



Charge

1. Application

Michael Blackwell, Laywer, Fulton & Company LLP
Lawyers & Trade-Mark Agents
300 - 350 Lansdowne Street
Kamloops BC V2C 1Y1
250-372-5542

eDAS File #: 2020-04416
 Fulton File #: 72595-24/sz

2. Description of Land

PID/Plan Number	Legal Description
007-789-564	DISTRICT LOT 1909S SIMILKAMEEN DIVISION YALE DISTRICT EXCEPT PLAN 39905

3. Nature of Interest

Type	Number	Additional Information
COVENANT		Pursuant to Section 219 of the Land Title Act

4. Terms

Part 2 of this instrument consists of:

(b) Express Charge Terms Annexed as Part 2

5. Transferor(s)

1107439 B.C. LTD., NO.BC1107439

6. Transferee(s)

INTERIOR HEALTH AUTHORITY
 505 DOYLE AVENUE
 KELOWNA BC V1Y 0C5

7. Additional or Modified Terms

8. Execution(s)

This instrument creates, assigns, modifies, enlarges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Witnessing Officer Signature

Execution Date

Transferor / Transferee / Party Signature(s)

YYYY-MM-DD

1107439 B.C. LTD.
By their Authorized Signatory

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature

Execution Date

Transferor / Transferee / Party Signature(s)

YYYY-MM-DD

**Michele Ihas, Approving Officer for
Ministry of Transportation and
Infrastructure**

**This is an instrument required by
the approving officer for
subdivision plan EPP115865
creating the condition or covenant
entered into under s. 219 of the
Land Title Act.**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Electronic Signature

Your electronic signature is a representation that you are a designate authorized to certify this document under section 168.4 of the *Land Title Act*, RSBC 1996 c.250, that you certify this document under section 168.41(4) of the act, and that an execution copy, or a true copy of that execution copy, is in your possession.

--

TERMS OF INSTRUMENT – PART 2

WHEREAS:

- A. The Transferor is the registered owner in fee simple of those certain parcel(s) of land in the Penticton Assessment Area, in the Province of British Columbia, legally described as:
- PID: 007-789-564
DISTRICT LOT 1909S SIMILKAMEEN DIVISION YALE DISTRICT EXCEPT
PLAN 39905
- (the “Land”);
- B. The Transferor proposes to subdivide the Land according to a plan of subdivision completed by Mathew Jaccard, BCLS, on the 26th day of October, 2021 and assigned Plan EPP115865 (the “Proposed Subdivision”);
- C. The Land will not be connected to a community water system and instead water will be supplied from private wells located on the Land (the “Wells”);
- D. Ecoscape Environmental Consultants Ltd. was engaged by the Transferor to conduct chemical analyses of the water from the Wells. Lee Ringham, M.Sc., P.Geo. prepared a report dated December 20, 2021 setting out the results of those analyses, a copy of which report is attached hereto as Schedule A (the “Report”);
- E. Results of the Report indicate that there are levels of uranium and/or fluoride that exceed the acceptable parameters set out in the *Guidelines for Canadian Drinking Water Quality*, published by Health Canada as amended from time to time (the “Guidelines”) in the water produced by the Wells;
- F. The Medical Health Officer has been made aware that the Wells provide water which exceeds the Guidelines for the elements uranium and fluoride, and recommends that anyone occupying the Lands install and maintain appropriate treatment devices to render the water potable in accordance with the Guidelines;
- G. Under section 219 of the *Land Title Act*, R.S.B.C. 1996, c. 250, a covenant in favour of the Transferee, whether of a negative or positive nature, in respect of the use of land may be registered as a charge against the title to the land and is enforceable against the Transferor and its successors in title, even if the covenant is not annexed to land owned by the Transferee; and
- H. The Transferor has agreed to enter into this Agreement with Transferee under section 219 of the *Land Title* to restrict the use of the Land subject to the implementation and maintenance of appropriate water treatment methods.

NOW THEREFORE, in consideration of the covenants contained in this Agreement and for other valuable consideration, the receipt and sufficiency of which are acknowledged by the parties, the parties covenant and agree with each other as follows:

1. For the purposes of this Agreement, “qualified professional” means a professional engineer or a professional geoscientist specializing in hydrogeology.
2. The Transferor shall not use the Land, or any part thereof, nor occupy any building or structure located on the Land for a residential or domestic purpose unless:
 - (a) the Transferor has installed a water treatment system on the Land (the “Water Treatment System”) and has provided the Transferee with a letter from a qualified professional certifying that Water Treatment System will be effective in rendering the water from the Wells potable in accordance with the health and aesthetic criteria set out in the Guidelines;
 - (b) the Transferor maintains and operates the Water Treatment System in a manner such that the treated water from the Wells continues to be potable in accordance with the Guidelines; and
 - (c) the Transferor causes testing of the treated water from the Water Treatment System to be conducted on at least an annual basis to ensure that the water is in compliance with the standards set out in the Guidelines and shall provide the results of such testing to the Transferee.

Maintenance and testing required under this section shall be conducted in accordance with recommendations from a qualified professional.

3. Notwithstanding any other terms of this Agreement, all costs of complying with the covenants in this Agreement, including without restriction, design, construction, reports, certifications of the qualified professional, testing, equipment, fixtures, installation and ongoing maintenance, shall be the sole expense of the Transferor.
4. The Transferor, on behalf of itself and its heirs, executors, administrators, successors and assigns, agrees to indemnify and to save harmless the Transferee and its employees, servants or agents from all loss, damage, costs, actions, suits, debts, accounts, claims and demands which the Transferee or any of its employees, servants or agents, may suffer arising out of or in connection with any breach of any covenant or agreement on the part of the Transferor or its heirs, executors, administrators successors and assigns contained in this Agreement.
5. The enforcement of this Agreement or any term or terms of this Agreement is entirely in the sole discretion of the Transferee and the execution and registration of this instrument is not intended to and shall not be interpreted as creating any duty on the part of the

Transferee to the Transferor or any person to monitor or enforce any term or to prevent, guard against, stop, require the cessation of or bring or prosecute any proceedings against the breach of any term of this Agreement.

6. This Agreement shall be governed by and construed in accordance with, the laws of the Province of British Columbia.
7. Wherever the expressions "Transferor" and "Transferee" are used herein, they shall be construed as meaning the plural, feminine or body corporate or politic where the context or the parties so require.
8. No term, condition, covenant or other provision of this Agreement will be considered to have been waived by the Transferee, unless the waiver is expressed in writing by the Transferee.
9. Any waiver by the Transferee of any term, condition, covenant or other provision of this Agreement or any waiver by the Transferee of any breach, violation or non-performance of any term, condition, covenant or other provision of this Agreement does not constitute and will not be construed as a waiver of any further or term, condition, covenant or other provision of this Agreement or any further or other breach, violation or non-performance of any term, condition, covenant or other provision of this Agreement.
10. Pursuant to section 219 of the *Land Title Act*, the covenants herein contained shall be covenants running with the Lands and shall enure to the benefit of and be binding upon the Transferor and the Transferor's heirs, executors, administrators, successors, assigns and successors in title.
11. If any part of this Covenant is found to be illegal or unenforceable, that part will be considered separate and severable and the remaining parts will not be affected thereby and will be enforceable to the fullest extent permitted by law.
12. Nothing contained or implied in this Covenant shall prejudice or affect the exercise of any of the Transferee's functions under any source of authority including, without limitation, any statutes, regulations, bylaws, orders or other constating documents, all of which may be fully and effectively exercised by the Transferee.
13. The Transferor will do or cause to be done all things and execute or cause to be executed all documents and give such further and other assurances which may be reasonably necessary to give proper effect to the intent of this Covenant.

IN WITNESS WHEREOF this General Instrument, consisting of both Part 1 and Part 2, has been duly executed.

SCHEDULE A

Copy of Report of Qualified Professional

PROPOSED 24-LOT SUBDIVISION OF DL 1909S, SDYD (PID 007-789-564)

GROUNDWATER RESOURCE POTENTIAL ASSESSMENT

MOTI FILE NO. 2020-04416



Prepared By:
Ecoscape Environmental Consultants Ltd.

Prepared For:
1107439 BC Ltd.

December 20, 2021

PROPOSED 24-LOT SUBDIVISION OF DL 1909S, SDYD (PID 007-789-564)

GROUNDWATER RESOURCE POTENTIAL ASSESSMENT

Prepared For:

1107439 BC Ltd.
c/o Ken Flett
2305 Backvalley Road
PO Box 797
Cache Creek, BC
V0K 1H0

Prepared By:

Ecoscape Environmental Consultants Ltd.
#102 – 450 Neave Court
Kelowna, B.C.
V1V 2M2

EGBC Permit to Practice No.: 1002638

December 20, 2021

Project No. 21-4113



TABLE OF CONTENTS

1.0	Introduction	1
2.0	Site Description and Available Data Review.....	1
3.0	Property Well Construction and Production Capability.....	2
4.0	Effects of Potential Well Interference and Seasonal Elevation Variations	4
5.0	Proof of Water Quality	4
5.1	Lot 1.....	5
5.2	Lot 2.....	5
5.3	Lot 3.....	6
5.4	Lot 4.....	7
5.5	Lot 5.....	7
5.6	Lot 6.....	8
5.7	Lot 7.....	8
5.8	Lot 8.....	9
5.9	Lot 9.....	9
5.10	Lot 10.....	10
5.11	Lot 11.....	11
5.12	Lot 12.....	11
5.13	Lot 13.....	12
5.14	Lot 14.....	12
5.15	Lot 15.....	13
5.16	Lot 16.....	13
5.17	Lot 17.....	14
5.18	Lot 18.....	14
5.19	Lot 19.....	15
5.20	Lot 20.....	15
5.21	Lot 21.....	16
5.22	Lot 22.....	16
5.23	Lot 23.....	17
5.24	Lot 24.....	17
6.0	Water Treatment Options.....	18
6.1	Metals.....	18
6.2	Bacteriological Parameters	19
6.3	General Parameters	19
7.0	Conclusions and Recommendations	19
8.0	Limitations.....	20
9.0	Closure	21
	References.....	22

FIGURES

- Figure 1 Site Location
Figure 2 Proposed Subdivision and Well Locations

APPENDICES

- Appendix A Well Logs
Appendix B Water Quality Data
Appendix C Laboratory Certificates of Analysis

Version Control and Revision History				
Version	Date	Prepared By	Reviewed By	Notes/Revisions
A	December 3, 2021	MPS	LR	Draft for internal review
0	December 13, 2021	MPS	LR	Draft for client review
1	December 20, 2021	MPS	LR	Final Report

1.0 INTRODUCTION

Ecoscope Environmental Consultants Ltd. (Ecoscope) was retained by 1107439 BC Ltd. c/o Ken Flett to complete a groundwater quantity and quality assessment for the proposed subdivision of DL 1909S SDYD (the Site, Figure 1), located along Highway 33 in the Regional District of Kootenay Boundary, BC. Ecoscope understands that the Site will be subdivided in 24 conventional lots, including access by common lot for 6 of the lots. Proposed lot sizes vary (Figure 2).

This assessment was completed to support a subdivision application for the 24 proposed lots and is intended to satisfy BC *Land Title Act* and Ministry of Transportation and Infrastructure (MOTI) proof-of-water subdivision requirements, which stipulate proposed lots must be able to provide at least 2,270 L/day (1.58 L/min). Furthermore, the MOTI requires confirmation of water potability and compliance with the *Guidelines for Canadian Drinking Water Quality* (GCDWQ) at all 24 lots. In instances where water quality parameters exceed applicable guidelines, a qualified professional must determine whether these parameters can be lowered to below guideline concentrations using readily available treatment and filtering systems.

Ecoscope's work included:

- a review of available well records and aquifer mapping information from online government databases,
- a review of local geology and surficial geology maps and reports,
- an assessment of local groundwater availability based on this information, and
- preparation of this report which documents the findings.

The intent of this report is to address the BC *Land Title Act* and MOTI requirements.

2.0 SITE DESCRIPTION AND AVAILABLE DATA REVIEW

The Site is bisected by Highway 33, approximately 4 km south of McCulloch Road. The Site is approximately 61.5 hectares in size and comprises mostly undeveloped forest.

Clark Creek flows southwest into Kallis Creek at the southwest Site corner. Kallis Creek flows south towards the West Kettle River. The Site and nearby surrounding area generally slope south, subparallel to Kallis Creek.

Bedrock beneath the Site likely comprises Cretaceous-aged granite and granodiorite (including the Ladybird and Valhalla Intrusions) of the Okanagan Batholith (Cui et al., 2017).

Based on onsite well logs, surficial geology in the area generally comprises silty sand and gravel with abundant cobble and boulders.

There are no mapped aquifers present beneath or near the Site according to the BC Ministry of Environment and Climate Change Strategy's (ENV) Water Resource Atlas (WRA); however, provincial aquifer mapping is generally limited to areas where many wells are present. The newly drilled wells appear to be completed in two distinct unmapped aquifers: a semi-confined sand and gravel aquifer (Lots 12 through 24) and a fractured crystalline bedrock aquifer (Lots 1 through 11). Both aquifers are likely recharged from precipitation and infiltration of snowmelt from surrounding upland areas. Clark Creek probably also provides recharge to the sand and gravel aquifer, which may leak into the underlying bedrock aquifer. Based on aerial photography, no development is apparent, and no wells are reported in the upland area, so groundwater use in the probable recharge area is negligible.

No offsite wells were mapped in the BC WRA near the Site. Until recently, filing of water well records with the BC ENV was voluntary, so it is possible that additional wells not identified during this assessment are present in the area. However, the overall low density of development on and near the Site indicated that very few additional wells, if any, occur nearby, which bodes well for sustainable groundwater use in the area.

3.0 PROPERTY WELL CONSTRUCTION AND PRODUCTION CAPABILITY

All wells were drilled and constructed by Dan-Gare Drilling (Dan-Gare) of Armstrong, B.C. (B.C. Registered Well Driller 08042501) at locations shown on Figure 2. The wells on proposed Lots 1 through 11 were completed in bedrock and are finished with a 150 mm diameter steel casing keyed into bedrock and a 102 mm diameter PVC liner. The wells on proposed Lots 12 through 24 were completed in unconsolidated sediments were finished with 150 mm steel casings, K-Packers and well screens.

Well construction reported on the driller's logs also indicated that the wells were constructed in accordance with the BC Groundwater Protection Regulation in that:

- The wells are equipped with surface seals that extend from the surface to a depth of at least 4.6 m;
- Each well has an attached identification plate;
- The well casings extend a minimum of 0.3 m above the ground surface; and
- The wells are equipped with proper well caps.

A summary of well information is listed in Table 1.

Table 1: Summary of Well Identification and Construction						
Lot	WPID	Completion Date	Well Depth (m)	Static Water Level (mbtoc)	Estimated Yield (L/min)	Production Material
Lot 1	62186	21/09/21	134.42	11.58	4.74	Bedrock
Lot 2	62187	21/09/24	220.07	21.34	2.84	Bedrock
Lot 3	62193	21/10/14	202.69	16.76	3.32	Bedrock
Lot 4	62196	21/10/20	170.69	9.75	3.79	Bedrock
Lot 5	62189	21/10/01	153.31	3.66	13.27	Bedrock
Lot 6	62191	21/10/05	195.07	4.57	2.37	Bedrock
Lot 7	62192	21/10/09	17.68	7.32	7.58	Bedrock
Lot 8	62181	21/09/09	10.06	4.88	34.11	Bedrock
Lot 9	62140	21/03/27	115.82	7.01	4.26	Bedrock
Lot 10	62139	21/03/26	195.07	17.68	3.79	Bedrock
Lot 11	62194	21/10/16	219.46	6.40	3.79	Bedrock
Lot 12	62188	21/09/29	36.58	21.34	113.70	Unconsolidated
Lot 13	62184	21/09/16	15.24	6.40	147.81	Unconsolidated
Lot 14	62185	21/09/17	24.08	13.11	41.69	Unconsolidated
Lot 15	62178	21/09/01	17.68	10.97	151.60	Unconsolidated
Lot 16	62177	21/08/31	16.15	5.79	22.74	Unconsolidated
Lot 17	62138	21/03/19	17.68	9.14	106.12	Unconsolidated
Lot 18	62175	21/08/27	15.24	7.92	113.70	Unconsolidated
Lot 19	62176	21/08/30	17.98	6.71	53.06	Unconsolidated
Lot 20	62180	21/09/09	13.72	8.84	56.85	Unconsolidated
Lot 21	62190	21/09/20	24.38	15.24	7.58	Unconsolidated
Lot 22	62136	21/03/15	35.97	22.25	94.75	Unconsolidated
Lot 23	62179	21/09/07	37.19	21.95	56.85	Unconsolidated
Lot 24	62137	21/03/18	23.77	11.58	113.70	Unconsolidated

Notes:

Mbtoc = meters below top of casing

WPID = Well Plate ID

The estimated yields of all wells were significantly higher than required to meet MOTI subdivision requirements (1.58 L/min) which indicated the unconsolidated and bedrock aquifers are locally productive.

4.0 EFFECTS OF POTENTIAL WELL INTERFERENCE AND SEASONAL ELEVATION VARIATIONS

Well interference can occur when wells are completed close together. Pumping in one well can lower the water level in the other, resulting in reduced performance in both. When well interference becomes excessive, the overall yield of the affected wells may decrease (Driscoll, 1987). However, this effect is reduced by distance and pumping rate.

It is unlikely that groundwater use at the MOTI rate of 2,270 L/day at each proposed lot will significantly affect nearby wells for the following reasons:

- Onsite wells are at least 30 m, and in most cases greater than 50 m apart;
- All wells except those at Lots 2 and 6 were estimated to produce over double the MOTI flow requirements. Most wells completed were estimated to produce over 10 times the MOTI flow requirements; and,
- There are no known nearby offsite wells.

Although the BC ENV maintains an observation well network that is used to monitor long-term changes in groundwater elevations around the province; however, no observation wells are situated near the proposed subdivision.

5.0 PROOF OF WATER QUALITY

Water samples were collected from all 24 wells on the Site in September and October, 2021 for potability analysis. The samples were collected directly into clean, laboratory supplied bottles, and subsequently transported within 24 hours to CARO Analytical in Kelowna, B.C. in an iced cooler.

For this water quality assessment, the term potability is defined as water which is sufficiently pure to be consumed or used with low risk of immediate or long-term harm. With respect to the *Guidelines for Canadian Drinking Water Quality* (GCDWQ), potable water meets all health-based Maximum Allowable Concentrations (MACs) (GCDWQ 2020). In samples where parameters are found to exceed only Aesthetic Objectives (AOs), the water is considered to be potable but treatment may be desired to address taste or odor concerns.

Water quality results were compared to GCDWQ and are tabularized in Appendix B. Laboratory analytical reports are provided in Appendix C.

5.1 Lot 1

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (1.91 mg/L) and strontium (7.51 mg/L) concentrations exceeded their respective MACs of 1.5 mg/L and 7 mg/L in the sample from Lot 1. Elevated fluoride and strontium concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Iron (0.534 mg/L) and manganese (0.0418 mg/L) concentrations were present above the AO guidelines of 0.3 mg/L and 0.02 mg/L, and Total Dissolved Solids (TDS) concentration was measured at 558 mg/L, which marginally exceeded the AO guideline of 500 mg/L. Elevated iron, manganese, and TDS concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 7.87 NTU, above the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.2 Lot 2

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (4.17 mg/L) and uranium (0.296 mg/L) concentrations exceeded their respective MACs of 1.5 mg/L and 0.02 mg/L in the Lot 2 water sample. Elevated fluoride and uranium levels were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

The concentration of iron (0.377 mg/L) was above the AO guideline of 0.3 mg/L. Elevated iron concentrations are likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 4.81 NTU, and exceeded the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.3 Lot 3

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (3.08 mg/L) and uranium (0.092 mg/L) concentrations exceeded their respective MACs of 1.5 mg/L and 0.02 mg/L in the groundwater sample from Lot 3. Elevated fluoride and uranium concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Concentrations of iron (0.377 mg/L) and manganese (0.0201 mg/L) were above the AO guidelines of 0.3 mg/L and 0.02 mg/L, respectively. Elevated iron and manganese concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 7.3 NTU, and exceeded the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.4 Lot 4

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (3.12 mg/L) concentrations exceeded the MAC of 1.5 mg/L in the Lot 4 groundwater sample. Elevated fluoride was likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

The iron (0.638 mg/L) concentration was present above the AO guideline of 0.3 mg/L. Elevated iron was likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 6.49 NTU, above the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.5 Lot 5

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (9.19 mg/L) and uranium (0.0387 mg/L) concentrations exceeded their respective MACs of 1.5 mg/L and 0.02 mg/L in the Lot 5 sample. Elevated fluoride and uranium concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

The iron (0.358 mg/L) concentration was above the AO guideline of 0.3 mg/L. Elevated iron was likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 4.05 NTU, higher than the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.6 Lot 6

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (7.87 mg/L) and uranium (0.124 mg/L) concentrations exceeded their respective MACs of 1.5 mg/L and 0.02 mg/L in the samples from Lot 6. Elevated fluoride and uranium concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Iron (3.39 mg/L) and manganese (0.0424 mg/L) concentrations were above the AO guidelines of 0.3 mg/L and 0.02 mg/L, respectively. Elevated iron and manganese concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 91.6 NTU, above the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.7 Lot 7

Health Based Maximum Allowable Concentrations (MACs)

Concentrations of all analyzed parameters in the sample collected from the Lot 7 well were below their respective MACs.

Aesthetic Objectives (AO)

Turbidity was measured at was 2.32 NTU and exceeded the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.8 Lot 8

Health Based Maximum Allowable Concentrations (MACs)

Concentrations of all analyzed parameters in the sample collected from the Lot 8 well were below their respective MACs.

Aesthetic Objectives (AO)

Turbidity was measured at was 1.33 NTU, above the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.9 Lot 9

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (2.19 mg/L) and uranium (0.0234 mg/L) concentrations exceeded their respective MACs of 1.5 mg/L and 0.02 mg/L in the Lot 9 sample. Elevated fluoride and uranium concentration were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Manganese (0.022 mg/L) concentration was above the AO guideline of 0.02 mg/L. Elevated manganese was likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 2.72 NTU, higher than the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.10 Lot 10

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (4.55 mg/L) and uranium (0.0454 mg/L) concentrations exceeded their respective MACs of 1.5 mg/L and 0.02 mg/L in the sample from Lot 10. Elevated fluoride and uranium concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Iron (0.661 mg/L) and manganese (0.0299 mg/L) concentrations were above the AO guidelines of 0.3 mg/L and 0.02 mg/L, respectively. Elevated iron and manganese concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 8.05 NTU, higher than the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.11 Lot 11

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (4.96 mg/L) and uranium (0.24 mg/L) concentrations exceeded their respective MACs of 1.5 mg/L and 0.02 mg/L in the Lot 11 groundwater sample. The elevated fluoride and uranium concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Iron (2.06 mg/L) and manganese (0.0463 mg/L) concentrations exceeded the AO guidelines of 0.3 mg/L and 0.02 mg/L, respectively. Elevated iron and manganese concentrations were likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 49.5 NTU, above the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL). The results of the microbiological testing was reported as overgrown, without countable total coliforms or *E.coli*. Bacteriological contamination can occur when the well is installed or when repairs are made to the pump or plumbing. The exceedance may also be due to inadvertent cross-contamination during sampling or laboratory processing.

Bacteriological parameters are typically not elevated in deep bedrock aquifers, which, coupled with non-detectable bacteriological parameters in remaining onsite wells, renders it is unlikely that elevated coliforms and *E.coli* naturally occur in the aquifer.

5.12 Lot 12

Health Based Maximum Allowable Concentrations (MACs)

Concentrations of all analyzed parameters in the sample collected from the Lot 12 well were below their respective MACs.

Aesthetic Objectives (AO)

Concentrations of all analyzed parameters in the sample collected from the Lot 12 well were below their respective AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.13 Lot 13

Health Based Maximum Allowable Concentrations (MACs)

Concentrations of all analyzed parameters in the sample collected from the Lot 13 well were below their respective MACs.

Aesthetic Objectives (AO)

Concentrations of all analyzed parameters in the sample collected from the Lot 13 well were below their respective AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.14 Lot 14

Health Based Maximum Allowable Concentrations (MACs)

Manganese (2.13 mg/L) concentrations exceeded the MAC of 0.12 mg/L in the Lot 14 sample. The elevated manganese concentration was likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

The concentration of iron (2.04 mg/L) was above the AO guideline of 0.3 mg/L. The elevated iron concentration was likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Colour (26 CU) was elevated above the AO guideline of 15 CU. Elevated colour is likely related to naturally occurring organic substances and/or metals (e.g., iron) and may not decrease with time.

Turbidity was measured at was 10.1 NTU, exceeding the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.15 Lot 15

Health Based Maximum Allowable Concentrations (MACs)

Manganese (0.486 mg/L) exceeded the MAC of 0.12 mg/L at Lot 15. Elevated manganese is likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Turbidity was measured at was 1.71 NTU, exceeding the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.16 Lot 16

Health Based Maximum Allowable Concentrations (MACs)

Manganese (0.7 mg/L) exceeded the MAC of 0.12 mg/L at Lot 16. Elevated manganese is likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Iron (0.348 mg/L) was present above the AO guideline of 0.3 mg/L. Elevated iron is likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 1.71 NTU, exceeding the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.17 Lot 17

Health Based Maximum Allowable Concentrations (MACs)

Concentrations of all analyzed parameters in the sample collected from the Lot 17 well were below their respective MACs.

Aesthetic Objectives (AO)

Iron (0.303 mg/L) and manganese (0.0507 mg/L) were present above the AO guidelines of 0.3 mg/L and 0.02 mg/L, respectively. Elevated iron and manganese are likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 91.6 NTU, exceeding the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.18 Lot 18

Health Based Maximum Allowable Concentrations (MACs)

Concentrations of all analyzed parameters in the sample collected from the Lot 18 well were below their respective MACs.

Aesthetic Objectives (AO)

Concentrations of all analyzed parameters in the sample collected from the Lot 18 well were below their respective AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.19 Lot 19

Health Based Maximum Allowable Concentrations (MACs)

Concentrations of all analyzed parameters in the sample collected from the Lot 19 well were below their respective MACs.

Aesthetic Objectives (AO)

Manganese (0.0296 mg/L) was present above the AO guideline of 0.02 mg/L. Elevated manganese is likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 3.72 NTU, exceeding the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.20 Lot 20

Health Based Maximum Allowable Concentrations (MACs)

Concentrations of all analyzed parameters in the sample collected from the Lot 20 well were below their respective MACs.

Aesthetic Objectives (AO)

Concentrations of all analyzed parameters in the sample collected from the Lot 20 well were below their respective AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.21 Lot 21

Health Based Maximum Allowable Concentrations (MACs)

Manganese (1.01 mg/L) exceeded the MAC of 0.12 mg/L at Lot 21. Elevated manganese is likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Iron (0.832 mg/L) was present above the AO guideline of 0.3 mg/L. Elevated iron is likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 10.8 NTU, exceeding the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.22 Lot 22

Health Based Maximum Allowable Concentrations (MACs)

Concentrations of all analyzed parameters in the sample collected from the Lot 22 well were below their respective MACs.

