	5.1	7.2	yes
Zinc	µg/L	55	53	65	yes
Zirconium	µg/L	61	53	67	yes
Aluminum	mg/L	4.14	3.61	4.45	yes
Calcium	mg/L	51.7	47.6	54.2	yes
Iron	mg/L	2.04	1.90	2.20	yes
Magnesium	mg/L	20.4	17.88	21.86	yes
Manganese	mg/L	0.522	0.472	0.568	yes
Potassium	mg/L	50.6	47.1	54.9	yes
Silicon	mg/L	2.09	1.93	2.19	yes
Sodium	mg/L	51.5	47.0	57.2	yes
Sulfur	mg/L	10.0	9.2	11.2	yes
Date Acquired: July 14, 2023					
Antimony	µg/L	39.7	37.5	43.1	yes
Arsenic	µg/L	40.3	36.5	43.5	yes
Barium	µg/L	195	183	212	yes
Beryllium	µg/L	18.9	17.1	21.9	yes
Bismuth	µg/L	97.5	88.1	107.9	yes
Boron	µg/L	375	343	436	yes
Cadmium	µg/L	2.08	1.910	2.210	yes
Chromium	µg/L	100	90.0	110.0	yes
Cobalt	µg/L	20.2	18.1	21.7	yes
Copper	µg/L	202	188	212	yes
Lead	µg/L	19.5	18.5	21.5	yes
Lithium	µg/L	193	173	222	yes
Molybdenum	µg/L	200	182	218	yes
Nickel	µg/L	101	90.0	110.0	yes
Selenium	µg/L	40.0	36.7	43.3	yes
Silver	µg/L	20.2	18.00	22.00	yes
Strontium	µg/L	200	171	231	yes
Thallium	µg/L	9.85	9.01	10.99	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Tin	µg/L	199	190	218	yes
Titanium	µg/L	102	93.2	107.0	yes
Uranium	µg/L	98.6	90.2	109.0	yes
Vanadium	µg/L	20.1	16.9	22.1	yes
Zinc	µg/L	200	183	218	yes
Zirconium	µg/L	204	188	218	yes
Date Acquired: July 14, 2023					
Mercury	mg/L	0.000100	0.000070	0.000130	yes
Antimony	µg/L	12.2	10.8	13.2	yes
Arsenic	µg/L	12.1	10.8	13.2	yes
Barium	µg/L	59	54	66	yes
Beryllium	µg/L	5.8	5.3	6.5	yes
Bismuth	µg/L	29.1	26.8	32.8	yes
Boron	µg/L	118	108	130	yes
Cadmium	µg/L	0.65	0.546	0.672	yes
Chromium	µg/L	30.2	27.1	32.5	yes
Cobalt	µg/L	6.1	5.3	6.5	yes
Copper	µg/L	61	54	66	yes
Lead	µg/L	5.9	5.4	6.6	yes
Lithium	µg/L	59	54	66	yes
Molybdenum	µg/L	60	53	64	yes
Nickel	µg/L	30.4	26.9	32.9	yes
Selenium	µg/L	12.0	10.7	13.1	yes
Silver	µg/L	6.13	5.38	6.46	yes
Strontium	µg/L	61	54	65	yes
Thallium	µg/L	2.97	2.70	3.30	yes
Tin	µg/L	61	54	66	yes
Titanium	µg/L	30.8	26.9	32.9	yes
Uranium	µg/L	29.6	27.0	33.0	yes
Vanadium	µg/L	6.1	5.6	6.4	yes
Zinc	µg/L	61	55	67	yes
Zirconium	µg/L	61	54	66	yes
Date Acquired: July 14, 2023					
Mercury	mg/L	0.000021	0.000006	0.000036	yes
Antimony	µg/L	1.9	1.8	2.1	yes
Arsenic	µg/L	2.0	1.8	2.1	yes
Barium	µg/L	10	9	11	yes
Beryllium	µg/L	1.0	0.8	1.1	yes
Bismuth	µg/L	4.8	4.6	5.4	yes
Boron	µg/L	20	18	22	yes
Cadmium	µg/L	0.10	0.087	0.117	yes
Chromium	µg/L	5.0	4.6	5.3	yes
Cobalt	µg/L	1.0	0.9	1.1	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Copper	µg/L	10	9	11	yes
Lead	µg/L	1.0	0.9	1.1	yes
Lithium	µg/L	10	9	11	yes
Molybdenum	µg/L	10	9	10	yes
Nickel	µg/L	5.0	4.6	5.4	yes
Selenium	µg/L	2.0	1.8	2.2	yes
Silver	µg/L	1.02	0.92	1.06	yes
Strontium	µg/L	10	9	11	yes
Thallium	µg/L	0.49	0.44	0.56	yes
Tin	µg/L	10	9	11	yes
Titanium	µg/L	5.1	4.4	5.5	yes
Uranium	µg/L	4.9	4.6	5.4	yes
Vanadium	µg/L	1.0	0.9	1.1	yes
Zinc	µg/L	10	9	11	yes
Zirconium	µg/L	10	9	12	yes
Date Acquired: July 14, 2023					
Aluminum	mg/L	20.5	18.88	20.92	yes
Calcium	mg/L	246	231.3	258.9	yes
Iron	mg/L	9.87	9.32	10.28	yes
Magnesium	mg/L	99.0	92.78	104.72	yes
Manganese	mg/L	2.49	2.290	2.590	yes
Potassium	mg/L	247	234.2	261.8	yes
Silicon	mg/L	10.2	9.13	10.93	yes
Sodium	mg/L	244	228.8	269.4	yes
Sulfur	mg/L	153	135.5	165.3	yes
Date Acquired: July 14, 2023					
Aluminum	mg/L	4.19	3.60	4.40	yes
Calcium	mg/L	52.3	46.5	56.5	yes
Iron	mg/L	2.07	1.87	2.27	yes
Magnesium	mg/L	20.4	18.05	22.07	yes
Manganese	mg/L	0.529	0.466	0.568	yes
Potassium	mg/L	50.8	45.4	55.5	yes
Silicon	mg/L	2.04	1.90	2.10	yes
Sodium	mg/L	52.0	45.9	55.9	yes
Sulfur	mg/L	10.1	9.3	11.3	yes
Date Acquired: July 14, 2023					
Aluminum	mg/L	0.41	0.36	0.44	yes
Calcium	mg/L	5.1	4.8	5.5	yes
Iron	mg/L	0.20	0.19	0.22	yes
Magnesium	mg/L	2.1	1.84	2.20	yes
Manganese	mg/L	0.052	0.047	0.059	yes
Potassium	mg/L	5.1	4.6	5.6	yes
Silicon	mg/L	0.20	0.17	0.23	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
Sodium	mg/L	5.3	4.8	5.6		yes
Sulfur	mg/L	2.9	2.8	3.3		yes
Date Acquired: July 14, 2023						

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Mercury	mg/L	<0.000005	<0.000005	10	0.000030	yes
Barium	µg/L	35	35	15	2	yes
Strontium	µg/L	104	103	15	2	yes
Aluminum	mg/L	<0.5	<0.5	15	0.03	yes
Calcium	mg/L	52	51	15	0.6	yes
Iron	mg/L	<1	<1	15	0.20	yes
Magnesium	mg/L	39	38	15	0.40	yes
Manganese	mg/L	<0.1	<0.1	15	0.010	yes
Potassium	mg/L	34	32	15	1.2	yes
Silicon	mg/L	7.5	7.2	15	0.10	yes
Sodium	mg/L	6130	5950	15	1.2	yes
Sulfur	mg/L	<8	<8	15	0.1	yes
Date Acquired: July 14, 2023						

Mono-Aromatic Hydrocarbons - Water

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Benzene	ng	0	-0.002	0.002		yes
Toluene	ng	0	-0.0015	0.0015		yes
Ethylbenzene	ng	0	-0.0015	0.0015		yes
Total Xylenes (m,p,o)	ng	0	-0.002	0.002		yes
Styrene	ng	0	-0.002	0.002		yes
Date Acquired: July 16, 2023						

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
Benzene	ng	101.95	80	120		yes
Toluene	ng	104.54	80	120		yes
Ethylbenzene	ng	106.53	80	120		yes
m,p-Xylene	ng	111.79	80	120		yes
Total Xylenes (m,p,o)	ng	111.16	80	120		yes
Styrene	ng	109.04	80	120		yes
Date Acquired: July 16, 2023						

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Benzene	mg/L	<0.001	<0.001	30	0.002	yes
Toluene	mg/L	<0.0004	<0.0004	30	0.0020	yes
Ethylbenzene	mg/L	<0.0010	<0.0010	30	0.0020	yes
Total Xylenes (m,p,o)	mg/L	<0.001	<0.001	30	0.002	yes
Styrene	mg/L	<0.001	<0.001	30	0.002	yes
Date Acquired: July 16, 2023						

Physical and Aggregate Properties

Element
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T6B 3J4, Canada

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E: info.Edmonton@element.com
W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664740**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 20, 2023
Report Number: 2893170

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired: July 18, 2023					

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	21	10	22	yes
Date Acquired: July 18, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	886	819	10	2	yes
Date Acquired: July 18, 2023						

Routine Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloride	mg/L	0.03	-0.4	0.4	yes
Calcium	mg/L	0.016486	-0.2	0.2	yes
Magnesium	mg/L	0.00829295	-0.1	0.1	yes
Sodium	mg/L	0.0961234	-0.4	0.4	yes
Potassium	mg/L	0.0260112	-0.4	0.4	yes
Date Acquired: July 14, 2023					

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloride	mg/L	2050	1847.4	2256.0	yes
Date Acquired: July 14, 2023					
Electrical Conductivity	dS/m	31.7	27.200	36.800	yes
Date Acquired: July 14, 2023					
pH		9.18	8.90	9.44	yes
Temperature of observed	°C	20.2	15.5	24.5	yes
Electrical Conductivity	dS/m	2.75	2.631	2.829	yes
Calcium	mg/L	247	230.0	260.0	yes
Magnesium	mg/L	99.9	92.6	104.6	yes
Sodium	mg/L	242	234.6	259.2	yes
Potassium	mg/L	247	229.0	259.0	yes
Date Acquired: July 14, 2023					
Chloride	mg/L	83.1	74.9	86.9	yes
pH		6.87	6.79	6.97	yes
Temperature of observed	°C	20.1	15.5	24.5	yes
Electrical Conductivity	dS/m	0.076	0.069	0.085	yes
Calcium	mg/L	50.1	44.9	56.9	yes
Magnesium	mg/L	20.0	17.9	22.0	yes
Sodium	mg/L	49.7	47.3	52.7	yes
Potassium	mg/L	49.5	45.8	55.8	yes
Date Acquired: July 14, 2023					
Chloride	mg/L	15.7	13.3	16.5	yes
Calcium	mg/L	5.0	4.7	5.4	yes
Magnesium	mg/L	2.1	1.9	2.2	yes

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Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664740**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 20, 2023
Report Number: 2893170

Routine Water - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
Sodium	mg/L	5.0	4.7	5.7		yes
Potassium	mg/L	4.9	4.6	5.6		yes
Date Acquired:	July 14, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Chloride	mg/L	13.9	13.7	10	0.5	yes
pH		7.15	7.17	0	0.10	yes
Electrical Conductivity	dS/m	1.10	1.10	10	0.002	yes
Calcium	mg/L	70.2	72.7	10	0.6	yes
Magnesium	mg/L	30.1	31.0	10	0.7	yes
Sodium	mg/L	214	222	10	1.2	yes
Potassium	mg/L	2.1	2.3	10	1.2	yes
Date Acquired:	July 14, 2023					

Volatile Petroleum Hydrocarbons - Water

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
F1 -BTEX	ng	0	-0.3	0.3		yes
F1 C6-C10	ng	0	-0.3	0.3		yes
F2 C10-C16	ng	0	-0.3	0.3		yes
Date Acquired:	July 16, 2023					

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
F2 C10-C16	ng	115.85	80	120		yes
Date Acquired:	July 16, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
F1 C6-C10	mg/L	<0.1	<0.1	30		yes
F2 C10-C16	mg/L	<0.1	<0.1	30		yes
Date Acquired:	July 16, 2023					

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Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1664740**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 20, 2023
Report Number: 2893170

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	Conductivity, 2510 B	Jul 14, 2023	Element Edmonton - Roper Road
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Jul 14, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Jul 12, 2023	Element Edmonton - Roper Road
BTEX-CCME - Water	US EPA	*	Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Jul 16, 2023	Element Calgary
Chloride in Water	APHA	*	Automated Ferricyanide Method, 4500-Cl- E	Jul 14, 2023	Element Edmonton - Roper Road
Mercury (Total) in water	EPA	*	Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry, 245.7	Jul 14, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	APHA/USEPA	*	Metals By Inductively Coupled Plasma/Mass Spectrometry, APHA 3125 B / USEPA 200.2, 200.8	Jul 14, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Jul 14, 2023	Element Edmonton - Roper Road
Metals Trace (Dissolved) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Jul 14, 2023	Element Edmonton - Roper Road
Metals Trace (Total) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Jul 14, 2023	Element Edmonton - Roper Road
Phenol in water	APHA	*	Direct Photometric Method, 5530 D	Jul 14, 2023	Element Edmonton - Roper Road
Phosphorus - Total in Water	APHA	*	Automated Ascorbic Acid Reduction Method, 4500-P F	Jul 14, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Jul 18, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Jul 19, 2023 - Sample 1664740-3; 8728548: Some trace total metal results were less than dissolved metal results for sample 1664740-3. The results were verified and are within expected measurement uncertainty.

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Methodology and Notes

Bill To:	Town of Inuvik Box 1160 2 Firth Street Inuvik, NT, Canada X0E 0T0
Attn:	Rick Campbell
Sampled By:	Arlo Clarkson
Company:	Town of Inuvik

Project ID:	SNP 0036-4, 5 & 9
Project Name:	
Project Location:	Inuvik
LSD:	
P.O.:	100104
Proj. Acct. code:	

Lot ID:	**1664740**
Control Number:	
Date Received:	Jul 12, 2023
Date Reported:	Jul 20, 2023
Report Number:	2893170

element
www.Element.com

Invoice To

Company: Town of Inuvik
Address: Box 1160, 2 Firth Street
Inuvik, NT X0E 0T0
Attention: Rick Campbell
Phone: (867) 777-8615
Cell: (867) 678-5388
Fax: (867) 777-8601
E-mail: rcampbell@town.inuvik.nt.ca
Agreement ID: 2909
Copy of Report: (YES) NO

Report To

Company: Aecom - Edmonton
Address: Suite 101-18817 Stony Plain Road
Edmonton, AB T5S 0C2
Attention: Li Wang
Phone: (780) 453-0710
Cell:
Fax:
E-mail 1: li.wang@aecom.com
E-mail 2:
Copy of Invoice: YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Project Information

Project ID: SNP 0036-4,5 & 9
Project Name:
Project Location: Inuvik, NT
Legal Location:
PO/AFE#: 100104
Proj. Acct. Code:
Quote #:

Sample Custody

Sampled by: Arlo Clarkson
Company: Town of Inuvik
I authorize Element to proceed with the work indicated on this form:
Signature: Arlo C
Date/Time:

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	CCMEBF12W	Total Metal + Total Mecury	pH	CBOD5	Suspended Solids	Total Phosphate	Sulphate	Total Phenols	Conductivity	Dissolved S.P.C
											Enter tests above (✓ relevant samples below)									
1	SNP0036-4	Pit N/W of Dump	2		m	4:25 pm		Dip	8		x	x	x	x	x	x	x	x	x	x
2	SNP0036-5	Pond S/E of Dump	20		m	4:08 pm		Dip	8		x	x	x	x	x	x	x	x	x	x
3	SNP0036-9	Creek N/W of Dump	Wk			4:42 pm		Dip	8		x	x	x	x	x	x	x	x	x	x
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page ____ of ____ Control #

ED 120-005

Lot: 1664740 COC

Temp. received: C, 3 °C
Date/Time stamp:
Delivery Method: Courier ADM
Waybill:
Received by:

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1665267**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 24, 2023
Report Number: 2893922

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Jul 14, 2023 - Free Res: 0.13, Total Res: 0.20

Element
Bay #5, 2712-37 Avenue N.E.
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T1Y 5L3, Canada

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W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1665267**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 24, 2023
Report Number: 2893922

Reference Number	1665267-1
Sample Date	Jul 11, 2023
Sample Time	09:57
Sample Location	
Sample Description	Yearly THM Sample / Truck Fill / 6.3°C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trihalomethanes Screen - Water						
Chloroform		mg/L	0.063			0.001
Bromodichloromethane		mg/L	0.006			0.001
Dibromochloromethane		mg/L	<0.001			0.001
Bromoform		mg/L	<0.001			0.001
Total Trihalomethanes		mg/L	0.069			0.001
Trihalomethanes - Surrogate Recovery						
Dibromofluoromethane	EPA Surrogate	%	101			50-140
Toluene-d8	EPA Surrogate	%	98			50-140
Bromofluorobenzene	EPA Surrogate	%	104			50-140

Approved by:

Mike Yohemas, BSc
General Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Calgary, Alberta
T1Y 5L3, Canada

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F: +1 (403) 291-2021
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W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1665267**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 24, 2023
Report Number: 2893922

Trihalomethanes - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Dibromofluoromethane	%	94.02	50	140	yes
Toluene-d8	%	98	50	140	yes
Bromofluorobenzene	%	96	50	140	yes

Date Acquired: July 18, 2023

Trihalomethanes Screen - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	0	-0.002	0.002	yes
Bromodichloromethane	ng	0	-0.002	0.002	yes
Dibromochloromethane	ng	0	-0.002	0.002	yes
Bromoform	ng	0	-0.002	0.002	yes

Date Acquired: July 18, 2023

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	97.60	80	120	yes
Bromodichloromethane	ng	104.40	80	120	yes
Dibromochloromethane	ng	103.20	80	120	yes
Bromoform	ng	106.80	80	120	yes

Date Acquired: July 18, 2023

Element
Bay #5, 2712-37 Avenue N.E.
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T1Y 5L3, Canada

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Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Arlo Clarkson
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1665267**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 24, 2023
Report Number: 2893922

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
THM - Water	US EPA	*	Volatile Organic Compounds by GCMS / Purge and Trap for Aqueous Samples, 8260B/5030B	Jul 18, 2023	Element Calgary

** Reference Method Modified*

References

US EPA — US Environmental Protection Agency Test Methods

Comments:

- Jul 14, 2023 - Free Res: 0.13, Total Res: 0.20

element
www.Element.com

Project Information

Project ID:	Yearly Samples
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	Rick Campbell
Phone:	(867) 777-8615
Cell:	(867) 678-5388
Fax:	(867) 777-8601
E-mail:	rcampbell@town.inuvik.nt.ca
Agreement ID:	2909
Copy of Report:	(YES) NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Arlo Clarkson
Company: Town of Inuvik
I authorize Element to proceed with the work indicated on this form:
Signature: Arlo C
Date/Time:

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Depth in cm m	Date/Time sampled	Free Res	Total Res	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	THM	Enter tests above (✓ relevant samples below)
1	Yearly THM Sample	Truck Fill	NA	Tap		9:57am	0.13	0.20	Grab	2		x	
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													

Please indicate any potentially hazardous samples

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Page _____ of _____ Control #

ED 120-005

Lot: 1665267 COC

Temp. received: 6.3 °C

Date/Time stamp: JUL 12 PM 3:41

Delivery Method:

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
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W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: David Kendi
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672757**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 28, 2023
Report Number: 2904933

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Aug 19, 2023 - Sample 1 had exceeded recommended holding time for bacterial analysis. Proceeding as per agreement.
- Aug 22, 2023 - Sample 1672757-1; 8783554: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.
- Aug 22, 2023 - Sample 1672757-1; 8783554: Sample 1672757: There was insufficient sample volume to reach a detection limit of 5 mg/L for oil and grease analysis. The detection limit was adjusted accordingly.

