TETRA TECH EBA

December 31, 2015

ISSUED FOR USE
FILE: ENVMIN03065-01
Via Email: dave@pdiam.com

Peregrine Diamonds Ltd.
201 – 1250 Homer Street
Vancouver, BC V6B1C6

**Attention:** David Willis
Lands Administrator

**Subject:** Chidliak Exploration Site CH-06
August 2015 Water Quality Sampling Event

# 1.0 INTRODUCTION

Peregrine Diamonds Ltd.'s (Peregrine's) Type B Water Licence (#2BE-CHI1218) (the Water Licence) specifies effluent quality criteria for water discharged from trench containment areas on the Chidliak property, Nunavut (Map 1). On August 17, 2015, Tetra Tech EBA Inc. (Tetra Tech EBA) collected water quality samples to determine if water in Peregrine's CH-06 exploration trench meets the Water Licence criteria. This sampling program was conducted in conjunction with the 2015 baseline environmental studies that included surface water quality sampling at 28 annual monitoring lakes, rivers, and streams in the regional study area.

Trenching at CH-06 was conducted in the winter of 2012. At the trench site, the landscape is characterized by a mid-slope barren rock habitat, with a gentle gradient to the north northwest. The nearest sensitive receiving environment is a creek located at least 450 m to the northwest of the CH-06 trench (Photo 1). Ponded water within the trench covered an area of approximately 130 square metres ($m^2$) in 2015, compared to approximately 450 $m^2$ in 2014.

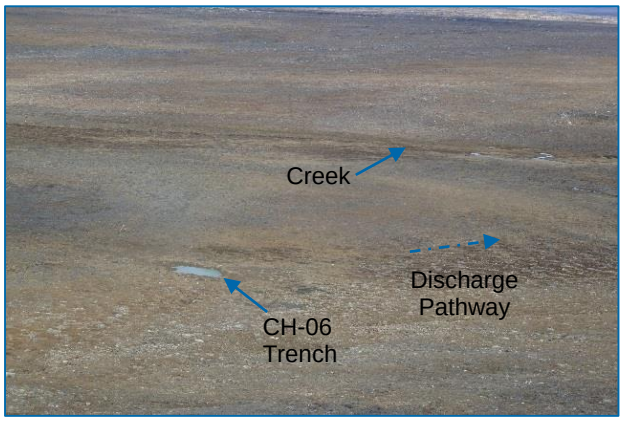



**Photo 1: Looking northwest towards the trench and an unnamed creek.**



Tetra Tech EBA Inc.
Box 2244, 201, 4916 - 49 Street
Yellowknife, NT X1A 2P7 CANADA
Tel 867.920.2287 Fax 867.873.3324

# 2.0 SAMPLING METHODS

Ms. Karla Langlois (B.Sc., P.Biol.) of Tetra Tech EBA conducted the sampling program following standard grab-sampling methods consistent with those employed during previous baseline programs in the study area since 2009. Grab samples were collected and submitted for laboratory analysis of routine parameters, nutrients, total metals, total organic carbon, and oil and grease. A calibrated handheld Oakton® multi-parameter meter was used to record in-situ pH, electrical conductivity (EC), and water temperature.

# 3.0 EXPLORATION CH-06 TRENCH SAMPLING RESULTS

At the time of the sampling event, the trench water was contained and was not being discharged onto the tundra (Photo 2). A single water quality sample was collected from the trench.

**Photo 2: Low water levels inside the exploration CH-06 trench, as shown, at the time of the field event.**

The surface water in the trench was slightly turbid and there was no evidence of odour or surface sheen. In situ water chemistry measurements indicated the water was neutral (pH 7.0), with low EC (23.2 microsiemens per centimetre (µS/cm)), and 5.6 degrees Celsius (°C).

Water quality samples were submitted to ALS Laboratory Group (ALS) in Yellowknife on August 19, 2015, and analyzed for the full suite of parameters required under the Water Licence.

The Water Licence provides effluent quality criteria for water discharged from the trench as the Maximum Concentration of Any Grab Sample (MCAGS) for eight water quality parameters (arsenic, copper, lead, nickel, zinc, total suspended solids, oil, and grease, and pH). Analytical results for the water samples collected from the trench indicate that all parameters were well below the Water Licence effluent quality criteria (Table 3-1). The laboratory analytical results are provided in Appendix A.

## Table 3-1: Water Quality Analytical Results Compared to Water Licence #2BE-CHI1218 Criteria

| Parameter | CH-06 Trench | Units | Detection Limit | Water Licence MCAGS* Criteria |
|---|---|---|---|---|
| Total Arsenic | 0.00018 | mg/L | 0.00010 | 0.50 |
| Total Copper | 0.00317 | mg/L | 0.00050 | 0.30 |
| Total Lead | 0.000395 | mg/L | 0.000050 | 0.20 |
| Total Nickel | 0.00362 | mg/L | 0.00050 | 0.50 |
| Total Zinc | 0.0044 | mg/L | 0.0030 | 0.50 |
| Total Suspended Solids | 4.8 | mg/L | 3.0 | 25.0 |
| Oil and Grease | <1.0 (no visible sheen) | mg/L | 1.0 | No visible sheen |
| pH | 7.25 | - | - | 6 – 9.5 |

* MCAGS criteria = Maximum Concentration of Any Grab Sample

Quality control samples were included as part of the standardized sampling protocol during the baseline environmental studies. These quality control samples included field and travel blanks and three duplicate samples. Laboratory analysis of these quality control samples indicate that no contaminants were introduced to the travel and field blanks (i.e., analytical results all below the laboratory detection limit) (Table 3-2) and the field samples were collected in a consistent manner (i.e., analytical results of the duplicate samples are similar to their field samples) (Table 3-3). Thus, the sample methods employed during the collection, transportation, and analyses of the samples are considered satisfactory and did not lead to the introduction of potential contaminants for all parameters specified under the Water Licence (Tables 3-2 and 3-3).

## Table 3-2: Travel and Field Blank Analytical Results

| Parameter | Travel Blank | Field Blank | Units | Detection Limit |
|---|---|---|---|---|
| Total Arsenic | <0.00010 | <0.00010 | mg/L | 0.00010 |
| Total Copper | <0.00050 | <0.00050 | mg/L | 0.00050 |
| Total Lead | <0.000050 | <0.000050 | mg/L | 0.000050 |
| Total Nickel | <0.00050 | <0.00050 | mg/L | 0.00050 |
| Total Zinc | <0.0030 | <0.0030 | mg/L | 0.0030 |
| Total Suspended Solids | <3.0 | <3.0 | mg/L | 3.0 |
| Oil and Grease | <1.0 | <1.0 | mg/L | 1.0 |
| pH | 5.02 | 5.04 | - | - |

Similarly, using a relative percent difference assessment between the duplicate sample and the original field samples, all three duplicate samples are considered reliable (Table 3-3).

### Table 3-3: Duplicate Sample Assessments

| Parameter | Laboratory Results | | Units | Detection Limit | RPD* | Reliable Duplicate? Yes or No** |
|---|---|---|---|---|---|---|
| | Field 1 (Hydro10) | Duplicate 1 | | | | |
| Total Arsenic | <0.00010 | <0.00010 | mg/L | 0.00010 | - | Yes |
| Total Copper | <0.00050 | <0.00050 | mg/L | 0.00050 | - | Yes |
| Total Lead | <0.000050 | <0.000050 | mg/L | 0.000050 | - | Yes |
| Total Nickel | <0.00050 | <0.00050 | mg/L | 0.00050 | - | Yes |
| Total Zinc | <0.0030 | <0.0030 | mg/L | 0.0030 | - | Yes |
| Total Suspended Solids | <3.0 | <3.0 | mg/L | 3.0 | - | Yes |
| Oil and Grease | <1.0 | <1.0 | mg/L | 1.0 | - | Yes |
| pH | 5.73 | 5.76 | - | - | 0.522 | Yes |
| **Parameter** | **Field 2 (WQ6)** | **Duplicate 2** | **Units** | **Detection Limit** | **RPD*** | **Reliable Duplicate? Yes or No**** |
| Total Arsenic | <0.00010 | <0.00010 | mg/L | 0.00010 | - | Yes |
| Total Copper | <0.00050 | <0.00050 | mg/L | 0.00050 | - | Yes |
| Total Lead | <0.000050 | <0.000050 | mg/L | 0.000050 | - | Yes |
| Total Nickel | <0.00050 | <0.00050 | mg/L | 0.00050 | - | Yes |
| Total Zinc | <0.0030 | <0.0030 | mg/L | 0.0030 | - | Yes |
| Total Suspended Solids | <3.0 | <3.0 | mg/L | 3.0 | - | Yes |
| Oil and Grease | <1.0 | <1.0 | mg/L | 1.0 | - | Yes |
| pH | 5.52 | 5.42 | - | - | 1.83 | Yes |
| **Parameter** | **Field 3 (WQ12)** | **Duplicate 3** | **Units** | **Detection Limit** | **RPD*** | **Reliable Duplicate? Yes or No**** |
| Total Arsenic | <0.00010 | <0.00010 | mg/L | 0.00010 | - | Yes |
| Total Copper | <0.00050 | <0.00050 | mg/L | 0.00050 | - | Yes |
| Total Lead | <0.000050 | <0.000050 | mg/L | 0.000050 | - | Yes |
| Total Nickel | <0.00050 | <0.00050 | mg/L | 0.00050 | - | Yes |
| Total Zinc | <0.0030 | <0.0030 | mg/L | 0.0030 | - | Yes |
| Total Suspended Solids | <3.0 | <3.0 | mg/L | 3.0 | - | Yes |
| Oil and Grease | <1.0 | <1.0 | mg/L | 1.0 | - | Yes |
| pH | 5.94 | 5.95 | - | - | 0.168 | Yes |

