Element
#104, 19575-55 A Ave.
Surrey, British Columbia
V3S 8P8, Canada

T: +1 (604) 514-3322
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E: info.vancouver@element.com
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Report Transmission Cover Page

Bill To: City of Parksville
1116 Herring Gull Way
Parksville, BC, Canada
V9P 1R2
Attn: Accounts Payable
Sampled By: Barb Silenske
Company: City of Praksvile

Project ID:
Project Name:
Project Location:
LSD:
P.O.: S22-5095
Proj. Acct. code:

Lot ID: **1664537**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 18, 2023
Report Number: 2892868

Contact	Company	Address
Accounts Payable	**City of Parksville**	1116 Herring Gull Way Parksville, BC V9P 1R2 Phone: (250) 951-2489 Fax: Email: ap@parksville.ca

Delivery	Format	Deliverables
Email	PDF	Invoice

Contact	Company	Address
Barbara Silenieks	**City of Parksville**	1116 Herring Gull Way Parksville, BC V9P 1R2 Phone: (250) 951-2489 Fax: Email: bsilenieks@parksville.ca

Delivery	Format	Deliverables
Email	PDF	COA
Email - Merge	PDF	COC / Test Report
Email - Merge	Standard Crosstab Without Tabs	Test Report

Notes To Clients:

- Jul 12, 2023 - Upon receipt, sample had exceeded recommended temperature for bacterial analysis.

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Analytical Report

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Lot ID: **1664537**
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Date Received: Jul 12, 2023
Date Reported: Jul 18, 2023
Report Number: 2892868

Reference Number	1664537-1	1664537-2	1664537-3
Sample Date	Jul 11, 2023	Jul 11, 2023	Jul 11, 2023
Sample Time	09:15	08:55	09:35
Sample Location			
Sample Description	Railway#2 / 12.7 °C	Springwood #1 / 12.7 °C	WTP Fine Shed / 12.7 °C
Matrix	Water	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Cyanide	Total	mg/L	<0.002	<0.002	<0.002	0.002
Metals Total						
Calcium	Total	mg/L	41	23	13	0.01
Magnesium	Total	mg/L	21	11	1.5	0.02
Potassium	Total	mg/L	0.96	0.46	0.19	0.04
Silicon	Total	mg/L	12	12	2.6	0.005
Sodium	Total	mg/L	12	7.4	15	0.1
Digestion	Preparation		Field Pres, digest as total Hg	Field Pres, digest as total Hg	Field Pres, digest as total Hg	
Mercury	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Microbiological Analysis						
Total Coliforms	Enzyme Substrate Test	MPN/100 mL	<1.0	<1.0	<1.0	1.0
Escherichia coli	Enzyme Substrate Test	MPN/100 mL	<1.0	<1.0	<1.0	1.0
Physical and Aggregate Properties						
Colour	True	Colour units	<5	<5	<5	5
Turbidity		NTU	<0.10	<0.10	<0.10	0.1
Routine Water						
Digestion	Dissolved		Lab filtered & preserved	Lab filtered & preserved	Lab filtered & preserved	
pH - Holding Time			Exceeded	Exceeded	Exceeded	
pH	at 25 °C		7.50	7.40	8.10	0.01
Electrical Conductivity		µS/cm at 25 °C	428	246	143	1
T-Alkalinity	as CaCO3	mg/L	137	88	40	5
Chloride	Dissolved	mg/L	41.3	15.5	16.2	0.05
Fluoride	Dissolved	mg/L	0.03	0.05	0.02	0.01
Nitrate - N	Dissolved	mg/L	1.15	1.56	0.02	0.01
Nitrite - N	Dissolved	mg/L	<0.01	<0.01	<0.01	0.01
Sulfate (SO4)	Dissolved	mg/L	5.5	4.1	1.8	0.1
Hardness	as CaCO3 (dissolved)	mg/L	174	96	29	5
Total Dissolved Solids	Calculated	mg/L	236	150	71	1
Langelier Index			-0.2	-0.7	-0.6	
Trace Metals Total						
Aluminum	Total	mg/L	0.003	0.009	0.010	0.001
Antimony	Total	mg/L	0.00004	0.00003	0.00004	0.00002
Arsenic	Total	mg/L	0.0003	0.0002	0.0002	0.0001
Barium	Total	mg/L	0.082	0.074	0.067	0.0001
Boron	Total	mg/L	0.018	0.008	0.017	0.002
Cadmium	Total	mg/L	0.00003	<0.00001	<0.00001	0.00001