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: David Kendi
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672757**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 28, 2023
Report Number: 2904933

Reference Number	1672757-1
Sample Date	Aug 16, 2023
Sample Time	08:45
Sample Location	
Sample Description	SNP0036-3 / Sewage Lagoon / 10-8 / Ft / 6.1°C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	<4			4
Oil and Grease	Total	mg/L	<6			5
pH adjustment	adjustment required		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	5.60			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.0452			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	900			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	14			2
Routine Water						
pH	15 °C	pH	7.47			
Temperature of observed pH		°C	16			
pH			7.65			1
Temperature of observed pH		°C	20.0			

Approved by:

Mike Yohemas, BSc
General Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Quality Control

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Company: Town of Inuvik

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Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672757**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 28, 2023
Report Number: 2904933

Aggregate Organic Constituents

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Oil and Grease	mg/L	41	37	43	yes
Date Acquired: August 21, 2023					
Biochemical Oxygen	mg/L	190	140	228	yes
Date Acquired: August 23, 2023					

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	0.022	-0.025	0.025	yes
Date Acquired: August 22, 2023					

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	7.01	6.520	7.480	yes
Date Acquired: August 22, 2023					
Ammonium - N	mg/L	3.06	2.730	3.330	yes
Date Acquired: August 22, 2023					
Ammonium - N	mg/L	0.819	0.740	0.860	yes
Date Acquired: August 22, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Ammonium - N	mg/L	0.025	0.025	10	0.100	yes
Date Acquired: August 22, 2023						

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired: August 23, 2023					

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	192	176	211	yes
Date Acquired: August 23, 2023					
Solids	mg/L	21	10	22	yes
Date Acquired: August 23, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	8	7	10	2	yes
Date Acquired: August 23, 2023						

Routine Water

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
pH		9.18	8.90	9.44	yes
Temperature of observed	°C	20.1	15.5	24.5	yes
Date Acquired: August 18, 2023					
pH		6.86	6.79	6.97	yes
Temperature of observed	°C	19.9	15.5	24.5	yes
Date Acquired: August 18, 2023					

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LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672757**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 28, 2023
Report Number: 2904933

Routine Water - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
pH		7.62	7.63	0	0.10	yes
Date Acquired: August 18, 2023						

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Methodology and Notes

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Lot ID: **1672757**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 28, 2023
Report Number: 2904933

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Aug 18, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Aug 22, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Aug 23, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Aug 19, 2023	Element Calgary
Oil and Grease in water	US EPA	*	n-Hexane Extractable Material and Silica Gel Treated n-Hexane Extractable Material by Extraction and Gravimetry, 1664	Aug 21, 2023	Element Edmonton - Roper Road
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Aug 18, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Aug 23, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Aug 19, 2023 - Sample 1 had exceeded recommended holding time for bacterial analysis. Proceeding as per agreement.
- Aug 22, 2023 - Sample 1672757-1; 8783554: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.
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Project Information

Project ID:	SNP 0036-3
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	David Kendi
Phone:	(867) 777-8600
Cell:	(867) 678-5384
Fax:	(867) 777-8601
E-mail:	utilidor@inuvik.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Dave Kendi
Company: Tai
I authorize Element to proceed with the work indicated on this form:
Signature:
Date/Time: Aug 16.23 8:45AM

RUSH Priority

- [ ] Same Day (200%)
- [ ] Next Day/Two Day (100%)
- [ ] Three or Four Days (50%)
- [ ] 5 to 7 Days (Regular TAT)

Date Required _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- [x] Email
- [ ] QA/QC
- [ ] Online
- [ ] PDF
- [ ] Fax
- [ ] Excel

Requirements

- [ ] HCDWORG
- [ ] SPIGEC
- [ ] AB Tier 1
- [ ] BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Matrix	Sampling method	# Containers	MeOH Field Preserved?	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil and Grease
1	SNP0036-3	Sewage Lagoon	12"	8"	08-16-23 8:45 am		Dip	5		x	x	x	x	x	x
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

Enter tests above (✓ relevant samples below)

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page _____ of _____ Control #

ED 120-005

Indicate lot # or affix barcode here

Lot: 1672757 COC

Temp. received: 6.1 °C

Date/Time stamp:

Delivery Method: HAND

Waybill:

Received by:

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Edmonton, Alberta
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Report Transmission Cover Page

Bill To: Town of Inuvik
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Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672761**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 29, 2023
Report Number: 2904938

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Aug 23, 2023 - Sample 1672761-1; 8783568: Some trace total metal results were less than dissolved metal results for sample 1672761-1. The results were verified and are within expected measurement uncertainty.
- Aug 23, 2023 - Sample 1672761-2; 8783569: TSS: Sample 1672761-2 has two layers and was agitated before filtering.
- Aug 24, 2023 - Samples 1672761-1, -2, & -3 were received in plastic containers which does not meet the sample requirements for Mercury Total Water as specified by the reference method.

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Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672761**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 29, 2023
Report Number: 2904938

Reference Number	1672761-1	1672761-2	1672761-3
Sample Date	Aug 16, 2023	Aug 16, 2023	Aug 16, 2023
Sample Time	09:02	08:48	09:17
Sample Location			
Sample Description	Pit N/W of Dump / SNP0036-4 / 2 / In / 6.1°C	Pond S/E of Dump / SNP0036-5 / 3 / In / 6.1°C	Creek N/W of Dump / SNP0036-9 / 4 / In / 6.1°C
Matrix	Water	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	<4	54	<4	4
Phenol		mg/L	<0.001	0.001	0.001	0.001
Inorganic Nonmetallic Parameters						
Phosphorus	Total	mg/L	<0.05	2.73	<0.05	0.05
Metals Dissolved						
Subsample			Lab Filtered	Lab Filtered	Lab Filtered	
Metals Total						
Aluminum	Total	mg/L	<0.04	12.5	<0.02	0.02
Calcium	Total	mg/L	230	110	102	0.2
Iron	Total	mg/L	0.45	33.6	0.54	0.05
Magnesium	Total	mg/L	125	42.0	36.3	0.2
Manganese	Total	mg/L	0.405	0.940	0.437	0.005
Potassium	Total	mg/L	35.3	69.8	2.4	0.4
Silicon	Total	mg/L	4.56	15.8	1.65	0.05
Sodium	Total	mg/L	174	40.3	44.8	0.4
Sulfur	Total	mg/L	213	32.4	123	0.3
Mercury	Total	mg/L	<0.000005	<0.00005	<0.000005	0.000005
Antimony	Total	mg/L	<0.0004	0.0006	<0.0002	0.0002
Arsenic	Total	mg/L	0.001	0.0156	0.0007	0.0002
Barium	Total	mg/L	0.11	0.436	0.010	0.001
Beryllium	Total	mg/L	<0.0002	0.0006	<0.0001	0.0001
Bismuth	Total	mg/L	<0.001	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.881	0.061	0.074	0.002
Cadmium	Total	mg/L	<0.00002	0.00048	<0.00001	0.00001
Chromium	Total	mg/L	<0.001	0.0231	<0.0005	0.0005
Cobalt	Total	mg/L	0.0009	0.0129	0.0002	0.0001
Copper	Total	mg/L	<0.002	0.032	<0.001	0.001
Lead	Total	mg/L	<0.0002	0.0131	<0.0001	0.0001
Lithium	Total	mg/L	0.041	0.031	0.016	0.001
Molybdenum	Total	mg/L	<0.002	<0.001	<0.001	0.001
Nickel	Total	mg/L	0.0090	0.0385	0.0040	0.0005
Selenium	Total	mg/L	<0.0004	0.0016	<0.0002	0.0002
Silver	Total	mg/L	<0.00002	0.00014	<0.00001	0.00001
Strontium	Total	mg/L	0.760	0.378	0.332	0.001
Thallium	Total	mg/L	<0.0001	0.00013	<0.00005	0.00005
Tin	Total	mg/L	<0.002	<0.001	<0.001	0.001

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Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
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P.O.: 100104
Proj. Acct. code:

Lot ID: **1672761**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 29, 2023
Report Number: 2904938

	Reference Number	1672761-1	1672761-2	1672761-3	
	Sample Date	Aug 16, 2023	Aug 16, 2023	Aug 16, 2023	
	Sample Time	09:02	08:48	09:17	
	Sample Location				
	Sample Description	Pit N/W of Dump / SNP0036-4 / 2 / In / 6.1°C	Pond S/E of Dump / SNP0036-5 / 3 / In / 6.1°C	Creek N/W of Dump / SNP0036-9 / 4 / In / 6.1°C	
	Matrix	Water	Water	Water	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Metals Total - Continued						
Titanium	Total	mg/L	<0.001	0.0561	0.0005	0.0005
Uranium	Total	mg/L	0.001	0.0011	0.0007	0.0005
Vanadium	Total	mg/L	<0.0002	0.0525	<0.0001	0.0001
Zinc	Total	mg/L	<0.008	0.163	<0.004	0.004
Zirconium	Total	mg/L	<0.002	0.002	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	162	10900	5	2
Routine Water						
pH			7.85	7.07	7.62	1
Temperature of observed pH		°C	20.1	20.0	20.0	
Electrical Conductivity	at 25 °C	µS/cm	2300	1050	889	1
Electrical Conductivity	at 25 °C	dS/m	2.30	1.05	0.889	0.001
Calcium	Dissolved	meq/L	11.5	3.67	5.06	0.01
Calcium	Dissolved	mg/L	231	73.5	101	0.2
Magnesium	Dissolved	meq/L	10.3	2.77	2.95	0.01
Magnesium	Dissolved	mg/L	125	33.7	35.8	0.2
Sodium	Dissolved	meq/L	7.71	1.65	1.91	0.02
Sodium	Dissolved	mg/L	177	37.9	44.0	0.4
Potassium	Dissolved	meq/L	0.90	1.60	0.06	0.01
Potassium	Dissolved	mg/L	35	62.7	2.3	0.4
Chloride	Dissolved	mg/L	111	235	16.1	0.4
Chloride		meq/L	3.13	6.62	0.46	0.01
Sulfate (SO4)	Dissolved	mg/L	585	64.0	360	0.9
Sulfate-S		meq/L	12.2	1.33	7.49	
Sulfate-S	Dissolved	mg/L	195	21.3	120	0.3
Total Dissolved Solids	Estimated	mg/L	1470	673	569	1
SAR	Dissolved		2.3	0.9	1.0	
Mono-Aromatic Hydrocarbons - Water						
Benzene		mg/L	<0.001	<0.001	<0.001	0.001
Toluene		mg/L	<0.0004	<0.0004	<0.0004	0.0004
Ethylbenzene		mg/L	<0.0010	<0.0010	<0.0010	0.0010
Total Xylenes (m,p,o)		mg/L	<0.001	<0.001	<0.001	0.001
4-Bromofluorobenzene	Surrogate	%	104	100	99	70-130
Toluene-d8	Surrogate	%	100	96	100	70-130
Volatile Petroleum Hydrocarbons - Water						
F1 -BTEX		mg/L	<0.1	<0.1	<0.1	0.1

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Control Number:
Date Received: Aug 18, 2023
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Reference Number	1672761-1	1672761-2	1672761-3
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Sample Location			
Sample Description	Pit N/W of Dump / SNP0036-4 / 2 / In / 6.1°C	Pond S/E of Dump / SNP0036-5 / 3 / In / 6.1°C	Creek N/W of Dump / SNP0036-9 / 4 / In / 6.1°C
Matrix	Water	Water	Water

Analyte	Units	Results	Results	Results	Nominal Detection Limit
Volatile Petroleum Hydrocarbons - Water - Continued					
F1 C6-C10	mg/L	<0.1	<0.1	<0.1	0.1
F2 C10-C16	mg/L	<0.1	<0.1	<0.1	0.1

Approved by:

Randy Neumann, BSc
Director

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Quality Control

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Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672761**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 29, 2023
Report Number: 2904938

Aggregate Organic Constituents

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Phenol	mg/L	0	-0.001	0.001		yes
Date Acquired:	August 18, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**		**Passed QC**
Phenol	mg/L	0.073	0.069	0.079		yes
Biochemical Oxygen	mg/L	190	140	228		yes
Date Acquired:	August 23, 2023					
Phenol	mg/L	0.015	0.013	0.017		yes
Date Acquired:	August 18, 2023					
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
Phenol	mg/L	<0.001	<0.001	10	0.002	yes
Date Acquired:	August 18, 2023					

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Phosphorus	mg/L	-0.014	-0.05	0.05		yes
Date Acquired:	August 21, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**		**Passed QC**
Phosphorus	mg/L	3.83	3.73	4.21		yes
Date Acquired:	August 21, 2023					
Phosphorus	mg/L	1.94	1.75	2.17		yes
Date Acquired:	August 21, 2023					
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
Phosphorus	mg/L	4.70	4.67	10	0.20	yes
Date Acquired:	August 21, 2023					

Metals Dissolved

Blanks	Units	Measured	Lower Limit	Upper Limit		Passed QC
Sulfur	mg/L	0.0126158	-0.3	0.2		yes
Date Acquired:	August 21, 2023					
Control Sample	**Units**	**Measured**	**Lower Limit**	**Upper Limit**		**Passed QC**
Sulfur	mg/L	145	141.6	156.6		yes
Date Acquired:	August 21, 2023					
Sulfur	mg/L	9.9	9.1	10.6		yes
Date Acquired:	August 21, 2023					
Sulfur	mg/L	3.0	2.7	3.1		yes
Date Acquired:	August 21, 2023					
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
Sulfur	mg/L	70.0	64.4	10	0.1	yes
Date Acquired:	August 21, 2023					

Metals Total

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Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672761**
Control Number:
Date Received: Aug 18, 2023
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Report Number: 2904938