* RPD = Relative Percent Difference where RPD(%) = 200 x ABS(x - y)/(x + y), where ABS = Absolute difference, x = the analytical result of the original sample, y = the analytical result of the blind field duplicate sample.

** Duplicate samples are considered reliable when their RPD is less than 20%, or both samples are below the laboratory detection limit.

# 4.0 CONCLUSION

The sampling methods employed were reliable and represent existing water quality conditions inside the CH-06 trench. Water quality in the CH-06 trench are well below Peregrine's Water Licence effluent quality criteria.

## 5.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Peregrine Diamonds Ltd. and their agents. Tetra Tech EBA Inc. (Tetra Tech EBA) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Peregrine Diamonds Ltd., or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this report is subject to the terms and conditions stated in Tetra Tech EBA's Services Agreement. Tetra Tech EBA's General Conditions are provided in Appendix A of this report.

## 6.0 CLOSURE

We trust this letter report meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech EBA Inc.

Prepared by:
Karla Langlois, B.Sc., P.Biol.
Biologist, Environment Practice
Direct Line: 867.920.2287 x223
Karla.Langlois@tetratech.com

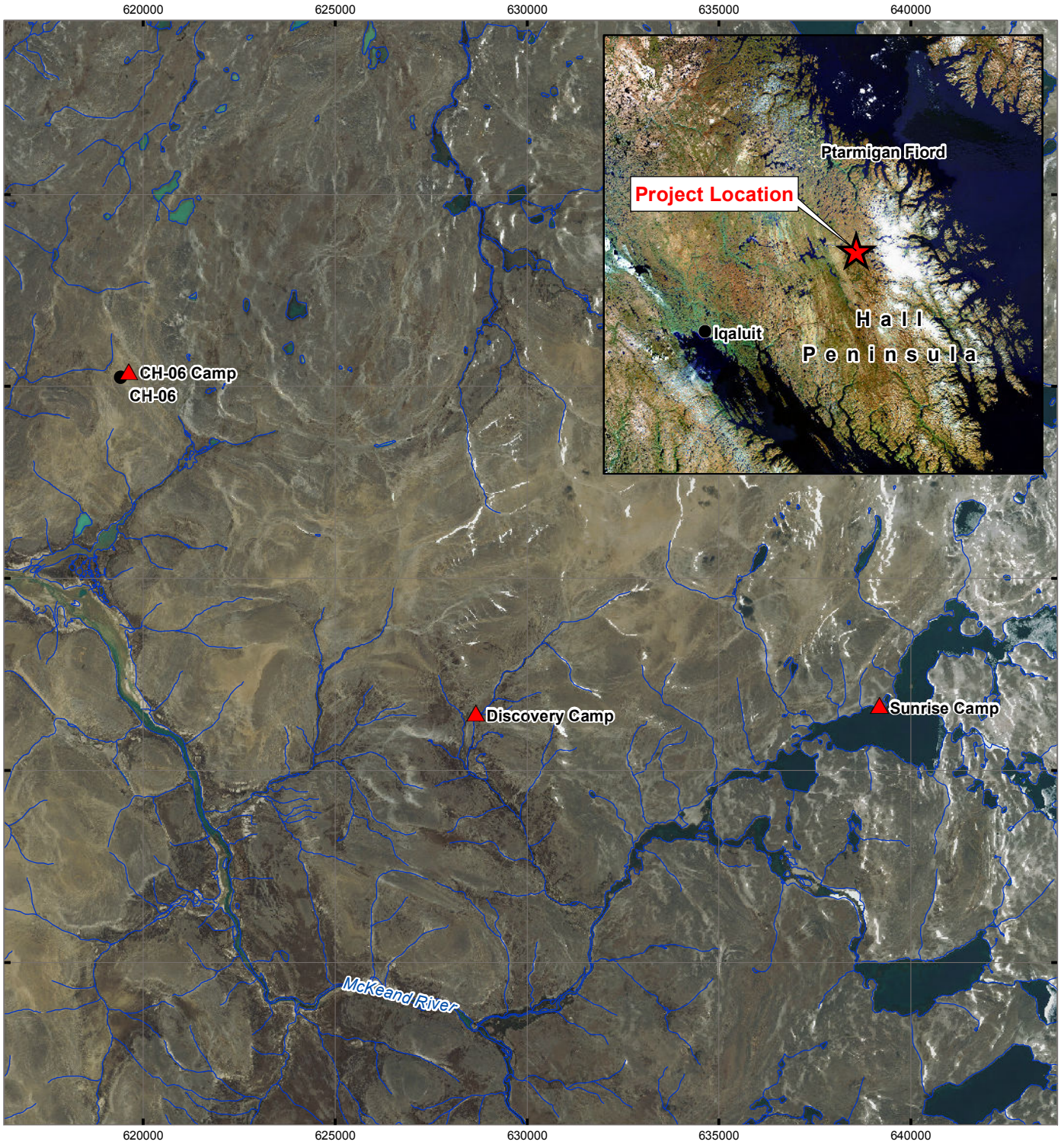
Reviewed by:
Richard Hoos, M.Sc., R.P.Bio.
Principal Consultant, Mining Practice
Direct Line: 604.608.8914
Rick.Hoos@tetratech.com

/sy

Attachments: Map (1)
Appendix A – Tetra Tech EBA's General Conditions
Appendix B – Laboratory Analytical Results

# MAP

Map 1 Chidliak CH-06 Exploration Site Location




## LEGEND

- Camp Location
- Important Kimberlite Site
- Watercourse
- Waterbody

N
W E
S
GRID NORTH

**NOTES**
Base data sources:
Water features from CanVec.
Imagery provided by Peregrine Diamonds.

**STATUS**
ISSUED FOR USE

# CHIDLIAK BASELINE STUDIES 2015

## Chidliak CH-06 Exploration Site Location

| PROJECTION | DATUM | CLIENT |
|---|---|---|
| UTM Zone 19 | NAD83 | PEREGRINE DIAMONDS LTD. |

Scale: 1:150,000
2 1 0 2
Kilometres

TETRA TECH EBA

**FILE NO.** MIN03065-01_Map01_CH6SiteLocation.mxd

| PROJECT NO. | DWN | CKD | APVD | REV |
|---|---|---|---|---|
| ENVMIN03065-01.004 | SL | MEZ | KL | 0 |

| OFFICE | DATE |
|---|---|
| Tt EBA-VANC | September 16, 2015 |

**Map 1**

Q:\Vancouver\GIS\ENVIRONMENTAL\MIN\MIN03065-01\Maps\MIN03065-01_Map01_CH6SiteLocation.mxd modified 9/16/2015 by morgan.zondervan

# APPENDIX A
## TETRA TECH EBA'S GENERAL CONDITIONS

# GENERAL CONDITIONS

## GEOENVIRONMENTAL REPORT

This report incorporates and is subject to these “General Conditions”.

### 1.0 USE OF REPORT AND OWNERSHIP

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of Tetra Tech EBA’s client. Tetra Tech EBA does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than Tetra Tech EBA’s Client unless otherwise authorized in writing by Tetra Tech EBA. Any unauthorized use of the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of Tetra Tech EBA. Additional copies of the report, if required, may be obtained upon request.