Aesthetic Objectives (AO)

Manganese (0.0349 mg/L) was present above the AO guideline of 0.02 mg/L. Elevated manganese is likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Turbidity was measured at was 1.22 NTU, exceeding the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.23 Lot 23

Health Based Maximum Allowable Concentrations (MACs)

Fluoride (1.57 mg/L) and manganese (0.86 mg/L) exceeded their respective MACs of 1.5 mg/L and 0.12 mg/L at Lot 23. Elevated fluoride and manganese are likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Turbidity was measured at was 3.01 NTU, exceeding the GCDWQ operational guidance of 1.0 NTU. Elevated turbidity is common in newly drilled wells, and with prolonged pumping, fine particles left by the drilling process should be mobilized and removed from the well.

Concentrations of remaining parameters did not exceed AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

5.24 Lot 24

Health Based Maximum Allowable Concentrations (MACs)

Manganese (0.288 mg/L) exceeded the MAC of 0.12 mg/L at Lot 24. Elevated manganese is likely related to weathered rocks, soil and minerals within the aquifer and may not decrease with time.

Concentrations of remaining parameters did not exceed MACs.

Aesthetic Objectives (AO)

Concentrations of all analyzed parameters in the sample collected from the Lot 24 well were below their respective AOs.

Bacteriological Parameters

The maximum allowable concentration for all bacteria is 0 per 100 mL of water (0/100 mL) and *E. coli* and total coliform bacteria were not detected in the sample.

6.0 WATER TREATMENT OPTIONS

Exceedances of the GCDWQ MACs must be addressed before the water from the wells can be considered safe for consumption; however, it may also be worth considering treatments for parameters exceeding AOs, as these can cause nuisance issues such as scaling, staining of plumbing fixtures, odour and taste.

Should the elevated MAC and AO parameters not decline with continued pumping, their concentrations can be lowered to below guideline concentrations using readily available treatment and filtering systems. For private wells, selection, operation and maintenance of such systems are the homeowner's responsibility.

When selecting a treatment system, only those which meet National Science Foundation (NSF) or American National Standards Institute criteria should be considered. This section presents a non-exhaustive list of treatment options for the above-described MAC and AO exceedances.

Periodic testing should be conducted on both the water prior entering the treatment unit (i.e., raw groundwater) and the finished water to confirm that the treatment unit(s) is effective. It is important that treatment units are maintained (or replaced) as specified by the manufacturer.

6.1 Metals

Iron and manganese concentrations are commonly reduced by oxidation (using chlorine or potassium permanganate) followed by filtration. Filtration media typically comprises a manganese peroxide-coated media (i.e., greensand); however, regular anthracite media may also be effective.

Fluoride concentrations can be reduced by reverse osmosis or distillation.

Uranium and strontium concentrations can be reduced by reverse osmosis or an ion exchange system.

6.2 Bacteriological Parameters

There are two options for treating the Lot 11 well that had overgrown concentrations of total coliforms and E.coli:

1. Shock-chlorinate the well and resample it to help assess representative bacteriological concentrations in the aquifer prior to being commissioned into service.
2. Alternatively, or if bacteria are still present after shock chlorination, the water can be treated using distillation, ultraviolet light, chlorination, or ozonation.

6.3 General Parameters

Colour is typically removed from water using activated carbon filters.

Total dissolved solids can be reduced by reverse osmosis.

Elevated turbidity should be resolved over time by continued pumping or by installing a filtration system.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the information presented above the following conclusions are made:

- The onsite wells were constructed in accordance with the BC *Groundwater Protection Regulation*;
- Air lift testing indicated sufficient water is available in the onsite wells, assuming water is used for domestic purposes;
- Water quality analysis demonstrates that raw water from the wells on Lots 12, 13, 18 and 20 is potable;
- The remaining wells had some parameters that exceeded the GCDWQ MACs and/or AOs and will require treatment (see recommendations in Section 6.0); and,
- Concentrations of all elevated parameters can be reduced to below GCDWQ using in-home water quality treatment systems.

Based on the conclusions presented above, we are of the opinion that the newly drilled wells can serve as sustainable water supplies for Lots 1 through 24 at the Site.

Ecoscape provides the following recommendations:

- Future homeowners should contact a specialist in residential water treatment to design systems appropriate for the wells' water chemistry using recommendations in Section 6.0 as guidance;

- This assessment pertains to the wells' ability to supply water per the MOTI's flow requirements and assumes that the wells will be used for domestic purposes. Any well used for purposes other than private domestic water supply will require a new-use groundwater license under the BC *Water Sustainability Act*.
- If onsite treatment and disposal systems for domestic wastewater are required in the future, the system dispersal field must be located more than 30 m away from the wells to meet the *Sewerage System Regulation* setback requirements and minimize effects on groundwater quality from system operations.
- This report be submitted the MOTI in support of the subdivision application.

8.0 LIMITATIONS

This report has been prepared by Ecoscape Environmental Consultants Ltd. (Ecoscape) and is intended for the sole and exclusive use of 1107439 BC Ltd. and the MOTI, for the purposes set out in this report. Ecoscape has prepared this report with the understanding that all available information on the past, present, and proposed conditions of the Site have been disclosed. Ecoscape has relied upon personal communications with 1107439 BC Ltd. and other information sources to corroborate the documents and other records available for the Site. 1107439 BC Ltd. has also acknowledged that in order for Ecoscape to properly provide the professional service, Ecoscape is relying upon full disclosure and accuracy of this information. Please note, no hydrogeological investigation can wholly eliminate uncertainty regarding the potential for unrecognized conditions in connection with an aquifer or subsurface materials.

Any use of this report by a third party, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Ecoscape accepts no responsibility for damages, if any, suffered by any third party as a result of actions or decisions made based on this report.

Please be advised that Mr. Ringham is a member in good standing in the Professional Engineers and Geoscientists of British Columbia (EGBC) and he is acting within his area of expertise. This assessment has been completed in accordance with generally accepted engineering and environmental practice.

9.0 CLOSURE

We trust that this report satisfies your present requirements. Should you have any questions or comments, please contact the undersigned at your convenience.

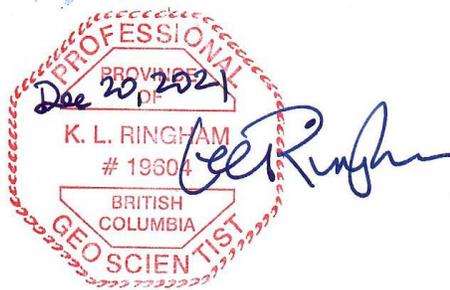
Respectfully Submitted
Ecoscape Environmental Consultants Ltd.,

Written By:



Mike Schutten, M.A.Sc.
Groundwater Scientist
Direct Line: 778-940-1964

Reviewed By:



Lee Ringham, M.Sc., P.Geo.
Senior Hydrogeologist
Chinook Arch Geoscience Inc.
Direct Line: (403) 860-2925

Attachments: Figures
Appendices

REFERENCES

- British Columbia Ministry of Environment and Climate Change Strategy. 2021. BC Water Resources Atlas. Available online: http://www.env.gov.bc.ca/wsd/data_searches/wrbc/.
- Cui, Y., Miller, D., Schiarizza, P., and Diakow, L.J., 2017. British Columbia digital geology. British Columbia Ministry of Energy, Mines and Petroleum Resources, British Columbia Geological Survey Open File 2017-8, 9p. Data version 2019-12-19.
- Driscoll, FG. 1987. Groundwater and Wells. Fletcher G. Publication; St. Paul, Minnesota.
- Health Canada. 2020. Guidelines for Canadian Drinking Water Quality – Summary Table. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. Accessed online at:

FIGURES



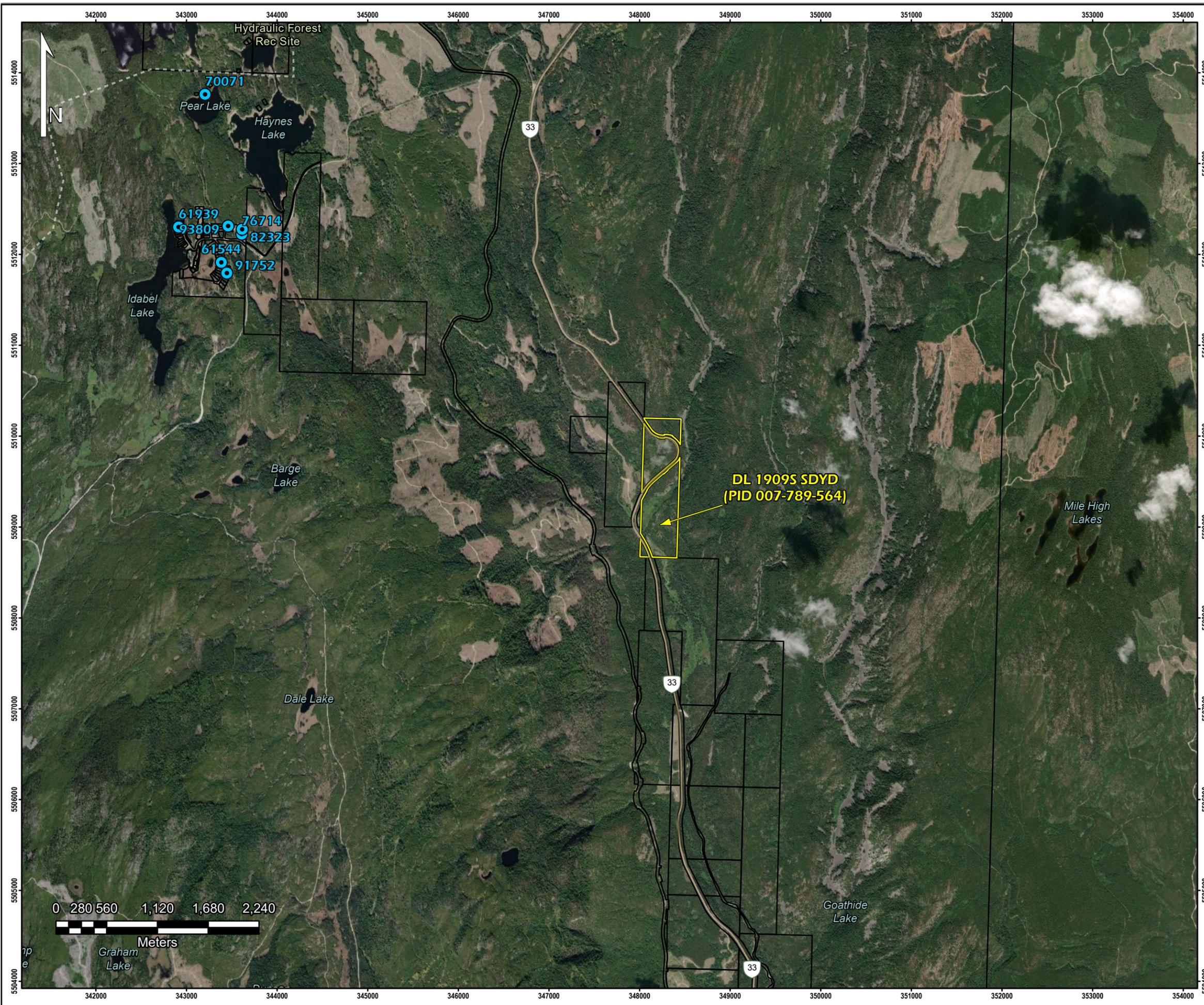
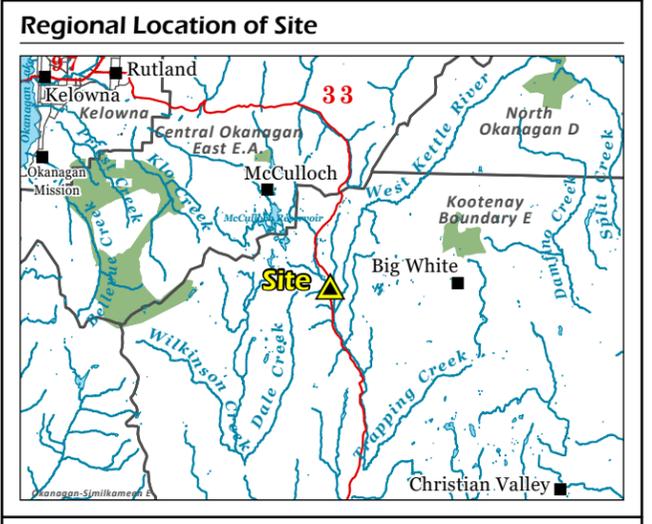


FIGURE 1
Site Location

Project: Groundwater Resource Potential Assessment
 Location: RDKB
 Project No.: 21-4113
 Prepared for: 1107439 BC Ltd.
 Prepared by: Ecoscape Environmental Consultants Ltd.
 Mike Schutten, M.A.Sc.
 Coordinate System: NAD83-UTM Zone 11
 Imagery: ESRI World Imagery
 Map Date: December 2, 2021

- LEGEND**
- Site
 - Streams
 - ENV-Mapped Well (WTN)
 - ENV-Mapped Aquifer
 - Cadastre



DISCLAIMER
 The data displayed is for conceptual purposes only and should not be interpreted as a legal survey or for legal purposes. If discrepancies are found between the data portrayed in this report and that of a legal survey, the legal survey will supersede any data presented herein.

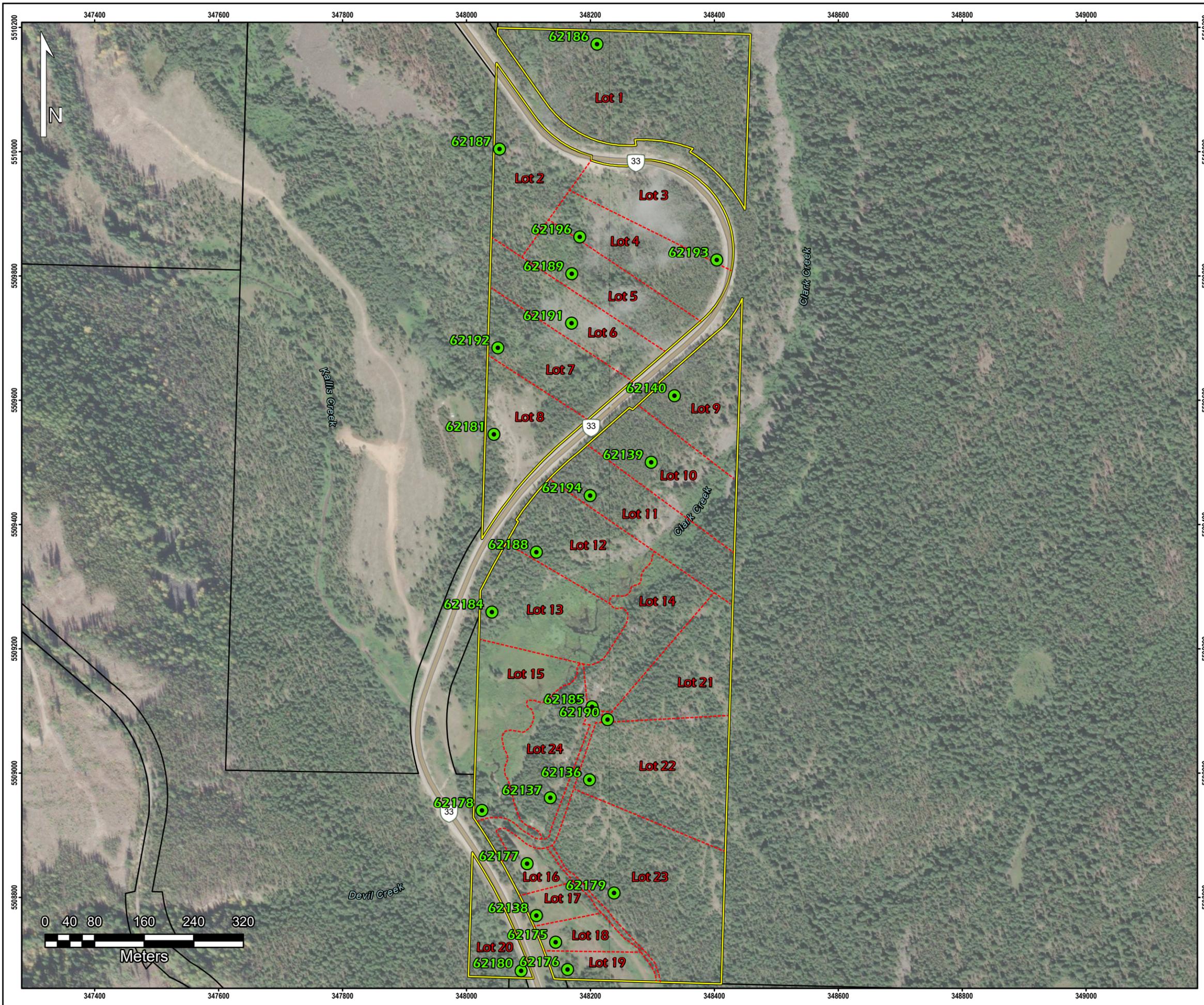


FIGURE 2
Proposed Subdivision and Well Location

Project: Groundwater Resource Potential Assessment
 Location: RDKB
 Project No.: 21-4113
 Prepared for: 1107439 BC Ltd.
 Prepared by: Ecoscape Environmental Consultants Ltd.
 Mike Schutten, M.A.Sc.
 Coordinate System: NAD83-UTM Zone 11
 Imagery: ESRI World Imagery
 Map Date: December 2, 2021

LEGEND

- Well
- - - Proposed Lot Line (approx.)
- Site
- Cadastre

DISCLAIMER
 The data displayed is for conceptual purposes only and should not be interpreted as a legal survey or for legal purposes. If discrepancies are found between the data portrayed in this report and that of a legal survey, the legal survey will supersede any data presented herein.



APPENDIX A - WELL LOGS



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62186
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33 Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Proposed Lot 1

NAD 83: Zone: 114 UTM Easting: 0348211 m Latitude (see note 4):
UTM Northing: 5510173 m Longitude:

Method of drilling: Air rotary
Orientation of well: Vertical
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten entries for 'rocks' and 'some moisture 240-260'.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry: +2 18 6 Steel 0.219 Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size.

Surface seal: Type: Bentonite Depth: 1-18 ft
Method of installation: Poured Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Diameter: 4 in Thickness: 0.250 in
From 102 ft (bgl) To 441 ft (bgl) Perforated: From 160 ft (bgl) To 280 ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: hrs
Notes:

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 14 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obyious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 441 ft Finished well depth: 441 ft (bgl)
Final stick up: 24 in Depth to bedrock: 8 ft (bgl)
SWL: 38 ft (btoc) Estimated well yield: 14 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/09/20 Completed: 2021/09/21
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible: Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62193
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town: Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33
Town Kelowna
Legal description: Lot Plan D.L. Block Sec Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Proposed Lot 3

NAD 83: Zone: 11U UTM Easting: 0348390 m Latitude (see note 4):
UTM Northing: 5509802 m Longitude:

Method of drilling: Air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: vertical horizontal Ground elevation: 3580 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten data for depths 0-10, 10-340, and 340-665 ft.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry for 18 inch steel casing.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size. Includes handwritten entry for 18 inch diameter screen.

Surface seal: Type: Bentonite Depth: 17 ft
Method of installation: Poured Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: 4 in Thickness: 0.250 in
From: 12 ft (bgl) To: 665 ft (bgl) Perforated: From: 625 ft (bgl) To: 665 ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Pressure Frac Total duration: hrs
Notes: 4 gpm increase to 3 gpm

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 3/8 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 665 ft Finished well depth: 665 ft (bgl)
Final stick up: 28 in Depth to bedrock: 10 ft (bgl)
SWL: 55 ft (btoc) Estimated well yield: 3/8 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/10/09 Completed: 2021/10/14
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of

Driller Responsible Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy

Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62196
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33
Town Cache Creek Prov. B.C. Postal Code V0K 1H0
Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 (near border of lot 5.) Description of well location (attach sketch, if nec.): Proposed Lot 4
NAD 83: Zone: 11U UTM Easting: 0348175 UTM Northing: 5509854
Latitude (see note 4): Longitude:
Method of drilling: air rotary
Orientation of well: vertical
Ground elevation: 3583 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten data for depth 8-9 ft and observations 'with some white'.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry: 2 1/2, 17 1/2, 6, Steel, .219, Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size.

Surface seal: Type: Bentonite Depth: 16 ft
Method of installation: Poured Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: 4 in Thickness: .250 in
From: 12 ft (bgl) To: 560 ft (bgl) Perforated: From: 50 ft (bgl) To: 560 ft (bgl) 160, 280, 400

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Pressure Frac Total duration: hrs
Notes: 7 gpm, increase to 1 gpm

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 1 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 560 ft Finished well depth: 560 ft (bgl)
Final stick up: 30 in Depth to bedrock: 9 ft (bgl)
SWL: 32 ft (btoc) Estimated well yield: 1 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminum Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/10/18 Completed: 2024/10/20

Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of

Driller Responsible

Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy

Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62189
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 BC Ltd.
Mailing address: Box 797
Town: Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33
Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Proposed Lot 5

NAD 83: Zone: 11U UTM Easting: 0348170 m Latitude (see note 4):
UTM Northing: 5509804 m Longitude:

Method of drilling: Air rotary
Orientation of well: Vertical
Ground elevation: 3563 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten notes like 'with boulders' and 'Main W.B. Fracture at 468'.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry: 18 6 Steel 0.29 Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size.

Surface seal: Type: Bentonite Depth: 17 ft
Method of installation: Poured Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Diameter: 4 in Thickness: 0.250 in
From: 15 ft (bgl) To: 503 ft (bgl) Perforated: From: 463 ft (bgl) To: 503 ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: hrs
Notes:

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 3.5 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 503 ft Finished well depth: 503 ft (bgl)
Final stick up: 24 in Depth to bedrock: 7 ft (bgl)
SWL: 12 ft (btoc) Estimated well yield: 3.5 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/09/29 Completed: 2021/10/01
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible: Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62191
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town: Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33
Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Proposed Lot 6

NAD 83: Zone: 11U UTM Easting: 0348167 m Latitude (see note 4):
UTM Northing: 5509727 m Longitude:

Method of drilling: air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: vertical horizontal Ground elevation: 3531 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten entries like 'with rocks' and 'Just completely disappeared by 400' when drilling'.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry: +1/2 18 1/2 6 Steel .219 Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size.

Surface seal: Type: Bentonite Depth: 18 1/2 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: 4 in Thickness: .250 in
From: 12 ft (bgl) To: 640 ft (bgl) Perforated: From: 600 ft (bgl) To: 640 ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Pressure Frac Total duration: hrs
Notes: Not much increase from pressure frac

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 5/8 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 640 ft Finished well depth: 640 ft (bgl)
Final stick up: 20 in Depth to bedrock: 12 ft (bgl)
SWL: 15 ft (btoc) Estimated well yield: 5/8 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminum Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/10/01 Completed: 2021/10/05
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible: Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62181
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33
Town Cache Creek Prov. B.C. Postal Code V0K 1H0
Town Kelowna
Description of well location (attach sketch, if nec.): Lower Section of Proposed Lot 8
NAD 83: Zone: 11U UTM Easting: 0348009 UTM Northing: 5509549
Method of drilling: Air rotary
Orientation of well: vertical
Class of well: Water Supply Sub-class of well: Domestic

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten entries for 'Rocks Bedrock'.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry: 2 26 6 Steel .219 Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size.

Surface seal: Type: Bentonite Depth: 16 ft
Method of installation: Poured
Backfill: Type: Depth:
Liner: PVC
Diameter: Thickness:
From: To: Perforated: From: To:

Intake: Screen Open bottom
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other
Filter pack: From: To: Thickness:
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: 2.5 hrs

Notes: Water coming thru gravel on top of the bedrock.

Well yield estimated by:

Pumping Air lifting Bailing Other
Rate: 9 USgpm Duration:
SWL before test: Pumping water level:

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501

Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 33 ft Finished well depth: 33 ft (bgl)
Final stick up: 24 in Depth to bedrock: 26 ft (bgl)
SWL: 16 ft (btoc) Estimated well yield: 9 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/09/09 Completed:
Comments: Don't install pump deeper than 26'

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible: Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Da-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62140
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33
Town Cache Creek Prov. B.C. Postal Code V0K 1A0
Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Lot 9 of Proposed Subdivision
NAD 83: Zone: 11U UTM Easting: 0348336 m Latitude (see note 4):
UTM Northing: 5509608 m Longitude:
Method of drilling: Air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: Vertical horizontal Ground elevation: 3512 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten data for depths 0-4, 4-302, and 302-380.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry: +2 1/2 17 6 Steel .219 Yes.

Surface seal: Type: Bentonite Depth: 16 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: 4 in Thickness: .250 in
From: 9 ft (bgl) To: 380 ft (bgl) Perforated: From: 340 ft (bgl) To: 380 ft (bgl)

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type (see note 18), Slot Size.

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: hrs
Notes:

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 1/8 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 380 ft Finished well depth: 380 ft (bgl)
Final stick up: 28 in Depth to bedrock: 4 1/8 ft (bgl)
SWL: 23 ft (btoc) Estimated well yield: 1/8 USgpm
Artesian flow: USgpm, or Artesian pressure: ft
Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/03/26 Completed: 2021/03/27
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible: Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of

Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62194
Ministry Well Tag Number: _____
 Confirmation/alternative specs. attached
 Original well construction report attached



Ministry of Environment

- Well Construction Report
- Well Closure Report
- Well Alteration Report

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
 Mailing address: Box 797 Town Cache Creek Prov. B.C. Postal Code V0K 1H0
 Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33 Town Kelowna
 Legal description: Lot _____ Plan _____ D.L. _____ Block _____ Sec. _____ Twp. _____ Rg. _____ Land District _____
 PID: 007-789-564 (and) Description of well location (attach sketch, if nec.): Lot 11 of Proposed Subdivision

NAD 83: Zone: 11U (see note 3) UTM Easting: 0348201 m Latitude (see note 4): _____
 UTM Northing: 5509447 m Longitude: _____

Method of drilling: Air rotary dual rotary cable tool mud rotary auger driving jetting other (specify): _____
 Orientation of well: vertical horizontal Ground elevation: 3492 ft (asl) Method (see note 5): GPS
 Class of well (see note 6): Water Supply Sub-class of well: Domestic
 Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify): _____

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

From ft (bgl)	To ft (bgl)	Surficial Material						Bedrock Material						Colour						Hardness			Water Content			Observations (e.g. other geological materials (e.g. boulders), est. water bearing flow (USgpm), or closure details)								
		Clay	Silt	Till	Sand with clay/silt	Sand, fine-med	Sand, med-coarse	Sand with gravel	Siltstone/shale	Sandstone	Conglomerate	Limestone	Basalt	Volcanic	Crystalline	Other Surficial/Bedrock	Red	Orange	Brown	Tan	Light Grey	Blue	Green	Dark Grey	Very Hard		Hard	Dense/Stiff	Loose	Dry	Moist	Wet	High Production	Lost circulation
0	4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	with rocks																		
14	29	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Soft bedrock	
29	720	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Main Water Bearing Fracture at 85'	

Casing details

From ft (bgl)	To ft (bgl)	Dia in	Casing Material/Open Hole (see note 17)	Wall Thickness in	Drive Shoe
+22	29	6	Steel	0.219	Yes

Screen details

From ft (bgl)	To ft (bgl)	Dia in	Type (see note 18)	Slot Size

Surface seal: Type: Bentonite Depth: 17 ft
 Method of installation: Poured Pumped Thickness: 1 in
 Backfill: Type: _____ Depth: _____ ft
 Liner: PVC Other (specify): _____
 Diameter: 4 in Thickness: 0.250 in
 From: 32 ft (bgl) To: 720 ft (bgl) Perforated: From 680 ft (bgl) To 720 ft (bgl)
100, 260, 400, 540

Intake: Screen Open bottom Uncased hole
 Screen type: Telescope Pipe size
 Screen material: Stainless steel Plastic Other (specify): _____
 Screen opening: Continuous slot Slotted Perforated pipe
 Screen bottom: Bail Plug Plate Other (specify): _____
 Filter pack: From: _____ ft To: _____ ft Thickness: _____ in
 Type and size of material: _____

Developed by:

Air lifting Surging Jetting Pumping Bailing
 Other (specify): Pressure Frac Total duration: _____ hrs
 Notes: 2 gpm increase to 1 gpm

Well yield estimated by:

Pumping Air lifting Bailing Other (specify): _____
 Rate: 1 USgpm Duration: _____ hrs
 SWL before test: _____ ft (btoc) Pumping water level: _____ ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
 Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
 Registration no. (see note 20): 08042501
 Consultant (if applicable; name and company): _____

Final well completion data:

Total depth drilled: 720 ft Finished well depth: 720 ft (bgl)
 Final stick up: 30 in Depth to bedrock: 14 ft (bgl)
 SWL: 21 ft (btoc) Estimated well yield: 1 USgpm
 Artesian flow: _____ USgpm, or Artesian pressure: _____ ft
 Type of well cap: Aluminum Well disinfected: Yes No
 Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure: _____
 Method of closure: Poured Pumped
 Sealant material: _____ Backfill material: _____
 Details of closure (see note 16): _____

Date of work (YYYY/MM/DD):

Started: 2021/03/29 Completed: 2021/10/16
 Comments: _____

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible

Logan Flett
 PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62188
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town: Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33
Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 Description of well location (attach sketch, if nec.): Proposed Lot 12

NAD 83: Zone: 11U UTM Easting: 0348091 m Latitude (see note 4):
UTM Northing: 5509328 m Longitude:

Method of drilling: Air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: Vertical horizontal Ground elevation: 3486 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material (Clay, Silt, Till, Sand with clay/silt, Sand, fine-med, Sand, med-coarse, Sand with gravel), Bedrock Material (Siltstone/shale, Sandstone, Conglomerate, Limestone, Basalt, Volcanic, Crystalline, Other Surficial/Bedrock), Colour (Red, Orange, Brown, Tan, Light Grey, Blue, Green, Dark Grey), Hardness (Very Hard, Hard, Dense/Stiff, Loose), Water Content (Dry, Moist, Wet, High Production, Lost circulation, Not Available), Observations (e.g. other geological materials, est. water bearing flow (USgpm), or closure details). Handwritten entries show data for depths 0-101, 101-111, and 111-120 ft.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole (see note 17), Wall Thickness in, Drive Shoe. Handwritten entry: +2 115 6 Steel 0.219 Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type (see note 18), Slot Size. Handwritten entry: 114 118 6 K-Packer Screen 40.

Surface seal: Type: Bentonite Depth: 16 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: 3.5 hrs
Notes:

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 30 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 120 ft Finished well depth: 118 ft (bgl)
Final stick up: 26 in Depth to bedrock: ft (bgl)
SWL: 70 ft (btoc) Estimated well yield: 30 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/09/28 Completed: 2021/09/29
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62184
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33 Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Proposed lot 13

NAD 83: Zone: 11U UTM Easting: 0347990 m Latitude (see note 4):
UTM Northing: 5589256 m Longitude:

Method of drilling: air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: vertical horizontal Ground elevation: 3430 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten entries for depths 0-22, 22-31, and 31-39 ft.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry for 2-35.5 ft.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size. Includes handwritten entry for 35-39 ft.

Surface seal: Type: Bentonite/Cuttings Depth: 16 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: 4 hrs
Notes: Pumping some sand at bottom of screen.
Well yield estimated by: Pumping clear near the top of the screen when air lifting
Rate: 50 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Final well completion data:

Total depth drilled: 39 ft Finished well depth: 39 ft (bgl)
Final stick up: 25 in Depth to bedrock: ft (bgl)
SWL: 21 ft (btoc) Estimated well yield: 50 USgpm
Artesian flow: USgpm, or Artesian pressure: ft
Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/09/16 Completed: 2021/09/16
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible: Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62185
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town: Cache Creek Prov. B.C. Postal Code V0K1H0
Well Location (see note 2): Address: Street no 8930 Street name Hwy 33 Town Kelowna
Legal description: Lot Plan D.L. Block Sec Twp Rg. Land District
PID: 007-789-564 Description of well location (attach sketch, if nec.): Proposed Lot 14

NAD 83: Zone: 11 U UTM Easting: 0348192 m Latitude (see note 4):
UTM Northing: 5509091 m Longitude:

Method of drilling: Air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: Vertical horizontal Ground elevation: 3434 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten entry 'with rocks & boulders'.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry '+2 75 6 steel .219 Yes'.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size. Includes handwritten entry '74 78 6 K-Packer? Screen 50'.

Surface seal: Type: Bentonite Depth: 16 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: 4 hrs

Notes: Flow restricted by 50 slot screen, yet still a bit sandy.

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 11 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 79 ft Finished well depth: 78 ft (bgl)
Final stick up: 27 in Depth to bedrock: ft (bgl)
SWL: 43 ft (btoc) Estimated well yield: 11 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminum Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/09/16 Completed: 2021/09/17
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible: Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62178
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town: Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33 Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Proposed Lot 15

NAD 83: Zone: 11U UTM Easting: 0348016 m Latitude (see note 4):
UTM Northing: 5508929 m Longitude:

Method of drilling: air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: vertical horizontal Ground elevation: 3417 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material (Clay, Silt, Till, Sand with clay/silt, Sand, fine-med, Sand, med-coarse, Sand with gravel), Bedrock Material (Siltstone/shale, Sandstone, Conglomerate, Limestone, Basalt, Volcanic, Crystalline, Other Surficial/Bedrock), Colour (Red, Orange, Brown, Tan, Light Grey, Blue, Green, Dark Grey, Very Hard, Hard, Dense/Stiff, Loose), Hardness, Water Content (Dry, Moist, Wet, High Production, Lost circulation, Not Available), Observations (e.g. other geological materials, est. water bearing flow (USgpm), or closure details). Includes handwritten notes: 'with rocks', 'Finersand? gravel'.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole (see note 17), Wall Thickness in, Drive Shoe. Handwritten entry: +2 54 1/2 6 Steel .219 Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type (see note 18), Slot Size. Handwritten entry: 54 58 6 K-Packer Screen 60.

Surface seal: Type: Bentonite Depth: 15 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: hrs
Notes:

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 40 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: NO Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 59 ft Finished well depth: 58 ft (bgl)
Final stick up: 26 in Depth to bedrock: ft (bgl)
SWL: 36 ft (btoc) Estimated well yield: 40 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/08/31 Completed: 2021/09/01
Comments: Aquifer silty but productive

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
- Well Closure Report
- Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62177
 Ministry Well Tag Number: _____
 Confirmation/alternative specs. attached
 Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
 Mailing address: Box 797 Town Cache Creek Prov. B.C. Postal Code V0K 1H0
 Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33 Town Kelowna
 Legal description: Lot _____ Plan _____ D.L. _____ Block _____ Sec. _____ Twp. _____ Rg. _____ Land District _____
 PID: 007-789-564 (and) Description of well location (attach sketch, if nec.): Proposed Lot 16

NAD 83: Zone: 11U (and) UTM Easting: 0348097 m Latitude (see note 4): _____
 (see note 3) UTM Northing: 5508854 m (or) Longitude: _____
 Method of drilling: air rotary dual rotary cable tool mud rotary auger driving jetting other (specify): _____
 Orientation of well: vertical horizontal Ground elevation: 3395 ft (asl) Method (see note 5): GPS
 Class of well (see note 6): Water Supply Sub-class of well: Domestic
 Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify): _____

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

From ft (bgl)	To ft (bgl)	Surficial Material						Bedrock Material						Colour						Hardness					Water Content			Observations (e.g. other geological materials (e.g. boulders), est. water bearing flow (USgpm), or closure details)							
		Clay	Silt	Sand with clay/silt	Sand, fine-med	Sand, med-coarse	Sand with gravel	Siltstone/shale	Sandstone	Conglomerate	Limestone	Basalt	Volcanic	Crystalline	Other Surficial/Bedrock	Red	Orange	Brown	Tan	Light Grey	Blue	Green	Dark Grey	Very Hard	Hard	Dense/Stiff	Loose		Dry	Moist	Wet	High Production	Lost circulation	Not Available	
0	12	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																								
12	45	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	with rocks																							
45	49	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	rocks																								
49	53	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	rocks, silt/water (Not producing much water Tight, Pble staying open while drilling)																								

Casing details

From ft (bgl)	To ft (bgl)	Dia in	Casing Material/Open Hole (see note 17)	Wall Thickness in	Drive Shoe
+2 1/2	48 1/2	6	Steel	.219	Yes

Screen details

From ft (bgl)	To ft (bgl)	Dia in	Type (see note 18)	Slot Size
48	52	6	K-Packer Screen	80

Surface seal: Type: Bentonite Depth: 15 ft
 Method of installation: Poured Pumped Thickness: 2 in
 Backfill: Type: _____ Depth: _____ ft
 Liner: PVC Other (specify): _____
 Diameter: _____ in Thickness: _____ in
 From: _____ ft (bgl) To: _____ ft (bgl) Perforated: From: _____ ft (bgl) To: _____ ft (bgl)

Intake: Screen Open bottom Uncased hole
 Screen type: Telescope Pipe size
 Screen material: Stainless steel Plastic Other (specify): _____
 Screen opening: Continuous slot Slotted Perforated pipe
 Screen bottom: Bail Plug Plate Other (specify): _____
 Filter pack: From: _____ ft To: _____ ft Thickness: _____ in
 Type and size of material: _____

Developed by:

Air lifting Surging Jetting Pumping Bailing
 Other (specify): _____ Total duration: _____ hrs
 Notes: _____

Well yield estimated by:

Pumping Air lifting Bailing Other (specify): _____
 Rate: 6 USgpm Duration: _____ hrs
 SWL before test: _____ ft (btoc) Pumping water level: _____ ft (btoc)

Obyious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
 Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
 Registration no. (see note 20): 08042501
 Consultant (if applicable; name and company): _____

Final well completion data:

Total depth drilled: 53 ft Finished well depth: 52 ft (bgl)
 Final stick up: 32 in Depth to bedrock: _____ ft (bgl)
 SWL: 19 ft (btoc) Estimated well yield: 6 USgpm
 Artesian flow: _____ USgpm, or Artesian pressure: _____ ft
 Type of well cap: Aluminum Well disinfected: Yes No
 Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure: _____
 Method of closure: Poured Pumped
 Sealant material: _____ Backfill material: _____
 Details of closure (see note 16): _____

Date of work (YYYY/MM/DD):

Started: 2024/08/30 Completed: 2024/08/31
 Comments: _____

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible

Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
 canary: Driller copy
 pink: Ministry copy
 Sheet _____ of _____



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62138
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33
Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 (and) Description of well location (attach sketch, if nec.): Lot 17 of Proposed Subdivision

NAD 83: Zone: 11U UTM Easting: 0348103 m Latitude (see note 4):
UTM Northing: 5508763 m Longitude:

Method of drilling: air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: vertical horizontal Ground elevation: 3410 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material (Clay, Silt, Till, Sand with clay/silt, Sand, fine-med, Sand, med-coarse, Sand with gravel), Bedrock Material (Siltstone/shale, Sandstone, Conglomerate, Limestone, Basalt, Volcanic, Crystalline, Other Surficial/Bedrock), Colour (Red, Orange, Brown, Tan, Light Grey, Blue, Green, Dark Grey, Very Hard, Hard, Dense/Stiff, Loose), Hardness, Water Content (Dry, Moist, Wet, High Production, Lost circulation, Not Available), Observations (e.g. other geological materials, est. water bearing flow (USgpm), or closure details). Handwritten entries include 'Topsoil & Roots' and 'Rocks Probably Bedrock'.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole (see note 17), Wall Thickness in, Drive Shoe. Handwritten entry: +2 54 2 6 Steel .219 Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type (see note 18), Slot Size. Handwritten entry: 54 58 6 K-Packer Screen 25.

Surface seal: Type: Bentonite Depth: 17 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: 3 hrs
Notes:

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 28 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 59 ft Finished well depth: 58 ft (bgl)
Final stick up: 30 in Depth to bedrock: ft (bgl)
SWL: 22 ft (btoc) Estimated well yield: 28 USgpm
Artesian flow: USgpm, or Artesian pressure: ft
Type of well cap: Aluminum Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/03/18 Completed: 2021/03/19
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible: Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62180
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33 Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 (and) Description of well location (attach sketch, if nec.): Proposed Lot 20

NAD 83: Zone: 11U (and) UTM Easting: 0348092 m Latitude (see note 4):
UTM Northing: 5508661 m (or) Longitude:

Method of drilling: Air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: vertical horizontal Ground elevation: 3411 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material (Clay, Silt, Till, Sand with clay/silt, Sand, fine-med, Sand, med-coarse, Sand with gravel), Bedrock Material (Siltstone/shale, Sandstone, Conglomerate, Limestone, Basalt, Volcanic, Crystalline, Other Surficial/Bedrock), Colour (Red, Orange, Brown, Tan, Light Grey, Blue, Green, Dark Grey, Very Hard, Hard, Dense/Stiff, Loose), Hardness, Water Content (Dry, Moist, Wet, High Production, Lost circulation, Not Available), Observations (e.g. other geological materials, est. water bearing flow (USgpm), or closure details). Rows show data for 0-2, 2-14, 14-44, and 44-45 ft depths.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole (see note 17), Wall Thickness in, Drive Shoe. Row: 2-43 ft, 6 in, Steel, 0.219 in, Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type (see note 18), Slot Size. Row: 41-45 ft, 6 in, K-Packer + Screen, 60.

Surface seal: Type: Bentonite Depth: 15 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: 2 hrs
Notes:

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 15 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obyious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 45 ft Finished well depth: 45 ft (bgl)
Final stick up: 24 in Depth to bedrock: ft (bgl)
SWL: 29 ft (btoc) Estimated well yield: 15 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminum Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2024/09/08 Completed: 2024/09/09
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

DanGare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62190
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no 8930 Street name Hwy 33
Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Proposed Lot 21

NAD 83: Zone: 11U UTM Easting: 0348205 m Latitude (see note 4):
UTM Northing: 5509076 m Longitude:

Method of drilling: air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: vertical horizontal Ground elevation: 3437 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten data for depth intervals 0-45, 45-76, 76-80.5, 80.5-85.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry: +2 80 6 Steel 0.219 Yes

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size. Includes handwritten entry: 80 80 6 Aluminum Well disinfected: No

Surface seal: Type: Bentonite Depth: 16 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: hrs
Notes:

Final well completion data:

Total depth drilled: 85 ft Finished well depth: 80 ft (bgl)
Final stick up: 28 in Depth to bedrock: ft (bgl)
SWL: 50 ft (btoc) Estimated well yield: 2 USgpm
Artesian flow: USgpm, or Artesian pressure: ft
Type of well cap: Aluminum Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 2 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour (odour): No Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Date of work (YYYY/MM/DD):

Started: 2021/09/17 Completed: 2021/09/20
Comments: Recommended Pump Setting is 75. Pump into a tank.

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible: Logan Flett

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd

Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62136
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 B.C. Ltd.
Mailing address: Box 797
Town Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33
Town Kelowna
Legal description: Lot Plan D.L. Block Sec. Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Lot 22 of Proposed Subdivision

NAD 83: Zone: 114 UTM Easting: 0348199 m Latitude (see note 4):
UTM Northing: 5508987 m Longitude:

Method of drilling: air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: vertical horizontal Ground elevation: 3466 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten data for depth intervals 0-4, 4-72, 72-116, 116-120 ft.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry: 22 114 6 Steel 0.219 Yes.

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size. Includes handwritten entry: 114 118 6 K-Pecker Screen 25.

Surface seal: Type: Bentonite Depth: 17 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: 3 hrs

Notes: Aquifer very silty/dirty

Well yield estimated by:

Pumping Air lifting Bailing Other (specify):
Rate: 25 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obvious water quality characteristics:

Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: Turbidity High Water sample collected:

Well driller (print clearly):

Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 120 ft Finished well depth: 118 ft (bgl)
Final stick up: 30 in Depth to bedrock: 120 ft (bgl)
SWL: 73 ft (btoc) Estimated well yield: 25 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: Stick-up

Well closure information:

Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):

Started: 2021/03/12 Completed: 2021/03/15
Comments:

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.

Signature of Driller Responsible

PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of



Ministry of Environment

- Well Construction Report
Well Closure Report
Well Alteration Report

Dan-Gare Drilling Ltd
Box 722
Armstrong, BC V0E 1B0
1-888-549-3130

Ministry Well ID Plate Number: 62179
Ministry Well Tag Number:
Confirmation/alternative specs. attached
Original well construction report attached

Red lettering indicates minimum mandatory information. See reverse for notes & definitions of abbreviations.

Owner name: 1107439 BC Ltd
Mailing address: Box 797
Town: Cache Creek Prov. B.C. Postal Code V0K 1H0
Well Location (see note 2): Address: Street no. 8930 Street name Hwy 33 Town Kelowna
Legal description: Lot Plan D.L. Block Sec Twp. Rg. Land District
PID: 007-789-564 and Description of well location (attach sketch, if nec.): Proposed Lot 23

NAD 83: Zone: 11U UTM Easting: 03480235 m Latitude (see note 4):
UTM Northing: 5508806 m Longitude:

Method of drilling: air rotary dual rotary cable tool mud rotary auger driving jetting other (specify):
Orientation of well: vertical horizontal Ground elevation: 3470 ft (asl) Method (see note 5): GPS
Class of well (see note 6): Water Supply Sub-class of well: Domestic
Water supply wells: indicate intended water use: private domestic water supply system irrigation commercial or industrial other (specify):

Lithologic description (see notes 8-13) or closure description (see notes 14 and 15)

Table with columns: From ft (bgl), To ft (bgl), Surficial Material, Bedrock Material, Colour, Hardness, Water Content, Observations. Includes handwritten notes like 'with Recks' and 'Not producing water'.

Casing details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Casing Material/Open Hole, Wall Thickness in, Drive Shoe. Includes handwritten entry: +2 11 1/2 6 Steel .219 Yes

Screen details

Table with columns: From ft (bgl), To ft (bgl), Dia in, Type, Slot Size. Includes handwritten entries: 111 115 6 K-Packer & Screen 50, 115 119 6 Screen & Plug 25

Surface seal: Type: Bentonite Depth: 16 ft
Method of installation: Poured Pumped Thickness: 1 in
Backfill: Type: Depth: ft
Liner: PVC Other (specify):
Diameter: in Thickness: in
From: ft (bgl) To: ft (bgl) Perforated: From: ft (bgl) To: ft (bgl)

Intake: Screen Open bottom Uncased hole
Screen type: Telescope Pipe size
Screen material: Stainless steel Plastic Other (specify):
Screen opening: Continuous slot Slotted Perforated pipe
Screen bottom: Bail Plug Plate Other (specify):
Filter pack: From: ft To: ft Thickness: in
Type and size of material:

Developed by:

Air lifting Surging Jetting Pumping Bailing
Other (specify): Total duration: 2 1/4 hrs

Notes: Just a couple grains of sand coming at end of development. Slightly Cloudy.

Well yield estimated by:
Pumping Air lifting Bailing Other (specify):
Rate: 15 USgpm Duration: hrs
SWL before test: ft (btoc) Pumping water level: ft (btoc)

Obyious water quality characteristics:
Fresh Salty Clear Cloudy Sediment Gas
Colour/odour: No Water sample collected:

Well driller (print clearly):
Name (first, last) (see note 19): Logan Flett
Registration no. (see note 20): 08042501
Consultant (if applicable; name and company):

Final well completion data:

Total depth drilled: 122 ft Finished well depth: 119 ft (bgl)
Final stick up: 28 in Depth to bedrock: ft (bgl)
SWL: 72 ft (btoc) Estimated well yield: 15 USgpm
Artesian flow: USgpm, or Artesian pressure: ft

Type of well cap: Aluminium Well disinfected: Yes No
Where well ID plate is attached: stick-up

Well closure information:
Reason for closure:
Method of closure: Poured Pumped
Sealant material: Backfill material:
Details of closure (see note 16):

Date of work (YYYY/MM/DD):
Started: 2021/09/01 Completed: 2021/09/07
Comments: Aquifer is silty.

DECLARATION: Well construction, well alteration or well closure, as the case may be, has been done in accordance with the requirements in the Water Act and the Ground Water Protection Regulation.
Signature of Driller Responsible: Logan Flett
PLEASE NOTE: The information recorded in this well report describes the works and hydrogeologic conditions at the time of construction, alteration or closure, as the case may be. Well yield, well performance and water quality are not guaranteed as they are influenced by a number of factors, including natural variability, human activities and condition of the works, which may change over time.

white: Customer copy
canary: Driller copy
pink: Ministry copy
Sheet of

APPENDIX B – WATER QUALITY DATA

Sampling Location				Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6	Lot 7	Lot 8	Lot 9	Lot 10	Lot 11	Lot 12	Lot 13	Lot 14	Lot 15	Lot 16	Lot 17	Lot 18	Lot 19	Lot 20	Lot 21	Lot 22	Lot 23	Lot 24	
Lab Sample ID				2113335-01	2114050-01	2112772-01	21J3628-01	21J0518-01	21J1224-01	21J1778-01	21J0794-02	21I2992-01	21I3335-02	21J2403-01	21J0111-04	21J0111-01	21I3667-01	21J0111-02	21I3667-03	21I4050-03	21I4050-04	21I4050-02	21J0111-03	21J0518-02	21I3667-02	21J0518-03	21J0794-01	
Sample ID				62186	62187	62193	Lot 4	62189	62191	62192	62181	62140	62139	62194	62188	62184	62185	62178	62177	62138	62175	62176	62180	62190	62136	62179	62137	
Date Sampled				2021-09-24	2021-09-29	2021-10-19	2021-10-26	2021-10-05	2021-10-08	2021-10-13	2021-10-06	2021-09-22	2021-09-23	2021-10-18	2021-10-01	2021-10-01	2021-09-27	2021-09-30	2021-09-28	2021-09-30	2021-09-30	2021-09-29	2021-09-30	2021-10-04	2021-09-28	2021-10-04	2021-10-06	
Analyte	Units	RL ³	MAC ¹	AO ²																								
Anions																												
Chloride	mg/L	0.1		250	121	32.3	32.1	70.3	36.4	36.1	25	46.1	43.3	31.2	41.2	115	50.2	66.3	33.1	20.2	28	24.3	29	10.9	62.6	48.3	35.7	34.8
Fluoride	mg/L	0.1	1.5		1.91	4.17	3.08	3.12	9.19	7.87	0.7	0.19	2.19	4.55	4.96	0.3	0.23	0.82	0.28	1.4	0.23	0.23	0.26	0.28	1.36	0.52	1.57	0.27
Nitrate (as N)	mg/L	0.01	10		0.014	<0.010	<0.010	<0.010	<0.010	<0.010	0.053	0.087	0.031	<0.010	<0.010	0.154	0.08	<0.010	0.059	0.023	0.082	0.098	0.131	0.047	<0.010	0.017	<0.010	0.013
Nitrite (as N)	mg/L	0.01	1		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L	1		500	11	18.1	6.5	9	13.8	11.4	2	1.6	2.8	15.4	16.8	3.6	2.8	6.1	6.4	9.6	6.9	6.4	5.5	4.5	5.8	5.8	22.3	4.7
General Parameters																												
Langelier Index	-	-5			1.2	0.7	0.6	0.8	0.7	0.5	-1.3	-1.5	0.4	0.7	0.9	-1	-1	-0.02	-0.8	-0.3	-0.9	-0.9	-0.8	-1.3	-0.5	-0.4	-0.7	-1
Hardness, Total (as CaCO3)	mg/L	0.5			130	55	76.8	79.6	26.5	29.9	49.6	30.7	69.5	54.2	45.7	84.2	56.7	154	74.3	78.5	70.2	65.4	70.2	45.4	135	95.5	85.2	102
Solids, Total Dissolved (calc)	mg/L	1		500	558	282	223	358	321	305	87.2	135	249	305	274	232	138	204	132	123	120	111	115	70.7	217	162	164	121
Temperature, at pH	°C				22.6	22.1	22	21.7	20.5	20.2	22.1	22.7	21.5	22.8	22.8	22.1	22.2	22.1	22.3	22.1	22.2	22	21.9	20.7	22.2	22	22	22.6
Colour, True	CU	5		15	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.7	9.9	<5.0	<5.0	7.9	<5.0	<5.0	26	<5.0	<5.0	<5.0	5.8	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Alkalinity, Total (as CaCO3)	mg/L	1			362	195	165	227	227	201	46.2	54	173	221	184	46.5	55.2	95.7	75.4	79.7	68.1	66.7	64.3	49.1	109	79.2	74.1	48.6
Alkalinity, Phenolphthalein (as CaCO3)	mg/L	1			12.9	7.8	3.5	8.5	16.7	9.8	<1.0	<1.0	1.1	9	14.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Bicarbonate (as CaCO3)	mg/L	1			336	180	158	210	194	181	46.2	54	171	204	155	46.5	55.2	95.7	75.4	79.7	68.1	66.7	64.3	49.1	109	79.2	74.1	48.6
Alkalinity, Carbonate (as CaCO3)	mg/L	1			25.7	15.7	6.9	16.9	33.4	19.7	<1.0	<1.0	2.1	17.9	29.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity, Hydroxide (as CaCO3)	mg/L	1			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyanide, Total	mg/L	0.002	0.2		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0097	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Turbidity	NTU	0.1		1 ⁴	7.87	4.81	7.3	6.49	4.05	91.6	2.32	1.33	2.72	8.05	49.5	0.38	0.4	10.1	1.71	5.55	2.12	0.53	3.72	0.3	10.8	1.22	3.01	0.37
pH	pH units	0.1		7.0-10.5	8.52	8.6	8.43	8.58	8.94	8.72	7.35	7.26	8.33	8.61	8.94	7.46	7.6	7.87	7.58	7.93	7.51	7.49	7.61	7.39	7.47	7.77	7.54	7.33
Conductivity (EC)	uS/cm	2			972	477	388	615	547	501	169	249	419	505	501	494	283	401	245	218	219	210	209	134	391	303	289	248
Bacteriological Parameters																												
Coliforms, Total	CFU/100 m	1	0		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Overgrown	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
E. coli	CFU/100 m	1	0		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Overgrown	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Metals																												
Aluminum, total	mg/L	0.005			0.134	0.172	0.253	0.242	0.335	8.89	0.156	0.19	0.0874	0.318	2.4	0.008	0.0234	0.0065	0.0165	0.24	0.141	0.0235	0.179	0.0263	0.0126	0.0074	0.0265	0.0102
Antimony, total	mg/L	0.0002	0.006		<0.00020	0.00037	<0.00020	<0.00020	<0.00020	0.00121	<0.00020	<0.00020	<0.00020	<0.00020	0.00028	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic, total	mg/L	0.0005	0.01		<0.00050	0.00158	0.00067	<0.00050	<0.00050	0.00155	<0.00050	<0.00050	<0.00050	<0.00050	0.00379	<0.00050	<0.00050	0.00075	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Barium, total	mg/L	0.005	2		0.157	0.108	0.147	0.15	0.0258	0.0474	0.0113	0.0114	0.14	0.0845	0.0867	0.0158	0.0088	0.0314	0.0121	0.0107	0.0123	0.0095	0.0142	0.005	0.0173	0.0109	0.0092	0.0147
Boron, total	mg/L	0.05	5		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	0.0729	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	0.095	<0.0500	0.0636	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	0.0773	<0.0500	<0.0500
Cadmium, total	mg/L	1E-05	0.005		0.000017	0.000014	<0.000010	0.00002	0.000012	0.000017	<0.000010	<0.000010	<0.000010	<0.000010	0.000027	0.00001	<0.000010	0.000069	0.00002	0.000031	<0.000010	0.000019	0.000011	0.000018	0.000069	0.000014	0.000039	0.000033
Calcium, total	mg/L	0.2			38.4	17.2	22.5	23.2	8.37	8.86	13.4	8.73	21.3	16.2	13.3	22	13.4	36.7	17.2	20.4	16.2	15.7	17	12.5	32.5	23.6	20.8	25.1
Chromium, total	mg/L	0.0005	0.05		0.00106	0.00148	0.00105	0.00183	0.00118	0.0111	0.00223	0.00056	0.00128	0.00076	0.0009	<0.00050	<0.00050	<0.00050	<0.00050	0.00059	<0.00050	0.00067	<0.00050	<0.00050	0.00078	<0.00050	<0.00050	<0.00050
Cobalt, total	mg/L	0.0001			<0.00010	0.00016	<0.00010	0.00012	0.00013	0.00023	<0.00010	0.0001	<0.00010	<0.00010	0.00028	<0.00010	<0.00010	0.00137	0.00018	0.0003	0.00012	<0.00010	0.00021	<0.00010	0.00065	<0.00010	0.0004	0.00013
Copper, total	mg/L	0.0004	2	1	0.00097	0.00141	0.00178	0.00172	0.00146	0.0016	0.00609	0.00078	0.00124	0.00081	0.00187	0.00079	0.00116	0.00072	0.00138	0.00166	0.00258	0.00089	0.00125	0.00108	0.00307	0.465	0.00147	0.00159
Iron, total	mg/L	0.01		0.3	0.534	0.377	0.468	0.638	0.358	3.39	0.226	0.189	0.134	0.661	2.06	0.104	0.059	2.04	0.14	0.348	0.303	0.11	0.263	0.056	0.832	0.169	0.261	0.123
Lead, total	mg/L	0.0002	0.005		0.00032	0.00043	0.00057	0.00029	0.00032	0.00289	0.00026	<0.00020	0.00172	0.00113	0.00155	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00092	<0.00020	<0.00020	<0.00020
Magnesium, total	mg/L	0.01			8.35	2.92	5.01	5.21	1.35	1.89	3.93	2.15	3.95	3.34	3.03	7.11	5.65	15	7.6	6.68	7.23	6.34	6.71	3.43	13.1	8.86	8.07	9.47
Manganese, total	mg/L	0.0002	0.12	0.02	0.0418	0.0114	0.0201	0.0159	0.00804	0.0424	0.00394	0.00927	0.022	0.0299	0.0463	0.00609	0.00634	2.13	0.486	0.7	0.0507	0.00907	0.0296	0.0178	1.01	0.0349	0.86	0.288
Mercury, total	mg/L	1E-05	0.001		<0.000010	<0.000010	<0.000010	<0.000010	<0.000040	<0.000010	0.000014	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.0001			0.0187	0.0248	0.0278	0.0443	0.0202	0.0486	0.00132	0.0006	0.0102	0.0313	0.107	0.00063	0.00054	0.00534	0.00177	0.0104	0.00119	0.00123	0.00115	0.00219	0.00511	0.00147	0.00806	0.00094
Nickel, total	mg/L	0.0004			0.00079	0.00042	0.00049	0.0004																				

APPENDIX C - LABORATORY CERTIFICATES OF ANALYSIS

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Logan Flett

PO NUMBER

PROJECT General Potability

PROJECT INFO

WORK ORDER 2112992

RECEIVED / TEMP 2021-09-22 16:00 / 8.4°C
REPORTED 2021-11-29 08:32

COC NUMBER B104893

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 2112992
2021-11-29 08:32

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62/40 (2112992-01) | Matrix: Water | Sampled: 2021-09-22 11:30

Anions

Chloride	43.3	AO ≤ 250	0.10 mg/L	2021-09-23	
Fluoride	2.19	MAC = 1.5	0.10 mg/L	2021-09-23	
Nitrate (as N)	0.031	MAC = 10	0.010 mg/L	2021-09-23	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-09-23	
Sulfate	2.8	AO ≤ 500	1.0 mg/L	2021-09-23	

Calculated Parameters

Hardness, Total (as CaCO3)	69.5	None Required	0.500 mg/L	N/A	
Langelier Index	0.4	N/A	-5.0	2021-10-01	
Solids, Total Dissolved	249	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	173	N/A	1.0 mg/L	2021-09-27	
Alkalinity, Phenolphthalein (as CaCO3)	1.1	N/A	1.0 mg/L	2021-09-27	
Alkalinity, Bicarbonate (as CaCO3)	171	N/A	1.0 mg/L	2021-09-27	
Alkalinity, Carbonate (as CaCO3)	2.1	N/A	1.0 mg/L	2021-09-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-09-27	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-09-24	
Conductivity (EC)	419	N/A	2.0 µS/cm	2021-09-27	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-09-23	
pH	8.33	7.0-10.5	0.10 pH units	2021-09-27	HT2
Temperature, at pH	21.5	N/A	°C	2021-09-27	HT2
Turbidity	2.72	OG < 1	0.10 NTU	2021-09-23	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-09-23	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-09-23	

Total Metals

Aluminum, total	0.0874	OG < 0.1	0.0050 mg/L	2021-10-01	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-01	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-01	
Barium, total	0.140	MAC = 2	0.0050 mg/L	2021-10-01	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-01	
Cadmium, total	< 0.000010	MAC = 0.005	0.000010 mg/L	2021-10-01	
Calcium, total	21.3	None Required	0.20 mg/L	2021-10-01	
Chromium, total	0.00128	MAC = 0.05	0.00050 mg/L	2021-10-01	
Cobalt, total	< 0.00010	N/A	0.00010 mg/L	2021-10-01	
Copper, total	0.00124	MAC = 2	0.00040 mg/L	2021-10-01	
Iron, total	0.134	AO ≤ 0.3	0.010 mg/L	2021-10-01	
Lead, total	0.00172	MAC = 0.005	0.00020 mg/L	2021-10-01	
Magnesium, total	3.95	None Required	0.010 mg/L	2021-10-01	
Manganese, total	0.0220	MAC = 0.12	0.00020 mg/L	2021-10-01	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-09-29	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 2112992
2021-11-29 08:32

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62/40 (2112992-01) Matrix: Water Sampled: 2021-09-22 11:30, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.0102	N/A	0.00010 mg/L	2021-10-01	
Nickel, total	0.00061	N/A	0.00040 mg/L	2021-10-01	
Potassium, total	0.85	N/A	0.10 mg/L	2021-10-01	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-01	
Sodium, total	71.0	AO ≤ 200	0.10 mg/L	2021-10-01	
Strontium, total	2.47	7	0.0010 mg/L	2021-10-01	
Uranium, total	0.0234	MAC = 0.02	0.000020 mg/L	2021-10-01	
Zinc, total	< 0.0040	AO ≤ 5	0.0040 mg/L	2021-10-01	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 2112992
2021-11-29 08:32

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry		Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT General Potability

WORK ORDER 2112992
REPORTED 2021-11-29 08:32

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Logan Flett

PO NUMBER

PROJECT General Potability

PROJECT INFO

WORK ORDER 2113335

RECEIVED / TEMP REPORTED 2021-09-24 12:36 / 8.8°C
2021-11-29 08:30

COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 2113335
2021-11-29 08:30

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62186 (2113335-01) | Matrix: Water | Sampled: 2021-09-24 11:55

Anions

Chloride	121	AO ≤ 250	0.10 mg/L	2021-09-25	
Fluoride	1.91	MAC = 1.5	0.10 mg/L	2021-09-25	
Nitrate (as N)	0.014	MAC = 10	0.010 mg/L	2021-09-25	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-09-25	
Sulfate	11.0	AO ≤ 500	1.0 mg/L	2021-09-25	

Calculated Parameters

Hardness, Total (as CaCO3)	130	None Required	0.500 mg/L	N/A	
Langelier Index	1.2	N/A	-5.0	2021-10-01	
Solids, Total Dissolved	558	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	362	N/A	1.0 mg/L	2021-09-29	
Alkalinity, Phenolphthalein (as CaCO3)	12.9	N/A	1.0 mg/L	2021-09-29	
Alkalinity, Bicarbonate (as CaCO3)	336	N/A	1.0 mg/L	2021-09-29	
Alkalinity, Carbonate (as CaCO3)	25.7	N/A	1.0 mg/L	2021-09-29	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-09-29	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-09-27	
Conductivity (EC)	972	N/A	2.0 µS/cm	2021-09-29	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-09-30	
pH	8.52	7.0-10.5	0.10 pH units	2021-09-29	HT2
Temperature, at pH	22.6	N/A	°C	2021-09-29	HT2
Turbidity	7.87	OG < 1	0.10 NTU	2021-09-26	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-09-24	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-09-24	

Total Metals

Aluminum, total	0.134	OG < 0.1	0.0050 mg/L	2021-10-01	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-01	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-01	
Barium, total	0.157	MAC = 2	0.0050 mg/L	2021-10-01	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-01	
Cadmium, total	0.000017	MAC = 0.005	0.000010 mg/L	2021-10-01	
Calcium, total	38.4	None Required	0.20 mg/L	2021-10-01	
Chromium, total	0.00106	MAC = 0.05	0.00050 mg/L	2021-10-01	
Cobalt, total	< 0.00010	N/A	0.00010 mg/L	2021-10-01	
Copper, total	0.00097	MAC = 2	0.00040 mg/L	2021-10-01	
Iron, total	0.534	AO ≤ 0.3	0.010 mg/L	2021-10-01	
Lead, total	0.00032	MAC = 0.005	0.00020 mg/L	2021-10-01	
Magnesium, total	8.35	None Required	0.010 mg/L	2021-10-01	
Manganese, total	0.0418	MAC = 0.12	0.00020 mg/L	2021-10-01	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-09-30	

TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 2113335
2021-11-29 08:30

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62186 (2113335-01) Matrix: Water Sampled: 2021-09-24 11:55, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.0187	N/A	0.00010 mg/L	2021-10-01	
Nickel, total	0.00079	N/A	0.00040 mg/L	2021-10-01	
Potassium, total	1.66	N/A	0.10 mg/L	2021-10-01	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-01	
Sodium, total	157	AO ≤ 200	0.10 mg/L	2021-10-01	
Strontium, total	7.51	7	0.0010 mg/L	2021-10-01	
Uranium, total	0.107	MAC = 0.02	0.000020 mg/L	2021-10-01	
Zinc, total	0.0339	AO ≤ 5	0.0040 mg/L	2021-10-01	

62139 (2113335-02) | Matrix: Water | Sampled: 2021-09-23 16:10

<i>Anions</i>					
Chloride	31.2	AO ≤ 250	0.10 mg/L	2021-09-25	
Fluoride	4.55	MAC = 1.5	0.10 mg/L	2021-09-25	
Nitrate (as N)	< 0.010	MAC = 10	0.010 mg/L	2021-09-25	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-09-25	
Sulfate	15.4	AO ≤ 500	1.0 mg/L	2021-09-25	

<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	54.2	None Required	0.500 mg/L	N/A	
Langelier Index	0.7	N/A	-5.0	2021-10-01	
Solids, Total Dissolved	305	AO ≤ 500	1.00 mg/L	N/A	

<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	221	N/A	1.0 mg/L	2021-09-29	
Alkalinity, Phenolphthalein (as CaCO3)	9.0	N/A	1.0 mg/L	2021-09-29	
Alkalinity, Bicarbonate (as CaCO3)	204	N/A	1.0 mg/L	2021-09-29	
Alkalinity, Carbonate (as CaCO3)	17.9	N/A	1.0 mg/L	2021-09-29	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-09-29	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-09-27	HT1
Conductivity (EC)	505	N/A	2.0 µS/cm	2021-09-29	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-09-30	
pH	8.61	7.0-10.5	0.10 pH units	2021-09-29	HT2
Temperature, at pH	22.8	N/A	°C	2021-09-29	HT2
Turbidity	8.05	OG < 1	0.10 NTU	2021-09-26	

<i>Microbiological Parameters</i>					
Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-09-24	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-09-24	

<i>Total Metals</i>					
Aluminum, total	0.318	OG < 0.1	0.0050 mg/L	2021-10-01	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-01	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-01	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 2113335
2021-11-29 08:30

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62139 (2113335-02) Matrix: Water Sampled: 2021-09-23 16:10, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0845	MAC = 2	0.0050 mg/L	2021-10-01	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-01	
Cadmium, total	< 0.000010	MAC = 0.005	0.000010 mg/L	2021-10-01	
Calcium, total	16.2	None Required	0.20 mg/L	2021-10-01	
Chromium, total	0.00076	MAC = 0.05	0.00050 mg/L	2021-10-01	
Cobalt, total	< 0.00010	N/A	0.00010 mg/L	2021-10-01	
Copper, total	0.00081	MAC = 2	0.00040 mg/L	2021-10-01	
Iron, total	0.661	AO ≤ 0.3	0.010 mg/L	2021-10-01	
Lead, total	0.00113	MAC = 0.005	0.00020 mg/L	2021-10-01	
Magnesium, total	3.34	None Required	0.010 mg/L	2021-10-01	
Manganese, total	0.0299	MAC = 0.12	0.00020 mg/L	2021-10-01	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-09-30	
Molybdenum, total	0.0313	N/A	0.00010 mg/L	2021-10-01	
Nickel, total	0.00050	N/A	0.00040 mg/L	2021-10-01	
Potassium, total	0.95	N/A	0.10 mg/L	2021-10-01	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-01	
Sodium, total	103	AO ≤ 200	0.10 mg/L	2021-10-01	
Strontium, total	2.31	7	0.0010 mg/L	2021-10-01	
Uranium, total	0.0454	MAC = 0.02	0.000020 mg/L	2021-10-01	
Zinc, total	0.0108	AO ≤ 5	0.0040 mg/L	2021-10-01	

Sample Qualifiers:

- HT1 The sample was prepared and/or analyzed past the recommended holding time.
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 2113335
2021-11-29 08:30

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry		Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT General Potability

WORK ORDER 2113335
REPORTED 2021-11-29 08:30

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Dan Gare

PO NUMBER
PROJECT Analytical Testing

PROJECT INFO

WORK ORDER 2113667

RECEIVED / TEMP 2021-09-28 10:09 / 19.0°C
REPORTED 2021-10-05 13:22

COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

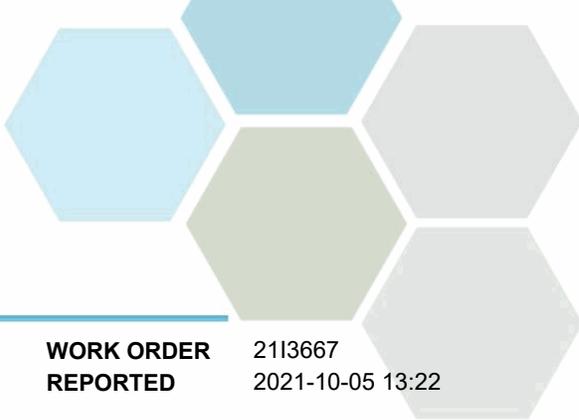
If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2113667
2021-10-05 13:22

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62185 (2113667-01) | Matrix: Water | Sampled: 2021-09-27 18:00

Anions

Chloride	66.3	AO ≤ 250	0.10 mg/L	2021-09-28	
Fluoride	0.82	MAC = 1.5	0.10 mg/L	2021-09-28	
Nitrate (as N)	< 0.010	MAC = 10	0.010 mg/L	2021-09-28	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-09-28	
Sulfate	6.1	AO ≤ 500	1.0 mg/L	2021-09-28	

Calculated Parameters

Hardness, Total (as CaCO3)	154	None Required	0.500 mg/L	N/A	
Langelier Index	-0.02	N/A	-5.0	2021-10-05	
Solids, Total Dissolved	204	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

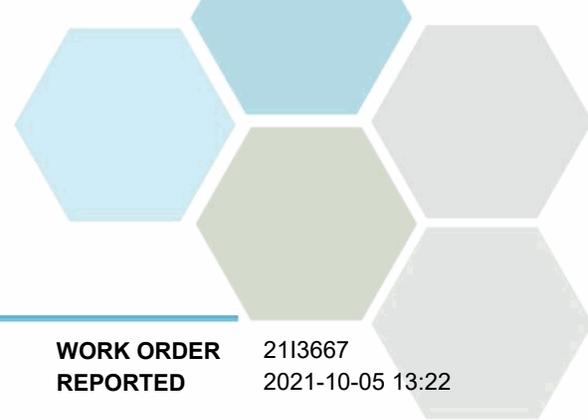
Alkalinity, Total (as CaCO3)	95.7	N/A	1.0 mg/L	2021-09-30	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-09-30	
Alkalinity, Bicarbonate (as CaCO3)	95.7	N/A	1.0 mg/L	2021-09-30	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-09-30	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-09-30	
Colour, True	26	AO ≤ 15	5.0 CU	2021-09-28	
Conductivity (EC)	401	N/A	2.0 µS/cm	2021-09-30	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-02	
pH	7.87	7.0-10.5	0.10 pH units	2021-09-30	HT2
Temperature, at pH	22.1	N/A	°C	2021-09-30	HT2
Turbidity	10.1	OG < 1	0.10 NTU	2021-09-30	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-09-28	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-09-28	

Total Metals

Aluminum, total	0.0065	OG < 0.1	0.0050 mg/L	2021-10-03	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-03	
Arsenic, total	0.00075	MAC = 0.01	0.00050 mg/L	2021-10-03	
Barium, total	0.0314	MAC = 2	0.0050 mg/L	2021-10-03	
Boron, total	0.0950	MAC = 5	0.0500 mg/L	2021-10-03	
Cadmium, total	0.000069	MAC = 0.005	0.000010 mg/L	2021-10-03	
Calcium, total	36.7	None Required	0.20 mg/L	2021-10-03	
Chromium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-03	
Cobalt, total	0.00137	N/A	0.00010 mg/L	2021-10-03	
Copper, total	0.00072	MAC = 2	0.00040 mg/L	2021-10-03	
Iron, total	2.04	AO ≤ 0.3	0.010 mg/L	2021-10-03	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-03	
Magnesium, total	15.0	None Required	0.010 mg/L	2021-10-03	
Manganese, total	2.13	MAC = 0.12	0.00020 mg/L	2021-10-03	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-01	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2113667
2021-10-05 13:22

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
62185 (2113667-01) Matrix: Water Sampled: 2021-09-27 18:00, Continued						
<i>Total Metals, Continued</i>						
Molybdenum, total	0.00534	N/A	0.00010	mg/L	2021-10-03	
Nickel, total	0.00164	N/A	0.00040	mg/L	2021-10-03	
Potassium, total	2.05	N/A	0.10	mg/L	2021-10-03	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-03	
Sodium, total	19.1	AO ≤ 200	0.10	mg/L	2021-10-03	
Strontium, total	0.465	7	0.0010	mg/L	2021-10-03	
Uranium, total	0.00673	MAC = 0.02	0.000020	mg/L	2021-10-03	
Zinc, total	< 0.0040	AO ≤ 5	0.0040	mg/L	2021-10-03	

62136 (2113667-02) | Matrix: Water | Sampled: 2021-09-28 09:00

Anions

Chloride	48.3	AO ≤ 250	0.10	mg/L	2021-09-28	
Fluoride	0.52	MAC = 1.5	0.10	mg/L	2021-09-28	
Nitrate (as N)	0.017	MAC = 10	0.010	mg/L	2021-09-28	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2021-09-28	
Sulfate	5.8	AO ≤ 500	1.0	mg/L	2021-09-28	

Calculated Parameters

Hardness, Total (as CaCO3)	95.5	None Required	0.500	mg/L	N/A	
Langelier Index	-0.4	N/A	-5.0		2021-10-05	
Solids, Total Dissolved	162	AO ≤ 500	1.00	mg/L	N/A	

General Parameters

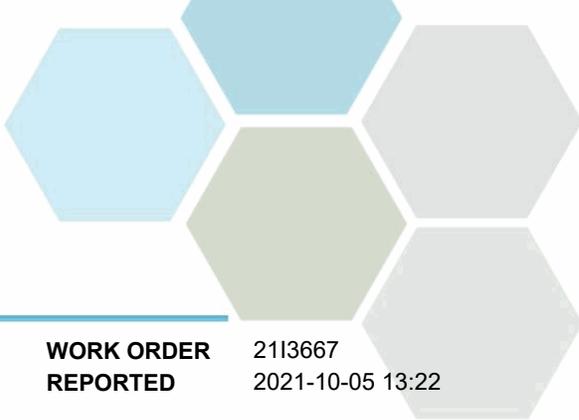
Alkalinity, Total (as CaCO3)	79.2	N/A	1.0	mg/L	2021-09-30	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-09-30	
Alkalinity, Bicarbonate (as CaCO3)	79.2	N/A	1.0	mg/L	2021-09-30	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-09-30	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-09-30	
Colour, True	< 5.0	AO ≤ 15	5.0	CU	2021-09-28	
Conductivity (EC)	303	N/A	2.0	µS/cm	2021-09-30	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-02	
pH	7.77	7.0-10.5	0.10	pH units	2021-09-30	HT2
Temperature, at pH	22.2	N/A		°C	2021-09-30	HT2
Turbidity	1.22	OG < 1	0.10	NTU	2021-09-30	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-09-28	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-09-28	

Total Metals

Aluminum, total	0.0074	OG < 0.1	0.0050	mg/L	2021-10-03	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-03	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-03	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2113667
2021-10-05 13:22

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62136 (2113667-02) | Matrix: Water | Sampled: 2021-09-28 09:00, Continued

Total Metals, Continued

Barium, total	0.0109	MAC = 2	0.0050 mg/L	2021-10-03	
Boron, total	0.0773	MAC = 5	0.0500 mg/L	2021-10-03	
Cadmium, total	0.000014	MAC = 0.005	0.000010 mg/L	2021-10-03	
Calcium, total	23.6	None Required	0.20 mg/L	2021-10-03	
Chromium, total	0.00078	MAC = 0.05	0.00050 mg/L	2021-10-03	
Cobalt, total	< 0.00010	N/A	0.00010 mg/L	2021-10-03	
Copper, total	0.465	MAC = 2	0.00040 mg/L	2021-10-03	
Iron, total	0.169	AO ≤ 0.3	0.010 mg/L	2021-10-03	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-03	
Magnesium, total	8.86	None Required	0.010 mg/L	2021-10-03	
Manganese, total	0.0349	MAC = 0.12	0.00020 mg/L	2021-10-03	
Mercury, total	0.000015	MAC = 0.001	0.000010 mg/L	2021-10-01	
Molybdenum, total	0.00147	N/A	0.00010 mg/L	2021-10-03	
Nickel, total	0.00100	N/A	0.00040 mg/L	2021-10-03	
Potassium, total	1.73	N/A	0.10 mg/L	2021-10-03	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-03	
Sodium, total	25.0	AO ≤ 200	0.10 mg/L	2021-10-03	
Strontium, total	0.342	7	0.0010 mg/L	2021-10-03	
Uranium, total	0.00496	MAC = 0.02	0.000020 mg/L	2021-10-03	
Zinc, total	< 0.0040	AO ≤ 5	0.0040 mg/L	2021-10-03	

62177 (2113667-03) | Matrix: Water | Sampled: 2021-09-28 09:20

Anions

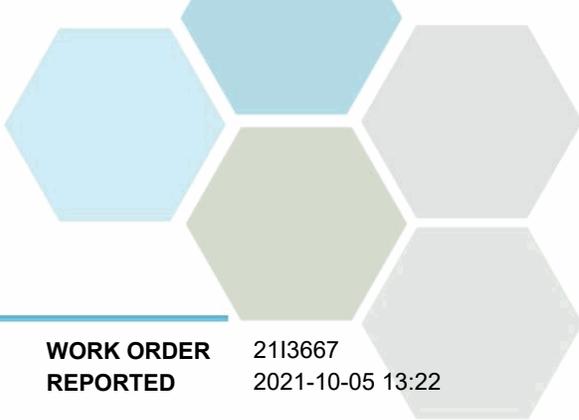
Chloride	20.2	AO ≤ 250	0.10 mg/L	2021-09-28	
Fluoride	1.40	MAC = 1.5	0.10 mg/L	2021-09-28	
Nitrate (as N)	0.023	MAC = 10	0.010 mg/L	2021-09-28	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-09-28	
Sulfate	9.6	AO ≤ 500	1.0 mg/L	2021-09-28	

Calculated Parameters

Hardness, Total (as CaCO3)	78.5	None Required	0.500 mg/L	N/A	
Langelier Index	-0.3	N/A	-5.0	2021-10-05	
Solids, Total Dissolved	123	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	79.7	N/A	1.0 mg/L	2021-09-30	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-09-30	
Alkalinity, Bicarbonate (as CaCO3)	79.7	N/A	1.0 mg/L	2021-09-30	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-09-30	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-09-30	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-09-28	
Conductivity (EC)	218	N/A	2.0 µS/cm	2021-09-30	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2113667
2021-10-05 13:22

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
---------	--------	-----------	----	-------	----------	-----------

62177 (2113667-03) | Matrix: Water | Sampled: 2021-09-28 09:20, Continued

General Parameters, Continued

Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-02	
pH	7.93	7.0-10.5	0.10	pH units	2021-09-30	HT2
Temperature, at pH	22.3	N/A		°C	2021-09-30	HT2
Turbidity	5.55	OG < 1	0.10	NTU	2021-09-30	

Microbiological Parameters

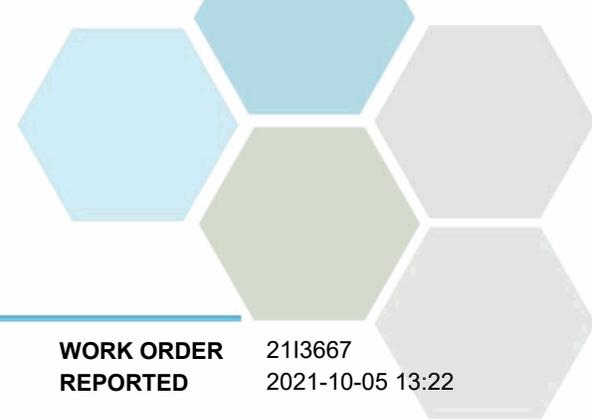
Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-09-28	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-09-28	