Metals Total

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Aluminum	mg/L	0.00394011	-0.02	0.02	yes
Calcium	mg/L	-0.0115618	-0.1	0.1	yes
Iron	mg/L	0.000755512	-0.01	0.02	yes
Magnesium	mg/L	0.00248543	-0.04	0.04	yes
Manganese	mg/L	0.000109622	-0.005	0.005	yes
Potassium	mg/L	0.0468163	-0.1	0.2	yes
Silicon	mg/L	-0.0113618	-0.03	0.04	yes
Sodium	mg/L	0.0535692	-0.4	0.4	yes
Sulfur	mg/L	-0.00399779	-0.1	0.2	yes
Antimony	µg/L	0.00518905	-0.2	0.2	yes
Arsenic	µg/L	0.00513045	-0.2	0.2	yes
Barium	µg/L	0.00408644	-1	1	yes
Beryllium	µg/L	0.00318458	-0.1	0.1	yes
Bismuth	µg/L	0.00394263	-0.5	0.5	yes
Boron	µg/L	-0.0302266	-2	2	yes
Cadmium	µg/L	-0.000492771	-0.010	0.010	yes
Chromium	µg/L	0.0959146	-0.5	0.5	yes
Cobalt	µg/L	-0.000191006	-0.1	0.1	yes
Copper	µg/L	-0.0398678	-1	1	yes
Lead	µg/L	-0.00013508	-0.1	0.1	yes
Lithium	µg/L	0.0210916	-1	1	yes
Molybdenum	µg/L	0.00709341	-1	1	yes
Nickel	µg/L	-0.0568594	-0.5	0.5	yes
Selenium	µg/L	0.00358677	-0.2	0.2	yes
Silver	µg/L	0.000117924	-0.01	0.01	yes
Strontium	µg/L	0.0158579	-1	1	yes
Thallium	µg/L	0.0131888	-0.05	0.05	yes
Tin	µg/L	0.090443	-1	1	yes
Titanium	µg/L	0.0282075	-0.5	0.5	yes
Uranium	µg/L	0.0028192	-0.5	0.5	yes
Vanadium	µg/L	-0.011206	-0.1	0.1	yes
Zinc	µg/L	-0.130772	-4	4	yes
Zirconium	µg/L	0.00890128	-1	1	yes
Mercury	µg/L	-0.0005466	-0.054000	0.054000	yes
Date Acquired:	August 24, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Aluminum	mg/L	4.09	3.61	4.45	yes
Calcium	mg/L	52.0	47.6	54.2	yes
Iron	mg/L	2.06	1.90	2.20	yes
Magnesium	mg/L	20.7	18.80	21.80	yes
Manganese	mg/L	0.519	0.472	0.568	yes
Potassium	mg/L	52.7	47.1	54.9	yes
Silicon	mg/L	2.09	1.93	2.19	yes
Sodium	mg/L	50.8	47.5	54.1	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Sulfur	mg/L	10.4	9.2	11.2	yes
Antimony	µg/L	11.9	10.8	13.2	yes
Arsenic	µg/L	11.2	10.4	12.8	yes
Barium	µg/L	58	54	68	yes
Beryllium	µg/L	5.9	5.3	6.5	yes
Bismuth	µg/L	29.5	26.2	35.8	yes
Boron	µg/L	124	102	139	yes
Cadmium	µg/L	0.62	0.543	0.675	yes
Chromium	µg/L	29.7	26.5	33.7	yes
Cobalt	µg/L	5.9	5.2	6.8	yes
Copper	µg/L	58	53	67	yes
Lead	µg/L	5.9	5.2	7.1	yes
Lithium	µg/L	64	53	77	yes
Molybdenum	µg/L	59	56	66	yes
Nickel	µg/L	29.5	27.6	32.8	yes
Selenium	µg/L	10.7	9.7	12.7	yes
Silver	µg/L	5.87	5.39	7.13	yes
Strontium	µg/L	62	55	65	yes
Thallium	µg/L	3.03	2.70	3.60	yes
Tin	µg/L	62	56	66	yes
Titanium	µg/L	30.0	26.6	35.7	yes
Uranium	µg/L	30.3	25.7	36.3	yes
Vanadium	µg/L	6.0	5.1	7.2	yes
Zinc	µg/L	56	53	65	yes
Zirconium	µg/L	62	53	67	yes
Date Acquired:	August 22, 2023				
Antimony	µg/L	39.9	37.5	43.1	yes
Arsenic	µg/L	38.6	36.5	43.5	yes
Barium	µg/L	194	183	212	yes
Beryllium	µg/L	19.8	17.1	21.9	yes
Bismuth	µg/L	102	88.1	107.9	yes
Boron	µg/L	394	343	436	yes
Cadmium	µg/L	2.09	1.910	2.210	yes
Chromium	µg/L	97.4	90.0	110.0	yes
Cobalt	µg/L	19.2	18.1	21.7	yes
Copper	µg/L	195	188	212	yes
Lead	µg/L	19.8	18.5	21.5	yes
Lithium	µg/L	199	173	222	yes
Molybdenum	µg/L	195	182	218	yes
Nickel	µg/L	96.7	90.0	110.0	yes
Selenium	µg/L	39.1	36.7	43.3	yes
Silver	µg/L	19.7	18.00	22.00	yes
Strontium	µg/L	200	171	231	yes
Thallium	µg/L	9.72	9.01	10.99	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Tin	µg/L	201	190	218	yes
Titanium	µg/L	96.8	93.2	107.0	yes
Uranium	µg/L	98.9	90.2	109.0	yes
Vanadium	µg/L	19.4	16.9	22.1	yes
Zinc	µg/L	193	183	218	yes
Zirconium	µg/L	204	188	218	yes
Date Acquired:	August 22, 2023				
Antimony	µg/L	12.0	10.8	13.2	yes
Arsenic	µg/L	11.7	10.8	13.2	yes
Barium	µg/L	59	54	66	yes
Beryllium	µg/L	6.0	5.3	6.5	yes
Bismuth	µg/L	31.2	26.8	32.8	yes
Boron	µg/L	121	108	130	yes
Cadmium	µg/L	0.61	0.546	0.672	yes
Chromium	µg/L	30.2	27.1	32.5	yes
Cobalt	µg/L	6.0	5.3	6.5	yes
Copper	µg/L	60	54	66	yes
Lead	µg/L	6.1	5.4	6.6	yes
Lithium	µg/L	61	54	66	yes
Molybdenum	µg/L	58	53	64	yes
Nickel	µg/L	29.9	26.9	32.9	yes
Selenium	µg/L	11.6	10.7	13.1	yes
Silver	µg/L	5.86	5.38	6.46	yes
Strontium	µg/L	59	54	65	yes
Thallium	µg/L	2.90	2.70	3.30	yes
Tin	µg/L	60	54	66	yes
Titanium	µg/L	29.6	26.9	32.9	yes
Uranium	µg/L	31.6	27.0	33.0	yes
Vanadium	µg/L	6.0	5.6	6.4	yes
Zinc	µg/L	60	55	67	yes
Zirconium	µg/L	60	54	66	yes
Mercury	mg/L	0.000099	0.000070	0.000130	yes
Date Acquired:	August 24, 2023				
Antimony	µg/L	2.0	1.8	2.1	yes
Arsenic	µg/L	1.9	1.8	2.1	yes
Barium	µg/L	10	9	11	yes
Beryllium	µg/L	1.0	0.8	1.1	yes
Bismuth	µg/L	5.1	4.6	5.4	yes
Boron	µg/L	19	18	22	yes
Cadmium	µg/L	0.11	0.087	0.117	yes
Chromium	µg/L	4.8	4.6	5.3	yes
Cobalt	µg/L	1.0	0.9	1.1	yes
Copper	µg/L	10	9	11	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Lead	µg/L	1.0	0.9	1.1	yes
Lithium	µg/L	10	9	11	yes
Molybdenum	µg/L	9	9	10	yes
Nickel	µg/L	4.8	4.6	5.4	yes
Selenium	µg/L	1.9	1.8	2.2	yes
Silver	µg/L	0.96	0.92	1.06	yes
Strontium	µg/L	10	9	11	yes
Thallium	µg/L	0.49	0.44	0.56	yes
Tin	µg/L	10	9	11	yes
Titanium	µg/L	5.1	4.4	5.5	yes
Uranium	µg/L	5.0	4.6	5.4	yes
Vanadium	µg/L	1.0	0.9	1.1	yes
Zinc	µg/L	10	9	11	yes
Zirconium	µg/L	10	9	12	yes
Mercury	mg/L	0.000023	0.000006	0.000036	yes
Date Acquired:	August 24, 2023				
Aluminum	mg/L	20.0	18.88	20.92	yes
Calcium	mg/L	245	231.3	258.9	yes
Iron	mg/L	9.93	9.32	10.28	yes
Magnesium	mg/L	99.3	92.78	104.72	yes
Manganese	mg/L	2.49	2.290	2.590	yes
Potassium	mg/L	251	234.2	261.8	yes
Silicon	mg/L	10.1	9.13	10.93	yes
Sodium	mg/L	244	228.8	269.4	yes
Sulfur	mg/L	152	135.5	165.3	yes
Date Acquired:	August 22, 2023				
Aluminum	mg/L	4.10	3.60	4.40	yes
Calcium	mg/L	51.8	46.5	56.5	yes
Iron	mg/L	2.10	1.87	2.27	yes
Magnesium	mg/L	20.4	18.05	22.07	yes
Manganese	mg/L	0.524	0.466	0.568	yes
Potassium	mg/L	51.1	45.4	55.5	yes
Silicon	mg/L	2.07	1.90	2.10	yes
Sodium	mg/L	51.4	45.9	55.9	yes
Sulfur	mg/L	10.3	9.3	11.3	yes
Date Acquired:	August 22, 2023				
Aluminum	mg/L	0.40	0.36	0.44	yes
Calcium	mg/L	5.2	4.8	5.5	yes
Iron	mg/L	0.21	0.19	0.22	yes
Magnesium	mg/L	2.1	1.84	2.20	yes
Manganese	mg/L	0.051	0.047	0.059	yes
Potassium	mg/L	5.1	4.6	5.6	yes
Silicon	mg/L	0.20	0.17	0.23	yes

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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
Sodium	mg/L	5.2	4.8	5.6		yes
Sulfur	mg/L	3.0	2.8	3.3		yes
Date Acquired:	August 22, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Aluminum	mg/L	0.12	0.11	15	0.03	yes
Calcium	mg/L	47.1	48.0	15	0.6	yes
Iron	mg/L	0.15	0.15	15	0.20	yes
Magnesium	mg/L	14.2	14.5	15	0.40	yes
Manganese	mg/L	0.008	0.008	15	0.010	yes
Potassium	mg/L	0.9	1.0	15	1.2	yes
Silicon	mg/L	2.05	2.05	15	0.10	yes
Sodium	mg/L	4.8	4.8	15	1.2	yes
Sulfur	mg/L	17.1	17.2	15	0.1	yes
Antimony	µg/L	<0.4	<0.4	15	0.4	yes
Arsenic	µg/L	1	1	15	0.4	yes
Barium	µg/L	100	100	15	2	yes
Beryllium	µg/L	<0.2	<0.2	15	0.2	yes
Bismuth	µg/L	<1	<1	15	1.1	yes
Boron	µg/L	140	140	15	4	yes
Cadmium	µg/L	0.03	0.03	15	0.022	yes
Chromium	µg/L	12	12	15	1.1	yes
Cobalt	µg/L	0.5	0.5	15	0.2	yes
Copper	µg/L	3	3	15	2	yes
Lead	µg/L	<0.2	<0.2	15	0.2	yes
Lithium	µg/L	160	150	15	2	yes
Molybdenum	µg/L	3	3	15	2	yes
Nickel	µg/L	4.6	4.4	15	1.1	yes
Selenium	µg/L	5.8	5.8	15	0.4	yes
Silver	µg/L	<0.02	<0.02	15	0.22	yes
Strontium	µg/L	1960	1940	15	2	yes
Thallium	µg/L	<0.1	<0.1	15	0.11	yes
Tin	µg/L	<2	<2	15	2	yes
Titanium	µg/L	<1	1	15	1.1	yes
Uranium	µg/L	25.5	24.8	15	1.1	yes
Vanadium	µg/L	0.9	0.9	15	0.2	yes
Zinc	µg/L	25	25	15	2	yes
Zirconium	µg/L	<2	<2	15	2	yes
Mercury	mg/L	0.000141	0.000133	10	0.000030	yes
Date Acquired:	August 24, 2023					

Mono-Aromatic Hydrocarbons - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Benzene	ng	0	-0.002	0.002	yes
Toluene	ng	0	-0.0015	0.0015	yes

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Mono-Aromatic Hydrocarbons - Water - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ethylbenzene	ng	0	-0.0015	0.0015	yes
Total Xylenes (m,p,o)	ng	0	-0.002	0.002	yes
Styrene	ng	0	-0.002	0.002	yes
Date Acquired:	August 20, 2023				

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Benzene	ng	89.46	80	120	yes
Toluene	ng	91.91	80	120	yes
Ethylbenzene	ng	93.63	80	120	yes
m,p-Xylene	ng	96.37	80	120	yes
Total Xylenes (m,p,o)	ng	95.54	80	120	yes
Styrene	ng	88.78	80	120	yes
Date Acquired:	August 20, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Benzene	mg/L	<0.001	<0.001	30	0.002	yes
Toluene	mg/L	<0.0004	<0.0004	30	0.0020	yes
Ethylbenzene	mg/L	<0.0010	<0.0010	30	0.0020	yes
Total Xylenes (m,p,o)	mg/L	<0.001	<0.001	30	0.002	yes
Styrene	mg/L	<0.001	<0.001	30	0.002	yes
Date Acquired:	August 20, 2023					

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired:	August 23, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	192	176	211	yes
Date Acquired:	August 23, 2023				
Solids	mg/L	21	10	22	yes
Date Acquired:	August 23, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	8	7	10	2	yes
Date Acquired:	August 23, 2023					

Routine Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloride	mg/L	0.33	-0.4	0.4	yes
Calcium	mg/L	0.064973	-0.2	0.2	yes
Magnesium	mg/L	0.0180315	-0.1	0.1	yes
Sodium	mg/L	-0.00776899	-0.4	0.4	yes
Potassium	mg/L	-0.0455354	-0.4	0.4	yes
Date Acquired:	August 21, 2023				

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Routine Water - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloride	mg/L	2010	1847.4	2256.0	yes
Date Acquired: August 21, 2023					
Electrical Conductivity	dS/m	32.3	27.200	36.800	yes
Date Acquired: August 18, 2023					
pH		9.18	8.90	9.44	yes
Temperature of observed	°C	20.1	15.5	24.5	yes
Electrical Conductivity	dS/m	2.74	2.631	2.829	yes
Calcium	mg/L	239	230.0	260.0	yes
Magnesium	mg/L	94.7	92.6	104.6	yes
Sodium	mg/L	241	234.6	259.2	yes
Potassium	mg/L	248	229.0	259.0	yes
Date Acquired: August 21, 2023					
pH		6.86	6.79	6.97	yes
Temperature of observed	°C	19.9	15.5	24.5	yes
Electrical Conductivity	dS/m	0.076	0.069	0.085	yes
Chloride	mg/L	82.9	74.9	86.9	yes
Calcium	mg/L	51.3	44.9	56.9	yes
Magnesium	mg/L	20.2	17.9	22.0	yes
Sodium	mg/L	49.5	47.3	52.7	yes
Potassium	mg/L	50.4	45.8	55.8	yes
Date Acquired: August 21, 2023					
Chloride	mg/L	15.3	13.3	16.5	yes
Calcium	mg/L	5.2	4.7	5.4	yes
Magnesium	mg/L	2.1	1.9	2.2	yes
Sodium	mg/L	5.3	4.7	5.7	yes
Potassium	mg/L	5.1	4.6	5.6	yes
Date Acquired: August 21, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
pH		6.19	6.18	0	0.10	yes
Electrical Conductivity	dS/m	4.77	4.75	10	0.002	yes
Chloride	mg/L	53.9	52.0	10	0.5	yes
Calcium	mg/L	47.6	50.9	10	0.6	yes
Magnesium	mg/L	21.3	22.6	10	0.7	yes
Sodium	mg/L	173	185	10	1.2	yes
Potassium	mg/L	3.0	3.4	10	1.2	yes
Date Acquired: August 21, 2023						

Volatile Petroleum Hydrocarbons - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
F1 -BTEX	ng	0	-0.3	0.3	yes
F1 C6-C10	ng	0	-0.3	0.3	yes
F2 C10-C16	ng	0	-0.3	0.3	yes
Date Acquired: August 20, 2023					

Element
7217 Roper Road NW
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T6B 3J4, Canada

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W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672761**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 29, 2023
Report Number: 2904938

Volatile Petroleum Hydrocarbons - Water - Continued

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit		Passed QC
F2 C10-C16	ng	109.94	80	120		yes
Date Acquired:	August 20, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
F1 C6-C10	mg/L	<0.1	<0.1	30		yes
F2 C10-C16	mg/L	<0.1	<0.1	30		yes
Date Acquired:	August 20, 2023					

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Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1672761**
Control Number:
Date Received: Aug 18, 2023
Date Reported: Aug 29, 2023
Report Number: 2904938

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	Conductivity, 2510 B	Aug 18, 2023	Element Edmonton - Roper Road
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Aug 18, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Aug 23, 2023	Element Edmonton - Roper Road
BTEX-CCME - Water	US EPA	*	Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Aug 20, 2023	Element Calgary
Chloride in Water	APHA	*	Automated Ferricyanide Method, 4500-Cl- E	Aug 21, 2023	Element Edmonton - Roper Road
Mercury (Total) in water	EPA	*	Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry, 245.7	Aug 24, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	APHA/USEPA	*	Metals By Inductively Coupled Plasma/Mass Spectrometry, APHA 3125 B / USEPA 200.2, 200.8	Aug 21, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Aug 21, 2023	Element Edmonton - Roper Road
Metals Trace (Dissolved) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Aug 21, 2023	Element Edmonton - Roper Road
Metals Trace (Total) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Aug 21, 2023	Element Edmonton - Roper Road
Phenol in water	APHA	*	Direct Photometric Method, 5530 D	Aug 18, 2023	Element Edmonton - Roper Road
Phosphorus - Total in Water	APHA	*	Automated Ascorbic Acid Reduction Method, 4500-P F	Aug 21, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Aug 23, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Aug 23, 2023 - Sample 1672761-1; 8783568: Some trace total metal results were less than dissolved metal results for sample 1672761-1. The results were verified and are within expected measurement uncertainty.
- Aug 23, 2023 - Sample 1672761-2; 8783569: TSS: Sample 1672761-2 has two layers and was agitated before filtering.
- Aug 24, 2023 - Samples 1672761-1, -2, & -3 were received in plastic containers which does not meet the sample requirements for Mercury Total Water as specified by the reference method.

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Methodology and Notes

Bill To:	Town of Inuvik Box 1160 2 Firth Street Inuvik, NT, Canada X0E 0T0
Attn:	Accounts Payable
Sampled By:	
Company:	

Project ID:	SNP 0036-4, 5 & 9
Project Name:	
Project Location:	Inuvik
LSD:	
P.O.:	100104
Proj. Acct. code:	

Lot ID:	**1672761**
Control Number:	
Date Received:	Aug 18, 2023
Date Reported:	Aug 29, 2023
Report Number:	2904938

element
www.Element.com

Project Information

Project ID:	SNP 0036-4,5 & 9
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	David Kendi
Phone:	(867) 777-8600
Cell:	(867) 678-5384
Fax:	(867) 777-8601
E-mail:	utilidor@inuvik.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by:
Company:

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

Signature:
Date/Time:

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	CCMEBF12W	Total Metal + Total Mecury	pH	CBOD5	Suspended Solids	Total Phosphate	Sulphate	Total Phenols	Conductivity	Dissolved S.P.C		
											Enter tests above (✓ relevant samples below)											
1	SNP0036-4	Pit N/W of Dump	2		in	Aug 16 9:02		Dip	8		x	x	x	x	x	x	x	x	x	x		
2	SNP0036-5	Pond S/E of Dump	3		in	Aug 16 8:40a		Dip	8		x	x	x	x	x	x	x	x	x	x		
3	SNP0036-9	Creek N/W of Dump	4		in	Aug 16 9:17a		Dip	8		x	x	x	x	x	x	x	x	x	x		
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Please indicate any potentially hazardous samples

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Page _____ of _____ Control #

ED 120-005

Lot: 1672761 COC

Temp. received: 6.1 °C

Date/Time stamp: AUG 18 2016 7:24

Delivery Method: Hand

Waybill:

Received by:

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

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F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By:
Company:

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678807**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 22, 2023
Report Number: 2913552

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

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W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By:
Company:

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678807**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 22, 2023
Report Number: 2913552

Reference Number	1678807-1
Sample Date	Sep 12, 2023
Sample Time	09:15
Sample Location	
Sample Description	Yearly THM Sample / Truck Fill / 3.4°C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trihalomethanes Screen - Water						
Chloroform		mg/L	0.068			0.001
Bromodichloromethane		mg/L	0.008			0.001
Dibromochloromethane		mg/L	<0.001			0.001
Bromoform		mg/L	<0.001			0.001
Total Trihalomethanes		mg/L	0.076			0.001
Trihalomethanes - Surrogate Recovery						
Dibromofluoromethane	EPA Surrogate	%	140			50-140
Toluene-d8	EPA Surrogate	%	100			50-140
Bromofluorobenzene	EPA Surrogate	%	101			50-140

Approved by:

Jimmy Tran
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By:
Company:

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678807**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 22, 2023
Report Number: 2913552

Trihalomethanes - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Dibromofluoromethane	%	127.4	50	140	yes
Toluene-d8	%	103.21	50	140	yes
Bromofluorobenzene	%	101.29	50	140	yes

Date Acquired: September 19, 2023

Trihalomethanes Screen - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	0	-0.002	0.002	yes
Bromodichloromethane	ng	0	-0.002	0.002	yes
Dibromochloromethane	ng	0	-0.002	0.002	yes
Bromoform	ng	0	-0.002	0.002	yes

Date Acquired: September 19, 2023

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	117.00	80	120	yes
Bromodichloromethane	ng	106.60	80	120	yes
Dibromochloromethane	ng	93.00	80	120	yes
Bromoform	ng	106.00	80	120	yes

Date Acquired: September 19, 2023

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T1Y 5L3, Canada

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Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By:
Company:

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678807**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 22, 2023
Report Number: 2913552

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
THM - Water	US EPA	*	Volatile Organic Compounds by GCMS / Purge and Trap for Aqueous Samples, 8260B/5030B	Sep 19, 2023	Element Calgary

** Reference Method Modified*

References

US EPA — US Environmental Protection Agency Test Methods

element
www.Element.com

Project Information

Project ID:	Yearly Samples
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	Rick Campbell
Phone:	(867) 777-8615
Cell:	(867) 678-5388
Fax:	(867) 777-8601
E-mail:	rcampbell@town.inuvik.nt.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by:
Company:
I authorize Element to proceed with the work indicated on this form:
Signature:
Date/Time:

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Free Res	Total Res	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	THM	Enter tests above (✓ relevant samples below)
1	Yearly THM Sample	Truck Fill			01-12-23 915			Grab	2		x	
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Please indicate any potentially hazardous samples

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Page _____ of _____ Control #

ED 120-005

Indicate lot # or affix barcode here

Lot: 1678807 COC

Temp. received: 3.4 °C

Date/Time stamp: SEP 14 2023

Delivery Method: HAND

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

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F: +1 (780) 434-8586
E: info.Edmonton@element.com
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Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678810**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913558

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Sep 20, 2023 - Sample 1678810-1; 8835209: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

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T6B 3J4, Canada

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678810**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913558

Reference Number	1678810-1
Sample Date	Sep 12, 2023
Sample Time	09:25
Sample Location	
Sample Description	SNP0036-3 / Sewage Lagoon / 3.4°c
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	14			4
Oil and Grease	Total	mg/L	6			5
pH adjustment	adjustment required		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	3.09			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.0393			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	560			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	26			2
Routine Water						
pH	15 °C	pH	7.67			
Temperature of observed pH		°C	15			
pH			7.65			1
Temperature of observed pH		°C	19.2			

Approved by:

Benjamin Morris, B.Sc
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678810**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913558

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Sep 15, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Sep 20, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Sep 15, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Sep 15, 2023	Element Calgary
Oil and Grease in water	US EPA	*	n-Hexane Extractable Material and Silica Gel Treated n-Hexane Extractable Material by Extraction and Gravimetry, 1664	Sep 19, 2023	Element Edmonton - Roper Road
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Sep 20, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Sep 18, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Sep 20, 2023 - Sample 1678810-1; 8835209: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

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Project Information

Project ID:	SNP 0036-3
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	David Kendi
Phone:	(867) 777-8600
Cell:	(867) 678-5384
Fax:	(867) 777-8601
E-mail:	utilidor@inuvik.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by:
Company:
I authorize Element to proceed with the work indicated on this form:
Signature:
Date/Time:

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil and Grease							
											Enter tests above (✓ relevant samples below)												
1	SNP0036-3	Sewage Lagoon				09-12-23 · 925		Dip	5		x	x	x	x	x	x							
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

Please indicate any potentially hazardous samples

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Page _____ of _____ Control #

ED 120-005

Lot: 1678810 COC

Temp. received: 3h °C

Date/Time stamp: SEP 14 2023

Delivery Method: Hand

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By:
Company:

Project ID: SNP 0036-6,7 & 8
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678814**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913562

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Sep 15, 2023 - Upon receipt, sample 1-3 had exceeded recommended holding time for bacterial analysis. Samples were received within 0-10°C. Proceeding as per agreement.

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T6B 3J4, Canada

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W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By:
Company:

Project ID: SNP 0036-6,7 & 8
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678814**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913562

Reference Number	1678814-1	1678814-2	1678814-3
Sample Date	Sep 12, 2023	Sep 12, 2023	Sep 12, 2023
Sample Time	09:00	08:35	08:45
Sample Location			
Sample Description	SNP0036-6 / Gate Pond / 3.4°c	SNP0036-7 / Far Pond / 3.4°c	SNP0036-8 / Twin Lakes / 3.4°c
Matrix	Water	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	<4	<4	<4	4
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	3.32	<0.025	12.6	0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.158	<0.0012	0.288	
Ammonium/Ammonia Preservation			Yes	Yes	Yes	
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	<10	<10	<10	1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	2	16	2	2
Routine Water						
pH	15 °C	pH	8.26	8.27	7.93	
Temperature of observed pH		°C	15	15	15	
pH			7.97	8.01	7.80	1
Temperature of observed pH		°C	19.3	19.3	19.2	

Approved by:

Benjamin Morris, B.Sc
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By:
Company:

Project ID: SNP 0036-6,7 & 8
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678814**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913562

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Sep 15, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Sep 19, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Sep 15, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Sep 15, 2023	Element Calgary
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Sep 20, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Sep 18, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

APHA Standard Methods for the Examination of Water and Wastewater

Comments:

- Sep 15, 2023 - Upon receipt, sample 1-3 had exceeded recommended holding time for bacterial analysis. Samples were received within 0-10°C. Proceeding as per agreement.

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www.Element.com

Project Information

Project ID:	SNP 0036-6,7 & 8
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	Rick Campbell
Phone:	(867) 777-8615
Cell:	(867) 678-5388
Fax:	(867) 777-8601
E-mail:	rcampbell@town.inuvik.nt.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by:
Company:

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

Signature:
Date/Time:

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Enter tests above (✓ relevant samples below)
1	SNP0036-6	Gate Pond				09-12-23 900		Dip	4		x	x	x	x	x	
2	SNP0036-7	Far Pond				09-12-23 835		Dip	4		x	x	x	x	x	
3	SNP0036-8	Twin Lakes				09-12-23 845		Dip	4		x	x	x	x	x	
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

Please indicate any potentially hazardous samples

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Page _____ of _____ Control #

ED 120-005

Lot: 1678814 COC

Temp. received: 3.9 °C

Date/Time stamp:

Delivery Method: HAND

Waybill:

Received by:

Element
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Edmonton, Alberta
T6B 3J4, Canada

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Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678835**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 20, 2023
Report Number: 2913594

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Sep 18, 2023 - Sample 1678835-2; 8835387: TSS: There were two layers in the sample. The sample was agitated prior to pouring.
- Sep 19, 2023 - Some trace total metal results were less than dissolved metal results for sample 1678835-3. The results were verified and are within expected measurement uncertainty.

Element
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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678835**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 20, 2023
Report Number: 2913594

Reference Number	1678835-1	1678835-2	1678835-3
Sample Date	Sep 12, 2023	Sep 12, 2023	Sep 12, 2023
Sample Time	09:08	08:30	09:23
Sample Location			
Sample Description	SNP0036-4 / Pit N/W of Dump / 3 / IN / 3.4°C	SNP0036-5 / Pond S/E of Dump / 2 / IN / 3.4°C	SNP0036-9 / Creek N/W of Dump / 10 / IN / 3.4°C
Matrix	Water	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	4	163	<4	4
Phenol		mg/L	0.001	<0.001	<0.001	0.001
Inorganic Nonmetallic Parameters						
Phosphorus	Total	mg/L	<0.05	0.35	<0.05	0.05
Metals Dissolved						
Subsample			Lab Filtered	Lab Filtered	Lab Filtered	
Metals Total						
Aluminum	Total	mg/L	0.08	40.2	0.08	0.02
Calcium	Total	mg/L	215	249	27.1	0.2
Iron	Total	mg/L	0.79	127	0.45	0.05
Magnesium	Total	mg/L	123	64.1	11.0	0.2
Manganese	Total	mg/L	0.519	4.96	0.100	0.005
Potassium	Total	mg/L	34.4	23.7	0.9	0.4
Silicon	Total	mg/L	4.53	48.7	1.34	0.05
Sodium	Total	mg/L	172	21.3	9.9	0.4
Sulfur	Total	mg/L	209	237	30.6	0.3
Mercury	Total	mg/L	0.000013	0.000011	0.000023	0.000005
Antimony	Total	mg/L	0.0003	<0.002	<0.0002	0.0002
Arsenic	Total	mg/L	0.0015	0.058	0.0007	0.0002
Barium	Total	mg/L	0.100	0.99	0.012	0.001
Beryllium	Total	mg/L	<0.0001	0.002	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.005	<0.0005	0.0005
Boron	Total	mg/L	1.12	0.68	0.028	0.002
Cadmium	Total	mg/L	0.00001	0.0020	<0.00001	0.00001
Chromium	Total	mg/L	0.0010	0.079	<0.0005	0.0005
Cobalt	Total	mg/L	0.0010	0.066	0.0002	0.0001
Copper	Total	mg/L	0.001	0.14	0.002	0.001
Lead	Total	mg/L	0.0002	0.048	<0.0001	0.0001
Lithium	Total	mg/L	0.049	0.10	0.009	0.001
Molybdenum	Total	mg/L	0.001	<0.01	<0.001	0.001
Nickel	Total	mg/L	0.0102	0.168	0.0065	0.0005
Selenium	Total	mg/L	0.0003	0.006	<0.0002	0.0002
Silver	Total	mg/L	<0.00001	0.0005	<0.00001	0.00001
Strontium	Total	mg/L	0.837	0.92	0.093	0.001
Thallium	Total	mg/L	<0.00005	0.0006	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.01	<0.001	0.001

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678835**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 20, 2023
Report Number: 2913594

Reference Number	1678835-1	1678835-2	1678835-3
Sample Date	Sep 12, 2023	Sep 12, 2023	Sep 12, 2023
Sample Time	09:08	08:30	09:23
Sample Location			
Sample Description	SNP0036-4 / Pit N/W of Dump / 3 / IN / 3.4°C	SNP0036-5 / Pond S/E of Dump / 2 / IN / 3.4°C	SNP0036-9 / Creek N/W of Dump / 10 / IN / 3.4°C
Matrix	Water	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Titanium	Total	mg/L	0.0044	0.167	0.0009	0.0005
Uranium	Total	mg/L	0.0011	<0.005	<0.0005	0.0005
Vanadium	Total	mg/L	0.0012	0.194	0.0003	0.0001
Zinc	Total	mg/L	<0.004	1.09	0.004	0.004
Zirconium	Total	mg/L	<0.001	<0.01	<0.001	0.001
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	176	5360	2	2
Routine Water						
pH			7.83	6.96	7.03	1
Temperature of observed pH		°C	19.0	19.5	19.6	
Electrical Conductivity	at 25 °C	µS/cm	2290	1090	267	1
Electrical Conductivity	at 25 °C	dS/m	2.29	1.09	0.267	0.001
Calcium	Dissolved	meq/L	10.7	7.54	1.34	0.01
Calcium	Dissolved	mg/L	214	151	26.8	0.2
Magnesium	Dissolved	meq/L	10.1	3.64	0.91	0.01
Magnesium	Dissolved	mg/L	123	44.3	11.1	0.2
Sodium	Dissolved	meq/L	7.47	0.90	0.43	0.02
Sodium	Dissolved	mg/L	172	20.6	9.9	0.4
Potassium	Dissolved	meq/L	0.88	0.32	0.03	0.01
Potassium	Dissolved	mg/L	34.6	12.6	1.0	0.4
Chloride	Dissolved	mg/L	117	23.8	3.8	0.4
Chloride		meq/L	3.31	0.67	0.11	0.01
Sulfate (SO4)	Dissolved	mg/L	591	440	90.3	0.9
Sulfate-S		meq/L	12.3	9.14	1.88	
Sulfate-S	Dissolved	mg/L	197	147	30.1	0.3
Total Dissolved Solids	Estimated	mg/L	1470	695	171	1
SAR	Dissolved		2.3	0.4	0.4	
Mono-Aromatic Hydrocarbons - Water						
Benzene		mg/L	<0.001	<0.001	<0.001	0.001
Toluene		mg/L	<0.0004	<0.0004	<0.0004	0.0004
Ethylbenzene		mg/L	<0.0010	<0.0010	<0.0010	0.0010
Total Xylenes (m,p,o)		mg/L	<0.001	<0.001	<0.001	0.001
4-Bromofluorobenzene	Surrogate	%	98	91	88	70-130
Toluene-d8	Surrogate	%	94	102	100	70-130
Volatile Petroleum Hydrocarbons - Water						
F1 -BTEX		mg/L	<0.1	<0.1	<0.1	0.1

Element
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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678835**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 20, 2023
Report Number: 2913594

Reference Number	1678835-1	1678835-2	1678835-3
Sample Date	Sep 12, 2023	Sep 12, 2023	Sep 12, 2023
Sample Time	09:08	08:30	09:23
Sample Location			
Sample Description	SNP0036-4 / Pit N/W of Dump / 3 / IN / 3.4°C	SNP0036-5 / Pond S/E of Dump / 2 / IN / 3.4°C	SNP0036-9 / Creek N/W of Dump / 10 / IN / 3.4°C
Matrix	Water	Water	Water

Analyte	Units	Results	Results	Results	Nominal Detection Limit
Volatile Petroleum Hydrocarbons - Water - Continued					
F1 C6-C10	mg/L	<0.1	<0.1	<0.1	0.1
F2 C10-C16	mg/L	<0.1	<0.1	<0.1	0.1

Approved by:

Jimmy Tran
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Element
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Methodology and Notes

Bill To: Town of Inuvik
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X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-4, 5 & 9
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678835**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 20, 2023
Report Number: 2913594

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	Conductivity, 2510 B	Sep 15, 2023	Element Edmonton - Roper Road
Alkalinity, pH, and EC in water	APHA	*	Conductivity, 2510 B	Sep 15, 2023	Element Edmonton - Roper Road
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Sep 15, 2023	Element Edmonton - Roper Road
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Sep 15, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Sep 15, 2023	Element Edmonton - Roper Road
BTEX-CCME - Water	US EPA	*	Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis/Gas Chromatography Mass Spectrometry, 5021/8260	Sep 18, 2023	Element Calgary
Chloride in Water	APHA	*	Automated Ferricyanide Method, 4500-Cl- E	Sep 15, 2023	Element Edmonton - Roper Road
Mercury (Total) in water	EPA	*	Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry, 245.7	Sep 19, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	APHA/USEPA	*	Metals By Inductively Coupled Plasma/Mass Spectrometry, APHA 3125 B / USEPA 200.2, 200.8	Sep 14, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Sep 14, 2023	Element Edmonton - Roper Road
Metals Trace (Dissolved) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Sep 15, 2023	Element Edmonton - Roper Road
Metals Trace (Total) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Sep 14, 2023	Element Edmonton - Roper Road
Phenol in water	APHA	*	Direct Photometric Method, 5530 D	Sep 18, 2023	Element Edmonton - Roper Road
Phosphorus - Total in Water	APHA	*	Automated Ascorbic Acid Reduction Method, 4500-P F	Sep 15, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Sep 18, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Sep 18, 2023 - Sample 1678835-2; 8835387: TSS: There were two layers in the sample. The sample was agitated prior to pouring.
- Sep 19, 2023 - Some trace total metal results were less than dissolved metal results for sample 1678835-3. The results were verified and are within expected measurement uncertainty.

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Methodology and Notes

Bill To:	Town of Inuvik Box 1160 2 Firth Street Inuvik, NT, Canada X0E 0T0
Attn:	Utilidor
Sampled By:	
Company:	

Project ID:	SNP 0036-4, 5 & 9
Project Name:	
Project Location:	Inuvik, NT
LSD:	
P.O.:	100104
Proj. Acct. code:	

Lot ID:	**1678835**
Control Number:	
Date Received:	Sep 14, 2023
Date Reported:	Sep 20, 2023
Report Number:	2913594

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Project Information

Project ID:	SNP 0036-4,5 & 9
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	David Kendi
Phone:	(867) 777-8600
Cell:	(867) 678-5384
Fax:	(867) 777-8601
E-mail:	utilidor@inuvik.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by:
Company:
I authorize Element to proceed with the work indicated on this form:
Signature:
Date/Time:

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

Sept 12, 2023

	Site I.D.	Sample Description	Depth start	Depth end	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	CCMEBF12W	Total Metal + Total Mecury	pH	CBOD5	Suspended Solids	Total Phosphate	Sulphate	Total Phenols	Conductivity	Dissolved S.P.C
											Enter tests above (✓ relevant samples below)									
1	SNP0036-4	Pit N/W of Dump	3		in	9:05 am		Dip	8		x	x	x	x	x	x	x	x	x	x
2	SNP0036-5	Pond S/E of Dump	7		in	8:50 am		Dip	8		x	x	x	x	x	x	x	x	x	x
3	SNP0036-9	Creek N/W of Dump	10		in	9:23 am		Dip	8		x	x	x	x	x	x	x	x	x	x
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page _____ of _____ Control #

ED 120-005

Lot: 1678835 COC

Temp. received: 3.4 °C

Date/Time stamp:

Delivery Method: hand

Waybill:

Received by:

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Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678847**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913609

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Sep 19, 2023 - Some trace total metal results were less than dissolved metal results for sample 1678847-1. The results were verified and are within expected measurement uncertainty.

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678847**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913609

Reference Number	1678847-1	1678847-2
Sample Date	Sep 12, 2023	Sep 12, 2023
Sample Time	09:43	09:47
Sample Location		
Sample Description	Treated / ECWTP / 3.4°c	Raw / ECWTP / 3.4°c
Matrix	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Organic Carbon	Total Nonpurgeable	mg/L	3.1	4.7		0.5
Organic Carbon	Dissolved Nonpurgeable	mg/L	2.4	4.1		0.5
Cyanide	Dissolved	mg/L	<0.002	<0.002		0.002
Metals Dissolved						
Subsample			Lab Filtered	Lab Filtered		
Metals Total						
Aluminum	Total	mg/L	0.06	0.28		0.02
Calcium	Total	mg/L	41.3	42.2		0.2
Iron	Total	mg/L	<0.05	0.40		0.05
Magnesium	Total	mg/L	11.7	12.2		0.2
Manganese	Total	mg/L	<0.005	0.016		0.005
Potassium	Total	mg/L	0.9	0.9		0.4
Silicon	Total	mg/L	1.57	2.01		0.05
Sodium	Total	mg/L	10.8	9.1		0.4
Sulfur	Total	mg/L	18.5	18.1		0.3
Mercury	Total	mg/L	0.000020	0.000067		0.000005
Antimony	Total	mg/L	<0.0002	<0.0002		0.0002
Arsenic	Total	mg/L	0.0003	0.0006		0.0002
Barium	Total	mg/L	0.059	0.067		0.001
Beryllium	Total	mg/L	<0.0001	<0.0001		0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005		0.0005
Boron	Total	mg/L	0.015	0.016		0.002
Cadmium	Total	mg/L	<0.00001	0.00002		0.00001
Chromium	Total	mg/L	<0.0005	0.0006		0.0005
Cobalt	Total	mg/L	<0.0001	0.0002		0.0001
Copper	Total	mg/L	0.304	0.002		0.001
Lead	Total	mg/L	0.0004	0.0003		0.0001
Lithium	Total	mg/L	0.005	0.006		0.001
Molybdenum	Total	mg/L	0.001	0.001		0.001
Nickel	Total	mg/L	0.0011	0.0018		0.0005
Selenium	Total	mg/L	0.0004	0.0004		0.0002
Silver	Total	mg/L	<0.00001	<0.00001		0.00001
Strontium	Total	mg/L	0.267	0.269		0.001
Thallium	Total	mg/L	<0.00005	<0.00005		0.00005
Tin	Total	mg/L	<0.001	<0.001		0.001
Titanium	Total	mg/L	<0.0005	0.0062		0.0005
Uranium	Total	mg/L	<0.0005	0.0009		0.0005

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678847**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913609

Reference Number	1678847-1	1678847-2
Sample Date	Sep 12, 2023	Sep 12, 2023
Sample Time	09:43	09:47
Sample Location		
Sample Description	Treated / ECWTP / 3.4°c	Raw / ECWTP / 3.4°c
Matrix	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Vanadium	Total	mg/L	0.0002	0.0011		0.0001
Zinc	Total	mg/L	0.041	<0.004		0.004
Physical and Aggregate Properties						
Colour	Apparent, Potable	Colour units	<5	15		5
Turbidity		NTU	0.6	12.6		0.1
Solids	Total Suspended	mg/L	<2	10		2
Routine Water						
pH			7.33	7.92		1
Temperature of observed pH		°C	19.3	19.1		
Electrical Conductivity	at 25 °C	µS/cm	345	324		1
Calcium	Dissolved	mg/L	41.3	41.0		0.2
Magnesium	Dissolved	mg/L	11.9	11.9		0.2
Sodium	Dissolved	mg/L	10.6	9.1		0.4
Potassium	Dissolved	mg/L	1.0	1.0		0.4
Iron	Dissolved	mg/L	<0.01	<0.01		0.01
Manganese	Dissolved	mg/L	<0.005	<0.005		0.005
Chloride	Dissolved	mg/L	20.0	9.6		0.4
Fluoride		mg/L	0.06	<0.05		0.05
Nitrate - N		mg/L	0.02	0.02		0.01
Nitrite - N		mg/L	<0.005	<0.005		0.005
Nitrate and Nitrite - N		mg/L	0.02	0.02		0.01
Sulfate (SO4)	Dissolved	mg/L	55.6	52.4		0.9
Hydroxide		mg/L	<5	<5		
Carbonate		mg/L	<6	<6		
Bicarbonate		mg/L	111	119		
P-Alkalinity	as CaCO3	mg/L	<5	<5		5
T-Alkalinity	as CaCO3	mg/L	91	98		5
Total Dissolved Solids	Calculated	mg/L	195	184		1
Hardness	Dissolved as CaCO3	mg/L	152	151		
Ionic Balance	Dissolved	%	100	104		

Approved by:

Benjamin Morris, B.Sc
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

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Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678847**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913609

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Organic Carbon	mg/L	0.3296	-0.5	0.5	yes
Cyanide	mg/L	0	-0.002	0.002	yes
Date Acquired:	September 20, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Organic Carbon	mg/L	<0.5	-0.5	0.5	yes
Date Acquired:	September 14, 2023				
Organic Carbon	mg/L	124	110.2	134.8	yes
Cyanide	mg/L	0.073	0.065	0.085	yes
Date Acquired:	September 20, 2023				
Organic Carbon	mg/L	15.3	12.8	17.2	yes
Cyanide	mg/L	0.014	0.013	0.018	yes
Date Acquired:	September 20, 2023				
Organic Carbon	mg/L	3.4	2.4	3.6	yes
Date Acquired:	September 14, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Organic Carbon	mg/L	10.1	10.1	10	1.0	yes
Cyanide	mg/L	<0.002	<0.002	10	0.002	yes
Date Acquired:	September 20, 2023					

Metals Dissolved

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Sulfur	mg/L	0.0240408	-0.3	0.2	yes
Date Acquired:	September 15, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Sulfur	mg/L	149	141.6	156.6	yes
Date Acquired:	September 15, 2023				
Sulfur	mg/L	10.2	9.1	10.6	yes
Date Acquired:	September 15, 2023				
Sulfur	mg/L	2.9	2.7	3.1	yes
Date Acquired:	September 15, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Sulfur	mg/L	18.4	18.3	10	0.1	yes
Date Acquired:	September 15, 2023					

Metals Total

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Antimony	µg/L	0.000774268	-0.2	0.2	yes
Arsenic	µg/L	-0.011618	-0.2	0.2	yes
Barium	µg/L	0.0670466	-1	1	yes
Beryllium	µg/L	-7.01639e-005	-0.1	0.1	yes
Bismuth	µg/L	0.0064688	-0.5	0.5	yes

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Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678847**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913609

Metals Total - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Boron	µg/L	1.48778	-2	2	yes
Cadmium	µg/L	-0.000732095	-0.010	0.010	yes
Chromium	µg/L	0.0669978	-0.5	0.5	yes
Cobalt	µg/L	0.00119088	-0.1	0.1	yes
Copper	µg/L	0.0234541	-1	1	yes
Lead	µg/L	0.00191285	-0.1	0.1	yes
Lithium	µg/L	0.0488175	-1	1	yes
Molybdenum	µg/L	0.0562924	-1	1	yes
Nickel	µg/L	0.0828142	-0.5	0.5	yes
Selenium	µg/L	0.00639671	-0.2	0.2	yes
Silver	µg/L	-0.000317414	-0.01	0.01	yes
Strontium	µg/L	0.0306057	-1	1	yes
Thallium	µg/L	0.000339628	-0.05	0.05	yes
Tin	µg/L	-0.00225381	-1	1	yes
Titanium	µg/L	-0.0178415	-0.5	0.5	yes
Uranium	µg/L	0.00301536	-0.5	0.5	yes
Vanadium	µg/L	-0.00956115	-0.1	0.1	yes
Zinc	µg/L	0.0224808	-4	4	yes
Aluminum	mg/L	-0.0136044	-0.02	0.02	yes
Calcium	mg/L	-0.00716158	-0.1	0.1	yes
Iron	mg/L	-0.00270852	-0.01	0.02	yes
Magnesium	mg/L	-0.000927827	-0.04	0.04	yes
Manganese	mg/L	-0.000279449	-0.005	0.005	yes
Potassium	mg/L	-0.104799	-0.1	0.2	yes
Silicon	mg/L	0.00119711	-0.03	0.04	yes
Sodium	mg/L	0.0614238	-0.4	0.4	yes
Sulfur	mg/L	0.0289332	-0.1	0.2	yes
Mercury	µg/L	-0.0003041	-0.054000	0.054000	yes

Date Acquired: September 19, 2023

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Antimony	µg/L	11.8	10.8	13.2	yes
Arsenic	µg/L	11.4	10.4	12.8	yes
Barium	µg/L	61	54	68	yes
Beryllium	µg/L	6.2	5.3	6.5	yes
Bismuth	µg/L	30.2	26.2	35.8	yes
Boron	µg/L	125	102	139	yes
Cadmium	µg/L	0.60	0.543	0.675	yes
Chromium	µg/L	30.2	26.5	33.7	yes
Cobalt	µg/L	6.1	5.2	6.8	yes
Copper	µg/L	60	53	67	yes
Lead	µg/L	6.1	5.2	7.1	yes
Lithium	µg/L	60	53	77	yes
Molybdenum	µg/L	62	56	66	yes
Nickel	µg/L	31.0	27.6	32.8	yes

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Quality Control

Bill To: Town of Inuvik
Box 1160
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Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678847**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913609

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Selenium	µg/L	11.4	9.7	12.7	yes
Silver	µg/L	6.19	5.39	7.13	yes
Strontium	µg/L	60	55	65	yes
Thallium	µg/L	2.98	2.70	3.60	yes
Tin	µg/L	62	56	66	yes
Titanium	µg/L	30.5	26.6	35.7	yes
Uranium	µg/L	30.2	25.7	36.3	yes
Vanadium	µg/L	6.2	5.1	7.2	yes
Zinc	µg/L	57	53	65	yes
Aluminum	mg/L	4.06	3.61	4.45	yes
Iron	mg/L	2.04	1.90	2.20	yes
Magnesium	mg/L	20.2	18.80	21.80	yes
Manganese	mg/L	0.521	0.472	0.568	yes
Potassium	mg/L	50.0	47.1	54.9	yes
Silicon	mg/L	2.04	1.93	2.19	yes
Sodium	mg/L	50.5	47.5	54.1	yes
Sulfur	mg/L	10.1	9.2	11.2	yes
Date Acquired:	September 14, 2023				
Antimony	µg/L	39.7	37.5	43.1	yes
Arsenic	µg/L	40.5	36.5	43.5	yes
Barium	µg/L	198	183	212	yes
Beryllium	µg/L	20.0	17.1	21.9	yes
Bismuth	µg/L	97.2	88.1	107.9	yes
Boron	µg/L	391	343	436	yes
Cadmium	µg/L	2.04	1.910	2.210	yes
Chromium	µg/L	102	90.0	110.0	yes
Cobalt	µg/L	20.5	18.1	21.7	yes
Copper	µg/L	202	188	212	yes
Lead	µg/L	19.7	18.5	21.5	yes
Lithium	µg/L	198	173	222	yes
Molybdenum	µg/L	201	182	218	yes
Nickel	µg/L	102	90.0	110.0	yes
Selenium	µg/L	38.3	36.7	43.3	yes
Silver	µg/L	20.5	18.00	22.00	yes
Strontium	µg/L	201	171	231	yes
Thallium	µg/L	9.74	9.01	10.99	yes
Tin	µg/L	202	190	218	yes
Titanium	µg/L	102	93.2	107.0	yes
Uranium	µg/L	98.1	90.2	109.0	yes
Vanadium	µg/L	20.6	16.9	22.1	yes
Zinc	µg/L	199	183	218	yes
Date Acquired:	September 14, 2023				
Antimony	µg/L	11.7	10.8	13.2	yes

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Quality Control

Bill To: Town of Inuvik
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X0E 0T0
Attn: Utilidor
Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1678847**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913609

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Arsenic	µg/L	12.0	10.8	13.2	yes
Barium	µg/L	60	54	66	yes
Beryllium	µg/L	6.0	5.3	6.5	yes
Bismuth	µg/L	29.4	26.8	32.8	yes
Boron	µg/L	122	108	130	yes
Cadmium	µg/L	0.60	0.546	0.672	yes
Chromium	µg/L	30.2	27.1	32.5	yes
Cobalt	µg/L	6.1	5.3	6.5	yes
Copper	µg/L	61	54	66	yes
Lead	µg/L	6.0	5.4	6.6	yes
Lithium	µg/L	61	54	66	yes
Molybdenum	µg/L	59	53	64	yes
Nickel	µg/L	30.2	26.9	32.9	yes
Selenium	µg/L	11.3	10.7	13.1	yes
Silver	µg/L	6.07	5.38	6.46	yes
Strontium	µg/L	60	54	65	yes
Thallium	µg/L	2.97	2.70	3.30	yes
Tin	µg/L	60	54	66	yes
Titanium	µg/L	30.9	26.9	32.9	yes
Uranium	µg/L	29.6	27.0	33.0	yes
Vanadium	µg/L	6.2	5.6	6.4	yes
Zinc	µg/L	60	55	67	yes
Mercury	mg/L	0.000100	0.000070	0.000130	yes
Date Acquired:	September 19, 2023				
Antimony	µg/L	1.9	1.8	2.1	yes
Arsenic	µg/L	2.0	1.8	2.1	yes
Barium	µg/L	10	9	11	yes
Beryllium	µg/L	1.1	0.8	1.1	yes
Bismuth	µg/L	4.9	4.6	5.4	yes
Boron	µg/L	20	18	22	yes
Cadmium	µg/L	0.10	0.087	0.117	yes
Chromium	µg/L	5.1	4.6	5.3	yes
Cobalt	µg/L	1.0	0.9	1.1	yes
Copper	µg/L	10	9	11	yes
Lead	µg/L	1.0	0.9	1.1	yes
Lithium	µg/L	10	9	11	yes
Molybdenum	µg/L	10	9	10	yes
Nickel	µg/L	5.2	4.6	5.4	yes
Selenium	µg/L	1.9	1.8	2.2	yes
Silver	µg/L	0.99	0.92	1.06	yes
Strontium	µg/L	10	9	11	yes
Thallium	µg/L	0.50	0.44	0.56	yes
Tin	µg/L	10	9	11	yes
Titanium	µg/L	5.1	4.4	5.5	yes

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Control Number:
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Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Uranium	µg/L	4.9	4.6	5.4	yes
Vanadium	µg/L	1.1	0.9	1.1	yes
Zinc	µg/L	10	9	11	yes
Mercury	mg/L	0.000021	0.000006	0.000036	yes
Date Acquired:	September 19, 2023				
Aluminum	mg/L	19.5	18.88	20.92	yes
Calcium	mg/L	239	231.3	258.9	yes
Iron	mg/L	9.60	9.32	10.28	yes
Magnesium	mg/L	97.2	92.78	104.72	yes
Manganese	mg/L	2.44	2.290	2.590	yes
Potassium	mg/L	244	234.2	261.8	yes
Silicon	mg/L	9.82	9.13	10.93	yes
Sodium	mg/L	239	228.8	269.4	yes
Sulfur	mg/L	147	135.5	165.3	yes
Date Acquired:	September 14, 2023				
Aluminum	mg/L	3.88	3.60	4.40	yes
Calcium	mg/L	48.9	46.5	56.5	yes
Iron	mg/L	1.98	1.87	2.27	yes
Magnesium	mg/L	19.4	18.05	22.07	yes
Manganese	mg/L	0.502	0.466	0.568	yes
Potassium	mg/L	47.9	45.4	55.5	yes
Silicon	mg/L	1.94	1.90	2.10	yes
Sodium	mg/L	48.7	45.9	55.9	yes
Sulfur	mg/L	9.5	9.3	11.3	yes
Date Acquired:	September 14, 2023				
Aluminum	mg/L	0.39	0.36	0.44	yes
Calcium	mg/L	5.0	4.8	5.5	yes
Iron	mg/L	0.20	0.19	0.22	yes
Magnesium	mg/L	2.1	1.84	2.20	yes
Manganese	mg/L	0.051	0.047	0.059	yes
Potassium	mg/L	4.8	4.6	5.6	yes
Silicon	mg/L	0.20	0.17	0.23	yes
Sodium	mg/L	5.2	4.8	5.6	yes
Sulfur	mg/L	2.8	2.8	3.3	yes
Date Acquired:	September 14, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Antimony	µg/L	0.3	0.3	15	0.4	yes
Arsenic	µg/L	1.5	1.6	15	0.4	yes
Barium	µg/L	100	103	15	2	yes
Beryllium	µg/L	<0.1	<0.1	15	0.2	yes
Bismuth	µg/L	<0.5	<0.5	15	1.1	yes
Boron	µg/L	1120	1150	15	4	yes
Cadmium	µg/L	0.01	<0.01	15	0.022	yes

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Lot ID: **1678847**
Control Number:
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Metals Total - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Chromium	µg/L	1.0	1.0	15	1.1	yes
Cobalt	µg/L	1.0	0.9	15	0.2	yes
Copper	µg/L	1	1	15	2	yes
Lead	µg/L	0.2	0.2	15	0.2	yes
Lithium	µg/L	49	50	15	2	yes
Molybdenum	µg/L	1	1	15	2	yes
Nickel	µg/L	10.2	10.3	15	1.1	yes
Selenium	µg/L	0.3	0.2	15	0.4	yes
Silver	µg/L	<0.01	<0.01	15	0.22	yes
Strontium	µg/L	837	845	15	2	yes
Thallium	µg/L	<0.05	<0.05	15	0.11	yes
Tin	µg/L	<1	<1	15	2	yes
Titanium	µg/L	4.4	3.8	15	1.1	yes
Uranium	µg/L	1.1	1.1	15	1.1	yes
Vanadium	µg/L	1.2	1.3	15	0.2	yes
Zinc	µg/L	<4	<4	15	2	yes
Silicon	mg/L	138	135	15	0.10	yes
Aluminum	mg/L	0.06	0.06	15	0.03	yes
Calcium	mg/L	41.3	41.2	15	0.6	yes
Iron	mg/L	<0.05	<0.05	15	0.20	yes
Magnesium	mg/L	11.7	11.9	15	0.40	yes
Manganese	mg/L	<0.005	<0.005	15	0.010	yes
Potassium	mg/L	0.9	0.9	15	1.2	yes
Sodium	mg/L	10.8	10.8	15	1.2	yes
Sulfur	mg/L	18.5	18.6	15	0.1	yes
Mercury	mg/L	<0.000005	<0.000005	10	0.000030	yes
Date Acquired:	September 19, 2023					

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Turbidity	NTU	0.099	-0.1	0.1	yes
Date Acquired:	September 19, 2023				
Turbidity	NTU	0.121	0.0	0.1	yes
Date Acquired:	September 19, 2023				

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired:	September 15, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Turbidity	NTU	1930	1799.3	2005.7	yes
Date Acquired:	September 19, 2023				
Turbidity	NTU	5460	4441.7	6661.7	yes
Date Acquired:	September 19, 2023				
Turbidity	NTU	149	132.1	162.1	yes

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LSD:
P.O.: 100104
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Lot ID: **1678847**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
Report Number: 2913609

Physical and Aggregate Properties - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Colour	Colour units	10	10	10	yes
Date Acquired:	September 19, 2023				
Solids	mg/L	17	10	22	yes
Turbidity	NTU	14.5	12.6	15.6	yes
Date Acquired:	September 19, 2023				
Turbidity	NTU	1.7	1.0	2.2	yes
Date Acquired:	September 19, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	3	3	10	2	yes
Turbidity	NTU	1.2	1.3	10	0.2	yes
Date Acquired:	September 19, 2023					

Routine Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloride	mg/L	0.11	-0.4	0.4	yes
Fluoride	mg/L	0	-0.05	0.05	yes
Nitrate - N	mg/L	0.00293685	-0.01	0.01	yes
Nitrite - N	mg/L	0	-0.005	0.005	yes
Calcium	mg/L	0.0162562	-0.2	0.2	yes
Magnesium	mg/L	0.00361993	-0.1	0.1	yes
Sodium	mg/L	0.0393772	-0.4	0.4	yes
Potassium	mg/L	0.103355	-0.4	0.4	yes
Iron	mg/L	0.00339155	-0.01	0.01	yes
Manganese	mg/L	0.000347753	-0.004	0.004	yes
Date Acquired:	September 15, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloride	mg/L	2160	1847.4	2256.0	yes
Date Acquired:	September 15, 2023				
Electrical Conductivity	dS/m	32.9	27.200	36.800	yes
Date Acquired:	September 15, 2023				
pH		9.16	8.90	9.44	yes
Temperature of observed	°C	20.4	15.5	24.5	yes
Electrical Conductivity	dS/m	2.77	2.631	2.829	yes
P-Alkalinity	mg/L	535	442	584	yes
T-Alkalinity	mg/L	1020	958	1059	yes
Fluoride	mg/L	9.85	9.39	10.59	yes
Nitrate - N	mg/L	10.1	9.03	11.13	yes
Nitrite - N	mg/L	9.71	9.010	10.990	yes
Nitrate and Nitrite - N	mg/L	19.8	19.10	20.90	yes
Calcium	mg/L	252	230.0	260.0	yes
Magnesium	mg/L	98.5	92.6	104.6	yes

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Sampled By:
Company:

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
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Lot ID: **1678847**
Control Number:
Date Received: Sep 14, 2023
Date Reported: Sep 21, 2023
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Routine Water - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Sodium	mg/L	248	234.6	259.2	yes
Potassium	mg/L	252	238.3	262.3	yes
Iron	mg/L	9.82	9.38	10.16	yes
Manganese	mg/L	2.43	2.320	2.560	yes
Date Acquired: September 15, 2023					
pH		6.88	6.79	6.97	yes
Temperature of observed	°C	19.9	15.5	24.5	yes
Electrical Conductivity	dS/m	0.078	0.069	0.085	yes
P-Alkalinity	mg/L	51	28	72	yes
T-Alkalinity	mg/L	123	114	140	yes
Chloride	mg/L	85.1	74.9	86.9	yes
Fluoride	mg/L	4.83	4.56	5.22	yes
Nitrate - N	mg/L	4.80	4.37	5.33	yes
Nitrite - N	mg/L	4.77	4.370	5.330	yes
Nitrate and Nitrite - N	mg/L	9.57	8.80	10.60	yes
Calcium	mg/L	52.3	44.9	56.9	yes
Magnesium	mg/L	20.9	17.9	22.0	yes
Sodium	mg/L	51.1	47.3	52.7	yes
Potassium	mg/L	51.5	45.8	55.8	yes
Iron	mg/L	2.08	1.90	2.08	yes
Manganese	mg/L	0.519	0.468	0.552	yes
Date Acquired: September 15, 2023					
Chloride	mg/L	15.0	13.3	16.5	yes
Fluoride	mg/L	0.50	0.45	0.57	yes
Nitrate - N	mg/L	0.48	0.42	0.57	yes
Nitrite - N	mg/L	0.489	0.455	0.557	yes
Nitrate and Nitrite - N	mg/L	0.97	0.85	1.15	yes
Calcium	mg/L	5.1	4.7	5.4	yes
Magnesium	mg/L	2.1	1.9	2.2	yes
Sodium	mg/L	5.2	4.7	5.7	yes
Potassium	mg/L	5.1	4.6	5.6	yes
Iron	mg/L	0.20	0.18	0.22	yes
Manganese	mg/L	0.051	0.046	0.057	yes
Date Acquired: September 15, 2023					

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
pH		7.55	7.46	0	0.10	yes
Electrical Conductivity	dS/m	0.465	0.464	10	0.002	yes
Hydroxide	mg/L	<5	<5	10		yes
Carbonate	mg/L	<6	<6	10	6	yes
Bicarbonate	mg/L	253	258	10	6	yes
P-Alkalinity	mg/L	<5	<5	10	5	yes
T-Alkalinity	mg/L	208	212	10	5	yes
Chloride	mg/L	9.4	8.9	10	0.5	yes

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Routine Water - Continued

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Nitrate - N	mg/L	<0.05	<0.05	10	0.01	yes
Nitrite - N	mg/L	<0.02	<0.02	10	0.010	yes
Calcium	mg/L	48.6	48.9	10	0.6	yes
Magnesium	mg/L	15.2	15.6	10	0.7	yes
Sodium	mg/L	7.1	7.2	10	1.2	yes
Potassium	mg/L	1.0	1.0	10	1.2	yes
Iron	mg/L	0.01	<0.01	10	0.05	yes
Manganese	mg/L	<0.005	<0.005	10	0.010	yes

Date Acquired: September 15, 2023

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Methodology and Notes

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Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	Alkalinity - Titration Method, 2320 B	Sep 15, 2023	Element Edmonton - Roper Road
Alkalinity, pH, and EC in water	APHA	*	Conductivity, 2510 B	Sep 15, 2023	Element Edmonton - Roper Road
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Sep 15, 2023	Element Edmonton - Roper Road
Anions (Routine) by Ion Chromatography	APHA	*	Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	Sep 15, 2023	Element Edmonton - Roper Road
Approval-Edmonton	APHA		Checking Correctness of Analyses, 1030 E	Sep 18, 2023	Element Edmonton - Roper Road
Carbon Organic (Dissolved) in water (DOC)	APHA		High-Temperature Combustion Method, 5310 B	Sep 15, 2023	Element Edmonton - Roper Road
Carbon Organic (Total) in water (TOC)	APHA		High-Temperature Combustion Method, 5310 B	Sep 14, 2023	Element Edmonton - Roper Road
Chloride in Water	APHA	*	Automated Ferricyanide Method, 4500-Cl- E	Sep 15, 2023	Element Edmonton - Roper Road
Colour (Apparent) in water	APHA	*	Visual Comparison Method, 2120 B	Sep 19, 2023	Element Edmonton - Roper Road
Cyanide (Dissolved) in water	Alta. Env. Method	*	Cyanide, Simple Extractable (Automated Pyridine-Barbituric Acid Colorimetric Method), 06608L	Sep 20, 2023	Element Edmonton - Roper Road
Mercury (Total) in water	EPA	*	Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry, 245.7	Sep 19, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	APHA/USEPA	*	Metals By Inductively Coupled Plasma/Mass Spectrometry, APHA 3125 B / USEPA 200.2, 200.8	Sep 14, 2023	Element Edmonton - Roper Road
Metals ICP-MS (Total) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Sep 14, 2023	Element Edmonton - Roper Road
Metals Trace (Dissolved) in water	APHA		Hardness by Calculation, 2340 B	Sep 15, 2023	Element Edmonton - Roper Road
Metals Trace (Dissolved) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Sep 15, 2023	Element Edmonton - Roper Road
Metals Trace (Total) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	Sep 14, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Sep 15, 2023	Element Edmonton - Roper Road
Turbidity in Water	APHA	*	Turbidity - Nephelometric Method, 2130 B	Sep 19, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

Alta. Env. Method	Alberta Environment Method
APHA	Standard Methods for the Examination of Water and Wastewater
APHA/USEPA	Standard Methods For Water/ Environmental Protection Agency
EPA	Environmental Protection Agency Test Methods - US
US EPA	US Environmental Protection Agency Test Methods

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Methodology and Notes

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		Project Name:		Control Number:	
		Project Location:	Inuvik, NT	Date Received:	Sep 14, 2023
		LSD:		Date Reported:	Sep 21, 2023
		P.O.:	100104	Report Number:	2913609
Attn:	Utilidor	Proj. Acct. code:			
Sampled By:					
Company:					

Comments:

- Sep 19, 2023 - Some trace total metal results were less than dissolved metal results for sample 1678847-1. The results were verified and are within expected measurement uncertainty.

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Project Information

Project ID:	SNP 0036-3
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

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	Inuvik, NT X0E 0T0
Attention:	David Kendi
Phone:	(867) 777-8600
Cell:	(867) 678-5384
Fax:	(867) 777-8601
E-mail:	utilidor@inuvik.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by:
Company:
I authorize Element to proceed with the work indicated on this form:
Signature:
Date/Time:

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

Sept 12 2023

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	TW36	TOC	DOC	CN2	TSS
			in cm	m						Enter tests above (✓ relevant samples below)				
1	Treated	ECWTP			9:43 a		Grab	8		x	x	x	x	x
2	Raw	ECWTP			9:47 a		Grab	8		x	x	x	x	x
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page _____ of _____ Control #

ED 120-005

Lot: 1678847 COC

Temp. received: 3.4 °C

Date/Time stamp: SEP 14 11:09

Delivery Method: FRAM

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1685716**
Control Number:
Date Received: Oct 13, 2023
Date Reported: Oct 20, 2023
Report Number: 2925170

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Oct 13, 2023 - Upon receipt, sample had exceeded recommended hold time for bacterial analysis.
- Oct 17, 2023 - Sample 1685716-1; 8900644: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1685716**
Control Number:
Date Received: Oct 13, 2023
Date Reported: Oct 20, 2023
Report Number: 2925170

Reference Number	1685716-1
Sample Date	Oct 10, 2023
Sample Time	08:51
Sample Location	
Sample Description	SNP0036-3 / Sewage Lagoon / 6.4 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	5			4
Oil and Grease	Total	mg/L	<5			5
pH adjustment	adjustment required		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	3.48			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.0745			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	430			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	18			2
Routine Water						
pH	15 °C	pH	7.90			
Temperature of observed pH		°C	15			
pH			8.01			1
Temperature of observed pH		°C	19.6			

Approved by: Andrea Millen

Andrea Millen, PhD
Client Services Representative

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1685716**
Control Number:
Date Received: Oct 13, 2023
Date Reported: Oct 20, 2023
Report Number: 2925170

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Oct 17, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Oct 20, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Oct 18, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Oct 14, 2023	Element Calgary
Oil and Grease in water	US EPA	*	n-Hexane Extractable Material and Silica Gel Treated n-Hexane Extractable Material by Extraction and Gravimetry, 1664	Oct 16, 2023	Element Edmonton - Roper Road
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Oct 18, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Oct 13, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Oct 13, 2023 - Upon receipt, sample had exceeded recommended hold time for bacterial analysis.
- Oct 17, 2023 - Sample 1685716-1; 8900644: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

element
www.Element.com

Project Information

Project ID:	SNP 0036-3
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	David Kendi
Phone:	(867) 777-8600
Cell:	(867) 678-5384
Fax:	(867) 777-8601
E-mail:	utilidor@inuvik.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Angus Dillon
Company: Town of Inuvik

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

Signature: Angus Dillon
Date/Time: Oct 10/23 8:57am

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required: _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Matrix	Sampling method	# Containers	MeOH Field Preserved? ✓	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil and Grease
			in cm	m						Enter tests above (✓ relevant samples below)					
1	SNP0036-3	Sewage Lagoon	6"	6"	Oct 10/23 8:51A		Dip	5		x	x	x	x	x	x
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Lot: 1685716 COC

Temp. received: 6.4 °C
Date/Time stamp:
Delivery Method:
Waybill:
Received by:

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angud Dillon
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1686103**
Control Number:
Date Received: Oct 13, 2023
Date Reported: Oct 23, 2023
Report Number: 2925943

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angud Dillon
Company: Town of Inuvik

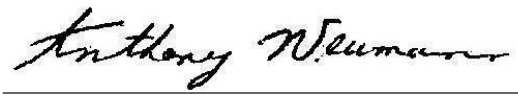
Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1686103**
Control Number:
Date Received: Oct 13, 2023
Date Reported: Oct 23, 2023
Report Number: 2925943

Reference Number	1686103-1
Sample Date	Oct 10, 2023
Sample Time	09:07
Sample Location	
Sample Description	Yearly THM Sample / Truck Fill / 6.4 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trihalomethanes Screen - Water						
Chloroform		mg/L	0.055			0.001
Bromodichloromethane		mg/L	0.008			0.001
Dibromochloromethane		mg/L	<0.001			0.001
Bromoform		mg/L	<0.001			0.001
Total Trihalomethanes		mg/L	0.063			0.001
Trihalomethanes - Surrogate Recovery						
Dibromofluoromethane	EPA Surrogate	%	132			50-140
Toluene-d8	EPA Surrogate	%	95			50-140
Bromofluorobenzene	EPA Surrogate	%	107			50-140

Approved by:



Anthony Neumann, MSc
General Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angud Dillon
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1686103**
Control Number:
Date Received: Oct 13, 2023
Date Reported: Oct 23, 2023
Report Number: 2925943

Trihalomethanes - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Dibromofluoromethane	%	120.54	50	140	yes
Toluene-d8	%	89.08	50	140	yes
Bromofluorobenzene	%	102.79	50	140	yes

Date Acquired: October 16, 2023

Trihalomethanes Screen - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	0	-0.002	0.002	yes
Bromodichloromethane	ng	0	-0.002	0.002	yes
Dibromochloromethane	ng	0	-0.002	0.002	yes
Bromoform	ng	0	-0.002	0.002	yes

Date Acquired: October 16, 2023

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	102.80	80	120	yes
Bromodichloromethane	ng	99.20	80	120	yes
Dibromochloromethane	ng	101.00	80	120	yes
Bromoform	ng	98.60	80	120	yes

Date Acquired: October 16, 2023

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Angud Dillon
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1686103**
Control Number:
Date Received: Oct 13, 2023
Date Reported: Oct 23, 2023
Report Number: 2925943

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
THM - Water	US EPA	*	Volatile Organic Compounds by GCMS / Purge and Trap for Aqueous Samples, 8260B/5030B	Oct 16, 2023	Element Calgary

** Reference Method Modified*

References

US EPA — US Environmental Protection Agency Test Methods

element
www.Element.com

Project Information

Project ID:	Yearly Samples
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	Rick Campbell
Phone:	(867) 777-8615
Cell:	(867) 678-5388
Fax:	(867) 777-8601
E-mail:	rcampbell@town.inuvik.nt.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Angus Dillon
Company: Town of Inuvik

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

Signature: Angus Dillon
Date/Time: Oct 10/23 9:10 am

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Free Res	Total Res	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	THM
1	Yearly THM Sample	Truck Fill			Oct 10/23 9:07am	0.30	0.52	Grab	2		x
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Enter tests above (✓ relevant samples below)

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page _____ of _____ Control #

ED 120-005

Lot: 1686103 COC

Temp. received: 6.4 °C

Date/Time stamp:

Delivery Method:

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: A. U.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1699931**
Control Number:
Date Received: Dec 7, 2023
Date Reported: Dec 14, 2023
Report Number: 2953118

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

- Dec 07, 2023 - Upon receipt, sample had exceeded recommended hold time for bacterial analysis.
- Dec 12, 2023 - Sample 1699931-1; 9036706: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: A. U.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1699931**
Control Number:
Date Received: Dec 7, 2023
Date Reported: Dec 14, 2023
Report Number: 2953118

Reference Number	1699931-1
Sample Date	Nov 14, 2023
Sample Time	09:30
Sample Location	
Sample Description	SNP0036-3 / Sewage Lagoon / 4.3 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Carbonaceous	mg/L	<4			4
Oil and Grease	Total	mg/L	<5			5
pH adjustment	adjustment required		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	5.76			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.110			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	670			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	16			2
Routine Water						
pH	15 °C	pH	7.85			
Temp. of observed pH		°C	16			
pH			7.52			1
Temp. of observed pH		°C	19.9			

Approved by:

Benjamin Morris, B.Sc
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Element
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Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: A. U.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1699931**
Control Number:
Date Received: Dec 7, 2023
Date Reported: Dec 14, 2023
Report Number: 2953118

Aggregate Organic Constituents

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Oil and Grease	mg/L	42	37	43	yes
Date Acquired:	December 08, 2023				
Biochemical Oxygen	mg/L	182	140	228	yes
Date Acquired:	December 08, 2023				

Inorganic Nonmetallic Parameters

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	-0.019	-0.025	0.025	yes
Date Acquired:	December 13, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Ammonium - N	mg/L	6.91	6.520	7.480	yes
Date Acquired:	December 13, 2023				
Ammonium - N	mg/L	2.98	2.730	3.330	yes
Date Acquired:	December 13, 2023				
Ammonium - N	mg/L	0.780	0.740	0.860	yes
Date Acquired:	December 13, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Ammonium - N	mg/L	<0.025	<0.025	10	0.100	yes
Date Acquired:	December 13, 2023					

Physical and Aggregate Properties

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	1	-1	1	yes
Date Acquired:	December 11, 2023				

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Solids	mg/L	185	174	216	yes
Date Acquired:	December 11, 2023				
Solids	mg/L	15	10	22	yes
Date Acquired:	December 11, 2023				

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Solids	mg/L	58	56	10	2	yes
Date Acquired:	December 11, 2023					

Routine Water

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
pH		9.08	8.90	9.44	yes
Temp. of observed pH	°C	19.8	15.5	24.5	yes
pH	pH	7.98	7.90	8.10	yes
Date Acquired:	December 11, 2023				
pH		6.81	6.79	6.97	yes
Temp. of observed pH	°C	19.7	15.5	24.5	yes

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W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: A. U.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1699931**
Control Number:
Date Received: Dec 7, 2023
Date Reported: Dec 14, 2023
Report Number: 2953118

Routine Water - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
pH	pH	3.94	3.89	4.07		yes
Date Acquired:	December 11, 2023					
Client Sample Replicates	**Units**	**Replicate 1**	**Replicate 2**	**% RSD Criteria**	**Absolute Criteria**	**Passed QC**
pH		8.06	8.10	0	0.10	yes
Date Acquired:	December 07, 2023					

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Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: A. U.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1699931**
Control Number:
Date Received: Dec 7, 2023
Date Reported: Dec 14, 2023
Report Number: 2953118

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Dec 7, 2023	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Dec 13, 2023	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Dec 8, 2023	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Dec 8, 2023	Element Calgary
Oil and Grease in water	US EPA	*	n-Hexane Extractable Material and Silica Gel Treated n-Hexane Extractable Material by Extraction and Gravimetry, 1664	Dec 8, 2023	Element Edmonton - Roper Road
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Dec 11, 2023	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Dec 11, 2023	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Dec 07, 2023 - Upon receipt, sample had exceeded recommended hold time for bacterial analysis.
- Dec 12, 2023 - Sample 1699931-1; 9036706: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

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Project Information

Project ID:	SNP 0036-3
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	David Kendi
Phone:	(867) 777-8600
Cell:	(867) 678-5384
Fax:	(867) 777-8601
E-mail:	utilidor@inuvik.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Arlo Clarkson
Company: Town of Inuvik

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

Signature: Arlo C
Date/Time: Nov 14 2023

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below)

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil and Grease							
											Enter tests above (✓ relevant samples below)												
1	SNP0036-3	Sewage Lagoon	0		m	Nov 14/23 9:30		Dip	5		x	x	x	x	x	x							
2																							
3																							
4																							
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15																							

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Page 1 of 1 Control #

ED 120-005

Lot: 1699931 COC

Temp. received: 4.3 °C Date/Time stamp: DEC 7 11:12

Delivery Method: HAND

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

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Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1708780**
Control Number:
Date Received: Jan 25, 2024
Date Reported: Jan 31, 2024
Report Number: 2966853
Report Type: Final Report

Contact	Company	Address
Accounts Payable	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: Cynthia.pihlaja@inuvik.ca,stephen.odiase@inuvik.ca,

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

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Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: Angus Dillon
Company: Town of Inuvik

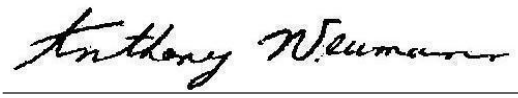
Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1708780**
Control Number:
Date Received: Jan 25, 2024
Date Reported: Jan 31, 2024
Report Number: 2966853
Report Type: Final Report

Reference Number 1708780-1
Sample Date Jan 16, 2024
Sample Time 09:20
Sample Location
Sample Description Yearly THM Sample / Truck Fill
Matrix Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trihalomethanes Screen - Water						
Chloroform		mg/L	0.088			0.001
Bromodichloromethane		mg/L	0.012			0.001
Dibromochloromethane		mg/L	<0.001			0.001
Bromoform		mg/L	<0.001			0.001
Total Trihalomethanes		mg/L	0.100			0.001
Trihalomethanes - Surrogate Recovery						
Dibromofluoromethane	EPA Surrogate	%	115			50-140
Toluene-d8	EPA Surrogate	%	98			50-140
Bromofluorobenzene	EPA Surrogate	%	106			50-140

Approved by:



Anthony Neumann, MSc
General Manager

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Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1708780**
Control Number:
Date Received: Jan 25, 2024
Date Reported: Jan 31, 2024
Report Number: 2966853
Report Type: Final Report

Trihalomethanes - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Dibromofluoromethane	%	101.23	50	140	yes
Toluene-d8	%	97.08	50	140	yes
Bromofluorobenzene	%	105.48	50	140	yes

Date Acquired: January 26, 2024

Trihalomethanes Screen - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	0	-0.002	0.002	yes
Bromodichloromethane	ng	0	-0.002	0.002	yes
Dibromochloromethane	ng	0	-0.002	0.002	yes
Bromoform	ng	0	-0.002	0.002	yes

Date Acquired: January 26, 2024

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	97.80	80	120	yes
Bromodichloromethane	ng	98.00	80	120	yes
Dibromochloromethane	ng	97.60	80	120	yes
Bromoform	ng	95.60	80	120	yes

Date Acquired: January 26, 2024

Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Chloroform	mg/L	0.112	0.115	30	0.002	yes
Bromodichloromethane	mg/L	0.013	0.013	30	0.002	yes
Dibromochloromethane	mg/L	<0.001	<0.001	30	0.002	yes
Bromoform	mg/L	<0.001	<0.001	30	0.002	yes

Date Acquired: January 26, 2024

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W: www.element.com

Methodology and Notes

Bill To:	Town of Inuvik Box 1160 2 Firth Street Inuvik, NT, Canada X0E 0T0
Attn:	Accounts Payable
Sampled By:	Angus Dillon
Company:	Town of Inuvik

Project ID:	Yearly Samples
Project Name:	
Project Location:	Inuvik, NT
LSD:	
P.O.:	100104
Proj. Acct. code:	

Lot ID:	**1708780**
Control Number:	
Date Received:	Jan 25, 2024
Date Reported:	Jan 31, 2024
Report Number:	2966853
Report Type:	Final Report

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
THM - Water	US EPA	*	Volatile Organic Compounds by GCMS / Purge and Trap for Aqueous Samples, 8260B/5030B	Jan 26, 2024	Element Calgary

** Reference Method Modified*

References

US EPA	US Environmental Protection Agency Test Methods

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

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www.Element.com

Project Information

Project ID:	Yearly Samples
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	David Kendi
Phone:	(867) 777-8600
Cell:	(867) 678-5384
Fax:	(867) 777-8601
E-mail:	utilidor@inuvik.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Angus Dillon
Company: Town of Inuvik

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

Signature: [signature]
Date/Time: Jan 16/24 9:20am

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below) _____

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Free Res	Total Res	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	THM	Enter tests above (✓ relevant samples below)
1	Yearly THM Sample	Truck Fill	-	-	Jan 16/24 9:20 AM	0.25	0.43	Grab	2		x	
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Control #

ED 120-005

Lot: 1708780 COC

Temp. received: °C

Date/Time stamp:

Delivery Method:

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Accounts Payable
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1708780**
Control Number:
Date Received: Jan 25, 2024
Date Reported: Jan 31, 2024
Report Number: 2966853
Report Type: Final Report

Contact	Company	Address
Accounts Payable	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: Cynthia.pihlaja@inuvik.ca,stephen.odiase@inuvik.ca,

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice
Email - Merge	PDF	COC / Test Report

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Merge	PDF	COC / Invoice

Notes To Clients:

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Analytical Report

Bill To: Town of Inuvik
Box 1160
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Attn: Accounts Payable
Sampled By: Angus Dillon
Company: Town of Inuvik

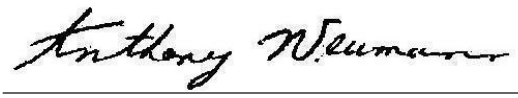
Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1708780**
Control Number:
Date Received: Jan 25, 2024
Date Reported: Jan 31, 2024
Report Number: 2966853
Report Type: Final Report

Reference Number 1708780-1
Sample Date Jan 16, 2024
Sample Time 09:20
Sample Location
Sample Description Yearly THM Sample / Truck Fill
Matrix Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trihalomethanes Screen - Water						
Chloroform		mg/L	0.088			0.001
Bromodichloromethane		mg/L	0.012			0.001
Dibromochloromethane		mg/L	<0.001			0.001
Bromoform		mg/L	<0.001			0.001
Total Trihalomethanes		mg/L	0.100			0.001
Trihalomethanes - Surrogate Recovery						
Dibromofluoromethane	EPA Surrogate	%	115			50-140
Toluene-d8	EPA Surrogate	%	98			50-140
Bromofluorobenzene	EPA Surrogate	%	106			50-140

Approved by:



Anthony Neumann, MSc
General Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
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Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
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Attn: Accounts Payable
Sampled By: Angus Dillon
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik, NT
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1708780**
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Report Number: 2966853
Report Type: Final Report

Trihalomethanes - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Dibromofluoromethane	%	101.23	50	140	yes
Toluene-d8	%	97.08	50	140	yes
Bromofluorobenzene	%	105.48	50	140	yes

Date Acquired: January 26, 2024

Trihalomethanes Screen - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	0	-0.002	0.002	yes
Bromodichloromethane	ng	0	-0.002	0.002	yes
Dibromochloromethane	ng	0	-0.002	0.002	yes
Bromoform	ng	0	-0.002	0.002	yes

Date Acquired: January 26, 2024

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	97.80	80	120	yes
Bromodichloromethane	ng	98.00	80	120	yes
Dibromochloromethane	ng	97.60	80	120	yes
Bromoform	ng	95.60	80	120	yes

Date Acquired: January 26, 2024

Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Chloroform	mg/L	0.112	0.115	30	0.002	yes
Bromodichloromethane	mg/L	0.013	0.013	30	0.002	yes
Dibromochloromethane	mg/L	<0.001	<0.001	30	0.002	yes
Bromoform	mg/L	<0.001	<0.001	30	0.002	yes

Date Acquired: January 26, 2024

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Methodology and Notes

Bill To:	Town of Inuvik Box 1160 2 Firth Street Inuvik, NT, Canada X0E 0T0
Attn:	Accounts Payable
Sampled By:	Angus Dillon
Company:	Town of Inuvik

Project ID:	Yearly Samples
Project Name:	
Project Location:	Inuvik, NT
LSD:	
P.O.:	100104
Proj. Acct. code:	

Lot ID:	**1708780**
Control Number:	
Date Received:	Jan 25, 2024
Date Reported:	Jan 31, 2024
Report Number:	2966853
Report Type:	Final Report

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
THM - Water	US EPA	*	Volatile Organic Compounds by GCMS / Purge and Trap for Aqueous Samples, 8260B/5030B	Jan 26, 2024	Element Calgary

** Reference Method Modified*

References

US EPA	US Environmental Protection Agency Test Methods

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

element
www.Element.com

Project Information

Project ID:	Yearly Samples
Project Name:	
Project Location:	Inuvik, NT
Legal Location:	
PO/AFE#:	100104
Proj. Acct. Code:	
Quote #:	

Invoice To

Company:	Town of Inuvik
Address:	Box 1160, 2 Firth Street
	Inuvik, NT X0E 0T0
Attention:	David Kendi
Phone:	(867) 777-8600
Cell:	(867) 678-5384
Fax:	(867) 777-8601
E-mail:	utilidor@inuvik.ca
Agreement ID:	2909
Copy of Report:	YES / NO

Report To

Company:	Aecom - Edmonton
Address:	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention:	Li Wang
Phone:	(780) 453-0710
Cell:	
Fax:	
E-mail 1:	li.wang@aecom.com
E-mail 2:	
Copy of Invoice:	YES / NO

Additional Reports to

1) Name:
E-mail:
2) Name:
E-mail:

Sample Custody

Sampled by: Angus Dillon
Company: Town of Inuvik

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

Signature: [signature]
Date/Time: Jan 16/24 9:20am

RUSH Priority

- ☐ Same Day (200%)
- ☐ Next Day/Two Day (100%)
- ☐ Three or Four Days (50%)
- ☐ 5 to 7 Days (Regular TAT)

Date Required _____

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples. If not all samples require RUSH, please indicate in the special instructions.

Report Results

- ☑ Email
- ☐ QA/QC
- ☐ Online
- ☐ PDF
- ☐ Fax
- ☐ Excel

Requirements

- ☐ HCDWORG
- ☐ SPIGEC
- ☐ AB Tier 1
- ☐ BCCSR

Other (list below) _____

Special Instructions/Comments (please include contact information including phone number if different from above).

	Site I.D.	Sample Description	Depth start	Depth end	Date/Time sampled	Free Res	Total Res	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	THM	Enter tests above (✓ relevant samples below)
1	Yearly THM Sample	Truck Fill	-	-	Jan 16/24 9:20 AM	0.25	0.43	Grab	2		x	
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Please indicate any potentially hazardous samples

Submission of this form acknowledges acceptance of Element's Standard of terms and conditions (https://www.element.com/terms/terms-and-conditions)

Control #

ED 120-005

Lot: 1708780 COC

Temp. received: °C

Date/Time stamp:

Delivery Method:

Waybill:

Received by:

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1586355**
Control Number:
Date Received: Jul 19, 2022
Date Reported: Jul 25, 2022
Report Number: 2769448

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Single Deliverable	PDF	Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email - Multiple Deliverables By Lot	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge Deliverables	PDF	COC / Test Report
Email - Single Deliverable	PDF	Invoice

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Single Deliverable	PDF	Invoice

Notes To Clients:

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1586355**
Control Number:
Date Received: Jul 19, 2022
Date Reported: Jul 25, 2022
Report Number: 2769448

Reference Number	1586355-1
Sample Date	Jul 12, 2022
Sample Time	08:47
Sample Location	
Sample Description	Truck Fill / Truck Fill / 10.7°C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trihalomethanes Screen - Water						
Chloroform		mg/L	0.086			0.001
Bromodichloromethane		mg/L	0.007			0.001
Dibromochloromethane		mg/L	<0.001			0.001
Bromoform		mg/L	<0.001			0.001
Total Trihalomethanes		mg/L	0.093			0.001
Trihalomethanes - Surrogate Recovery						
Dibromofluoromethane	EPA Surrogate	%	127			50-140
Toluene-d8	EPA Surrogate	%	101			50-140
Bromofluorobenzene	EPA Surrogate	%	99			50-140

Approved by:

Mike Yohemas, BSc
General Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Quality Control

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1586355**
Control Number:
Date Received: Jul 19, 2022
Date Reported: Jul 25, 2022
Report Number: 2769448

Trihalomethanes - Surrogate Recovery

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Dibromofluoromethane	%	111.33	50	140	yes
Toluene-d8	%	97.65	50	140	yes
Bromofluorobenzene	%	102.17	50	140	yes

Date Acquired: July 22, 2022

Trihalomethanes Screen - Water

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	0	-0.002	0.002	yes
Bromodichloromethane	ng	0	-0.002	0.002	yes
Dibromochloromethane	ng	0	-0.002	0.002	yes
Bromoform	ng	0	-0.002	0.002	yes

Date Acquired: July 22, 2022

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Chloroform	ng	102.40	80	120	yes
Bromodichloromethane	ng	99.80	80	120	yes
Dibromochloromethane	ng	99.20	80	120	yes
Bromoform	ng	96.00	80	120	yes

Date Acquired: July 22, 2022

Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Chloroform	mg/L	0.011	0.011	30	0.002	yes
Bromodichloromethane	mg/L	<0.001	<0.001	30	0.002	yes
Dibromochloromethane	mg/L	<0.001	<0.001	30	0.002	yes
Bromoform	mg/L	<0.001	<0.001	30	0.002	yes

Date Acquired: July 22, 2022

Element
Bay #5, 2712-37 Avenue N.E.
Calgary, Alberta
T1Y 5L3, Canada

T: +1 (403) 291-2022
F: +1 (403) 291-2021
E: info.Calgary@element.com
W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: Yearly Samples
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1586355**
Control Number:
Date Received: Jul 19, 2022
Date Reported: Jul 25, 2022
Report Number: 2769448

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
THM - Water	US EPA	*	Volatile Organic Compounds by GCMS / Purge and Trap for Aqueous Samples, 8260B/5030B	Jul 22, 2022	Element Calgary

** Reference Method Modified*

References

US EPA — US Environmental Protection Agency Test Methods

Exova Testing Advising Assuring

www.exova.com

Project Information

Project ID	Yearly Samples
Project Name	
Project Location	Inuvik
Legal Location	
PO/AFE#	100104
Proj. Acct.Code	

Billing Information:

Company	Town of Inuvik
Address	Box 1160 2 Firth Street
	Inuvik, NT X0E 0T0
Attention	Rick Campbell
Phone	(867) 777-8615
Cell	(867) 678-5388
Fax	(867) 777-8601
E-mail	rcampbell@town.inuvik.nt.ca
Agreement ID	2909
Copy of Report	

Copy of Report To:

Company	Aecom - Edmonton
Address	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention	Li Wang
Phone	(780) 453-0710
Cell	
Fax	
E-mail	li.wang@aecom.com
Copy of invoice	

RUSH Priority

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

Date Required

As Indicated | All Analysis

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples

Signature

Sample Custody (please print)

Sampled by: Dave K

Company: Town of Inuvik

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

Date: 07-12-22 Initial: R

This section for Lab use only

Date/Time stamp:

Report Results								
	X	E-Mail		Online		PDF		QA/QC Report
		Mail	X	Fax		Excel		

Special Instructions/Comments (please include contact information including ph. # if different from above).

Sampler: note weather:

Temp 7 C, precip ____, Wind dir N Vel 12 Km km/h

Indicate Regulatory Requirements below

	Sample Identification	Location	Free res	Date/Time sampled	Total Res	Sampling method	Number of Containers	THM
1	Truck Fill	1 Navy rd		July 12/22 847 am		Grab	2	x
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

Indicate below any deficiencies in the condition of samples:

- Were Exova supplies used?
- Was there any damage to the shipping container?
- Were the containers packaged well?
- Were the expected number of samples received (document below)?
- Are samples within recommended holding times/temp?

Environmental Sample Information Sheet

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

Please indicate any potentially hazordous samples

Control #

Page 1 of 1

Indicate lot number or affix lot label

Lot: 1586355 COC

Shipping: COD Y/N

Cooler temp: 10.7

and size of coolers received:

JUL 19 PM 3:49

Delivery Method:

Waybill:

Received by:

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Report Transmission Cover Page

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1621656**
Control Number:
Date Received: Dec 14, 2022
Date Reported: Dec 20, 2022
Report Number: 2828189

Contact	Company	Address
Kim Wainman	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: kwainman@inuvik.ca

Delivery	Format	Deliverables
Email - Single Deliverable	PDF	Invoice

Contact	Company	Address
Li Wang	**AECOM Canada Ltd**	101, 18817 Stony Plain Road Edmonton, AB T5S 0C2 Phone: (780) 486-7050 Fax: (780) 486-7070 Email: li.wang@aecom.com

Delivery	Format	Deliverables
Email - Multiple Deliverables By Lot	PDF	COC / Test Report

Contact	Company	Address
Rick Campbell	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-8615 Fax: (867) 777-8601 Email: rcampbell@inuvik.ca

Delivery	Format	Deliverables
Email - Merge Deliverables	PDF	COC / Test Report
Email - Single Deliverable	PDF	Invoice

Contact	Company	Address
Utilidor	**Town of Inuvik**	Box 1160, 2 Firth Street Inuvik, NT X0E 0T0 Phone: (867) 777-2607 Fax: (867) 777-2071 Email: utilidor@inuvik.ca

Delivery	Format	Deliverables
Email - Single Deliverable	PDF	Invoice

Notes To Clients:

- Dec 19, 2022 - Sample 1621656-1; 8421430: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Analytical Report

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

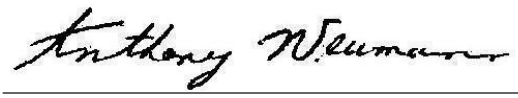
Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1621656**
Control Number:
Date Received: Dec 14, 2022
Date Reported: Dec 20, 2022
Report Number: 2828189

Reference Number	1621656-1
Sample Date	Dec 13, 2022
Sample Time	09:55
Sample Location	
Sample Description	SNP0036-3 / Sewage Lagoon / 2.8 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Biochemical Oxygen Demand	Inhibited	mg/L	15			4
Oil and Grease	Total	mg/L	24			5
pH adjustment	adjustment required		No			
Inorganic Nonmetallic Parameters						
Ammonia - N		mg/L	9.81			0.025
Un-ionized Ammonia-N	15 °C	mg/L	0.0436			
Ammonium/Ammonia Preservation			Yes			
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	>6000			1
Physical and Aggregate Properties						
Solids	Total Suspended	mg/L	13			2
Routine Water						
pH	15 °C	pH	7.21			
Temperature of observed pH		°C	15			
pH			7.38			1
Temperature of observed pH		°C	19.8			

Approved by:



Anthony Neumann, MSc
General Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

Element
7217 Roper Road NW
Edmonton, Alberta
T6B 3J4, Canada

T: +1 (780) 438-5522
F: +1 (780) 434-8586
E: info.Edmonton@element.com
W: www.element.com

Methodology and Notes

Bill To: Town of Inuvik
Box 1160
2 Firth Street
Inuvik, NT, Canada
X0E 0T0
Attn: Rick Campbell
Sampled By: Dave K.
Company: Town of Inuvik

Project ID: SNP 0036-3
Project Name:
Project Location: Inuvik
LSD:
P.O.: 100104
Proj. Acct. code:

Lot ID: **1621656**
Control Number:
Date Received: Dec 14, 2022
Date Reported: Dec 20, 2022
Report Number: 2828189

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alkalinity, pH, and EC in water	APHA	*	pH - Electrometric Method, 4500-H+ B	Dec 15, 2022	Element Edmonton - Roper Road
Ammonium-N in Water	APHA	*	Automated Phenate Method, 4500-NH3 G	Dec 20, 2022	Element Edmonton - Roper Road
BOD (Carbonaceous) in water	APHA	*	BOD: 5-Day Test, 5210 B	Dec 19, 2022	Element Edmonton - Roper Road
Coliforms - Membrane Filtration	APHA		Fecal Coliform Membrane Filter Procedure, 9222 D	Dec 15, 2022	Element Calgary
Oil and Grease in water	US EPA	*	n-Hexane Extractable Material and Silica Gel Treated n-Hexane Extractable Material by Extraction and Gravimetry, 1664	Dec 19, 2022	Element Edmonton - Roper Road
pH at 15°C	APHA	*	pH - Electrometric Method, 4500-H+ B	Dec 19, 2022	Element Edmonton - Roper Road
Solids Suspended (Total, Fixed and Volatile)	APHA	*	Total Suspended Solids Dried at 103-105'C, 2540 D	Dec 15, 2022	Element Edmonton - Roper Road

** Reference Method Modified*

References

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

Comments:

- Dec 19, 2022 - Sample 1621656-1; 8421430: Sample formed an emulsion during oil and grease extraction. Centrifugation was required in order to complete analysis.

Exova Testing Advising Assuring

www.exova.com

Project Information

Project ID	SNP 0036- 3
Project Name	
Project Location	Inuvik
Legal Location	
PO/AFE#	100104
Proj. Acct.Code	

Billing Information:

Company	Town of Inuvik
Address	Box 1160 2 Firth Street
	Inuvik, NT X0E 0T0
Attention	Rick Campbell
Phone	(867) 777-8615
Cell	(867) 678-5388
Fax	(867) 777-8601
E-mail	rcampbell@town.inuvik.nt.ca
Agreement ID	2909
Copy of Report	

Copy of Report To:

Company	Aecom - Edmonton
Address	Suite 101 18817 Stony Plain Road
	Edmonton, AB T5S 0C2
Attention	Li Wang
Phone	(780) 453-0710
Cell	
Fax	
E-mail	li.wang@aecom.com
Copy of invoice	

RUSH Priority

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

Date Required: As Indicated [ ] All Analysis

When "ASAP" is requested, turn around will default to a 100% RUSH priority, with pricing and turn around time to match. Please contact the lab prior to submitting RUSH samples

Signature:

Sample Custody (please print)

Sampled by: Dave Kendi

Company: Town of Inuvik

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

Date: Dec. 13, 2022 Initial:

This section for Lab use only

Date/Time stamp: DEC 14 PM 4:33

Report Results								
	X	E-Mail		Online		PDF		QA/QC Report
		Mail	X	Fax		Excel		

Special Instructions/Comments (please include contact information including ph. # if different from above).

Sampler: note weather:

Temp -15 C, precip 1.8, Wind dir W Vel 17 km/h

Indicate Regulatory Requirements below

	Sample Identification	Location	Depth in cm m	Date/Time sampled	Matrix	Sampling method	Number of Containers	pH	CBOD5	Suspended Solids	Ammonia	Fecal Coliforms	Oil & Grease
1	SNP0036-3	Sewage Lagoon		Dec. 13, 22 9:55 am		Dip	5	x	x	x	x	x	x
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													

Indicate below any deficiencies in the condition of samples:

- Were Exova supplies used?
- Was there any damage to the shipping container?
- Were the containers packaged well?
- Were the expected number of samples received (document below)?
- Are samples within recommended holding times/temp?

Environmental Sample Information Sheet

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

Please indicate any potentially hazardous samples

Control #

Page 1 of 1

Lot: 1621656 COC

Shipping: COD Y/N

Cooler temp: 2.8

and size of coolers received:

Delivery Method: Canada North

Waybill:

Received by: AZ

Appendix C

AECOM
4916 47th Street, Floor 3
GoGa Cho Building (PO Box 1259)
Yellowknife, NT, Canada X1A 2N9
www.aecom.com

867 873 6316 tel
867 873 6407 fax

March 27, 2024.

Mr. Leonard DeBastien
Executive Director
Gwich'in Land and Water Board
Box 2018
Inuvik, N.T.
X0E 0T0

Mr. Rolland Malegana
Regional Environmental Assessment Coordinator
Energy and Natural Resources
Box 2749
Inuvik, N.T.
X0E 0T0

Dear Sir:

Project No: 60696835

Regarding: Town of Inuvik - Water Licence No. G17L3-001
Licence Condition D8, Lagoon Earthen Water Retaining Structures

On behalf of the Town of Inuvik, we wish to respond to Water License Condition D8 for year 2023.

Water Licence Condition D8 states, "The dams, dikes and other engineered earth structures designed to contain waste within the Sewage Disposal facilities shall be inspected annually by a professional engineer to determine the stability of the structures". In Water Licence A2, Definitions, “Professional Engineer – a person registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientist, and whose principal field of specialization is appropriate to address the components of the undertaking at hand”.

The lagoon's west dike was built on native permafrost soils in the late 1950's. The interior dikes forming the sludge cells and primary lagoon cells were added in 1981. The west dike was rebuilt at the same time. In 1987-88, initial settlement of the new interior dikes and further erosion of the west dike were restored in a major re-grading project. In 2003, subsidence and erosion of the inner face of the west dike was again repaired, and the inner face was armored with geotextile and blast rock. In 2006, subsidence of the interior dikes was repaired by raising the dike crests back to design level. In 2015, subsidence of the dike along the north end of the lagoon was repaired by raising the dike crests back to designed level.

Inuvik has the dikes inspected by its engineers, AECOM, at least annually.

Gradual uneven settlement of the dikes has been ongoing since they were first built. Settlement is believed to be due primarily to thawing of the ice rich permafrost under the dikes, and subsequent consolidation of the soils. Sloughing narrows the crest. From time to time, dikes need to be restored to designed width in order to maintain water tightness, stability, and safe vehicle access along the crests. Sloughing affects all dikes, and major restoration projects have been needed roughly every ten to fifteen years. Historically, slow subsidence has not threatened the integrity or water tightness of the dikes and it is not expected to do so if it is countered by periodic restoration.

In some years significant thaw-subsidence occurs in the portion of the lagoon system’s west dike that runs between the west sludge cell and “Gate Pond” (as named in the SNP program). Gate Pond was

formed early in Inuvik's history by gravel borrowing, and is thought to have been deepened (and probably enlarged) by subsequent thaw-subsidence. Gate pond probably is the main heat source causing the recurrent dike thaw-subsidence in the vicinity. Routinely, the dike is restored to designed levels and lines whenever significant thaw-subsidence has occurred. That section of the dike was rehabilitated as part of the project to relocate the truck dump station in 2019.

Over the years the two karst ponds just outside the west dike toward its downstream end, have shown a tendency to grow. There has been some undercutting and sloughing of the outer face of the west dike along the pond shorelines. Fill was added to slope toes in the fall of 2006 and again in 2007 and 2009.

The results of a bathymetric survey of the larger karst pond carried out during summer 2020, did not show stability concerns. The other karst pond is small, it is located further away from the dike and does not appear to threaten the stability of the dike.

During spring of 2016, the Town of Inuvik hired a local contractor to drill test holes along the lagoon dikes and obtain soils samples at various depths. The samples were sent to AECOM for laboratory testing. According to the results the soil beneath the dikes generally consists of ice rich clays, silts, and sands.

The 2023 annual inspection was carried out on September 28, 2023. All dikes were found to be in satisfactory condition. No unusual longitudinal cracks or fissures were noted. Maintenance activities carried out in 2023 included grading of all the dikes to fill longitudinal cracks.

The longitudinal cracking that occurs on an annual basis confirms that subsidence and undercutting continue to occur at a slow rate, and in some future year major restoration work will be required. This underscores the need for continued maintenance. Nevertheless, all dikes appear to remain at or very near to designed shapes and levels, and on that basis, we believe that all the dikes around Inuvik's lagoon at this time are safe and adequate water retaining structures.

We trust that this submission fulfills the requirements of the Town of Inuvik water license Condition D8 for year 2023.

Sincerely,

AECOM Canada Ltd.

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AECOM: 2012-01-06