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Reference Number	1664537-1	1664537-2	1664537-3
Sample Date	Jul 11, 2023	Jul 11, 2023	Jul 11, 2023
Sample Time	09:15	08:55	09:35
Sample Location			
Sample Description	Railway#2 / 12.7 °C	Springwood #1 / 12.7 °C	WTP Fine Shed / 12.7 °C
Matrix	Water	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trace Metals Total - Continued						
Chromium	Total	mg/L	0.00072	0.00033	0.00014	0.00005
Copper	Total	mg/L	0.0012	0.0007	0.0006	0.0002
Iron	Total	mg/L	0.015	0.019	0.011	0.002
Lead	Total	mg/L	0.00039	0.00006	0.00001	0.00001
Manganese	Total	mg/L	0.006	0.007	0.003	0.001
Selenium	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Strontium	Total	mg/L	0.13	0.071	0.050	0.0001
Uranium	Total	mg/L	0.00034	0.00006	<0.00001	0.00001
Zinc	Total	mg/L	0.17	0.19	0.14	0.0005

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Lot ID: **1664537**
Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 18, 2023
Report Number: 2892868

Reference Number	1664537-4	1664537-5
Sample Date	Jul 11, 2023	Jul 11, 2023
Sample Time	10:10	10:30
Sample Location		
Sample Description	River / 12.7 °C	Work Yard / 12.7 °C
Matrix	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Inorganic Nonmetallic Parameters						
Cyanide	Total	mg/L	<0.002	<0.002		0.002
Metals Total						
Calcium	Total	mg/L	12	12		0.01
Magnesium	Total	mg/L	1.5	1.4		0.02
Potassium	Total	mg/L	0.14	0.17		0.04
Silicon	Total	mg/L	2.6	2.5		0.005
Sodium	Total	mg/L	6.1	15		0.1
Digestion	Preparation		Field Pres, digest as total Hg	Field Pres, digest as total Hg		
Mercury	Total	mg/L	<0.00001	<0.00001		0.00001
Microbiological Analysis						
Total Coliforms	Enzyme Substrate Test	MPN/100 mL	960.6	<1.0		1.0
Escherichia coli	Enzyme Substrate Test	MPN/100 mL	45.5	<1.0		1.0
Physical and Aggregate Properties						
Colour	True	Colour units	<5	<5		5
Turbidity		NTU	0.40	<0.10		0.1
Routine Water						
Digestion	Dissolved		Lab filtered & preserved	Lab filtered & preserved		
pH - Holding Time			Exceeded	Exceeded		
pH	at 25 °C		7.32	8.10		0.01
Electrical Conductivity		µS/cm at 25 °C	108	142		1
T-Alkalinity	as CaCO3	mg/L	26	41		5
Chloride	Dissolved	mg/L	14.3	16.2		0.05
Fluoride	Dissolved	mg/L	0.02	0.02		0.01
Nitrate - N	Dissolved	mg/L	0.02	0.02		0.01
Nitrite - N	Dissolved	mg/L	<0.01	<0.01		0.01
Sulfate (SO4)	Dissolved	mg/L	1.7	1.7		0.1
Hardness	as CaCO3 (dissolved)	mg/L	35	33		5
Total Dissolved Solids	Calculated	mg/L	58	75		1
Langelier Index			-1.5	-0.6		
Trace Metals Total						
Aluminum	Total	mg/L	0.018	0.013		0.001
Antimony	Total	mg/L	0.00003	0.00003		0.00002
Arsenic	Total	mg/L	0.0002	0.0002		0.0001
Barium	Total	mg/L	0.057	0.055		0.0001
Boron	Total	mg/L	0.017	0.017		0.002
Cadmium	Total	mg/L	<0.00001	<0.00001		0.00001
Chromium	Total	mg/L	0.00015	0.00011		0.00005

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Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 18, 2023
Report Number: 2892868

Reference Number	1664537-4	1664537-5
Sample Date	Jul 11, 2023	Jul 11, 2023
Sample Time	10:10	10:30
Sample Location		
Sample Description	River / 12.7 °C	Work Yard / 12.7 °C
Matrix	Water	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Trace Metals Total - Continued						
Copper	Total	mg/L	0.0007	0.0031		0.0002
Iron	Total	mg/L	0.091	0.009		0.002
Lead	Total	mg/L	0.00002	0.00023		0.00001
Manganese	Total	mg/L	0.007	0.002		0.001
Selenium	Total	mg/L	<0.0002	<0.0002		0.0002
Strontium	Total	mg/L	0.051	0.050		0.0001
Uranium	Total	mg/L	<0.00001	<0.00001		0.00001
Zinc	Total	mg/L	0.15	0.15		0.0005