Total Metals

Aluminum, total	0.240	OG < 0.1	0.0050	mg/L	2021-10-03	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-03	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-03	
Barium, total	0.0107	MAC = 2	0.0050	mg/L	2021-10-03	
Boron, total	0.0636	MAC = 5	0.0500	mg/L	2021-10-03	
Cadmium, total	0.000031	MAC = 0.005	0.000010	mg/L	2021-10-03	
Calcium, total	20.4	None Required	0.20	mg/L	2021-10-03	
Chromium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-03	
Cobalt, total	0.00030	N/A	0.00010	mg/L	2021-10-03	
Copper, total	0.00166	MAC = 2	0.00040	mg/L	2021-10-03	
Iron, total	0.348	AO ≤ 0.3	0.010	mg/L	2021-10-03	
Lead, total	< 0.00020	MAC = 0.005	0.00020	mg/L	2021-10-03	
Magnesium, total	6.68	None Required	0.010	mg/L	2021-10-03	
Manganese, total	0.700	MAC = 0.12	0.00020	mg/L	2021-10-03	
Mercury, total	< 0.000010	MAC = 0.001	0.000010	mg/L	2021-10-01	
Molybdenum, total	0.0104	N/A	0.00010	mg/L	2021-10-03	
Nickel, total	0.00059	N/A	0.00040	mg/L	2021-10-03	
Potassium, total	1.36	N/A	0.10	mg/L	2021-10-03	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-03	
Sodium, total	16.4	AO ≤ 200	0.10	mg/L	2021-10-03	
Strontium, total	0.156	7	0.0010	mg/L	2021-10-03	
Uranium, total	0.00690	MAC = 0.02	0.000020	mg/L	2021-10-03	
Zinc, total	< 0.0040	AO ≤ 5	0.0040	mg/L	2021-10-03	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
Analytical Testing

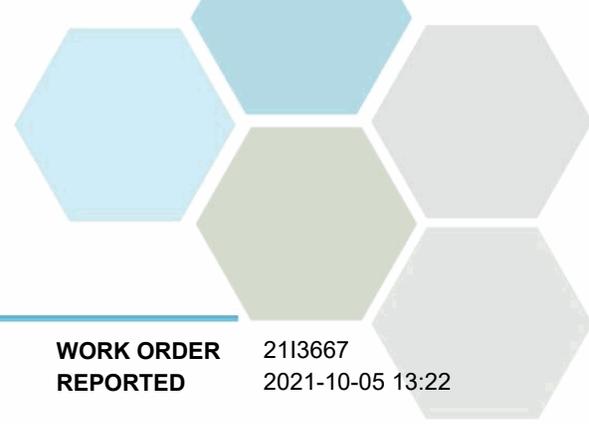
WORK ORDER REPORTED 2113667
2021-10-05 13:22

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT Analytical Testing

WORK ORDER 2113667
REPORTED 2021-10-05 13:22

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Dan Gare

PO NUMBER
PROJECT Analytical Testing

PROJECT INFO

WORK ORDER 2114050

RECEIVED / TEMP 2021-09-30 09:29 / 9.8°C
REPORTED 2021-10-07 15:03

COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

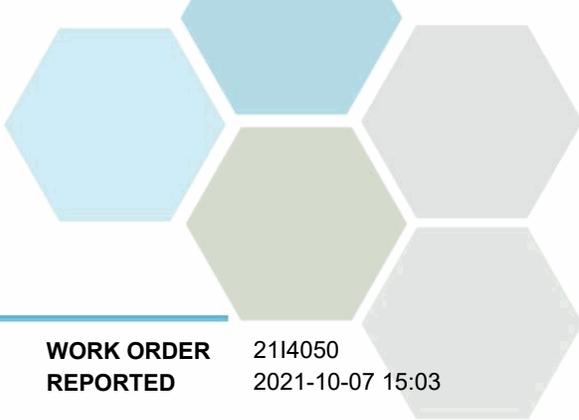
If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-10-07 15:03

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62189 (2114050-01) | Matrix: Water | Sampled: 2021-09-29 13:30

Anions

Chloride	32.3	AO ≤ 250	0.10 mg/L	2021-09-30	
Fluoride	4.17	MAC = 1.5	0.10 mg/L	2021-09-30	
Nitrate (as N)	< 0.010	MAC = 10	0.010 mg/L	2021-09-30	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-09-30	
Sulfate	18.1	AO ≤ 500	1.0 mg/L	2021-09-30	

Calculated Parameters

Hardness, Total (as CaCO3)	55.0	None Required	0.500 mg/L	N/A	
Langelier Index	0.7	N/A	-5.0	2021-10-07	
Solids, Total Dissolved	282	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

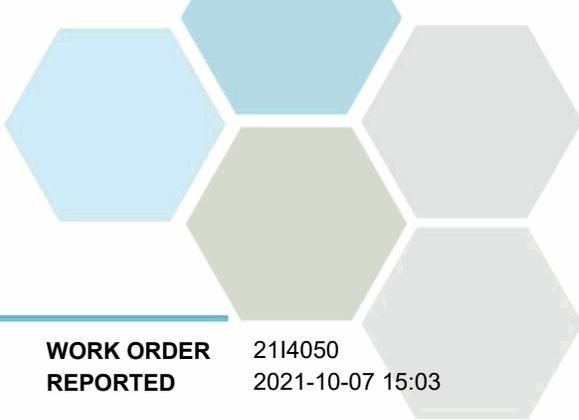
Alkalinity, Total (as CaCO3)	195	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Phenolphthalein (as CaCO3)	7.8	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Bicarbonate (as CaCO3)	180	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Carbonate (as CaCO3)	15.7	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-03	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-01	
Conductivity (EC)	477	N/A	2.0 µS/cm	2021-10-03	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-02	
pH	8.60	7.0-10.5	0.10 pH units	2021-10-03	HT2
Temperature, at pH	22.1	N/A	°C	2021-10-03	HT2
Turbidity	4.81	OG < 1	0.10 NTU	2021-10-02	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-09-30	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-09-30	

Total Metals

Aluminum, total	0.172	OG < 0.1	0.0050 mg/L	2021-10-06	
Antimony, total	0.00037	MAC = 0.006	0.00020 mg/L	2021-10-06	
Arsenic, total	0.00158	MAC = 0.01	0.00050 mg/L	2021-10-06	
Barium, total	0.108	MAC = 2	0.0050 mg/L	2021-10-06	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-06	
Cadmium, total	0.000014	MAC = 0.005	0.000010 mg/L	2021-10-06	
Calcium, total	17.2	None Required	0.20 mg/L	2021-10-06	
Chromium, total	0.00148	MAC = 0.05	0.00050 mg/L	2021-10-06	
Cobalt, total	0.00016	N/A	0.00010 mg/L	2021-10-06	
Copper, total	0.00141	MAC = 2	0.00040 mg/L	2021-10-06	
Iron, total	0.377	AO ≤ 0.3	0.010 mg/L	2021-10-06	
Lead, total	0.00043	MAC = 0.005	0.00020 mg/L	2021-10-06	
Magnesium, total	2.92	None Required	0.010 mg/L	2021-10-06	
Manganese, total	0.0114	MAC = 0.12	0.00020 mg/L	2021-10-06	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-07	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-10-07 15:03

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
62189 (2114050-01) Matrix: Water Sampled: 2021-09-29 13:30, Continued						
<i>Total Metals, Continued</i>						
Molybdenum, total	0.0248	N/A	0.00010	mg/L	2021-10-06	
Nickel, total	0.00042	N/A	0.00040	mg/L	2021-10-06	
Potassium, total	0.98	N/A	0.10	mg/L	2021-10-06	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-06	
Sodium, total	91.0	AO ≤ 200	0.10	mg/L	2021-10-06	
Strontium, total	3.09	7	0.0010	mg/L	2021-10-06	
Uranium, total	0.296	MAC = 0.02	0.000020	mg/L	2021-10-06	
Zinc, total	0.0070	AO ≤ 5	0.0040	mg/L	2021-10-06	

62176 (2114050-02) | Matrix: Water | Sampled: 2021-09-29 13:50

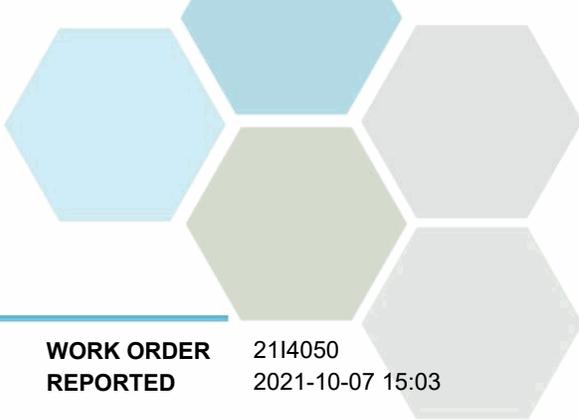
<i>Anions</i>						
Chloride	29.0	AO ≤ 250	0.10	mg/L	2021-09-30	
Fluoride	0.26	MAC = 1.5	0.10	mg/L	2021-09-30	
Nitrate (as N)	0.131	MAC = 10	0.010	mg/L	2021-09-30	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2021-09-30	
Sulfate	5.5	AO ≤ 500	1.0	mg/L	2021-09-30	

<i>Calculated Parameters</i>						
Hardness, Total (as CaCO3)	70.2	None Required	0.500	mg/L	N/A	
Langelier Index	-0.8	N/A	-5.0		2021-10-07	
Solids, Total Dissolved	115	AO ≤ 500	1.00	mg/L	N/A	

<i>General Parameters</i>						
Alkalinity, Total (as CaCO3)	64.3	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Bicarbonate (as CaCO3)	64.3	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Colour, True	< 5.0	AO ≤ 15	5.0	CU	2021-10-01	
Conductivity (EC)	209	N/A	2.0	µS/cm	2021-10-03	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-02	
pH	7.61	7.0-10.5	0.10	pH units	2021-10-03	HT2
Temperature, at pH	22.0	N/A		°C	2021-10-03	HT2
Turbidity	3.72	OG < 1	0.10	NTU	2021-10-02	

<i>Microbiological Parameters</i>						
Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	

<i>Total Metals</i>						
Aluminum, total	0.179	OG < 0.1	0.0050	mg/L	2021-10-06	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-06	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-06	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-10-07 15:03

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62176 (2114050-02) Matrix: Water Sampled: 2021-09-29 13:50, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0142	MAC = 2	0.0050 mg/L	2021-10-06	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-06	
Cadmium, total	0.000011	MAC = 0.005	0.000010 mg/L	2021-10-06	
Calcium, total	17.0	None Required	0.20 mg/L	2021-10-06	
Chromium, total	0.00067	MAC = 0.05	0.00050 mg/L	2021-10-06	
Cobalt, total	0.00021	N/A	0.00010 mg/L	2021-10-06	
Copper, total	0.00125	MAC = 2	0.00040 mg/L	2021-10-06	
Iron, total	0.263	AO ≤ 0.3	0.010 mg/L	2021-10-06	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-06	
Magnesium, total	6.71	None Required	0.010 mg/L	2021-10-06	
Manganese, total	0.0296	MAC = 0.12	0.00020 mg/L	2021-10-06	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-07	
Molybdenum, total	0.00115	N/A	0.00010 mg/L	2021-10-06	
Nickel, total	0.00118	N/A	0.00040 mg/L	2021-10-06	
Potassium, total	1.47	N/A	0.10 mg/L	2021-10-06	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-06	
Sodium, total	15.5	AO ≤ 200	0.10 mg/L	2021-10-06	
Strontium, total	0.186	7	0.0010 mg/L	2021-10-06	
Uranium, total	0.00204	MAC = 0.02	0.000020 mg/L	2021-10-06	
Zinc, total	0.0050	AO ≤ 5	0.0040 mg/L	2021-10-06	

62138 (2114050-03) | Matrix: Water | Sampled: 2021-09-30 08:45

Anions

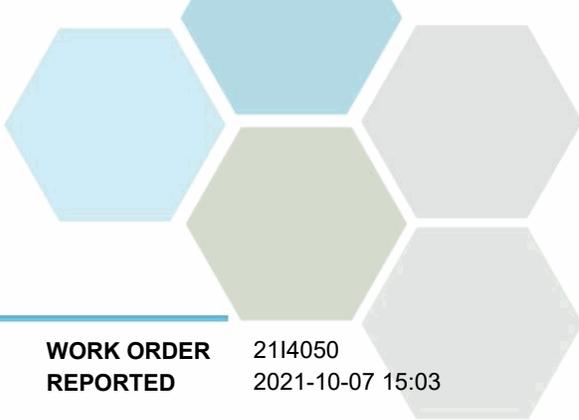
Chloride	28.0	AO ≤ 250	0.10 mg/L	2021-09-30	
Fluoride	0.23	MAC = 1.5	0.10 mg/L	2021-09-30	
Nitrate (as N)	0.082	MAC = 10	0.010 mg/L	2021-09-30	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-09-30	
Sulfate	6.9	AO ≤ 500	1.0 mg/L	2021-09-30	

Calculated Parameters

Hardness, Total (as CaCO3)	70.2	None Required	0.500 mg/L	N/A	
Langelier Index	-0.9	N/A	-5.0	2021-10-07	
Solids, Total Dissolved	120	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	68.1	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Bicarbonate (as CaCO3)	68.1	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-03	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-04	HT1
Conductivity (EC)	219	N/A	2.0 µS/cm	2021-10-03	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-10-07 15:03

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
---------	--------	-----------	----	-------	----------	-----------

62138 (2114050-03) | Matrix: Water | Sampled: 2021-09-30 08:45, Continued

General Parameters, Continued

Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-02	
pH	7.51	7.0-10.5	0.10	pH units	2021-10-03	HT2
Temperature, at pH	22.1	N/A		°C	2021-10-03	HT2
Turbidity	2.12	OG < 1	0.10	NTU	2021-10-02	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	

Total Metals

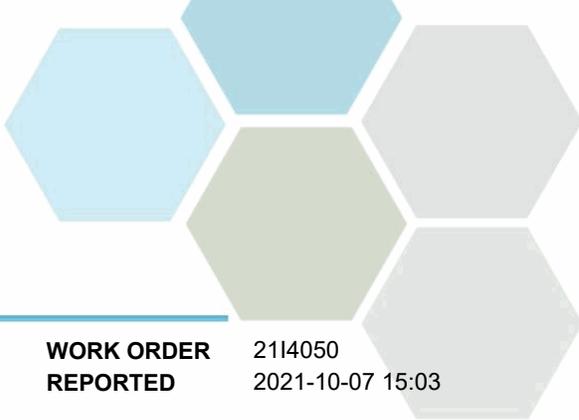
Aluminum, total	0.141	OG < 0.1	0.0050	mg/L	2021-10-06	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-06	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-06	
Barium, total	0.0123	MAC = 2	0.0050	mg/L	2021-10-06	
Boron, total	< 0.0500	MAC = 5	0.0500	mg/L	2021-10-06	
Cadmium, total	< 0.000010	MAC = 0.005	0.000010	mg/L	2021-10-06	
Calcium, total	16.2	None Required	0.20	mg/L	2021-10-06	
Chromium, total	0.00059	MAC = 0.05	0.00050	mg/L	2021-10-06	
Cobalt, total	0.00012	N/A	0.00010	mg/L	2021-10-06	
Copper, total	0.00258	MAC = 2	0.00040	mg/L	2021-10-06	
Iron, total	0.303	AO ≤ 0.3	0.010	mg/L	2021-10-06	
Lead, total	< 0.00020	MAC = 0.005	0.00020	mg/L	2021-10-06	
Magnesium, total	7.23	None Required	0.010	mg/L	2021-10-06	
Manganese, total	0.0507	MAC = 0.12	0.00020	mg/L	2021-10-06	
Mercury, total	< 0.000010	MAC = 0.001	0.000010	mg/L	2021-10-07	
Molybdenum, total	0.00119	N/A	0.00010	mg/L	2021-10-06	
Nickel, total	0.00121	N/A	0.00040	mg/L	2021-10-06	
Potassium, total	1.27	N/A	0.10	mg/L	2021-10-06	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-06	
Sodium, total	18.3	AO ≤ 200	0.10	mg/L	2021-10-06	
Strontium, total	0.236	7	0.0010	mg/L	2021-10-06	
Uranium, total	0.00241	MAC = 0.02	0.000020	mg/L	2021-10-06	
Zinc, total	< 0.0040	AO ≤ 5	0.0040	mg/L	2021-10-06	

62175 (2114050-04) | Matrix: Water | Sampled: 2021-09-30 08:35

Anions

Chloride	24.3	AO ≤ 250	0.10	mg/L	2021-09-30	
Fluoride	0.23	MAC = 1.5	0.10	mg/L	2021-09-30	
Nitrate (as N)	0.098	MAC = 10	0.010	mg/L	2021-09-30	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2021-09-30	
Sulfate	6.4	AO ≤ 500	1.0	mg/L	2021-09-30	

Calculated Parameters



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-10-07 15:03

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
---------	--------	-----------	----	-------	----------	-----------

62175 (2114050-04) | Matrix: Water | Sampled: 2021-09-30 08:35, Continued

Calculated Parameters, Continued

Hardness, Total (as CaCO3)	65.4	None Required	0.500	mg/L	N/A	
Langelier Index	-0.9	N/A	-5.0		2021-10-07	
Solids, Total Dissolved	111	AO ≤ 500	1.00	mg/L	N/A	

General Parameters

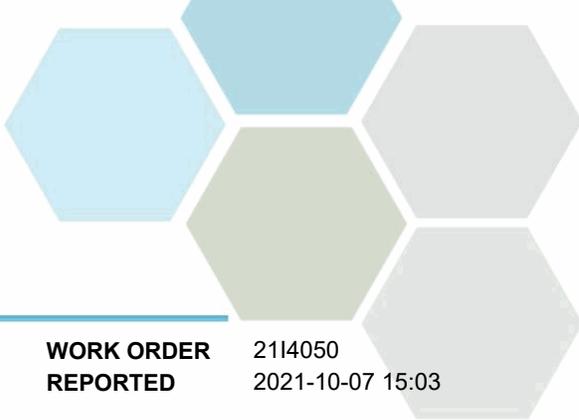
Alkalinity, Total (as CaCO3)	66.7	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Bicarbonate (as CaCO3)	66.7	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Colour, True	5.8	AO ≤ 15	5.0	CU	2021-10-04	HT1
Conductivity (EC)	210	N/A	2.0	µS/cm	2021-10-03	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-02	
pH	7.49	7.0-10.5	0.10	pH units	2021-10-03	HT2
Temperature, at pH	22.2	N/A		°C	2021-10-03	HT2
Turbidity	0.53	OG < 1	0.10	NTU	2021-10-02	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	

Total Metals

Aluminum, total	0.0235	OG < 0.1	0.0050	mg/L	2021-10-06	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-06	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-06	
Barium, total	0.0095	MAC = 2	0.0050	mg/L	2021-10-06	
Boron, total	< 0.0500	MAC = 5	0.0500	mg/L	2021-10-06	
Cadmium, total	0.000019	MAC = 0.005	0.000010	mg/L	2021-10-06	
Calcium, total	15.7	None Required	0.20	mg/L	2021-10-06	
Chromium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-06	
Cobalt, total	< 0.00010	N/A	0.00010	mg/L	2021-10-06	
Copper, total	0.00089	MAC = 2	0.00040	mg/L	2021-10-06	
Iron, total	0.110	AO ≤ 0.3	0.010	mg/L	2021-10-06	
Lead, total	< 0.00020	MAC = 0.005	0.00020	mg/L	2021-10-06	
Magnesium, total	6.34	None Required	0.010	mg/L	2021-10-06	
Manganese, total	0.00907	MAC = 0.12	0.00020	mg/L	2021-10-06	
Mercury, total	< 0.000010	MAC = 0.001	0.000010	mg/L	2021-10-07	
Molybdenum, total	0.00123	N/A	0.00010	mg/L	2021-10-06	
Nickel, total	0.00077	N/A	0.00040	mg/L	2021-10-06	
Potassium, total	1.24	N/A	0.10	mg/L	2021-10-06	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-06	
Sodium, total	16.4	AO ≤ 200	0.10	mg/L	2021-10-06	
Strontium, total	0.195	7	0.0010	mg/L	2021-10-06	
Uranium, total	0.00195	MAC = 0.02	0.000020	mg/L	2021-10-06	



TEST RESULTS

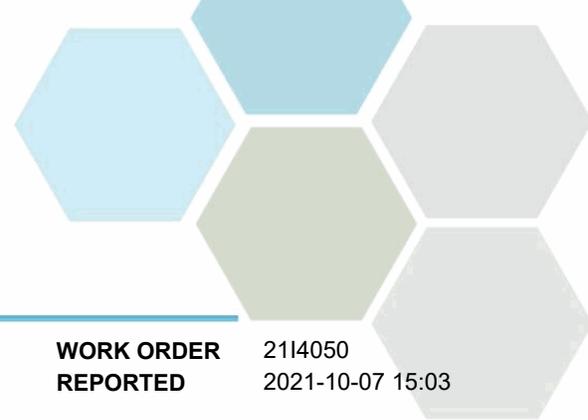
REPORTED TO PROJECT Dan Gare Drilling
Analytical Testing

WORK ORDER REPORTED 2114050
2021-10-07 15:03

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62175 (2114050-04) Matrix: Water Sampled: 2021-09-30 08:35, Continued					
<i>Total Metals, Continued</i>					
Zinc, total	0.0058	AO ≤ 5	0.0040 mg/L	2021-10-06	

Sample Qualifiers:

- HT1 The sample was prepared and/or analyzed past the recommended holding time.
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
Analytical Testing

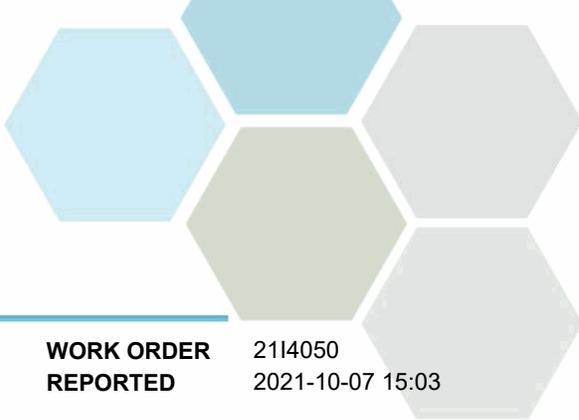
WORK ORDER REPORTED 2114050
2021-10-07 15:03

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT Analytical Testing

WORK ORDER 2114050
REPORTED 2021-10-07 15:03

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



CERTIFICATE OF ANALYSIS

REPORTED TO	Dan Gare Drilling Box 722 Armstrong, BC V0E 1B0	WORK ORDER	2114050
ATTENTION	Dan Gare	RECEIVED / TEMP REPORTED	2021-09-30 09:29 / 9.8°C 2021-11-12 09:58
PO NUMBER		COC NUMBER	No Number
PROJECT	Analytical Testing		
PROJECT INFO			

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

Work Order Comments:

This is a revised report; please refer to Appendix 3 for details.

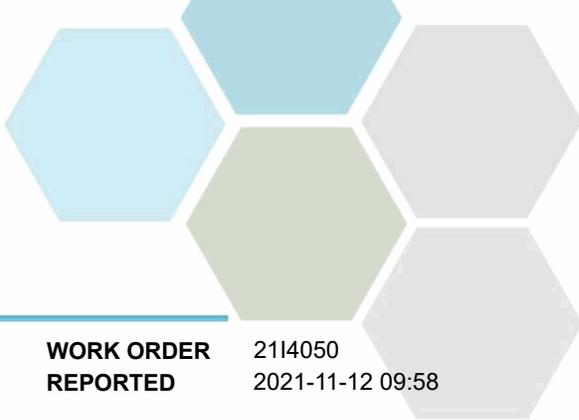
If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-11-12 09:58

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62187 (2114050-01) | Matrix: Water | Sampled: 2021-09-29 13:30

Anions

Chloride	32.3	AO ≤ 250	0.10 mg/L	2021-09-30	
Fluoride	4.17	MAC = 1.5	0.10 mg/L	2021-09-30	
Nitrate (as N)	< 0.010	MAC = 10	0.010 mg/L	2021-09-30	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-09-30	
Sulfate	18.1	AO ≤ 500	1.0 mg/L	2021-09-30	

Calculated Parameters

Hardness, Total (as CaCO3)	55.0	None Required	0.500 mg/L	N/A	
Langelier Index	0.7	N/A	-5.0	2021-10-07	
Solids, Total Dissolved	282	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

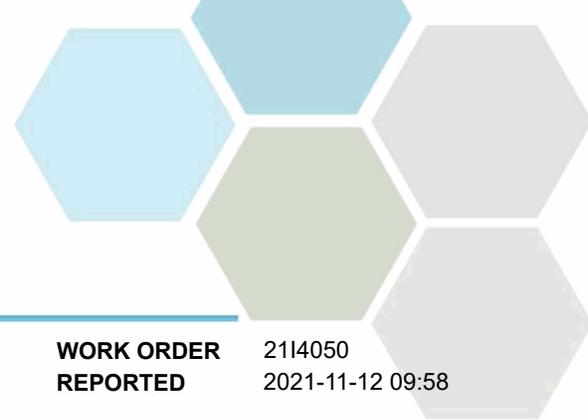
Alkalinity, Total (as CaCO3)	195	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Phenolphthalein (as CaCO3)	7.8	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Bicarbonate (as CaCO3)	180	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Carbonate (as CaCO3)	15.7	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-03	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-01	
Conductivity (EC)	477	N/A	2.0 µS/cm	2021-10-03	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-02	
pH	8.60	7.0-10.5	0.10 pH units	2021-10-03	HT2
Temperature, at pH	22.1	N/A	°C	2021-10-03	HT2
Turbidity	4.81	OG < 1	0.10 NTU	2021-10-02	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-09-30	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-09-30	

Total Metals

Aluminum, total	0.172	OG < 0.1	0.0050 mg/L	2021-10-06	
Antimony, total	0.00037	MAC = 0.006	0.00020 mg/L	2021-10-06	
Arsenic, total	0.00158	MAC = 0.01	0.00050 mg/L	2021-10-06	
Barium, total	0.108	MAC = 2	0.0050 mg/L	2021-10-06	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-06	
Cadmium, total	0.000014	MAC = 0.005	0.000010 mg/L	2021-10-06	
Calcium, total	17.2	None Required	0.20 mg/L	2021-10-06	
Chromium, total	0.00148	MAC = 0.05	0.00050 mg/L	2021-10-06	
Cobalt, total	0.00016	N/A	0.00010 mg/L	2021-10-06	
Copper, total	0.00141	MAC = 2	0.00040 mg/L	2021-10-06	
Iron, total	0.377	AO ≤ 0.3	0.010 mg/L	2021-10-06	
Lead, total	0.00043	MAC = 0.005	0.00020 mg/L	2021-10-06	
Magnesium, total	2.92	None Required	0.010 mg/L	2021-10-06	
Manganese, total	0.0114	MAC = 0.12	0.00020 mg/L	2021-10-06	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-07	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-11-12 09:58

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
62187 (2114050-01) Matrix: Water Sampled: 2021-09-29 13:30, Continued						
<i>Total Metals, Continued</i>						
Molybdenum, total	0.0248	N/A	0.00010	mg/L	2021-10-06	
Nickel, total	0.00042	N/A	0.00040	mg/L	2021-10-06	
Potassium, total	0.98	N/A	0.10	mg/L	2021-10-06	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-06	
Sodium, total	91.0	AO ≤ 200	0.10	mg/L	2021-10-06	
Strontium, total	3.09	7	0.0010	mg/L	2021-10-06	
Uranium, total	0.296	MAC = 0.02	0.000020	mg/L	2021-10-06	
Zinc, total	0.0070	AO ≤ 5	0.0040	mg/L	2021-10-06	

62176 (2114050-02) | Matrix: Water | Sampled: 2021-09-29 13:50

Anions

Chloride	29.0	AO ≤ 250	0.10	mg/L	2021-09-30	
Fluoride	0.26	MAC = 1.5	0.10	mg/L	2021-09-30	
Nitrate (as N)	0.131	MAC = 10	0.010	mg/L	2021-09-30	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2021-09-30	
Sulfate	5.5	AO ≤ 500	1.0	mg/L	2021-09-30	

Calculated Parameters

Hardness, Total (as CaCO3)	70.2	None Required	0.500	mg/L	N/A	
Langelier Index	-0.8	N/A	-5.0		2021-10-07	
Solids, Total Dissolved	115	AO ≤ 500	1.00	mg/L	N/A	

General Parameters

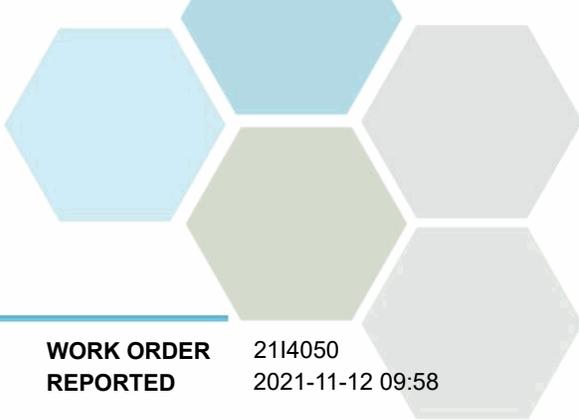
Alkalinity, Total (as CaCO3)	64.3	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Bicarbonate (as CaCO3)	64.3	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Colour, True	< 5.0	AO ≤ 15	5.0	CU	2021-10-01	
Conductivity (EC)	209	N/A	2.0	µS/cm	2021-10-03	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-02	
pH	7.61	7.0-10.5	0.10	pH units	2021-10-03	HT2
Temperature, at pH	22.0	N/A		°C	2021-10-03	HT2
Turbidity	3.72	OG < 1	0.10	NTU	2021-10-02	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	

Total Metals

Aluminum, total	0.179	OG < 0.1	0.0050	mg/L	2021-10-06	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-06	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-06	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-11-12 09:58

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62176 (2114050-02) | Matrix: Water | Sampled: 2021-09-29 13:50, Continued

Total Metals, Continued

Barium, total	0.0142	MAC = 2	0.0050 mg/L	2021-10-06	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-06	
Cadmium, total	0.000011	MAC = 0.005	0.000010 mg/L	2021-10-06	
Calcium, total	17.0	None Required	0.20 mg/L	2021-10-06	
Chromium, total	0.00067	MAC = 0.05	0.00050 mg/L	2021-10-06	
Cobalt, total	0.00021	N/A	0.00010 mg/L	2021-10-06	
Copper, total	0.00125	MAC = 2	0.00040 mg/L	2021-10-06	
Iron, total	0.263	AO ≤ 0.3	0.010 mg/L	2021-10-06	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-06	
Magnesium, total	6.71	None Required	0.010 mg/L	2021-10-06	
Manganese, total	0.0296	MAC = 0.12	0.00020 mg/L	2021-10-06	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-07	
Molybdenum, total	0.00115	N/A	0.00010 mg/L	2021-10-06	
Nickel, total	0.00118	N/A	0.00040 mg/L	2021-10-06	
Potassium, total	1.47	N/A	0.10 mg/L	2021-10-06	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-06	
Sodium, total	15.5	AO ≤ 200	0.10 mg/L	2021-10-06	
Strontium, total	0.186	7	0.0010 mg/L	2021-10-06	
Uranium, total	0.00204	MAC = 0.02	0.000020 mg/L	2021-10-06	
Zinc, total	0.0050	AO ≤ 5	0.0040 mg/L	2021-10-06	

62138 (2114050-03) | Matrix: Water | Sampled: 2021-09-30 08:45

Anions

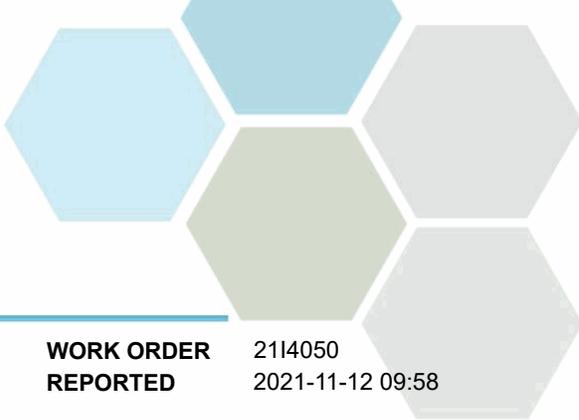
Chloride	28.0	AO ≤ 250	0.10 mg/L	2021-09-30	
Fluoride	0.23	MAC = 1.5	0.10 mg/L	2021-09-30	
Nitrate (as N)	0.082	MAC = 10	0.010 mg/L	2021-09-30	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-09-30	
Sulfate	6.9	AO ≤ 500	1.0 mg/L	2021-09-30	

Calculated Parameters

Hardness, Total (as CaCO3)	70.2	None Required	0.500 mg/L	N/A	
Langelier Index	-0.9	N/A	-5.0	2021-10-07	
Solids, Total Dissolved	120	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	68.1	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Bicarbonate (as CaCO3)	68.1	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-03	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-04	HT1
Conductivity (EC)	219	N/A	2.0 µS/cm	2021-10-03	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-11-12 09:58

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
---------	--------	-----------	----	-------	----------	-----------

62138 (2114050-03) | Matrix: Water | Sampled: 2021-09-30 08:45, Continued

General Parameters, Continued

Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-02	
pH	7.51	7.0-10.5	0.10	pH units	2021-10-03	HT2
Temperature, at pH	22.1	N/A		°C	2021-10-03	HT2
Turbidity	2.12	OG < 1	0.10	NTU	2021-10-02	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	

Total Metals

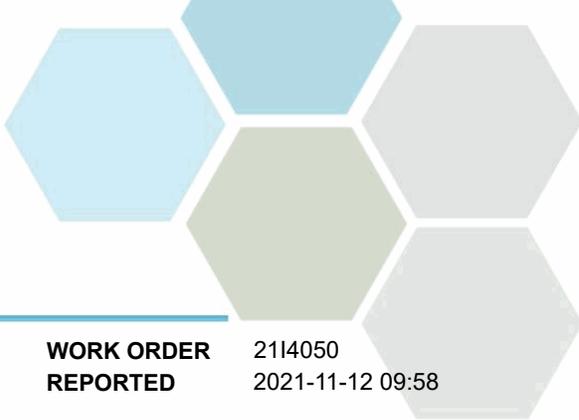
Aluminum, total	0.141	OG < 0.1	0.0050	mg/L	2021-10-06	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-06	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-06	
Barium, total	0.0123	MAC = 2	0.0050	mg/L	2021-10-06	
Boron, total	< 0.0500	MAC = 5	0.0500	mg/L	2021-10-06	
Cadmium, total	< 0.000010	MAC = 0.005	0.000010	mg/L	2021-10-06	
Calcium, total	16.2	None Required	0.20	mg/L	2021-10-06	
Chromium, total	0.00059	MAC = 0.05	0.00050	mg/L	2021-10-06	
Cobalt, total	0.00012	N/A	0.00010	mg/L	2021-10-06	
Copper, total	0.00258	MAC = 2	0.00040	mg/L	2021-10-06	
Iron, total	0.303	AO ≤ 0.3	0.010	mg/L	2021-10-06	
Lead, total	< 0.00020	MAC = 0.005	0.00020	mg/L	2021-10-06	
Magnesium, total	7.23	None Required	0.010	mg/L	2021-10-06	
Manganese, total	0.0507	MAC = 0.12	0.00020	mg/L	2021-10-06	
Mercury, total	< 0.000010	MAC = 0.001	0.000010	mg/L	2021-10-07	
Molybdenum, total	0.00119	N/A	0.00010	mg/L	2021-10-06	
Nickel, total	0.00121	N/A	0.00040	mg/L	2021-10-06	
Potassium, total	1.27	N/A	0.10	mg/L	2021-10-06	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-06	
Sodium, total	18.3	AO ≤ 200	0.10	mg/L	2021-10-06	
Strontium, total	0.236	7	0.0010	mg/L	2021-10-06	
Uranium, total	0.00241	MAC = 0.02	0.000020	mg/L	2021-10-06	
Zinc, total	< 0.0040	AO ≤ 5	0.0040	mg/L	2021-10-06	

62175 (2114050-04) | Matrix: Water | Sampled: 2021-09-30 08:35

Anions

Chloride	24.3	AO ≤ 250	0.10	mg/L	2021-09-30	
Fluoride	0.23	MAC = 1.5	0.10	mg/L	2021-09-30	
Nitrate (as N)	0.098	MAC = 10	0.010	mg/L	2021-09-30	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2021-09-30	
Sulfate	6.4	AO ≤ 500	1.0	mg/L	2021-09-30	

Calculated Parameters



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 2114050
2021-11-12 09:58

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
---------	--------	-----------	----	-------	----------	-----------

62175 (2114050-04) | Matrix: Water | Sampled: 2021-09-30 08:35, Continued

Calculated Parameters, Continued

Hardness, Total (as CaCO3)	65.4	None Required	0.500	mg/L	N/A	
Langelier Index	-0.9	N/A	-5.0		2021-10-07	
Solids, Total Dissolved	111	AO ≤ 500	1.00	mg/L	N/A	

General Parameters

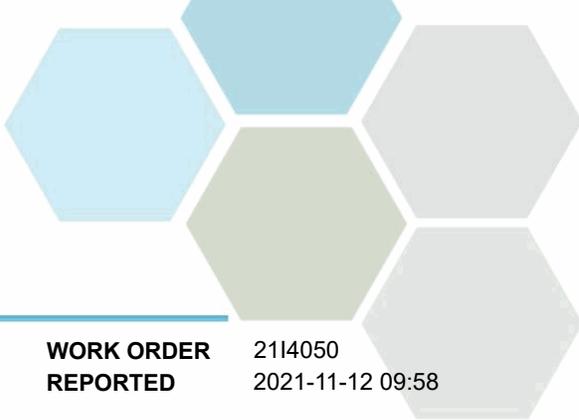
Alkalinity, Total (as CaCO3)	66.7	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Bicarbonate (as CaCO3)	66.7	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-03	
Colour, True	5.8	AO ≤ 15	5.0	CU	2021-10-04	HT1
Conductivity (EC)	210	N/A	2.0	µS/cm	2021-10-03	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-02	
pH	7.49	7.0-10.5	0.10	pH units	2021-10-03	HT2
Temperature, at pH	22.2	N/A		°C	2021-10-03	HT2
Turbidity	0.53	OG < 1	0.10	NTU	2021-10-02	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-09-30	

Total Metals

Aluminum, total	0.0235	OG < 0.1	0.0050	mg/L	2021-10-06	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-06	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-06	
Barium, total	0.0095	MAC = 2	0.0050	mg/L	2021-10-06	
Boron, total	< 0.0500	MAC = 5	0.0500	mg/L	2021-10-06	
Cadmium, total	0.000019	MAC = 0.005	0.000010	mg/L	2021-10-06	
Calcium, total	15.7	None Required	0.20	mg/L	2021-10-06	
Chromium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-06	
Cobalt, total	< 0.00010	N/A	0.00010	mg/L	2021-10-06	
Copper, total	0.00089	MAC = 2	0.00040	mg/L	2021-10-06	
Iron, total	0.110	AO ≤ 0.3	0.010	mg/L	2021-10-06	
Lead, total	< 0.00020	MAC = 0.005	0.00020	mg/L	2021-10-06	
Magnesium, total	6.34	None Required	0.010	mg/L	2021-10-06	
Manganese, total	0.00907	MAC = 0.12	0.00020	mg/L	2021-10-06	
Mercury, total	< 0.000010	MAC = 0.001	0.000010	mg/L	2021-10-07	
Molybdenum, total	0.00123	N/A	0.00010	mg/L	2021-10-06	
Nickel, total	0.00077	N/A	0.00040	mg/L	2021-10-06	
Potassium, total	1.24	N/A	0.10	mg/L	2021-10-06	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-06	
Sodium, total	16.4	AO ≤ 200	0.10	mg/L	2021-10-06	
Strontium, total	0.195	7	0.0010	mg/L	2021-10-06	
Uranium, total	0.00195	MAC = 0.02	0.000020	mg/L	2021-10-06	



TEST RESULTS

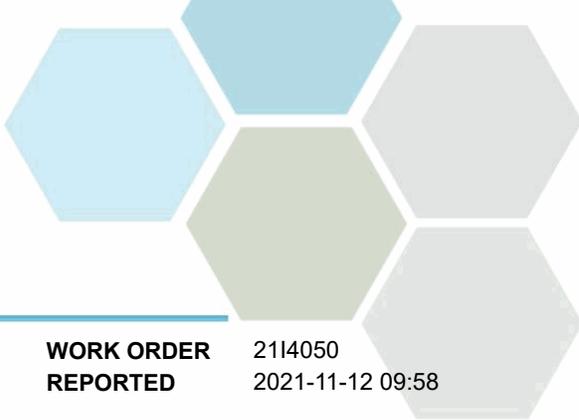
REPORTED TO PROJECT Dan Gare Drilling
Analytical Testing

WORK ORDER REPORTED 2114050
2021-11-12 09:58

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62175 (2114050-04) Matrix: Water Sampled: 2021-09-30 08:35, Continued					
<i>Total Metals, Continued</i>					
Zinc, total	0.0058	AO ≤ 5	0.0040 mg/L	2021-10-06	

Sample Qualifiers:

- HT1 The sample was prepared and/or analyzed past the recommended holding time.
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

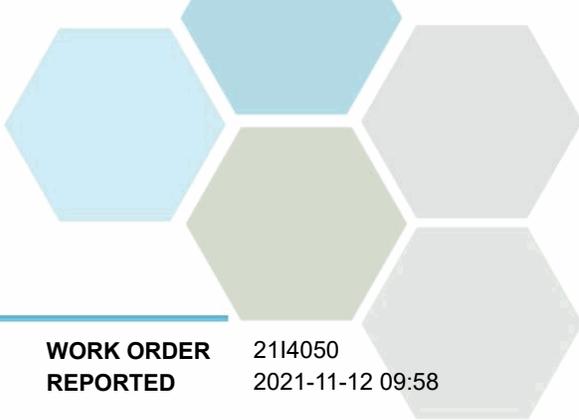
WORK ORDER REPORTED 2114050
2021-11-12 09:58

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT Analytical Testing

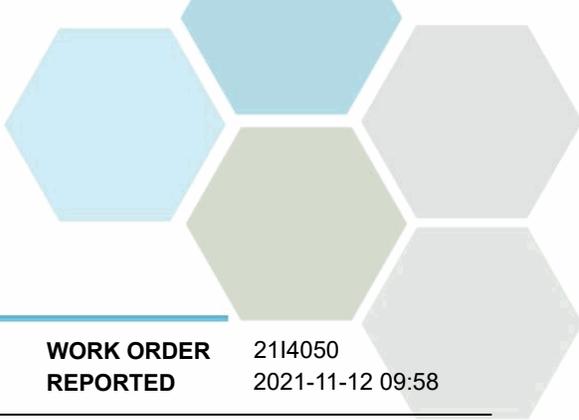
WORK ORDER 2114050
REPORTED 2021-11-12 09:58

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 3: REVISION HISTORY

REPORTED TO PROJECT	Dan Gare Drilling Analytical Testing			WORK ORDER REPORTED	2114050 2021-11-12 09:58
Sample ID	Changed	Change	Analysis	Analyte(s)	
2114050-01	2021-11-12	Sample ID	N/A	N/A	

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Logan Flett

PO NUMBER

PROJECT General Potability

PROJECT INFO

WORK ORDER 21J0111

RECEIVED / TEMP 2021-10-01 14:21 / 9.1°C
REPORTED 2021-11-29 08:27

COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0111
2021-11-29 08:27

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62184 (21J0111-01) | Matrix: Water | Sampled: 2021-10-01 08:10

Anions

Chloride	50.2	AO ≤ 250	0.10 mg/L	2021-10-02	
Fluoride	0.23	MAC = 1.5	0.10 mg/L	2021-10-02	
Nitrate (as N)	0.080	MAC = 10	0.010 mg/L	2021-10-02	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-02	
Sulfate	2.8	AO ≤ 500	1.0 mg/L	2021-10-02	

Calculated Parameters

Hardness, Total (as CaCO3)	56.7	None Required	0.500 mg/L	N/A	
Langelier Index	-1.0	N/A	-5.0	2021-10-08	
Solids, Total Dissolved	138	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	55.2	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Bicarbonate (as CaCO3)	55.2	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-04	
Conductivity (EC)	283	N/A	2.0 µS/cm	2021-10-04	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-06	
pH	7.60	7.0-10.5	0.10 pH units	2021-10-04	HT2
Temperature, at pH	22.2	N/A	°C	2021-10-04	HT2
Turbidity	0.40	OG < 1	0.10 NTU	2021-10-04	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-10-01	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-10-01	

Total Metals

Aluminum, total	0.0234	OG < 0.1	0.0050 mg/L	2021-10-07	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-07	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-07	
Barium, total	0.0088	MAC = 2	0.0050 mg/L	2021-10-07	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-07	
Cadmium, total	< 0.000010	MAC = 0.005	0.000010 mg/L	2021-10-07	
Calcium, total	13.4	None Required	0.20 mg/L	2021-10-07	
Chromium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-07	
Cobalt, total	< 0.00010	N/A	0.00010 mg/L	2021-10-07	
Copper, total	0.00116	MAC = 2	0.00040 mg/L	2021-10-07	
Iron, total	0.059	AO ≤ 0.3	0.010 mg/L	2021-10-07	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-07	
Magnesium, total	5.65	None Required	0.010 mg/L	2021-10-07	
Manganese, total	0.00634	MAC = 0.12	0.00020 mg/L	2021-10-07	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-07	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0111
2021-11-29 08:27

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62184 (21J0111-01) Matrix: Water Sampled: 2021-10-01 08:10, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.00054	N/A	0.00010 mg/L	2021-10-07	
Nickel, total	0.00093	N/A	0.00040 mg/L	2021-10-07	
Potassium, total	1.44	N/A	0.10 mg/L	2021-10-07	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-07	
Sodium, total	30.9	AO ≤ 200	0.10 mg/L	2021-10-07	
Strontium, total	0.233	7	0.0010 mg/L	2021-10-07	
Uranium, total	0.00132	MAC = 0.02	0.000020 mg/L	2021-10-07	
Zinc, total	< 0.0040	AO ≤ 5	0.0040 mg/L	2021-10-07	

62178 (21J0111-02) | Matrix: Water | Sampled: 2021-09-30 18:52

<i>Anions</i>					
Chloride	33.1	AO ≤ 250	0.10 mg/L	2021-10-02	
Fluoride	0.28	MAC = 1.5	0.10 mg/L	2021-10-02	
Nitrate (as N)	0.059	MAC = 10	0.010 mg/L	2021-10-02	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-02	
Sulfate	6.4	AO ≤ 500	1.0 mg/L	2021-10-02	

<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	74.3	None Required	0.500 mg/L	N/A	
Langelier Index	-0.8	N/A	-5.0	2021-10-08	
Solids, Total Dissolved	132	AO ≤ 500	1.00 mg/L	N/A	

<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	75.4	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Bicarbonate (as CaCO3)	75.4	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-04	HT1
Conductivity (EC)	245	N/A	2.0 µS/cm	2021-10-04	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-06	
pH	7.58	7.0-10.5	0.10 pH units	2021-10-04	HT2
Temperature, at pH	22.3	N/A	°C	2021-10-04	HT2
Turbidity	1.71	OG < 1	0.10 NTU	2021-10-03	

<i>Microbiological Parameters</i>					
Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-10-01	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-10-01	

<i>Total Metals</i>					
Aluminum, total	0.0165	OG < 0.1	0.0050 mg/L	2021-10-07	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-07	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-07	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0111
2021-11-29 08:27

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62178 (21J0111-02) Matrix: Water Sampled: 2021-09-30 18:52, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0121	MAC = 2	0.0050 mg/L	2021-10-07	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-07	
Cadmium, total	0.000020	MAC = 0.005	0.000010 mg/L	2021-10-07	
Calcium, total	17.2	None Required	0.20 mg/L	2021-10-07	
Chromium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-07	
Cobalt, total	0.00018	N/A	0.00010 mg/L	2021-10-07	
Copper, total	0.00138	MAC = 2	0.00040 mg/L	2021-10-07	
Iron, total	0.140	AO ≤ 0.3	0.010 mg/L	2021-10-07	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-07	
Magnesium, total	7.60	None Required	0.010 mg/L	2021-10-07	
Manganese, total	0.486	MAC = 0.12	0.00020 mg/L	2021-10-07	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-07	
Molybdenum, total	0.00177	N/A	0.00010 mg/L	2021-10-07	
Nickel, total	0.00125	N/A	0.00040 mg/L	2021-10-07	
Potassium, total	1.28	N/A	0.10 mg/L	2021-10-07	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-07	
Sodium, total	19.7	AO ≤ 200	0.10 mg/L	2021-10-07	
Strontium, total	0.224	7	0.0010 mg/L	2021-10-07	
Uranium, total	0.00246	MAC = 0.02	0.000020 mg/L	2021-10-07	
Zinc, total	< 0.0040	AO ≤ 5	0.0040 mg/L	2021-10-07	

62180 (21J0111-03) | Matrix: Water | Sampled: 2021-09-30 19:15

<i>Anions</i>					
Chloride	10.9	AO ≤ 250	0.10 mg/L	2021-10-02	
Fluoride	0.28	MAC = 1.5	0.10 mg/L	2021-10-02	
Nitrate (as N)	0.047	MAC = 10	0.010 mg/L	2021-10-02	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-02	
Sulfate	4.5	AO ≤ 500	1.0 mg/L	2021-10-02	

<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	45.4	None Required	0.500 mg/L	N/A	
Langelier Index	-1.3	N/A	-5.0	2021-10-08	
Solids, Total Dissolved	70.7	AO ≤ 500	1.00 mg/L	N/A	

<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	49.1	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Bicarbonate (as CaCO3)	49.1	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-04	HT1
Conductivity (EC)	134	N/A	2.0 µS/cm	2021-10-04	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0111
2021-11-29 08:27

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62180 (21J0111-03) | Matrix: Water | Sampled: 2021-09-30 19:15, Continued

General Parameters, Continued

Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-06	
pH	7.39	7.0-10.5	0.10 pH units	2021-10-04	HT2
Temperature, at pH	21.9	N/A	°C	2021-10-04	HT2
Turbidity	0.30	OG < 1	0.10 NTU	2021-10-03	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-10-01	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-10-01	

Total Metals

Aluminum, total	0.0263	OG < 0.1	0.0050 mg/L	2021-10-07	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-07	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-07	
Barium, total	0.0050	MAC = 2	0.0050 mg/L	2021-10-07	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-07	
Cadmium, total	0.000018	MAC = 0.005	0.000010 mg/L	2021-10-07	
Calcium, total	12.5	None Required	0.20 mg/L	2021-10-07	
Chromium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-07	
Cobalt, total	< 0.00010	N/A	0.00010 mg/L	2021-10-07	
Copper, total	0.00108	MAC = 2	0.00040 mg/L	2021-10-07	
Iron, total	0.056	AO ≤ 0.3	0.010 mg/L	2021-10-07	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-07	
Magnesium, total	3.43	None Required	0.010 mg/L	2021-10-07	
Manganese, total	0.0178	MAC = 0.12	0.00020 mg/L	2021-10-07	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-07	
Molybdenum, total	0.00219	N/A	0.00010 mg/L	2021-10-07	
Nickel, total	0.00088	N/A	0.00040 mg/L	2021-10-07	
Potassium, total	0.83	N/A	0.10 mg/L	2021-10-07	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-07	
Sodium, total	8.49	AO ≤ 200	0.10 mg/L	2021-10-07	
Strontium, total	0.110	7	0.0010 mg/L	2021-10-07	
Uranium, total	0.00200	MAC = 0.02	0.000020 mg/L	2021-10-07	
Zinc, total	< 0.0040	AO ≤ 5	0.0040 mg/L	2021-10-07	

62188 (21J0111-04) | Matrix: Water | Sampled: 2021-10-01 08:35

Anions

Chloride	115	AO ≤ 250	0.10 mg/L	2021-10-02	
Fluoride	0.30	MAC = 1.5	0.10 mg/L	2021-10-02	
Nitrate (as N)	0.154	MAC = 10	0.010 mg/L	2021-10-02	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-02	
Sulfate	3.6	AO ≤ 500	1.0 mg/L	2021-10-02	

Calculated Parameters



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0111
2021-11-29 08:27

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62188 (21J0111-04) | Matrix: Water | Sampled: 2021-10-01 08:35, Continued

Calculated Parameters, Continued

Hardness, Total (as CaCO3)	84.2	None Required	0.500 mg/L	N/A	
Langelier Index	-1.0	N/A	-5.0	2021-10-08	
Solids, Total Dissolved	232	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	46.5	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Bicarbonate (as CaCO3)	46.5	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-04	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-04	
Conductivity (EC)	494	N/A	2.0 µS/cm	2021-10-04	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-06	
pH	7.46	7.0-10.5	0.10 pH units	2021-10-04	HT2
Temperature, at pH	22.1	N/A	°C	2021-10-04	HT2
Turbidity	0.38	OG < 1	0.10 NTU	2021-10-04	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-10-01	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-10-01	

Total Metals

Aluminum, total	0.0080	OG < 0.1	0.0050 mg/L	2021-10-07	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-07	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-07	
Barium, total	0.0158	MAC = 2	0.0050 mg/L	2021-10-07	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-07	
Cadmium, total	0.000010	MAC = 0.005	0.000010 mg/L	2021-10-07	
Calcium, total	22.0	None Required	0.20 mg/L	2021-10-07	
Chromium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-07	
Cobalt, total	< 0.00010	N/A	0.00010 mg/L	2021-10-07	
Copper, total	0.00079	MAC = 2	0.00040 mg/L	2021-10-07	
Iron, total	0.104	AO ≤ 0.3	0.010 mg/L	2021-10-07	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-07	
Magnesium, total	7.11	None Required	0.010 mg/L	2021-10-07	
Manganese, total	0.00609	MAC = 0.12	0.00020 mg/L	2021-10-07	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-07	
Molybdenum, total	0.00063	N/A	0.00010 mg/L	2021-10-07	
Nickel, total	0.00069	N/A	0.00040 mg/L	2021-10-07	
Potassium, total	2.33	N/A	0.10 mg/L	2021-10-07	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-07	
Sodium, total	53.3	AO ≤ 200	0.10 mg/L	2021-10-07	
Strontium, total	0.394	7	0.0010 mg/L	2021-10-07	
Uranium, total	0.00146	MAC = 0.02	0.000020 mg/L	2021-10-07	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0111
2021-11-29 08:27

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62188 (21J0111-04) Matrix: Water Sampled: 2021-10-01 08:35, Continued					
<i>Total Metals, Continued</i>					
Zinc, total	< 0.0040	AO ≤ 5	0.0040 mg/L	2021-10-07	

Sample Qualifiers:

- HT1 The sample was prepared and/or analyzed past the recommended holding time.
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0111
2021-11-29 08:27

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry		Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT General Potability

WORK ORDER 21J0111
REPORTED 2021-11-29 08:27

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



CERTIFICATE OF ANALYSIS

REPORTED TO	Dan Gare Drilling Box 722 Armstrong, BC V0E 1B0	WORK ORDER	21J0518
ATTENTION	Dan Gare	RECEIVED / TEMP REPORTED	2021-10-05 15:36 / 11.3°C 2021-10-14 13:14
PO NUMBER		COC NUMBER	No Number
PROJECT	Analytical Testing		
PROJECT INFO			

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

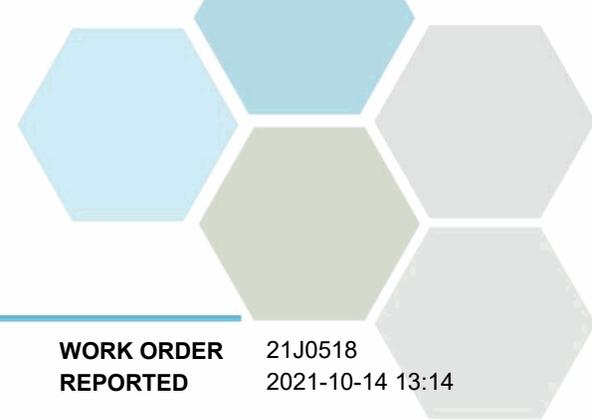
If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4

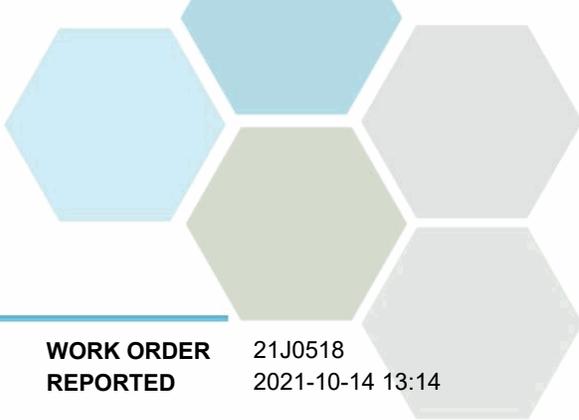


TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 21J0518
2021-10-14 13:14

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62189 (21J0518-01) Matrix: Water Sampled: 2021-10-05 14:00					
Anions					
Chloride	36.4	AO ≤ 250	0.10 mg/L	2021-10-07	
Fluoride	9.19	MAC = 1.5	0.10 mg/L	2021-10-07	
Nitrate (as N)	< 0.010	MAC = 10	0.010 mg/L	2021-10-07	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-07	
Sulfate	13.8	AO ≤ 500	1.0 mg/L	2021-10-07	
Calculated Parameters					
Hardness, Total (as CaCO3)	26.5	None Required	0.500 mg/L	N/A	
Langelier Index	0.7	N/A	-5.0	2021-10-14	
Solids, Total Dissolved	321	AO ≤ 500	1.00 mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	227	N/A	1.0 mg/L	2021-10-06	
Alkalinity, Phenolphthalein (as CaCO3)	16.7	N/A	1.0 mg/L	2021-10-06	
Alkalinity, Bicarbonate (as CaCO3)	194	N/A	1.0 mg/L	2021-10-06	
Alkalinity, Carbonate (as CaCO3)	33.4	N/A	1.0 mg/L	2021-10-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-06	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-07	
Conductivity (EC)	547	N/A	2.0 µS/cm	2021-10-06	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-06	
pH	8.94	7.0-10.5	0.10 pH units	2021-10-06	HT2
Temperature, at pH	20.5	N/A	°C	2021-10-06	HT2
Turbidity	4.05	OG < 1	0.10 NTU	2021-10-06	
Microbiological Parameters					
Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-10-05	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-10-05	
Total Metals					
Aluminum, total	0.335	OG < 0.1	0.0050 mg/L	2021-10-11	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-11	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-11	
Barium, total	0.0258	MAC = 2	0.0050 mg/L	2021-10-11	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-12	
Cadmium, total	0.000012	MAC = 0.005	0.000010 mg/L	2021-10-11	
Calcium, total	8.37	None Required	0.20 mg/L	2021-10-11	
Chromium, total	0.00118	MAC = 0.05	0.00050 mg/L	2021-10-11	
Cobalt, total	0.00013	N/A	0.00010 mg/L	2021-10-11	
Copper, total	0.00146	MAC = 2	0.00040 mg/L	2021-10-11	
Iron, total	0.358	AO ≤ 0.3	0.010 mg/L	2021-10-11	
Lead, total	0.00032	MAC = 0.005	0.00020 mg/L	2021-10-11	
Magnesium, total	1.35	None Required	0.010 mg/L	2021-10-11	
Manganese, total	0.00804	MAC = 0.12	0.00020 mg/L	2021-10-11	
Mercury, total	< 0.000040	MAC = 0.001	0.000040 mg/L	2021-10-11	CT5



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 21J0518
2021-10-14 13:14

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
62189 (21J0518-01) Matrix: Water Sampled: 2021-10-05 14:00, Continued						
<i>Total Metals, Continued</i>						
Molybdenum, total	0.0202	N/A	0.00010	mg/L	2021-10-11	
Nickel, total	0.00091	N/A	0.00040	mg/L	2021-10-11	
Potassium, total	0.79	N/A	0.10	mg/L	2021-10-11	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-11	
Sodium, total	122	AO ≤ 200	0.10	mg/L	2021-10-11	
Strontium, total	1.88	7	0.0010	mg/L	2021-10-11	
Uranium, total	0.0387	MAC = 0.02	0.000020	mg/L	2021-10-11	
Zinc, total	0.0042	AO ≤ 5	0.0040	mg/L	2021-10-11	

62190 (21J0518-02) | Matrix: Water | Sampled: 2021-10-04 18:55

Anions

Chloride	62.6	AO ≤ 250	0.10	mg/L	2021-10-07	
Fluoride	1.36	MAC = 1.5	0.10	mg/L	2021-10-07	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2021-10-07	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2021-10-07	
Sulfate	5.8	AO ≤ 500	1.0	mg/L	2021-10-07	

Calculated Parameters

Hardness, Total (as CaCO3)	135	None Required	0.500	mg/L	N/A	
Langelier Index	-0.5	N/A	-5.0		2021-10-14	
Solids, Total Dissolved	217	AO ≤ 500	1.00	mg/L	N/A	

General Parameters

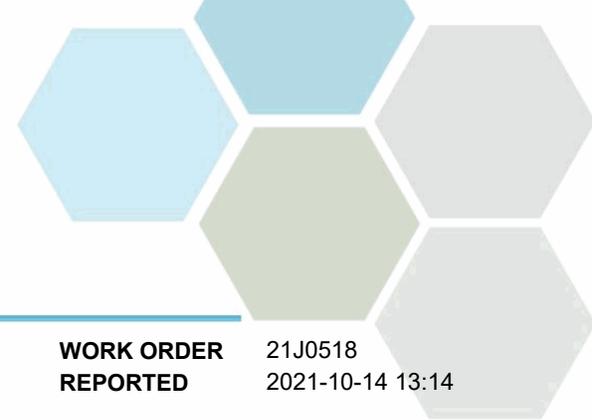
Alkalinity, Total (as CaCO3)	109	N/A	1.0	mg/L	2021-10-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-06	
Alkalinity, Bicarbonate (as CaCO3)	109	N/A	1.0	mg/L	2021-10-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-06	
Colour, True	< 5.0	AO ≤ 15	5.0	CU	2021-10-07	
Conductivity (EC)	391	N/A	2.0	µS/cm	2021-10-06	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-06	
pH	7.47	7.0-10.5	0.10	pH units	2021-10-06	HT2
Temperature, at pH	20.7	N/A		°C	2021-10-06	HT2
Turbidity	10.8	OG < 1	0.10	NTU	2021-10-06	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-10-05	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-10-05	

Total Metals

Aluminum, total	0.0126	OG < 0.1	0.0050	mg/L	2021-10-11	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-11	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-11	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 21J0518
2021-10-14 13:14

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62190 (21J0518-02) Matrix: Water Sampled: 2021-10-04 18:55, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0173	MAC = 2	0.0050 mg/L	2021-10-11	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-12	
Cadmium, total	0.000069	MAC = 0.005	0.000010 mg/L	2021-10-11	
Calcium, total	32.5	None Required	0.20 mg/L	2021-10-11	
Chromium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-11	
Cobalt, total	0.00065	N/A	0.00010 mg/L	2021-10-11	
Copper, total	0.00307	MAC = 2	0.00040 mg/L	2021-10-11	
Iron, total	0.832	AO ≤ 0.3	0.010 mg/L	2021-10-11	
Lead, total	0.00092	MAC = 0.005	0.00020 mg/L	2021-10-11	
Magnesium, total	13.1	None Required	0.010 mg/L	2021-10-11	
Manganese, total	1.01	MAC = 0.12	0.00020 mg/L	2021-10-11	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-13	
Molybdenum, total	0.00511	N/A	0.00010 mg/L	2021-10-11	
Nickel, total	0.00215	N/A	0.00040 mg/L	2021-10-11	
Potassium, total	1.97	N/A	0.10 mg/L	2021-10-11	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-11	
Sodium, total	34.2	AO ≤ 200	0.10 mg/L	2021-10-11	
Strontium, total	0.460	7	0.0010 mg/L	2021-10-11	
Uranium, total	0.0111	MAC = 0.02	0.000020 mg/L	2021-10-11	
Zinc, total	0.0115	AO ≤ 5	0.0040 mg/L	2021-10-11	

62179 (21J0518-03) | Matrix: Water | Sampled: 2021-10-04 17:45

Anions

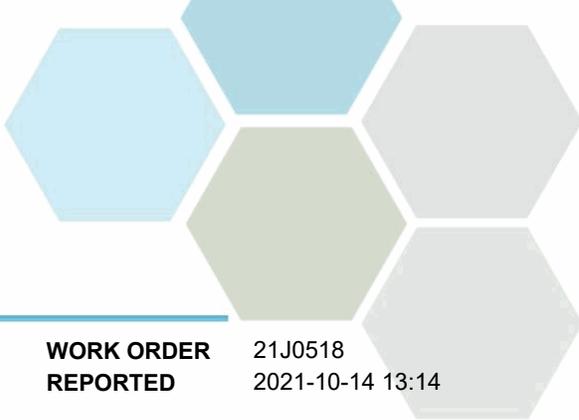
Chloride	35.7	AO ≤ 250	0.10 mg/L	2021-10-07	
Fluoride	1.57	MAC = 1.5	0.10 mg/L	2021-10-07	
Nitrate (as N)	< 0.010	MAC = 10	0.010 mg/L	2021-10-07	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-07	
Sulfate	22.3	AO ≤ 500	1.0 mg/L	2021-10-07	

Calculated Parameters

Hardness, Total (as CaCO3)	85.2	None Required	0.500 mg/L	N/A	
Langelier Index	-0.7	N/A	-5.0	2021-10-14	
Solids, Total Dissolved	164	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	74.1	N/A	1.0 mg/L	2021-10-06	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-06	
Alkalinity, Bicarbonate (as CaCO3)	74.1	N/A	1.0 mg/L	2021-10-06	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-06	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-06	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-07	
Conductivity (EC)	289	N/A	2.0 µS/cm	2021-10-06	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 21J0518
2021-10-14 13:14

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
---------	--------	-----------	----	-------	----------	-----------

62179 (21J0518-03) | Matrix: Water | Sampled: 2021-10-04 17:45, Continued

General Parameters, Continued

Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-06	
pH	7.54	7.0-10.5	0.10	pH units	2021-10-06	HT2
Temperature, at pH	22.0	N/A		°C	2021-10-06	HT2
Turbidity	3.01	OG < 1	0.10	NTU	2021-10-06	

Microbiological Parameters

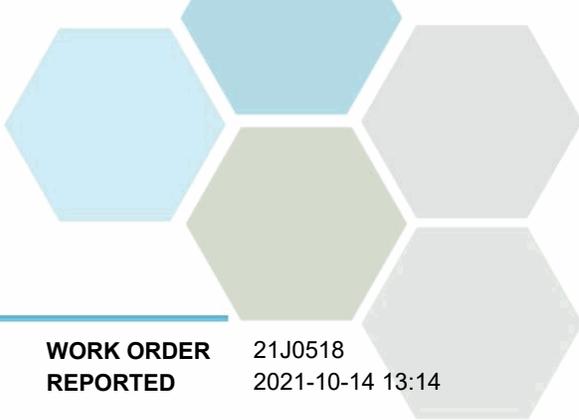
Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-10-05	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-10-05	

Total Metals

Aluminum, total	0.0265	OG < 0.1	0.0050	mg/L	2021-10-11	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-11	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050	mg/L	2021-10-11	
Barium, total	0.0092	MAC = 2	0.0050	mg/L	2021-10-11	
Boron, total	< 0.0500	MAC = 5	0.0500	mg/L	2021-10-12	
Cadmium, total	0.000039	MAC = 0.005	0.000010	mg/L	2021-10-11	
Calcium, total	20.8	None Required	0.20	mg/L	2021-10-11	
Chromium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-11	
Cobalt, total	0.00040	N/A	0.00010	mg/L	2021-10-11	
Copper, total	0.00147	MAC = 2	0.00040	mg/L	2021-10-11	
Iron, total	0.261	AO ≤ 0.3	0.010	mg/L	2021-10-11	
Lead, total	< 0.00020	MAC = 0.005	0.00020	mg/L	2021-10-11	
Magnesium, total	8.07	None Required	0.010	mg/L	2021-10-11	
Manganese, total	0.860	MAC = 0.12	0.00020	mg/L	2021-10-11	
Mercury, total	< 0.000010	MAC = 0.001	0.000010	mg/L	2021-10-13	
Molybdenum, total	0.00806	N/A	0.00010	mg/L	2021-10-11	
Nickel, total	0.00288	N/A	0.00040	mg/L	2021-10-11	
Potassium, total	1.73	N/A	0.10	mg/L	2021-10-11	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-11	
Sodium, total	29.9	AO ≤ 200	0.10	mg/L	2021-10-11	
Strontium, total	0.274	7	0.0010	mg/L	2021-10-11	
Uranium, total	0.00400	MAC = 0.02	0.000020	mg/L	2021-10-11	
Zinc, total	0.0128	AO ≤ 5	0.0040	mg/L	2021-10-11	

Sample Qualifiers:

- CT5 This sample has been incorrectly preserved for Mercury analysis
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
Analytical Testing

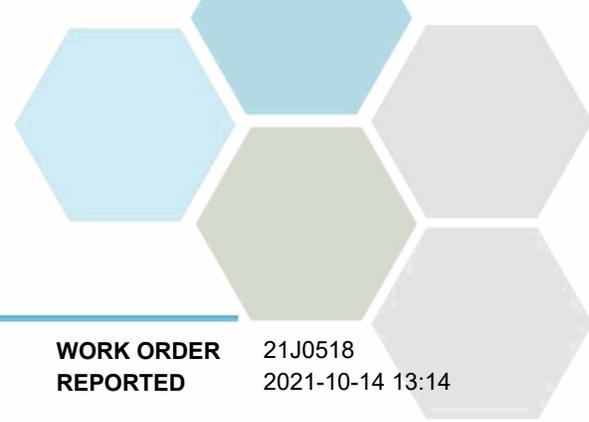
WORK ORDER REPORTED 21J0518
2021-10-14 13:14

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT Analytical Testing

WORK ORDER 21J0518
REPORTED 2021-10-14 13:14

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Logan Flett

PO NUMBER

PROJECT General Potability

PROJECT INFO

WORK ORDER 21J0794

RECEIVED / TEMP 2021-10-06 12:09 / 11.3°C
REPORTED 2021-11-29 08:36

COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0794
2021-11-29 08:36

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

62137 (21J0794-01) | Matrix: Water | Sampled: 2021-10-06 10:15

Anions

Chloride	34.8	AO ≤ 250	0.10 mg/L	2021-10-09	
Fluoride	0.27	MAC = 1.5	0.10 mg/L	2021-10-09	
Nitrate (as N)	0.013	MAC = 10	0.010 mg/L	2021-10-09	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-09	
Sulfate	4.7	AO ≤ 500	1.0 mg/L	2021-10-09	

Calculated Parameters

Hardness, Total (as CaCO3)	102	None Required	0.500 mg/L	N/A	
Langelier Index	-1.0	N/A	-5.0	2021-10-14	
Solids, Total Dissolved	121	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	48.6	N/A	1.0 mg/L	2021-10-07	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-07	
Alkalinity, Bicarbonate (as CaCO3)	48.6	N/A	1.0 mg/L	2021-10-07	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-07	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-07	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-07	
Conductivity (EC)	248	N/A	2.0 µS/cm	2021-10-07	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-12	
pH	7.33	7.0-10.5	0.10 pH units	2021-10-07	HT2
Temperature, at pH	22.6	N/A	°C	2021-10-07	HT2
Turbidity	0.37	OG < 1	0.10 NTU	2021-10-07	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-10-07	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-10-07	

Total Metals

Aluminum, total	0.0102	OG < 0.1	0.0050 mg/L	2021-10-11	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-11	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-11	
Barium, total	0.0147	MAC = 2	0.0050 mg/L	2021-10-11	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-11	
Cadmium, total	0.000033	MAC = 0.005	0.000010 mg/L	2021-10-11	
Calcium, total	25.1	None Required	0.20 mg/L	2021-10-11	
Chromium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-11	
Cobalt, total	0.00013	N/A	0.00010 mg/L	2021-10-11	
Copper, total	0.00159	MAC = 2	0.00040 mg/L	2021-10-11	
Iron, total	0.123	AO ≤ 0.3	0.010 mg/L	2021-10-11	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-11	
Magnesium, total	9.47	None Required	0.010 mg/L	2021-10-11	
Manganese, total	0.288	MAC = 0.12	0.00020 mg/L	2021-10-11	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-13	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0794
2021-11-29 08:36

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62137 (21J0794-01) Matrix: Water Sampled: 2021-10-06 10:15, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.00094	N/A	0.00010 mg/L	2021-10-11	
Nickel, total	0.00106	N/A	0.00040 mg/L	2021-10-11	
Potassium, total	1.73	N/A	0.10 mg/L	2021-10-11	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-11	
Sodium, total	16.0	AO ≤ 200	0.10 mg/L	2021-10-11	
Strontium, total	0.287	7	0.0010 mg/L	2021-10-11	
Uranium, total	0.0148	MAC = 0.02	0.000020 mg/L	2021-10-11	
Zinc, total	< 0.0040	AO ≤ 5	0.0040 mg/L	2021-10-11	

62181 (21J0794-02) | Matrix: Water | Sampled: 2021-10-06 10:20

<i>Anions</i>					
Chloride	46.1	AO ≤ 250	0.10 mg/L	2021-10-09	
Fluoride	0.19	MAC = 1.5	0.10 mg/L	2021-10-09	
Nitrate (as N)	0.087	MAC = 10	0.010 mg/L	2021-10-09	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-09	
Sulfate	1.6	AO ≤ 500	1.0 mg/L	2021-10-09	

<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	30.7	None Required	0.500 mg/L	N/A	
Langelier Index	-1.5	N/A	-5.0	2021-10-14	
Solids, Total Dissolved	135	AO ≤ 500	1.00 mg/L	N/A	

<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	54.0	N/A	1.0 mg/L	2021-10-07	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-07	
Alkalinity, Bicarbonate (as CaCO3)	54.0	N/A	1.0 mg/L	2021-10-07	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-07	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-07	
Colour, True	9.9	AO ≤ 15	5.0 CU	2021-10-07	
Conductivity (EC)	249	N/A	2.0 µS/cm	2021-10-07	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-12	
pH	7.26	7.0-10.5	0.10 pH units	2021-10-07	HT2
Temperature, at pH	22.7	N/A	°C	2021-10-07	HT2
Turbidity	1.33	OG < 1	0.10 NTU	2021-10-07	

<i>Microbiological Parameters</i>					
Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-10-07	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-10-07	

<i>Total Metals</i>					
Aluminum, total	0.190	OG < 0.1	0.0050 mg/L	2021-10-11	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-11	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-11	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0794
2021-11-29 08:36

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62181 (21J0794-02) Matrix: Water Sampled: 2021-10-06 10:20, Continued					
<i>Total Metals, Continued</i>					
Barium, total	0.0114	MAC = 2	0.0050 mg/L	2021-10-11	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-11	
Cadmium, total	< 0.000010	MAC = 0.005	0.000010 mg/L	2021-10-11	
Calcium, total	8.73	None Required	0.20 mg/L	2021-10-11	
Chromium, total	0.00056	MAC = 0.05	0.00050 mg/L	2021-10-11	
Cobalt, total	0.00010	N/A	0.00010 mg/L	2021-10-11	
Copper, total	0.00078	MAC = 2	0.00040 mg/L	2021-10-11	
Iron, total	0.189	AO ≤ 0.3	0.010 mg/L	2021-10-11	
Lead, total	< 0.00020	MAC = 0.005	0.00020 mg/L	2021-10-11	
Magnesium, total	2.15	None Required	0.010 mg/L	2021-10-11	
Manganese, total	0.00927	MAC = 0.12	0.00020 mg/L	2021-10-11	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-13	
Molybdenum, total	0.00060	N/A	0.00010 mg/L	2021-10-11	
Nickel, total	0.00077	N/A	0.00040 mg/L	2021-10-11	
Potassium, total	1.28	N/A	0.10 mg/L	2021-10-11	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-11	
Sodium, total	42.0	AO ≤ 200	0.10 mg/L	2021-10-11	
Strontium, total	0.149	7	0.0010 mg/L	2021-10-11	
Uranium, total	0.00241	MAC = 0.02	0.000020 mg/L	2021-10-11	
Zinc, total	< 0.0040	AO ≤ 5	0.0040 mg/L	2021-10-11	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J0794
2021-11-29 08:36

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry		Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT General Potability

WORK ORDER 21J0794
REPORTED 2021-11-29 08:36

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Dan Gare

PO NUMBER
PROJECT Analytical Testing
PROJECT INFO

WORK ORDER 21J1224

RECEIVED / TEMP 2021-10-08 16:30 / 12.6°C
REPORTED 2021-10-19 14:53
COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

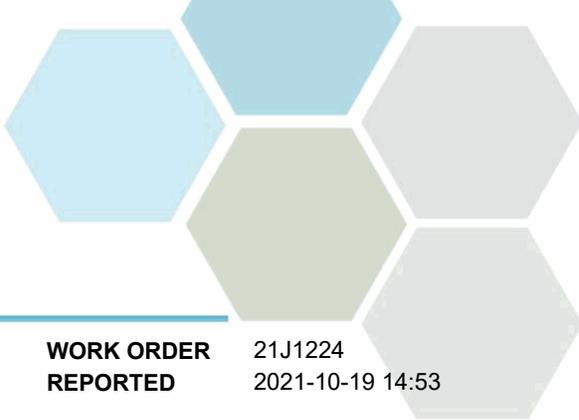
If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 21J1224
2021-10-19 14:53

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
---------	--------	-----------	----	-------	----------	-----------

62191 (21J1224-01) | Matrix: Water | Sampled: 2021-10-08 15:30

Anions

Chloride	36.1	AO ≤ 250	0.10	mg/L	2021-10-14	
Fluoride	7.87	MAC = 1.5	0.10	mg/L	2021-10-14	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2021-10-14	HT1
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2021-10-14	HT1
Sulfate	11.4	AO ≤ 500	1.0	mg/L	2021-10-14	

Calculated Parameters

Hardness, Total (as CaCO3)	29.9	None Required	0.500	mg/L	N/A	
Langelier Index	0.5	N/A	-5.0		2021-10-19	
Solids, Total Dissolved	305	AO ≤ 500	1.00	mg/L	N/A	

General Parameters

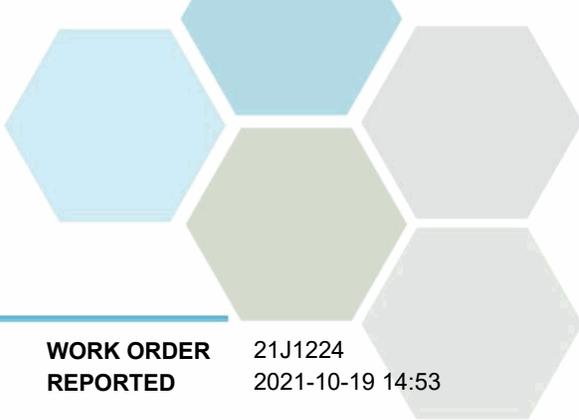
Alkalinity, Total (as CaCO3)	201	N/A	1.0	mg/L	2021-10-13	
Alkalinity, Phenolphthalein (as CaCO3)	9.8	N/A	1.0	mg/L	2021-10-13	
Alkalinity, Bicarbonate (as CaCO3)	181	N/A	1.0	mg/L	2021-10-13	
Alkalinity, Carbonate (as CaCO3)	19.7	N/A	1.0	mg/L	2021-10-13	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-13	
Colour, True	< 5.0	AO ≤ 15	5.0	CU	2021-10-14	HT1
Conductivity (EC)	501	N/A	2.0	µS/cm	2021-10-13	
Cyanide, Total	0.0097	MAC = 0.2	0.0020	mg/L	2021-10-12	
pH	8.72	7.0-10.5	0.10	pH units	2021-10-13	HT2
Temperature, at pH	20.2	N/A		°C	2021-10-13	HT2
Turbidity	91.6	OG < 1	0.10	NTU	2021-10-13	HT1

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-10-08	
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-10-08	

Total Metals

Aluminum, total	8.89	OG < 0.1	0.0050	mg/L	2021-10-17	
Antimony, total	0.00121	MAC = 0.006	0.00020	mg/L	2021-10-17	
Arsenic, total	0.00155	MAC = 0.01	0.00050	mg/L	2021-10-17	
Barium, total	0.0474	MAC = 2	0.0050	mg/L	2021-10-17	
Boron, total	0.0729	MAC = 5	0.0500	mg/L	2021-10-17	
Cadmium, total	0.000017	MAC = 0.005	0.000010	mg/L	2021-10-17	
Calcium, total	8.86	None Required	0.20	mg/L	2021-10-17	
Chromium, total	0.0111	MAC = 0.05	0.00050	mg/L	2021-10-17	
Cobalt, total	0.00023	N/A	0.00010	mg/L	2021-10-17	
Copper, total	0.00160	MAC = 2	0.00040	mg/L	2021-10-17	
Iron, total	3.39	AO ≤ 0.3	0.010	mg/L	2021-10-17	
Lead, total	0.00289	MAC = 0.005	0.00020	mg/L	2021-10-17	
Magnesium, total	1.89	None Required	0.010	mg/L	2021-10-17	
Manganese, total	0.0424	MAC = 0.12	0.00020	mg/L	2021-10-17	
Mercury, total	< 0.000010	MAC = 0.001	0.000010	mg/L	2021-10-16	



TEST RESULTS

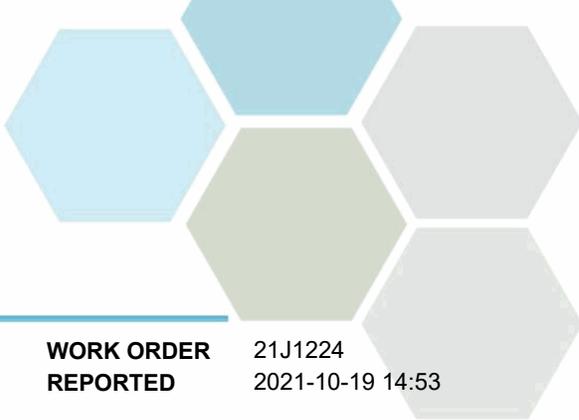
REPORTED TO PROJECT Dan Gare Drilling
Analytical Testing

WORK ORDER REPORTED 21J1224
2021-10-19 14:53

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62191 (21J1224-01) Matrix: Water Sampled: 2021-10-08 15:30, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.0486	N/A	0.00010 mg/L	2021-10-17	
Nickel, total	0.00101	N/A	0.00040 mg/L	2021-10-17	
Potassium, total	4.28	N/A	0.10 mg/L	2021-10-17	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-17	
Sodium, total	120	AO ≤ 200	0.10 mg/L	2021-10-17	
Strontium, total	1.54	7	0.0010 mg/L	2021-10-17	
Uranium, total	0.124	MAC = 0.02	0.000020 mg/L	2021-10-17	
Zinc, total	0.0152	AO ≤ 5	0.0040 mg/L	2021-10-17	

Sample Qualifiers:

- HT1 The sample was prepared and/or analyzed past the recommended holding time.
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

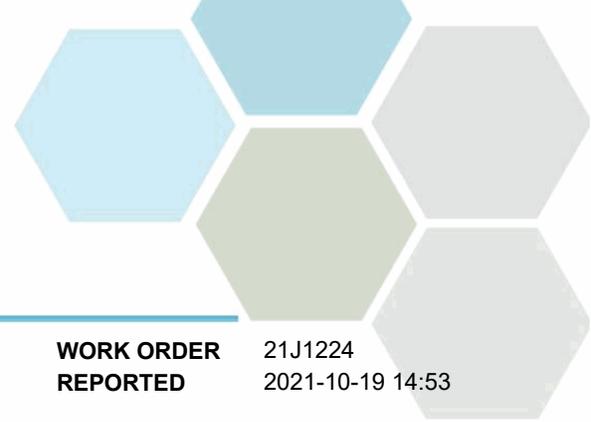
WORK ORDER REPORTED 21J1224
2021-10-19 14:53

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT Analytical Testing

WORK ORDER 21J1224
REPORTED 2021-10-19 14:53

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Logan Flett

PO NUMBER

PROJECT General Potability

PROJECT INFO 62192

WORK ORDER 21J1778

RECEIVED / TEMP 2021-10-13 17:14 / 6.0°C
REPORTED 2021-11-29 08:39

COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J1778
2021-11-29 08:39

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62192 (21J1778-01) Matrix: Water Sampled: 2021-10-13 16:15					
Anions					
Chloride	25.0	AO ≤ 250	0.10 mg/L	2021-10-15	
Fluoride	0.70	MAC = 1.5	0.10 mg/L	2021-10-15	
Nitrate (as N)	0.053	MAC = 10	0.010 mg/L	2021-10-15	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-15	
Sulfate	2.0	AO ≤ 500	1.0 mg/L	2021-10-15	
Calculated Parameters					
Hardness, Total (as CaCO3)	49.6	None Required	0.500 mg/L	N/A	
Langelier Index	-1.3	N/A	-5.0	2021-10-21	
Solids, Total Dissolved	87.2	AO ≤ 500	1.00 mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	46.2	N/A	1.0 mg/L	2021-10-14	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-14	
Alkalinity, Bicarbonate (as CaCO3)	46.2	N/A	1.0 mg/L	2021-10-14	
Alkalinity, Carbonate (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-14	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-14	
Colour, True	7.7	AO ≤ 15	5.0 CU	2021-10-18	HT1
Conductivity (EC)	169	N/A	2.0 µS/cm	2021-10-14	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-14	
pH	7.35	7.0-10.5	0.10 pH units	2021-10-14	HT2
Temperature, at pH	22.1	N/A	°C	2021-10-14	HT1
Turbidity	2.32	OG < 1	0.10 NTU	2021-10-15	
Microbiological Parameters					
Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-10-14	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-10-14	
Total Metals					
Aluminum, total	0.156	OG < 0.1	0.0050 mg/L	2021-10-20	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-10-20	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-10-20	
Barium, total	0.0113	MAC = 2	0.0050 mg/L	2021-10-20	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-20	
Cadmium, total	< 0.000010	MAC = 0.005	0.000010 mg/L	2021-10-20	
Calcium, total	13.4	None Required	0.20 mg/L	2021-10-20	
Chromium, total	0.00223	MAC = 0.05	0.00050 mg/L	2021-10-20	
Cobalt, total	< 0.00010	N/A	0.00010 mg/L	2021-10-20	
Copper, total	0.00609	MAC = 2	0.00040 mg/L	2021-10-20	
Iron, total	0.226	AO ≤ 0.3	0.010 mg/L	2021-10-20	
Lead, total	0.00026	MAC = 0.005	0.00020 mg/L	2021-10-20	
Magnesium, total	3.93	None Required	0.010 mg/L	2021-10-20	
Manganese, total	0.00394	MAC = 0.12	0.00020 mg/L	2021-10-20	
Mercury, total	0.000014	MAC = 0.001	0.000010 mg/L	2021-10-21	



TEST RESULTS

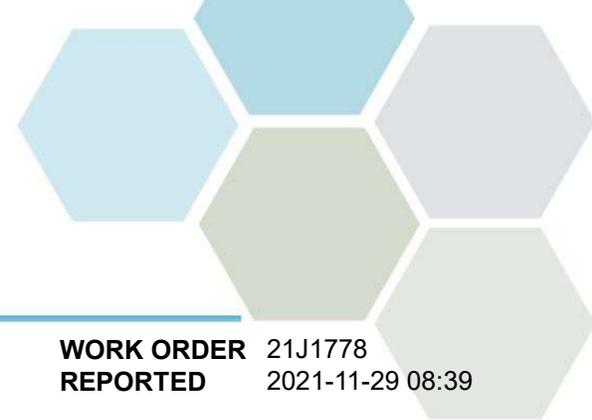
REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J1778
2021-11-29 08:39

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62192 (21J1778-01) Matrix: Water Sampled: 2021-10-13 16:15, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.00132	N/A	0.00010 mg/L	2021-10-20	
Nickel, total	0.00066	N/A	0.00040 mg/L	2021-10-20	
Potassium, total	1.19	N/A	0.10 mg/L	2021-10-20	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-20	
Sodium, total	13.4	AO ≤ 200	0.10 mg/L	2021-10-20	
Strontium, total	0.223	7	0.0010 mg/L	2021-10-20	
Uranium, total	0.00286	MAC = 0.02	0.000020 mg/L	2021-10-20	
Zinc, total	0.0064	AO ≤ 5	0.0040 mg/L	2021-10-20	

Sample Qualifiers:

- HT1 The sample was prepared and/or analyzed past the recommended holding time.
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J1778
2021-11-29 08:39

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation	✓	N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)	✓	N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT General Potability

WORK ORDER 21J1778
REPORTED 2021-11-29 08:39

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Logan Flett

PO NUMBER

PROJECT General Potability

PROJECT INFO

WORK ORDER 21J2403

RECEIVED / TEMP 2021-10-19 10:55 / 7.1°C
REPORTED 2021-11-29 08:41

COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4

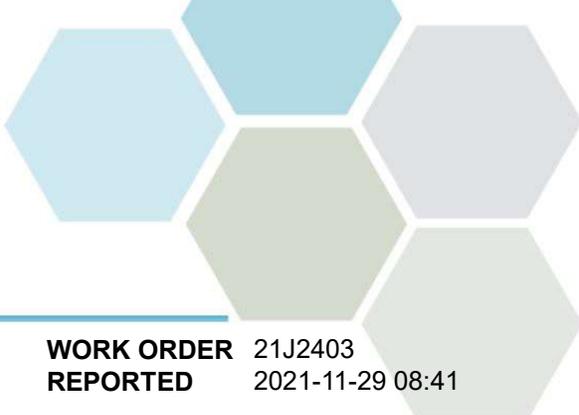


TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J2403
2021-11-29 08:41

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62194 (21J2403-01) Matrix: Water Sampled: 2021-10-18 16:27					
Anions					
Chloride	41.2	AO ≤ 250	0.10 mg/L	2021-10-20	
Fluoride	4.96	MAC = 1.5	0.10 mg/L	2021-10-20	
Nitrate (as N)	< 0.010	MAC = 10	0.010 mg/L	2021-10-20	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-20	
Sulfate	16.8	AO ≤ 500	1.0 mg/L	2021-10-20	
Calculated Parameters					
Hardness, Total (as CaCO3)	45.7	None Required	0.500 mg/L	N/A	
Langelier Index	0.9	N/A	-5.0	2021-10-26	
Solids, Total Dissolved	274	AO ≤ 500	1.00 mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	184	N/A	1.0 mg/L	2021-10-19	
Alkalinity, Phenolphthalein (as CaCO3)	14.6	N/A	1.0 mg/L	2021-10-19	
Alkalinity, Bicarbonate (as CaCO3)	155	N/A	1.0 mg/L	2021-10-19	
Alkalinity, Carbonate (as CaCO3)	29.3	N/A	1.0 mg/L	2021-10-19	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-19	
Colour, True	7.9	AO ≤ 15	5.0 CU	2021-10-19	
Conductivity (EC)	501	N/A	2.0 µS/cm	2021-10-19	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-22	
pH	8.94	7.0-10.5	0.10 pH units	2021-10-19	HT2
Temperature, at pH	22.8	N/A	°C	2021-10-19	HT2
Turbidity	49.5	OG < 1	0.10 NTU	2021-10-20	
Microbiological Parameters					
Coliforms, Total	Overgrown	MAC = 0	1 CFU/100 mL	2021-10-19	MIC5
E. coli	Overgrown	MAC = 0	1 CFU/100 mL	2021-10-19	MIC19
Total Metals					
Aluminum, total	2.40	OG < 0.1	0.0050 mg/L	2021-10-25	
Antimony, total	0.00028	MAC = 0.006	0.00020 mg/L	2021-10-25	
Arsenic, total	0.00379	MAC = 0.01	0.00050 mg/L	2021-10-25	
Barium, total	0.0867	MAC = 2	0.0050 mg/L	2021-10-25	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-10-25	
Cadmium, total	0.000027	MAC = 0.005	0.000010 mg/L	2021-10-25	
Calcium, total	13.3	None Required	0.20 mg/L	2021-10-25	
Chromium, total	0.00090	MAC = 0.05	0.00050 mg/L	2021-10-25	
Cobalt, total	0.00028	N/A	0.00010 mg/L	2021-10-25	
Copper, total	0.00187	MAC = 2	0.00040 mg/L	2021-10-25	
Iron, total	2.06	AO ≤ 0.3	0.010 mg/L	2021-10-25	
Lead, total	0.00155	MAC = 0.005	0.00020 mg/L	2021-10-25	
Magnesium, total	3.03	None Required	0.010 mg/L	2021-10-25	
Manganese, total	0.0463	MAC = 0.12	0.00020 mg/L	2021-10-25	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-10-23	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J2403
2021-11-29 08:41

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
62194 (21J2403-01) Matrix: Water Sampled: 2021-10-18 16:27, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.107	N/A	0.00010 mg/L	2021-10-25	
Nickel, total	0.00064	N/A	0.00040 mg/L	2021-10-25	
Potassium, total	1.32	N/A	0.10 mg/L	2021-10-25	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-10-25	
Sodium, total	85.8	AO ≤ 200	0.10 mg/L	2021-10-25	
Strontium, total	1.93	7	0.0010 mg/L	2021-10-25	
Uranium, total	0.240	MAC = 0.02	0.000020 mg/L	2021-10-25	
Zinc, total	0.0106	AO ≤ 5	0.0040 mg/L	2021-10-25	

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- MIC19 Overgrown without visible E.coli. The presence or absence of E.coli cannot be determined. Resampling is recommended. Recollected samples due to overgrown result(s) should be communicated to the lab so they can be processed appropriately.
- MIC5 Overgrown without visible Total Coliforms. The presence or absence of Total Coliforms cannot be determined. Resampling is recommended. Recollected samples due to overgrown result(s) should be communicated to the lab so they can be processed appropriately.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J2403
2021-11-29 08:41

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry		Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT General Potability

WORK ORDER 21J2403
REPORTED 2021-11-29 08:41

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Dan Gare

PO NUMBER
PROJECT Analytical Testing
PROJECT INFO

WORK ORDER 21J2772

RECEIVED / TEMP 2021-10-20 16:57 / 6.5°C
REPORTED 2021-10-28 17:15
COC NUMBER B107533

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

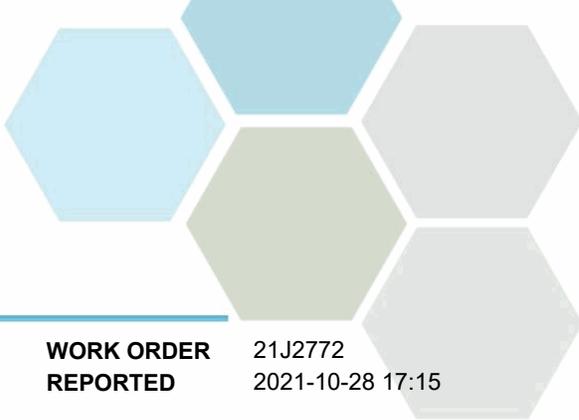
If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling Analytical Testing

WORK ORDER REPORTED 21J2772
2021-10-28 17:15

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
---------	--------	-----------	----	-------	----------	-----------

62193 (21J2772-01) | Matrix: Water | Sampled: 2021-10-19 17:00

Anions

Chloride	32.1	AO ≤ 250	0.10	mg/L	2021-10-24	
Fluoride	3.08	MAC = 1.5	0.10	mg/L	2021-10-24	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2021-10-24	HT1
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2021-10-24	HT1
Sulfate	6.5	AO ≤ 500	1.0	mg/L	2021-10-24	

Calculated Parameters

Hardness, Total (as CaCO3)	76.8	None Required	0.500	mg/L	N/A	
Langelier Index	0.6	N/A	-5.0		2021-10-28	
Solids, Total Dissolved	223	AO ≤ 500	1.00	mg/L	N/A	

General Parameters

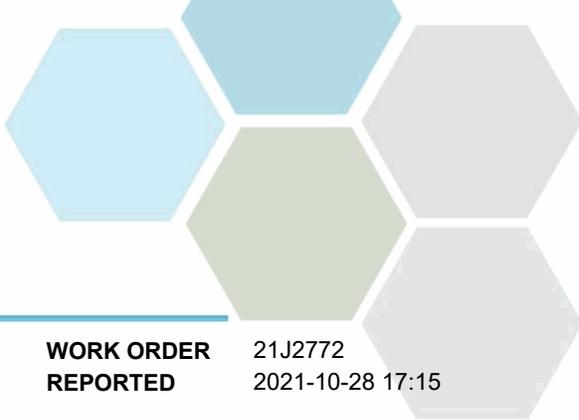
Alkalinity, Total (as CaCO3)	165	N/A	1.0	mg/L	2021-10-21	
Alkalinity, Phenolphthalein (as CaCO3)	3.5	N/A	1.0	mg/L	2021-10-21	
Alkalinity, Bicarbonate (as CaCO3)	158	N/A	1.0	mg/L	2021-10-21	
Alkalinity, Carbonate (as CaCO3)	6.9	N/A	1.0	mg/L	2021-10-21	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0	mg/L	2021-10-21	
Colour, True	< 5.0	AO ≤ 15	5.0	CU	2021-10-26	HT1
Conductivity (EC)	388	N/A	2.0	µS/cm	2021-10-21	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2021-10-27	
pH	8.43	7.0-10.5	0.10	pH units	2021-10-21	HT2
Temperature, at pH	22.0	N/A		°C	2021-10-21	HT2
Turbidity	7.30	OG < 1	0.10	NTU	2021-10-22	

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1	CFU/100 mL	2021-10-21	HT3
E. coli	< 1	MAC = 0	1	CFU/100 mL	2021-10-21	HT3

Total Metals

Aluminum, total	0.253	OG < 0.1	0.0050	mg/L	2021-10-27	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2021-10-27	
Arsenic, total	0.00067	MAC = 0.01	0.00050	mg/L	2021-10-27	
Barium, total	0.147	MAC = 2	0.0050	mg/L	2021-10-27	
Boron, total	< 0.0500	MAC = 5	0.0500	mg/L	2021-10-27	
Cadmium, total	< 0.000010	MAC = 0.005	0.000010	mg/L	2021-10-27	
Calcium, total	22.5	None Required	0.20	mg/L	2021-10-27	
Chromium, total	0.00105	MAC = 0.05	0.00050	mg/L	2021-10-27	
Cobalt, total	< 0.00010	N/A	0.00010	mg/L	2021-10-27	
Copper, total	0.00178	MAC = 2	0.00040	mg/L	2021-10-27	
Iron, total	0.468	AO ≤ 0.3	0.010	mg/L	2021-10-27	
Lead, total	0.00057	MAC = 0.005	0.00020	mg/L	2021-10-27	
Magnesium, total	5.01	None Required	0.010	mg/L	2021-10-27	
Manganese, total	0.0201	MAC = 0.12	0.00020	mg/L	2021-10-27	
Mercury, total	< 0.000010	MAC = 0.001	0.000010	mg/L	2021-10-28	



TEST RESULTS

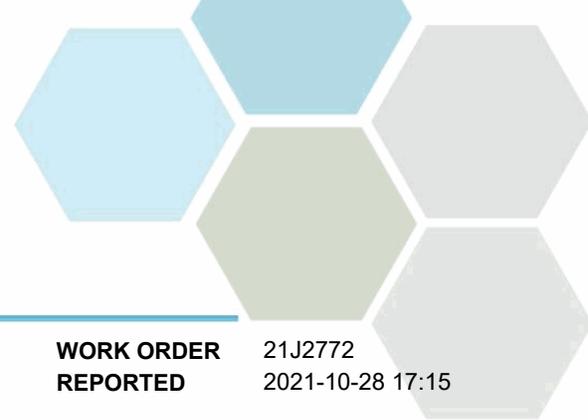
REPORTED TO PROJECT Dan Gare Drilling
Analytical Testing

WORK ORDER REPORTED 21J2772
2021-10-28 17:15

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
62193 (21J2772-01) Matrix: Water Sampled: 2021-10-19 17:00, Continued						
<i>Total Metals, Continued</i>						
Molybdenum, total	0.0278	N/A	0.00010	mg/L	2021-10-27	
Nickel, total	0.00049	N/A	0.00040	mg/L	2021-10-27	
Potassium, total	0.90	N/A	0.10	mg/L	2021-10-27	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2021-10-27	
Sodium, total	55.9	AO ≤ 200	0.10	mg/L	2021-10-27	
Strontium, total	3.42	7	0.0010	mg/L	2021-10-27	
Uranium, total	0.0920	MAC = 0.02	0.000020	mg/L	2021-10-27	
Zinc, total	0.0133	AO ≤ 5	0.0040	mg/L	2021-10-27	

Sample Qualifiers:

- HT1 The sample was prepared and/or analyzed past the recommended holding time.
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- HT3 Microbiological analysis was initiated beyond the maximum holding time of 30 hours. Results may not be valid.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
Analytical Testing

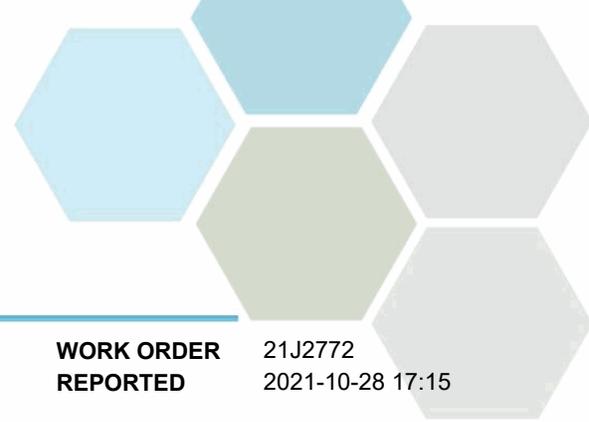
WORK ORDER REPORTED 21J2772
2021-10-28 17:15

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT Analytical Testing

WORK ORDER 21J2772
REPORTED 2021-10-28 17:15

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

CERTIFICATE OF ANALYSIS

REPORTED TO Dan Gare Drilling
Box 722
Armstrong, BC V0E 1B0

ATTENTION Logan Flett

PO NUMBER

PROJECT General Potability

PROJECT INFO Lot 4

WORK ORDER 21J3628

RECEIVED / TEMP REPORTED 2021-10-27 10:05 / 8.8°C
2021-11-29 08:23

COC NUMBER No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at teamcaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7 | #108 4475 Wayburne Drive Burnaby, BC V5G 4X4



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J3628
2021-11-29 08:23

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
---------	--------	-----------	----------	----------	-----------

Lot 4 (21J3628-01) | Matrix: Water | Sampled: 2021-10-26 18:00

Anions

Chloride	70.3	AO ≤ 250	0.10 mg/L	2021-10-28	
Fluoride	3.12	MAC = 1.5	0.10 mg/L	2021-10-28	
Nitrate (as N)	< 0.010	MAC = 10	0.010 mg/L	2021-10-28	
Nitrite (as N)	< 0.010	MAC = 1	0.010 mg/L	2021-10-28	
Sulfate	9.0	AO ≤ 500	1.0 mg/L	2021-10-28	

Calculated Parameters

Hardness, Total (as CaCO3)	79.6	None Required	0.500 mg/L	N/A	
Langelier Index	0.8	N/A	-5.0	2021-11-03	
Solids, Total Dissolved	358	AO ≤ 500	1.00 mg/L	N/A	

General Parameters

Alkalinity, Total (as CaCO3)	227	N/A	1.0 mg/L	2021-10-30	
Alkalinity, Phenolphthalein (as CaCO3)	8.5	N/A	1.0 mg/L	2021-10-30	
Alkalinity, Bicarbonate (as CaCO3)	210	N/A	1.0 mg/L	2021-10-30	
Alkalinity, Carbonate (as CaCO3)	16.9	N/A	1.0 mg/L	2021-10-30	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	N/A	1.0 mg/L	2021-10-30	
Colour, True	< 5.0	AO ≤ 15	5.0 CU	2021-10-29	
Conductivity (EC)	615	N/A	2.0 µS/cm	2021-10-30	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020 mg/L	2021-10-30	
pH	8.58	7.0-10.5	0.10 pH units	2021-10-30	HT2
Temperature, at pH	21.7	N/A	°C	2021-10-30	HT2
Turbidity	6.49	OG < 1	0.10 NTU	2021-10-30	HT1

Microbiological Parameters

Coliforms, Total	< 1	MAC = 0	1 CFU/100 mL	2021-10-27	
E. coli	< 1	MAC = 0	1 CFU/100 mL	2021-10-27	

Total Metals

Aluminum, total	0.242	OG < 0.1	0.0050 mg/L	2021-11-03	
Antimony, total	< 0.00020	MAC = 0.006	0.00020 mg/L	2021-11-03	
Arsenic, total	< 0.00050	MAC = 0.01	0.00050 mg/L	2021-11-03	
Barium, total	0.150	MAC = 2	0.0050 mg/L	2021-11-03	
Boron, total	< 0.0500	MAC = 5	0.0500 mg/L	2021-11-03	
Cadmium, total	0.000020	MAC = 0.005	0.000010 mg/L	2021-11-03	
Calcium, total	23.2	None Required	0.20 mg/L	2021-11-03	
Chromium, total	0.00183	MAC = 0.05	0.00050 mg/L	2021-11-03	
Cobalt, total	0.00012	N/A	0.00010 mg/L	2021-11-03	
Copper, total	0.00172	MAC = 2	0.00040 mg/L	2021-11-03	
Iron, total	0.638	AO ≤ 0.3	0.010 mg/L	2021-11-03	
Lead, total	0.00029	MAC = 0.005	0.00020 mg/L	2021-11-03	
Magnesium, total	5.21	None Required	0.010 mg/L	2021-11-03	
Manganese, total	0.0159	MAC = 0.12	0.00020 mg/L	2021-11-03	
Mercury, total	< 0.000010	MAC = 0.001	0.000010 mg/L	2021-11-02	



TEST RESULTS

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J3628
2021-11-29 08:23

Analyte	Result	Guideline	RL Units	Analyzed	Qualifier
Lot 4 (21J3628-01) Matrix: Water Sampled: 2021-10-26 18:00, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.0443	N/A	0.00010 mg/L	2021-11-03	
Nickel, total	0.00040	N/A	0.00040 mg/L	2021-11-03	
Potassium, total	1.24	N/A	0.10 mg/L	2021-11-03	
Selenium, total	< 0.00050	MAC = 0.05	0.00050 mg/L	2021-11-03	
Sodium, total	111	AO ≤ 200	0.10 mg/L	2021-11-03	
Strontium, total	6.01	7	0.0010 mg/L	2021-11-03	
Uranium, total	0.162	MAC = 0.02	0.000020 mg/L	2021-11-03	
Zinc, total	0.0041	AO ≤ 5	0.0040 mg/L	2021-11-03	

Sample Qualifiers:

- HT1 The sample was prepared and/or analyzed past the recommended holding time.
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Dan Gare Drilling
General Potability

WORK ORDER REPORTED 21J3628
2021-11-29 08:23

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Colour, True in Water	SM 2120 C (2017)	Spectrophotometry (456 nm)	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry		Kelowna
E. coli in Water	SM 9222* (2017)	Membrane Filtration / Chromocult Agar	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Langelier Index in Water	SM 2330 B (2017)	Calculation		N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 1030 E (2017)	SM 1030 E (2011)		N/A
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2017)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
°C	Degrees Celcius
AO	Aesthetic Objective
CFU/100 mL	Colony Forming Units per 100 millilitres
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Dan Gare Drilling
PROJECT General Potability

WORK ORDER 21J3628
REPORTED 2021-11-29 08:23

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued or once samples expire, whichever comes first. Longer hold is possible if agreed to in writing. The quality control (QC) data is available upon request

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: teamcaro@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.