### 2.0 ALTERNATE REPORT FORMAT

Where Tetra Tech EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed Tetra Tech EBA’s instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by Tetra Tech EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of Tetra Tech EBA’s instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except Tetra Tech EBA. The Client warrants that Tetra Tech EBA’s instruments of professional service will be used only and exactly as submitted by Tetra Tech EBA.

Electronic files submitted by Tetra Tech EBA have been prepared and submitted using specific software and hardware systems. Tetra Tech EBA makes no representation about the compatibility of these files with the Client’s current or future software and hardware systems.

### 3.0 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by Tetra Tech EBA in its reasonably exercised discretion.

### 4.0 INFORMATION PROVIDED TO TETRA TECH EBA BY OTHERS

During the performance of the work and the preparation of the report, Tetra Tech EBA may rely on information provided by persons other than the Client. While Tetra Tech EBA endeavours to verify the accuracy of such information when instructed to do so by the Client, Tetra Tech EBA accepts no responsibility for the accuracy or the reliability of such information which may affect the report.

# APPENDIX B
## LABORATORY ANALYTICAL RESULTS

Tetra Tech EBA Inc.
ATTN: Karla Langlois
201 - 4916 49 Street
Yellowknife NT X1A 3X4

Date Received: 19-AUG-15
Report Date: 02-SEP-15 13:34 (MT)
Version: FINAL REV. 2

Client Phone: 867-920-2287

# Certificate of Analysis

## Lab Work Order #: L1660034

Project P.O. #: NOT SUBMITTED
Job Reference: ENVMIN03065
C of C Numbers:
Legal Site Desc:

Comments: 2-SEP-2015 Revised Report - L1640034-13 Oil & Grease

Rick Zolkiewski
General Manager

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Grouping | Analyte | L1660034-1 WATER 17-AUG-15 FIELD BLANK | L1660034-2 WATER 29-JUL-15 15:30 TRIP BLANK | L1660034-3 WATER 16-AUG-15 WQ3 | L1660034-4 WATER 16-AUG-15 WQ4 | L1660034-5 WATER 16-AUG-15 WQ5 |
|---|---|---|---|---|---|---|
| **WATER** | | | | | | |
| **Physical Tests** | Hardness (as CaCO3) (mg/L) | <0.13 | <0.13 | 0.58 | 1.17 | 1.15 |
| | Total Suspended Solids (mg/L) | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| | Turbidity (NTU) | 0.25 | <0.10 | 0.33 | 0.47 | 0.56 |
| **Anions and Nutrients** | Alkalinity, Total (as CaCO3) (mg/L) | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| | Ammonia, Total (as N) (mg/L) | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| | Bicarbonate (HCO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Carbonate (CO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Conductivity (EC) (uS/cm) | 1.38 | 1.33 | 4.28 | 6.08 | 6.02 |
| | Hydroxide (OH) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Nitrate and Nitrite (as N) (mg/L) | <0.022 | <0.022 | <0.022 | 0.025 | <0.022 |
| | Nitrate (as N) (mg/L) | <0.020 | <0.020 | <0.020 | 0.025 | <0.020 |
| | Nitrite (as N) (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Total Kjeldahl Nitrogen (mg/L) | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| | Total Nitrogen (mg/L) | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| | pH (pH) | 5.04 | 5.02 | 5.16 | 5.63 | 5.58 |
| | Phosphorus (P)-Total (mg/L) | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| **Organic / Inorganic Carbon** | Total Organic Carbon (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Total Metals** | Aluminum (Al)-Total (mg/L) | <0.0030 | <0.0030 | 0.0077 | 0.0187 | 0.0223 |
| | Antimony (Sb)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Arsenic (As)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Barium (Ba)-Total (mg/L) | <0.000050 | <0.000050 | 0.000482 | 0.00120 | 0.00124 |
| | Beryllium (Be)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Boron (B)-Total (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Cadmium (Cd)-Total (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 |
| | Calcium (Ca)-Total (mg/L) | <0.050 | <0.050 | 0.136 | 0.260 | 0.261 |
| | Chromium (Cr)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Cobalt (Co)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Copper (Cu)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Iron (Fe)-Total (mg/L) | <0.010 | <0.010 | <0.010 | 0.015 | 0.015 |
| | Lead (Pb)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Lithium (Li)-Total (mg/L) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Magnesium (Mg)-Total (mg/L) | <0.0050 | <0.0050 | 0.0581 | 0.125 | 0.121 |
| | Manganese (Mn)-Total (mg/L) | <0.00010 | <0.00010 | 0.00174 | 0.00180 | 0.00157 |
| | Mercury (Hg)-Total (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 |
| | Molybdenum (Mo)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Nickel (Ni)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | 0.00064 | 0.00074 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Grouping | Analyte | L1660034-6 WATER 16-AUG-15 WQ6 | L1660034-7 WATER 17-AUG-15 WQ7 | L1660034-8 WATER 15-AUG-15 WQ8 | L1660034-9 WATER 15-AUG-15 HYDRO 9 | L1660034-10 WATER 15-AUG-15 HYDRO 10 |
|---|---|---|---|---|---|---|
| **WATER** | | | | | | |
| **Physical Tests** | Hardness (as CaCO3) (mg/L) | 0.75 | 0.89 | 1.38 | 1.18 | 1.29 |
| | Total Suspended Solids (mg/L) | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| | Turbidity (NTU) | 0.66 | 0.32 | 0.83 | 2.05 | 0.44 |
| **Anions and Nutrients** | Alkalinity, Total (as CaCO3) (mg/L) | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| | Ammonia, Total (as N) (mg/L) | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| | Bicarbonate (HCO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Carbonate (CO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Conductivity (EC) (uS/cm) | 4.52 | 4.94 | 7.18 | 7.63 | 9.38 |
| | Hydroxide (OH) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Nitrate and Nitrite (as N) (mg/L) | <0.022 | <0.022 | 0.044 | 0.288 | 0.231 |
| | Nitrate (as N) (mg/L) | <0.020 | <0.020 | 0.044 | 0.288 | 0.231 |
| | Nitrite (as N) (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Total Kjeldahl Nitrogen (mg/L) | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| | Total Nitrogen (mg/L) | <0.20 | <0.20 | <0.20 | 0.29 | 0.23 |
| | pH (pH) | 5.52 | 5.63 | 5.69 | 5.54 | 5.73 |
| | Phosphorus (P)-Total (mg/L) | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| **Organic / Inorganic Carbon** | Total Organic Carbon (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Total Metals** | Aluminum (Al)-Total (mg/L) | 0.0097 | 0.0099 | 0.0329 | 0.0777 | 0.0184 |
| | Antimony (Sb)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Arsenic (As)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Barium (Ba)-Total (mg/L) | 0.000723 | 0.000949 | 0.00280 | 0.00299 | 0.00311 |
| | Beryllium (Be)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Boron (B)-Total (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Cadmium (Cd)-Total (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | 0.0000083 | <0.0000050 |
| | Calcium (Ca)-Total (mg/L) | 0.171 | 0.207 | 0.278 | 0.220 | 0.264 |
| | Chromium (Cr)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | 0.00017 | <0.00010 |
| | Cobalt (Co)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Copper (Cu)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Iron (Fe)-Total (mg/L) | <0.010 | <0.010 | 0.027 | 0.068 | <0.010 |
| | Lead (Pb)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Lithium (Li)-Total (mg/L) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Magnesium (Mg)-Total (mg/L) | 0.0788 | 0.0915 | 0.166 | 0.153 | 0.155 |
| | Manganese (Mn)-Total (mg/L) | 0.00043 | 0.00081 | 0.00070 | 0.00096 | 0.00041 |
| | Mercury (Hg)-Total (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 |
| | Molybdenum (Mo)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Nickel (Ni)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample ID | L1660034-11 | L1660034-12 | L1660034-13 | L1660034-14 | L1660034-15 |
|---|---|---|---|---|---|
| Description | WATER | WATER | WATER | WATER | WATER |
| Sampled Date | 17-AUG-15 | 16-AUG-15 | 15-AUG-15 | 15-AUG-15 | 15-AUG-15 |
| Sampled Time | | | | | |
| Client ID | WQ12 | WQ13 | WQ15 | WQ16 | WQ17 |
| **Grouping** / **Analyte** | | | | | |
| **WATER** | | | | | |
| **Physical Tests** Hardness (as CaCO3) (mg/L) | 1.64 | 1.27 | 1.36 | 1.21 | 1.90 |
| Total Suspended Solids (mg/L) | <3.0 | <3.0 | 8.7 | <3.0 | <3.0 |
| Turbidity (NTU) | 0.77 | 0.91 | 3.05 | 0.56 | 3.25 |
| **Anions and Nutrients** Alkalinity, Total (as CaCO3) (mg/L) | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Ammonia, Total (as N) (mg/L) | <0.050 | 0.116 | <0.050 | <0.050 | <0.050 |
| Bicarbonate (HCO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Carbonate (CO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Conductivity (EC) (uS/cm) | 9.25 | 7.49 | 8.90 | 7.04 | 9.37 |
| Hydroxide (OH) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Nitrate and Nitrite (as N) (mg/L) | 0.290 | 0.117 | 0.205 | 0.070 | 0.288 |
| Nitrate (as N) (mg/L) | 0.290 | 0.117 | 0.205 | 0.070 | 0.288 |
| Nitrite (as N) (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Total Kjeldahl Nitrogen (mg/L) | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Total Nitrogen (mg/L) | 0.29 | <0.20 | 0.21 | <0.20 | 0.29 |
| pH (pH) | 5.94 | 6.20 | 5.23 | 5.28 | 6.00 |
| Phosphorus (P)-Total (mg/L) | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| **Organic / Inorganic Carbon** Total Organic Carbon (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Total Metals** Aluminum (Al)-Total (mg/L) | 0.0328 | 0.0434 | 0.0144 | 0.0136 | 0.122 |
| Antimony (Sb)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| Arsenic (As)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| Barium (Ba)-Total (mg/L) | 0.00526 | 0.00207 | 0.00401 | 0.00302 | 0.00661 |
| Beryllium (Be)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| Boron (B)-Total (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Cadmium (Cd)-Total (mg/L) | <0.0000050 | <0.0000050 | 0.0000107 | 0.0000090 | 0.0000059 |
| Calcium (Ca)-Total (mg/L) | 0.331 | 0.302 | 0.307 | 0.232 | 0.446 |
| Chromium (Cr)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | 0.00029 |
| Cobalt (Co)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| Copper (Cu)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00058 |
| Iron (Fe)-Total (mg/L) | 0.014 | 0.030 | <0.010 | <0.010 | 0.128 |
| Lead (Pb)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| Lithium (Li)-Total (mg/L) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| Magnesium (Mg)-Total (mg/L) | 0.197 | 0.126 | 0.145 | 0.153 | 0.192 |
| Manganese (Mn)-Total (mg/L) | 0.00080 | 0.00099 | 0.00131 | 0.00123 | 0.00225 |
| Mercury (Hg)-Total (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 |
| Molybdenum (Mo)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| Nickel (Ni)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | 0.00070 | <0.00050 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Grouping | Analyte | L1660034-16 WATER 16-AUG-15 WQ18 | L1660034-17 WATER 16-AUG-15 WQ19 | L1660034-18 WATER 16-AUG-15 WQ20 | L1660034-19 WATER 17-AUG-15 WQ21 | L1660034-20 WATER 17-AUG-15 WQ22 |
|---|---|---|---|---|---|---|
| **WATER** | | | | | | |
| **Physical Tests** | Hardness (as CaCO3) (mg/L) | 0.83 | 1.18 | 1.60 | 1.47 | 1.43 |
| | Total Suspended Solids (mg/L) | <3.0 | <3.0 | <3.0 | <3.0 | 3.7 |
| | Turbidity (NTU) | 0.23 | 0.31 | 0.75 | 0.85 | 2.22 |
| **Anions and Nutrients** | Alkalinity, Total (as CaCO3) (mg/L) | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| | Ammonia, Total (as N) (mg/L) | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| | Bicarbonate (HCO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Carbonate (CO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Conductivity (EC) (uS/cm) | 13.5 | 5.35 | 6.65 | 8.99 | 7.87 |
| | Hydroxide (OH) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Nitrate and Nitrite (as N) (mg/L) | <0.022 | <0.022 | <0.022 | 0.381 | 0.261 |
| | Nitrate (as N) (mg/L) | <0.020 | <0.020 | <0.020 | 0.381 | 0.261 |
| | Nitrite (as N) (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Total Kjeldahl Nitrogen (mg/L) | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| | Total Nitrogen (mg/L) | <0.20 | <0.20 | <0.20 | 0.38 | 0.26 |
| | pH (pH) | 5.51 | 5.97 | 6.23 | 5.81 | 6.12 |
| | Phosphorus (P)-Total (mg/L) | <0.020 | <0.020 | 0.027 | <0.020 | <0.020 |
| **Organic / Inorganic Carbon** | Total Organic Carbon (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Total Metals** | Aluminum (Al)-Total (mg/L) | 0.0094 | 0.0112 | 0.0286 | 0.0393 | 0.0731 |
| | Antimony (Sb)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Arsenic (As)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Barium (Ba)-Total (mg/L) | 0.000929 | 0.00136 | 0.00165 | 0.00310 | 0.00206 |
| | Beryllium (Be)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Boron (B)-Total (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Cadmium (Cd)-Total (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | 0.0000060 | <0.0000050 |
| | Calcium (Ca)-Total (mg/L) | 0.191 | 0.258 | 0.333 | 0.307 | 0.288 |
| | Chromium (Cr)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | 0.00024 |
| | Cobalt (Co)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Copper (Cu)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Iron (Fe)-Total (mg/L) | <0.010 | 0.013 | 0.035 | 0.018 | 0.073 |
| | Lead (Pb)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Lithium (Li)-Total (mg/L) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Magnesium (Mg)-Total (mg/L) | 0.0855 | 0.129 | 0.187 | 0.172 | 0.172 |
| | Manganese (Mn)-Total (mg/L) | 0.00105 | 0.00079 | 0.00088 | 0.00068 | 0.00118 |
| | Mercury (Hg)-Total (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 |
| | Molybdenum (Mo)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Nickel (Ni)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Grouping | Analyte | L1660034-21 WATER 17-AUG-15 WQ23 | L1660034-22 WATER 17-AUG-15 WQ24 | L1660034-23 WATER 16-AUG-15 WQ25 | L1660034-24 WATER 16-AUG-15 WQ26 | L1660034-25 WATER 17-AUG-15 WQ27 |
|---|---|---|---|---|---|---|
| **WATER** | | | | | | |
| **Physical Tests** | Hardness (as CaCO3) (mg/L) | 2.33 | 1.32 | 1.60 | 0.99 | 2.31 |
| | Total Suspended Solids (mg/L) | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| | Turbidity (NTU) | 0.90 | 0.89 | 0.62 | 0.40 | 0.91 |
| **Anions and Nutrients** | Alkalinity, Total (as CaCO3) (mg/L) | <2.0 | <2.0 | 2.1 | <2.0 | 2.6 |
| | Ammonia, Total (as N) (mg/L) | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| | Bicarbonate (HCO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Carbonate (CO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Conductivity (EC) (uS/cm) | 10.9 | 9.29 | 6.74 | 5.39 | 10.1 |
| | Hydroxide (OH) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Nitrate and Nitrite (as N) (mg/L) | 0.200 | 0.267 | <0.022 | <0.022 | <0.022 |
| | Nitrate (as N) (mg/L) | 0.200 | 0.267 | <0.020 | <0.020 | <0.020 |
| | Nitrite (as N) (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Total Kjeldahl Nitrogen (mg/L) | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| | Total Nitrogen (mg/L) | 0.20 | 0.27 | <0.20 | <0.20 | <0.20 |
| | pH (pH) | 6.15 | 5.90 | 6.25 | 5.63 | 6.45 |
| | Phosphorus (P)-Total (mg/L) | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| **Organic / Inorganic Carbon** | Total Organic Carbon (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | 1.3 |
| **Total Metals** | Aluminum (Al)-Total (mg/L) | 0.0487 | 0.0374 | 0.0145 | 0.0226 | 0.0362 |
| | Antimony (Sb)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Arsenic (As)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Barium (Ba)-Total (mg/L) | 0.00335 | 0.00207 | 0.00239 | 0.00109 | 0.00679 |
| | Beryllium (Be)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Boron (B)-Total (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Cadmium (Cd)-Total (mg/L) | <0.0000050 | 0.0000059 | <0.0000050 | <0.0000050 | <0.0000050 |
| | Calcium (Ca)-Total (mg/L) | 0.526 | 0.251 | 0.337 | 0.220 | 0.519 |
| | Chromium (Cr)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Cobalt (Co)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | 0.00014 | <0.00010 |
| | Copper (Cu)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00064 |
| | Iron (Fe)-Total (mg/L) | 0.031 | 0.021 | 0.011 | <0.010 | 0.050 |
| | Lead (Pb)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Lithium (Li)-Total (mg/L) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Magnesium (Mg)-Total (mg/L) | 0.246 | 0.169 | 0.184 | 0.108 | 0.246 |
| | Manganese (Mn)-Total (mg/L) | 0.00078 | 0.00042 | 0.00222 | 0.00149 | 0.00117 |
| | Mercury (Hg)-Total (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 |
| | Molybdenum (Mo)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Nickel (Ni)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | 0.00080 | <0.00050 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Grouping | Analyte | L1660034-26 WATER 15-AUG-15 WQ28 | L1660034-27 WATER 15-AUG-15 WQ29 | L1660034-28 WATER 15-AUG-15 DUPLICATE 1 | L1660034-29 WATER 16-AUG-15 DUPLICATE 2 | L1660034-30 WATER 17-AUG-15 DUPLICATE 3 |
|---|---|---|---|---|---|---|
| **WATER** | | | | | | |
| **Physical Tests** | Hardness (as CaCO3) (mg/L) | 2.94 | 0.83 | 1.34 | 0.76 | 1.73 |
| | Total Suspended Solids (mg/L) | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 |
| | Turbidity (NTU) | 0.33 | 0.46 | 0.40 | 0.51 | 0.63 |
| **Anions and Nutrients** | Alkalinity, Total (as CaCO3) (mg/L) | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| | Ammonia, Total (as N) (mg/L) | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| | Bicarbonate (HCO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Carbonate (CO3) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Conductivity (EC) (uS/cm) | 12.6 | 7.09 | 7.82 | 4.54 | 9.30 |
| | Hydroxide (OH) (mg/L) | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Nitrate and Nitrite (as N) (mg/L) | 0.117 | 0.065 | 0.228 | <0.022 | 0.285 |
| | Nitrate (as N) (mg/L) | 0.117 | 0.065 | 0.228 | <0.020 | 0.285 |
| | Nitrite (as N) (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Total Kjeldahl Nitrogen (mg/L) | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| | Total Nitrogen (mg/L) | <0.20 | <0.20 | 0.23 | <0.20 | 0.29 |
| | pH (pH) | 5.82 | 5.31 | 5.76 | 5.42 | 5.95 |
| | Phosphorus (P)-Total (mg/L) | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| **Organic / Inorganic Carbon** | Total Organic Carbon (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Total Metals** | Aluminum (Al)-Total (mg/L) | 0.0080 | 0.0220 | 0.0212 | 0.0109 | 0.0347 |
| | Antimony (Sb)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Arsenic (As)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Barium (Ba)-Total (mg/L) | 0.00417 | 0.00124 | 0.00306 | 0.000763 | 0.00549 |
| | Beryllium (Be)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Boron (B)-Total (mg/L) | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Cadmium (Cd)-Total (mg/L) | 0.0000069 | <0.0000050 | <0.0000050 | <0.0000050 | 0.0000057 |
| | Calcium (Ca)-Total (mg/L) | 0.698 | 0.161 | 0.278 | 0.172 | 0.365 |
| | Chromium (Cr)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Cobalt (Co)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Copper (Cu)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Iron (Fe)-Total (mg/L) | <0.010 | 0.017 | <0.010 | <0.010 | 0.018 |
| | Lead (Pb)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Lithium (Li)-Total (mg/L) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| | Magnesium (Mg)-Total (mg/L) | 0.290 | 0.104 | 0.158 | 0.0804 | 0.199 |
| | Manganese (Mn)-Total (mg/L) | 0.00095 | 0.00196 | 0.00040 | 0.00044 | 0.00080 |
| | Mercury (Hg)-Total (mg/L) | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 | <0.0000050 |
| | Molybdenum (Mo)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Nickel (Ni)-Total (mg/L) | 0.00107 | 0.00055 | <0.00050 | <0.00050 | <0.00050 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Sample ID** | L1660034-31 | | | | |
| | **Description** | WATER | | | | |
| | **Sampled Date** | 17-AUG-15 | | | | |
| | **Sampled Time** | | | | | |
| | **Client ID** | CH6 TRENCH | | | | |
| **Grouping** | **Analyte** | | | | | |
| **WATER** | | | | | | |
| **Physical Tests** | Hardness (as CaCO3) (mg/L) | 11.2 | | | | |
| | Total Suspended Solids (mg/L) | 4.8 | | | | |
| | Turbidity (NTU) | 25.5 | | | | |
| **Anions and Nutrients** | Alkalinity, Total (as CaCO3) (mg/L) | 10.3 | | | | |
| | Ammonia, Total (as N) (mg/L) | <0.050 | | | | |
| | Bicarbonate (HCO3) (mg/L) | 12.5 | | | | |
| | Carbonate (CO3) (mg/L) | <5.0 | | | | |
| | Conductivity (EC) (uS/cm) | 24.4 | | | | |
| | Hydroxide (OH) (mg/L) | <5.0 | | | | |
| | Nitrate and Nitrite (as N) (mg/L) | <0.022 | | | | |
| | Nitrate (as N) (mg/L) | <0.020 | | | | |
| | Nitrite (as N) (mg/L) | <0.010 | | | | |
| | Total Kjeldahl Nitrogen (mg/L) | <0.20 | | | | |
| | Total Nitrogen (mg/L) | <0.20 | | | | |
| | pH (pH) | 7.25 | | | | |
| | Phosphorus (P)-Total (mg/L) | <0.020 | | | | |
| **Organic / Inorganic Carbon** | Total Organic Carbon (mg/L) | 1.3 | | | | |
| **Total Metals** | Aluminum (Al)-Total (mg/L) | 1.64 | | | | |
| | Antimony (Sb)-Total (mg/L) | <0.00010 | | | | |
| | Arsenic (As)-Total (mg/L) | 0.00018 | | | | |
| | Barium (Ba)-Total (mg/L) | 0.00995 | | | | |
| | Beryllium (Be)-Total (mg/L) | <0.00010 | | | | |
| | Boron (B)-Total (mg/L) | <0.010 | | | | |
| | Cadmium (Cd)-Total (mg/L) | <0.0000050 | | | | |
| | Calcium (Ca)-Total (mg/L) | 1.36 | | | | |
| | Chromium (Cr)-Total (mg/L) | 0.00333 | | | | |
| | Cobalt (Co)-Total (mg/L) | 0.00069 | | | | |
| | Copper (Cu)-Total (mg/L) | 0.00317 | | | | |
| | Iron (Fe)-Total (mg/L) | 1.25 | | | | |
| | Lead (Pb)-Total (mg/L) | 0.000395 | | | | |
| | Lithium (Li)-Total (mg/L) | <0.0010 | | | | |
| | Magnesium (Mg)-Total (mg/L) | 1.90 | | | | |
| | Manganese (Mn)-Total (mg/L) | 0.00701 | | | | |
| | Mercury (Hg)-Total (mg/L) | 0.0000062 | | | | |
| | Molybdenum (Mo)-Total (mg/L) | 0.000297 | | | | |
| | Nickel (Ni)-Total (mg/L) | 0.00362 | | | | |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| | Sample ID | L1660034-1 | L1660034-2 | L1660034-3 | L1660034-4 | L1660034-5 |
|---|---|---|---|---|---|---|
| | Description | WATER | WATER | WATER | WATER | WATER |
| | Sampled Date | 17-AUG-15 | 29-JUL-15 | 16-AUG-15 | 16-AUG-15 | 16-AUG-15 |
| | Sampled Time | | 15:30 | | | |
| | Client ID | FIELD BLANK | TRIP BLANK | WQ3 | WQ4 | WQ5 |
| **Grouping** | **Analyte** | | | | | |
| **WATER** | | | | | | |
| **Total Metals** | Potassium (K)-Total (mg/L) | <0.050 | <0.050 | <0.050 | 0.132 | 0.123 |
| | Selenium (Se)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Silver (Ag)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Sodium (Na)-Total (mg/L) | <0.050 | <0.050 | 0.324 | 0.477 | 0.465 |
| | Strontium (Sr)-Total (mg/L) | <0.00020 | <0.00020 | 0.00133 | 0.00235 | 0.00243 |
| | Thallium (Tl)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Tin (Sn)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Titanium (Ti)-Total (mg/L) | <0.00030 | <0.00030 | 0.00043 | 0.00074 | 0.00094 |
| | Uranium (U)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Vanadium (V)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Zinc (Zn)-Total (mg/L) | <0.0030 | <0.0030 | <0.0030 | <0.0030 | <0.0030 |
| **Aggregate Organics** | Oil and Grease (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Grouping | Analyte | L1660034-6 WATER 16-AUG-15 WQ6 | L1660034-7 WATER 17-AUG-15 WQ7 | L1660034-8 WATER 15-AUG-15 WQ8 | L1660034-9 WATER 15-AUG-15 HYDRO 9 | L1660034-10 WATER 15-AUG-15 HYDRO 10 |
|---|---|---|---|---|---|---|
| **Sample ID** / **Description** / **Sampled Date** / **Sampled Time** / **Client ID** | | | | | | |
| **WATER** | | | | | | |
| **Total Metals** | Potassium (K)-Total (mg/L) | 0.060 | 0.076 | 0.248 | 0.243 | 0.184 |
| | Selenium (Se)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Silver (Ag)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Sodium (Na)-Total (mg/L) | 0.361 | 0.391 | 0.528 | 0.797 | 0.680 |
| | Strontium (Sr)-Total (mg/L) | 0.00147 | 0.00173 | 0.00223 | 0.00246 | 0.00232 |
| | Thallium (Tl)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Tin (Sn)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Titanium (Ti)-Total (mg/L) | 0.00044 | 0.00036 | 0.00196 | 0.00392 | 0.00062 |
| | Uranium (U)-Total (mg/L) | <0.000010 | <0.000010 | 0.000013 | <0.000010 | <0.000010 |
| | Vanadium (V)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Zinc (Zn)-Total (mg/L) | <0.0030 | <0.0030 | <0.0030 | <0.0030 | <0.0030 |
| **Aggregate Organics** | Oil and Grease (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| | Sample ID | L1660034-11 | L1660034-12 | L1660034-13 | L1660034-14 | L1660034-15 |
|---|---|---|---|---|---|---|
| | Description | WATER | WATER | WATER | WATER | WATER |
| | Sampled Date | 17-AUG-15 | 16-AUG-15 | 15-AUG-15 | 15-AUG-15 | 15-AUG-15 |
| | Sampled Time | | | | | |
| | Client ID | WQ12 | WQ13 | WQ15 | WQ16 | WQ17 |
| **Grouping** | **Analyte** | | | | | |
| **WATER** | | | | | | |
| **Total Metals** | Potassium (K)-Total (mg/L) | 0.191 | 0.158 | 0.234 | 0.241 | 0.271 |
| | Selenium (Se)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Silver (Ag)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Sodium (Na)-Total (mg/L) | 0.810 | 0.794 | 0.878 | 0.437 | 0.997 |
| | Strontium (Sr)-Total (mg/L) | 0.00318 | 0.00276 | 0.00284 | 0.00183 | 0.00384 |
| | Thallium (Tl)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Tin (Sn)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Titanium (Ti)-Total (mg/L) | 0.00102 | 0.00152 | 0.00035 | 0.00070 | 0.00933 |
| | Uranium (U)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | 0.000017 | <0.000010 |
| | Vanadium (V)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Zinc (Zn)-Total (mg/L) | <0.0030 | <0.0030 | <0.0030 | <0.0030 | <0.0030 |
| **Aggregate Organics** | Oil and Grease (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Grouping | Analyte | L1660034-16 WATER 16-AUG-15 WQ18 | L1660034-17 WATER 16-AUG-15 WQ19 | L1660034-18 WATER 16-AUG-15 WQ20 | L1660034-19 WATER 17-AUG-15 WQ21 | L1660034-20 WATER 17-AUG-15 WQ22 |
|---|---|---|---|---|---|---|
| **Sample ID** / **Description** / **Sampled Date** / **Sampled Time** / **Client ID** | | | | | | |
| **WATER** | | | | | | |
| **Total Metals** | Potassium (K)-Total (mg/L) | 0.087 | 0.127 | 0.156 | 0.238 | 0.204 |
| | Selenium (Se)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Silver (Ag)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Sodium (Na)-Total (mg/L) | 0.401 | 0.392 | 0.468 | 0.770 | 0.914 |
| | Strontium (Sr)-Total (mg/L) | 0.00152 | 0.00182 | 0.00226 | 0.00302 | 0.00282 |
| | Thallium (Tl)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Tin (Sn)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Titanium (Ti)-Total (mg/L) | 0.00033 | 0.00053 | 0.00129 | 0.00121 | 0.00529 |
| | Uranium (U)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Vanadium (V)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Zinc (Zn)-Total (mg/L) | <0.0030 | <0.0030 | <0.0030 | <0.0030 | <0.0030 |
| **Aggregate Organics** | Oil and Grease (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| | Sample ID | L1660034-21 | L1660034-22 | L1660034-23 | L1660034-24 | L1660034-25 |
|---|---|---|---|---|---|---|
| | Description | WATER | WATER | WATER | WATER | WATER |
| | Sampled Date | 17-AUG-15 | 17-AUG-15 | 16-AUG-15 | 16-AUG-15 | 17-AUG-15 |
| | Sampled Time | | | | | |
| | Client ID | WQ23 | WQ24 | WQ25 | WQ26 | WQ27 |
| **Grouping** | **Analyte** | | | | | |
| **WATER** | | | | | | |
| **Total Metals** | Potassium (K)-Total (mg/L) | 0.273 | 0.198 | 0.175 | 0.094 | 0.235 |
| | Selenium (Se)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Silver (Ag)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Sodium (Na)-Total (mg/L) | 0.670 | 0.588 | 0.429 | 0.401 | 0.786 |
| | Strontium (Sr)-Total (mg/L) | 0.00311 | 0.00239 | 0.00232 | 0.00177 | 0.00407 |
| | Thallium (Tl)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Tin (Sn)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Titanium (Ti)-Total (mg/L) | 0.00223 | 0.00144 | 0.00054 | 0.00053 | 0.00197 |
| | Uranium (U)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Vanadium (V)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Zinc (Zn)-Total (mg/L) | <0.0030 | <0.0030 | <0.0030 | <0.0030 | <0.0030 |
| **Aggregate Organics** | Oil and Grease (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| Grouping | Analyte | L1660034-26 WATER 15-AUG-15 WQ28 | L1660034-27 WATER 15-AUG-15 WQ29 | L1660034-28 WATER 15-AUG-15 DUPLICATE 1 | L1660034-29 WATER 16-AUG-15 DUPLICATE 2 | L1660034-30 WATER 17-AUG-15 DUPLICATE 3 |
|---|---|---|---|---|---|---|
| **WATER** | | | | | | |
| **Total Metals** | Potassium (K)-Total (mg/L) | 0.269 | 0.158 | 0.183 | 0.064 | 0.197 |
| | Selenium (Se)-Total (mg/L) | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |
| | Silver (Ag)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Sodium (Na)-Total (mg/L) | 0.642 | 0.467 | 0.674 | 0.364 | 0.822 |
| | Strontium (Sr)-Total (mg/L) | 0.00454 | 0.00137 | 0.00247 | 0.00150 | 0.00347 |
| | Thallium (Tl)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Tin (Sn)-Total (mg/L) | <0.00010 | <0.00010 | <0.00010 | <0.00010 | <0.00010 |
| | Titanium (Ti)-Total (mg/L) | <0.00030 | 0.00091 | 0.00066 | 0.00045 | 0.00107 |
| | Uranium (U)-Total (mg/L) | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 |
| | Vanadium (V)-Total (mg/L) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| | Zinc (Zn)-Total (mg/L) | <0.0030 | <0.0030 | <0.0030 | <0.0030 | <0.0030 |
| **Aggregate Organics** | Oil and Grease (mg/L) | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# ALS ENVIRONMENTAL ANALYTICAL REPORT

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Sample ID** | L1660034-31 | | | | |
| | **Description** | WATER | | | | |
| | **Sampled Date** | 17-AUG-15 | | | | |
| | **Sampled Time** | | | | | |
| | **Client ID** | CH6 TRENCH | | | | |
| **Grouping** | **Analyte** | | | | | |
| **WATER** | | | | | | |
| **Total Metals** | Potassium (K)-Total (mg/L) | 0.867 | | | | |
| | Selenium (Se)-Total (mg/L) | 0.000067 | | | | |
| | Silver (Ag)-Total (mg/L) | 0.000011 | | | | |
| | Sodium (Na)-Total (mg/L) | 1.31 | | | | |
| | Strontium (Sr)-Total (mg/L) | 0.0121 | | | | |
| | Thallium (Tl)-Total (mg/L) | 0.000024 | | | | |
| | Tin (Sn)-Total (mg/L) | <0.00010 | | | | |
| | Titanium (Ti)-Total (mg/L) | 0.100 | | | | |
| | Uranium (U)-Total (mg/L) | 0.000045 | | | | |
| | Vanadium (V)-Total (mg/L) | 0.00369 | | | | |
| | Zinc (Zn)-Total (mg/L) | 0.0044 | | | | |
| **Aggregate Organics** | Oil and Grease (mg/L) | <1.0 | | | | |

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

# Reference Information

**QC Samples with Qualifiers & Comments:**

| QC Type Description | Parameter | Qualifier | Applies to Sample Number(s) |
|---|---|---|---|
| Duplicate | Total Suspended Solids | DLA | L1660034-10, -13, -14, -15, -26, -27, -28, -8, -9 |
| Duplicate | Total Suspended Solids | DLA | L1660034-1, -11, -12, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -29, -3, -30, -31, -4, -5, -6, -7 |
| Matrix Spike | Phosphorus (P)-Total | MS-B | L1660034-1, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -2, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -3, -30, -31, -4, -5, -6, -7, -8, -9 |

**Qualifiers for Individual Parameters Listed:**

| Qualifier | Description |
|---|---|
| DLA | Detection Limit adjusted for required dilution |
| MS-B | Matrix Spike recovery could not be accurately calculated due to high analyte background in sample. |

## Test Method References:

| ALS Test Code | Matrix | Test Description | Method Reference** |
|---|---|---|---|
| **C-TOT-ORG-ED** | Water | Total Organic Carbon | APHA 5310 B-Instrumental |

This method is applicable to the analysis of ground water, wastewater, and surface water samples. The form detected depends upon sample pretreatment: Unfiltered sample = TC, 0.45um filtered = TDC. Samples are injected into a combustion tube containing an oxidation catalyst. The carrier gas containing the combustion product from the combustion tube flows through an inorganic carbon reactor vessel and is then sent through a halogen scrubber into a sample cell set in a non-dispersive infrared gas analyzer (NDIR) where carbon dioxide is detected. For total inorganic carbon and dissolved inorganic carbon, the sample is injected into an IC reactor vessel where only the IC component is decomposed to become carbon dioxide.

The peak area generated by the NDIR indicates the TC/TDC or TIC/DIC as applicable. The total organic carbon content of the sample is calculated by subtracting the TIC from the TC.
TOC = TC-TIC, DOC = TDC-DIC, Particulate = Total - Dissolved.

| | | | |
|---|---|---|---|
| **ETL-HARDNESS-TOT-ED** | Water | Hardness (from Total Ca and Mg) | APHA 2340 B-Calculation |
| **HG-T-CVAA-ED** | Water | Total Mercury in Water by CVAAS | EPA 1631E (mod) |

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

| | | | |
|---|---|---|---|
| **MET-T-CCMS-ED** | Water | Total Metals in Water by CRC ICPMS | EPA 200.2/6020A (mod) |

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

| | | | |
|---|---|---|---|
| **N-T-CALC-ED** | Water | Total Nitrogen (Calculation) | APHA 4500 N-Calculated |

Total Nitrogen is a calculated parameter. Total Nitrogen = Total Kjeldahl Nitrogen + [Nitrate and Nitrite (as N)]

| | | | |
|---|---|---|---|
| **NH3-CFA-ED** | Water | Ammonia in Water by Colour | APHA 4500 NH3-NITROGEN (AMMONIA) |

This analysis is carried out using procedures adapted from APHA Method 4500 NH3 "NITROGEN (AMMONIA)". Ammonia is determined using the automated phenate colourimetric method.

| | | | |
|---|---|---|---|
| **NO2+NO3-CALC-ED** | Water | Nitrate+Nitrite | CALCULATION |
| **NO2-IC-N-ED** | Water | Nitrite in Water by IC | EPA 300.1 (mod) |

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

| | | | |
|---|---|---|---|
| **NO3-IC-N-ED** | Water | Nitrate in Water by IC | EPA 300.1 (mod) |

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

| | | | |
|---|---|---|---|
| **OGG-LLE-ED** | Water | Oil and Grease-Gra | APHA 5520 B HEXANE MTBE EXT. GRAVIME |
| **P-T-COL-ED** | Water | Total P in Water by Colour | APHA 4500-P PHOSPHORUS |

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.

| | | | |
|---|---|---|---|
| **PH/EC/ALK-ED** | Water | pH, Conductivity and Total Alkalinity | APHA 4500-H, 2510, 2320 |

All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed)

| | | | |
|---|---|---|---|
| **SOLIDS-TOTSUS-ED** | Water | Total Suspended Solids | APHA 2540 D-Gravimetric |

Gravimetric determination of solids in waters by filtration and drying filter at 104 degrees Celsius.

| | | | |
|---|---|---|---|
| **TKN-CFA-ED** | Water | TKN in Water by Colour | APHA 4500-NORG (TKN) |

This analysis is carried out using procedures adapted from APHA Method 4500-Norg "Nitrogen (Organic)". Total Kjeldahl Nitrogen is determined by sample digestion at 380 celcius with analysis using an automated colourimetric finish.

# Reference Information

| | | | |
|---|---|---|---|
| **TURBIDITY-ED** | Water | Turbidity | APHA 2130 B-Nephelometer |

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

*The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:*

| Laboratory Definition Code | Laboratory Location |
|---|---|
| ED | ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA |

**Chain of Custody Numbers:**

**GLOSSARY OF REPORT TERMS**

*Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.*
*mg/kg - milligrams per kilogram based on dry weight of sample.*
*mg/kg wwt - milligrams per kilogram based on wet weight of sample.*
*mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.*
*mg/L - milligrams per litre.*
*< - Less than.*
*D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).*
*N/A - Result not available. Refer to qualifier code and definition for explanation.*

*Test results reported relate only to the samples as received by the laboratory.*
*UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.*
*Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.*

# Chain of Custody (COC) / Analytical Request Form

ALS Environmental
www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page 1 of 3

| Report To | | Report Format / Distribution | Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests) |
|---|---|---|---|
| Company: | Tetra Tech EBA In.c | Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL) | R ☑ Regular (Standard TAT if received by 3 pm - business days) |
| Contact: | Karla Langlois | Quality Control (QC) Report with Report ☑ Yes ☐ No | P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT |
| Address: | PO Box 2244, 4916-49 Street<br>Yellowknife, NT X1A 2P7 | ☐ Criteria on Report - provide details below if box checked<br>Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX | E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT<br>E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge |
| Phone: | 867-920-2287 | Email 1 or Fax karla.langlois@tetratech.com<br>Email 2 | Specify Date Required for E2,E or P: |

| Invoice To | | Invoice Distribution | Analysis Request |
|---|---|---|---|
| | Same as Report To ☐ Yes ☑ No | Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below |
| | Copy of Invoice with Report ☐ Yes ☑ No | Email 1 or Fax dave@pdiam.com<br>Email 2 | |
| Company: | Peregrine Diamonds Ltd. | | |
| Contact: | David Willis | | |

| Project Information | | Oil and Gas Required Fields (client use) | |
|---|---|---|---|
| ALS Quote #: | Q52253 | Approver ID: | Cost Center: |
| Job #: | ENVMIN03065 | GL Account: | Routing Code: |
| PO / AFE: | | Activity Code: | |
| LSD: | Chidliak | Location: | |

**ALS Lab Work Order # (lab use only):** L1660034 **ALS Contact:** **Sampler:** KL

| ALS Sample # (lab use only) | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mmm-yy) | Time (hh:mm) | Sample Type | Total Metals | Mercury | NUT/TOC | Oil and Grease | Routine | Number of Containers |
|---|---|---|---|---|---|---|---|---|---|---|
| | Field Blank | 17/Aug/15 | | Water | R | R | R | R | R | 5 |
| | Trip Blank | | | Water | R | R | R | R | R | 5 |
| | ~~Hydro 1~~ | | | ~~Water~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~5~~ 10 |
| | ~~Hydro 2~~ | | | ~~Water~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~5~~ 10 |
| | WQ3 | 14/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ4 | ↓ | | Water | R | R | R | R | R | 5 |
| | WQ5 | | | Water | R | R | R | R | R | 5 |
| | WQ6 | ↓ | | Water | R | R | R | R | R | 5 |
| | WQ7 | 17/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ8 | 15/Aug/15 | | Water | R | R | R | R | R | 5 |
| | Hydro 9 | ↓ | | Water | R | R | R | R | R | 5 |
| | Hydro 10 | | | Water | R | R | R | R | R | 5 |

L1660034-COFC

| Drinking Water (DW) Samples[1] (client use) | Special Instructions / Specify Criteria to add on report (client Use) |
|---|---|
| Are samples taken from a Regulated DW System? ☐ Yes ☑ No | |
| Are samples for human drinking water use? ☐ Yes ☑ No | |

**SAMPLE CONDITION AS RECEIVED (lab use only)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Frozen | ☐ | | | SIF Observations | Yes ☐ | No ☐ | |
| Ice packs | Yes ☐ | No ☐ | | Custody seal intact | Yes ☐ | No ☐ | |
| Cooling Initiated | ☐ | | | | | | |

| INITIAL COOLER TEMPERATURES °C | | FINAL COOLER TEMPERATURES °C | | | |
|---|---|---|---|---|---|
| Max 3.6 | X 2.7 | | | | |

| SHIPMENT RELEASE (client use) | | | INITIAL SHIPMENT RECEPTION (lab use only) | | | FINAL SHIPMENT RECEPTION (lab use only) | | |
|---|---|---|---|---|---|---|---|---|
| Released by: Karla Langlois | Date: 18/Aug/15 | Time: 7:00am | Received by: Lorraine Chikopela | Date: Aug 19/15 | Time: 10:30am | Received by: | Date: | Time: |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0326e v09 Front/04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

ALS Environmental

www.alsglobal.com

# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page 2 of 3

| Report To | | Report Format / Distribution | Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests) |
|---|---|---|---|
| Company: | Tetra Tech EBA In.c | Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL) | R ☑ Regular (Standard TAT if received by 3 pm - business days) |
| Contact: | Karla Langlois | Quality Control (QC) Report with Report ☑ Yes ☐ No | P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT |
| Address: | PO Box 2244, 4916-49 Street<br>Yellowknife, NT X1A 2P7 | ☐ Criteria on Report - provide details below if box checked<br>Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX | E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT<br>E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge |
| Phone: | 867-920-2287 | Email 1 or Fax karla.langlois@tetratech.com<br>Email 2 | Specify Date Required for E2,E or P: |

| Invoice To | Same as Report To ☐ Yes ☑ No | Invoice Distribution |
|---|---|---|
| | Copy of Invoice with Report ☐ Yes ☑ No | Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX |
| Company: | Peregrine Diamonds Ltd. | Email 1 or Fax dave@pdiam.com |
| Contact: | David Willis | Email 2 |

| Project Information | | Oil and Gas Required Fields (client use) | |
|---|---|---|---|
| ALS Quote #: | Q52253 | Approver ID: | Cost Center: |
| Job #: | ENVMIN03065 | GL Account: | Routing Code: |
| PO / AFE: | | Activity Code: | |
| LSD: | Chidliak | Location: | |

**ALS Lab Work Order # (lab use only):** L1660034 **ALS Contact:** **Sampler:** KL

**Analysis Request** — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

| ALS Sample # (lab use only) | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mmm-yy) | Time (hh:mm) | Sample Type | Total Metals | Mercury | NUT/TOC | Oil and Grease | Routine | Number of Containers |
|---|---|---|---|---|---|---|---|---|---|---|
| | ~~Hydro 11~~ | | | ~~Water~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~5~~ 10 |
| | WQ12 | 17/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ13 | 16/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ15 | 15/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ16 | ↓ | | Water | R | R | R | R | R | 5 |
| | WQ17 | ↓ | | Water | R | R | R | R | R | 5 |
| | WQ18 | 16/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ19 | ↓ | | Water | R | R | R | R | R | 5 |
| | WQ20 | ↓ | | Water | R | R | R | R | R | 5 |
| | WQ21 | 17/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ22 | ↓ | | Water | R | R | R | R | R | 5 |
| | WQ23 | ↓ | | Water | R | R | R | R | R | 5 |

L1660034-COFC

**Drinking Water (DW) Samples[1] (client use)**

Are samples taken from a Regulated DW System? ☐ Yes ☐ No

Are samples for human drinking water use? ☐ Yes ☐ No

**Special Instructions / Specify Criteria to add on report (client Use)**

**SAMPLE CONDITION AS RECEIVED (lab use only)**

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

| INITIAL COOLER TEMPERATURES °C | | FINAL COOLER TEMPERATURES °C | | | |
|---|---|---|---|---|---|
| Max 3.6 | Ave 2.7 | | | | |

| SHIPMENT RELEASE (client use) | | | INITIAL SHIPMENT RECEPTION (lab use only) | | | FINAL SHIPMENT RECEPTION (lab use only) | | |
|---|---|---|---|---|---|---|---|---|
| Released by: | Date: | Time: | Received by: Lorraine Chikopela | Date: Aug 19/15 | Time: 10:30 | Received by: | Date: | Time: |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0326e v09 Front/04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

ALS Environmental
www.alsglobal.com

# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page 3 of 3

| Report To | | Report Format / Distribution | Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests) |
|---|---|---|---|
| Company: | Tetra Tech EBA In.c | Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL) | R ☑ Regular (Standard TAT if received by 3 pm - business days) |
| Contact: | Karla Langlois | Quality Control (QC) Report with Report ☑ Yes ☐ No | P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT |
| Address: | PO Box 2244, 4916-49 Street<br>Yellowknife, NT X1A 2P7 | ☐ Criteria on Report - provide details below if box checked<br>Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX | E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT<br>E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge |
| Phone: | 867-920-2287 | Email 1 or Fax karla.langlois@tetratech.com<br>Email 2 | Specify Date Required for E2,E or P: |

| Invoice To | Same as Report To ☐ Yes ☑ No | Invoice Distribution | Analysis Request |
|---|---|---|---|
| | Copy of Invoice with Report ☐ Yes ☑ No | Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX | Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below |
| Company: | Peregrine Diamonds Ltd. | Email 1 or Fax dave@pdiam.com | |
| Contact: | David Willis | Email 2 | |

| Project Information | | Oil and Gas Required Fields (client use) | |
|---|---|---|---|
| ALS Quote #: | Q52253 | Approver ID: | Cost Center: |
| Job #: | ENVMIN03065 | GL Account: | Routing Code: |
| PO / AFE: | | Activity Code: | |
| LSD: | Chidliak | Location: | |

**ALS Lab Work Order # (lab use only):** L1660034 | **ALS Contact:** | **Sampler:** KL

| ALS Sample # (lab use only) | Sample Identification and/or Coordinates (This description will appear on the report) | Date (dd-mmm-yy) | Time (hh:mm) | Sample Type | Total Metals | Mercury | NUT/TOC | Oil and Grease | Routine | Number of Containers |
|---|---|---|---|---|---|---|---|---|---|---|
| | WQ24 | 17/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ25 | 16/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ26 | ↓ | | Water | R | R | R | R | R | 5 |
| | WQ27 | 17/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ28 | 15/Aug/15 | | Water | R | R | R | R | R | 5 |
| | WQ29 | ↓ | | Water | R | R | R | R | R | 5 |
| | Duplicate 1 | | | Water | R | R | R | R | R | 5 |
| | Duplicate 2 | 16/Aug/15 | | Water | R | R | R | R | R | 5 |
| | Duplicate 3 | 17/Aug/15 | | Water | R | R | R | R | R | 5 |
| | CH6 Trench | 17/Aug/15 | | Water | R | R | R | R | R | 5 |
| | ~~CH6 Outflow~~ | | | ~~Water~~ | R | R | R | R | R | ~~5~~ 10 |
| | | | | Water | R | R | R | R | R | 5 |

L1660034-COFC

**Drinking Water (DW) Samples[1] (client use)**

Are samples taken from a Regulated DW System? ☐ Yes ☐ No

Are samples for human drinking water use? ☐ Yes ☐ No

**Special Instructions / Specify Criteria to add on report (client Use)**

**SAMPLE CONDITION AS RECEIVED (lab use only)**

Frozen ☐ | SIF Observations Yes ☐ No ☐

Ice packs Yes ☐ No ☐ | Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

| INITIAL COOLER TEMPERATURES °C | | FINAL COOLER TEMPERATURES °C | | | |
|---|---|---|---|---|---|
| Max 3.6 | X 2.7 | | | | |

| SHIPMENT RELEASE (client use) | | | INITIAL SHIPMENT RECEPTION (lab use only) | | | FINAL SHIPMENT RECEPTION (lab use only) | | |
|---|---|---|---|---|---|---|---|---|
| Released by: | Date: | Time: | Received by: Lorraine Chikopela | Date: Aug 19/15 | Time: 10:30 | Received by: | Date: | Time: |

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0326e v09 Front/04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.