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

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Control Number:
Date Received: Jul 12, 2023
Date Reported: Jul 18, 2023
Report Number: 2892868

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alk, pH, EC, Turb in water (BC)	APHA	*	Alkalinity - Titration Method, 2320 B	Jul 12, 2023	Element Vancouver
Alk, pH, EC, Turb in water (BC)	APHA	*	Conductivity, 2510 B	Jul 12, 2023	Element Vancouver
Alk, pH, EC, Turb in water (BC)	APHA	*	pH - Electrometric Method, 4500-H+ B	Jul 12, 2023	Element Vancouver
Anions by IEC in water (VAN)	APHA	*	Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	Jul 12, 2023	Element Vancouver
Cyanide (Total) in water	US EPA	*	US EPA method, 335.3	Jul 18, 2023	Element Edmonton - Roper Road
Mercury Low Level (Total) in water (VAN)	EPA	*	Mercury in Water by Cold Vapor Atomic Fluorescence Spectrometry, 245.7	Jul 14, 2023	Element Vancouver
Metals SemiTrace (Dissolved) in water (VAN)	US EPA	*	Metals & Trace Elements by ICP-AES, 6010C	Jul 12, 2023	Element Vancouver
Metals SemiTrace (Total) in Water (VAN)	US EPA	*	Metals & Trace Elements by ICP-AES, 6010C	Jul 13, 2023	Element Vancouver
Total and E-Coli - Colilert - DW (VAN)	APHA		Enzyme Substrate Test, APHA 9223 B	Jul 12, 2023	Element Vancouver
Trace Metals (Total) in Water (VAN)	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Jul 13, 2023	Element Vancouver
True Color in water (VAN)	APHA	*	Spectrophotometric - Single Wavelength Method, 2120 C	Jul 12, 2023	Element Vancouver
Turbidity - Water (VAN)	APHA	*	Turbidity - Nephelometric Method, 2130 B	Jul 12, 2023	Element Vancouver

** Reference Method Modified*

References

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

Comments:

- Jul 12, 2023 - Upon receipt, sample had exceeded recommended temperature for bacterial analysis.

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Project Information

Project ID:
Project Name: Full Spectrum
Project Location:
Legal Location:
PO/AFE#:
Proj. Acct. Code:
Quote #:

Invoice To

Company: City of Parksville
Address:
Attention:
Phone:
Cell:
E-mail:
Government Funded Work YES / NO
SRP #
Agreement ID:

Report To

Company: City of Parksville
Address:
Attention: Barb Sieniecks
Phone:
Cell:
Fax:
E-mail 1: bsieniecks@parksville.ca
E-mail 2:
Copy of Invoice: YES / NO

Additional Reports to

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

Sample Custody

Sampled by: Barb Sieniecks
Company: City of Parksville
I authorize Element to proceed with the work indicated on this form:
Signature:
Date/Time: July 11 10:40

RUSH Priority

- [ ] Same Day (200%)
- [ ] Next Day/Two Day (100%)
- [ ] Three or Four Days (50%)
- [x] 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
- [ ] Online
- [ ] Fax
- [ ] QA/QC
- [x] PDF
- [x] Excel

Requirements

- [ ] HCDWQ
- [ ] AB Tier 1
- [ ] SPIGEC
- [ ] 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 (cm)	Depth end (m)	Date/Time sampled	Matrix	Sampling method	Number of Containers #	MeOH Field Preserved? ✓	Routine	Microbiology	Total Metals	Cyanide	Mercury	Enter tests above (✓ relevant samples below)
1	Railway #2	↑			July 11 9:15					✓	✓	✓	✓	✓	
2	Springwood #1	Full Spectrum			July 11 8:55					✓	✓	✓	✓	✓	
3	WTP-Finished	↓			July 11 9:35					✓	✓	✓	✓	✓	
4	River				July 11 10:10					✓	✓	✓	✓	✓	
5	Works Yard				July 11 10:30					✓	✓	✓	✓	✓	
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 120-06

Lot: 1664537 COC

Temp. received: 12.7 °C

Date/Time stamp: 23 JUL 12 9:45

Delivery Method:

Waybill:

Received by: