

Scotia Wastewater Treatment Facility Local Limits Study -2021 Update

APN 205-421-009
Railroad Avenue
Scotia, California

Prepared for:

Scotia Community Services District

February 2021

017138.106



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Reference: 017138.106

February 9, 2021

Leslie Marshall, General Manager
Scotia Community Services District
400 Church Street
Scotia, CA 95565

**Subject: Scotia Wastewater Treatment Facility Local Limits Study-2021
Update**

Dear Leslie Marshall:

This local limits study details the maximum allowable headworks loading (MAHL) and maximum allowable industrial loading (MAIL) analysis completed by SHN for the Scotia wastewater treatment facility (WWTF). This analysis has been updated to include revised MAHL, MAIL, and local limits for biochemical oxygen demand (BOD), total suspended solids (TSS), ammonia-nitrogen, and zinc to reflect the estimated loading capacity and biological inhibition limitations of the trickling filter at the SCSD WWTF.

If you have any questions about the analysis or recommendations presented in this report, please call me at (707) 441-8855.

Respectfully submitted,

SHN

A blue ink signature of Mike Foget, written in a cursive style.

Mike Foget, PE
Sr. Engineer/CEO

A blue ink signature of Chuck Swanson, written in a cursive style.

Chuck Swanson
Project Manager

MKF/CRS:lam

Enclosure: Report



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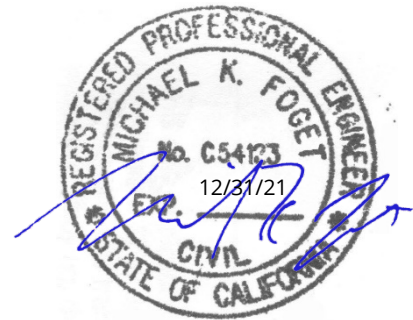
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Mike Foget, PE



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Abbreviations and Acronyms

Units of Measure

gpd	gallons per day
lb/d	pounds per day
mg/L	milligrams per liter
MGD	million gallons per day
mg-N/L	milligrams of Nitrogen per liter
ml/L	milliliters per liter
NTU	Nephelometric turbidity units
ug/L	micrograms per liter

Additional Terms

AHL	allowable headworks loading
BOD	biochemical oxygen demand
CaCO ₃	calcium chloride
CAS	conventional active sludge
CCB	WWTF chlorine contact basin effluent
CFR	Code of Federal Regulations
CIU	categorical industrial user
COGEN	Humboldt Sawmill Company Cogeneration Power Plant
DEA	detailed engineering analysis
EDU	equivalent dwelling unit
EFF	WWTF effluent
EPA	United States Environmental Protections Agency
ERB	Eel River Brewery
E_{WWTF}	WWTF effluent pollutant concentration
FISH	Fisheries Exhibit
GAR	Humboldt Sawmill Company Automotive Garage
HOB	Hoby's Market Kitchen
HRC	Humboldt Redwood Company
HSC	Humboldt Sawmill Company
I/I	inflow and infiltration
INF	WWTF influent
IQR	interquartile range
I_r	WWTF influent pollutant concentration (milligrams per liter [mg/L])
IU	industrial user
LQR	Lower Quartile Range
M-#	sample location-number
MAHL	maximum allowable headworks loading
MAIL	maximum allowable industrial loading
MDL	method detection limit
MILL	Humboldt Sawmill Company Mill
MRE	mean removal efficiency
MRE_{WWTF}	WWTF removal efficiency from headworks to outfall
NA	not applicable



Abbreviations and Acronyms, Continued

NC	not calculated
ND	nondetectable
NPDES	National Pollutant Discharge Elimination System
POC	pollutants of concern
POTW	publicly owned treatment works
Q _{DOM}	domestic and commercial flow
Q _{IND}	industrial user flow
Q _{POTW}	WWTF average flow
Q _{STR}	receiving water flow
<i>r</i>	number of facility influent samples
RL	reporting limit
R _{POTW}	publicly owned treatment works removal efficiency
R _{PRIM}	Primary removal efficiency
RWQCB	North Coast Regional Water Quality Control Board
SCSD	Scotia Community Services District
SCL	Elementary School Kitchen
SIU	significant industrial user
SWRCB	State Water Resources Control Board
<i>t</i>	number of facility effluent samples
TSS	total suspended solids
UQR	Upper Quartile Range
USGS	United States Geologic Survey
WDRs	waste discharge requirements
WQC	water quality criteria
WQS	water quality standards
WWTF	wastewater treatment facility



1.0 Facility Information

Waste Discharge ID: 1B83104OHUM
NPDES Number: CA0006017
Current Order: R1-2012-0065

Name: Scotia Community Services District Wastewater Treatment Facility
Physical Address: Williams Street, Scotia, California 95565
Mailing Address: P.O. Box 104, Scotia, California 95565
Owner: Scotia Community Services District

Owner Contact: Leslie Marshall, General Manager
Owner Phone: (707) 764-3030
Owner Email: infoscotiacsd@gmail.com

Type of Facility: Publicly Owned Treatment Works (POTW)
Operator: Scotia Community Services District
Receiving Water: Eel River
County: Humboldt
Region: North Coast

Design Flow: 1 million gallons per day (MGD)
Permitted Flow: 0.77 MGD
Facility Class: 2
Level of Treatment: Secondary, Disinfected

2.0 Terminology

Allowable Headworks Loading (AHL). The estimated maximum loading of a pollutant that can be received at a POTW's headworks that should not cause a POTW to violate a particular treatment plant or environmental criterion. AHLs are developed to prevent interference or pass through.

Categorical Industrial User (CIU). All industrial users subject to categorical pretreatment standards under 40 CFR 403.6 and 40 Code of Federal Regulations (CFR) Chapter I, subchapter N.

Industrial User (IU). Non-domestic source of pollutants into a POTW regulated under Section 307(b), (c) or (d) of the Clean Water Act.

Inhibition. Inhibition occurs when pollutant levels in a POTW's wastewater or sludge cause operational problems for biological treatment processes involving secondary or tertiary wastewater treatment and alter the POTW's ability to adequately remove biochemical oxygen demand (BOD), total suspended solids (TSS), and other pollutants.

Interference. EPA uses the term "interference" in its regulations to describe a discharge that, alone or with discharges from other sources, inhibits or disrupts a POTW, its treatment processes and operations, or its sludge processes, use, or disposal, and therefore, causes a violation of the POTW's National Pollutant Discharge Elimination System (NPDES) permit; increases the magnitude or duration of



such a violation; or prevents the proper use or disposal of sewage sludge in compliance with the Clean Water Act, Solid Waste Disposal Act, Toxic Substance Control Acts, or the Marine Protection, Research and Sanctuaries Act.

Maximum Allowable Headworks Loading (MAHL). The estimated maximum loading of a pollutant that can be received at a POTW's headworks without causing pass through or interference. The most protective (lowest) of the AHLs (see definition) estimated for a pollutant.

Maximum Allowable Industrial Loading (MAIL). The estimated maximum loading of a pollutant that can be received at a POTW's headworks from all permitted industrial users and other controlled sources without causing pass through or interference. The MAIL is usually calculated by applying a safety factor to the MAHL and discounting for uncontrolled sources, hauled waste, and growth allowance.

Method Detection Limit (MDL). The minimum concentration of an analyte that can be measured and reported with 99 percent confidence that the analyte concentration is present as determined by a specific laboratory method in 40 CFR Part 136, Appendix B.

Pass-through. A discharge that enters the waters of the United States from a POTW in quantities or concentrations that, alone or with discharges from other sources, either causes a violation of any requirement of the POTW's NPDES permit or increases the magnitude or duration of a violation of the POTW's NPDES permit.

Pollutant of Concern (POC). Any pollutant that might reasonably be expected to be discharged to the POTW in sufficient amounts to pass through or interfere with the works, contaminate its sludge, cause problems in its collection system, or jeopardize its workers.

Reporting Limit (RL). The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed. The RL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest $(1, 2, \text{ or } 5) \times 10^n$ where n is an integer.

Significant Industrial User (SIU). As defined in 40 CFR 403.3, all users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR chapter I, subchapter N; and any other industrial user that discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, non-contact cooling and boiler blowdown wastewater); contributes a process waste stream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].

3.0 Introduction

The Scotia Community Services District (SCSD) is a special district formed in 2016 that owns and operates wastewater facilities for the Town of Scotia. Scotia is a historic mill town, which until recently was privately owned. The handover of public utilities to the SCSD has triggered the need for a local limits study to establish allowable pollutant discharge limits to the municipal sewer system for industrial and large commercial users to prevent pass-through interference at the wastewater treatment facility (WWTF) in accordance with current North Coast Regional Water Quality Control Board (RWQCB) Order R1-2012-0065.



Because SCSD is a newly formed district, it has not conducted a local limits study before, so the data collected during this study form the first set that will create the baseline for future data collection and evaluation of local limits. SCSD is in the process of starting planning studies to completely replace its deteriorated WWTF. Once a new WWTF is constructed, SCSD will need to conduct another local limits study to assess the capacity of the new WWTF and update local limits accordingly.

The SCSD WWTF includes a primary clarifier, a redwood trickling filter, a secondary clarifier, and chlorine contact basin (see Figure 1 for WWTF site plan). Chlorinated secondary effluent is discharged to the three treatment ponds, which contain mechanical aerators. The three treatment ponds discharge to a large storage pond (also called the log pond) used to store effluent during the summertime discharge prohibition period for the Eel River (May 15-September 30). The discharge from the treatment ponds to the log pond is the point of compliance for the WWTF for BOD, TSS, coliform bacteria, and pH.

The log pond also receives effluent from the Humboldt Sawmill Company (HSC; formerly the Humboldt Redwood Company [HRC]) biomass cogeneration power plant. This discharge is regulated under the same NPDES permit as the SCSD WWTF discharge, but for different pollutants. SCSD and HSC are currently co-permittees on the same NPDES permit for discharges to the log pond. This study does not include an evaluation of the impacts of discharges from the HSC cogeneration plant to the log pond.

4.0 Confounding Factors

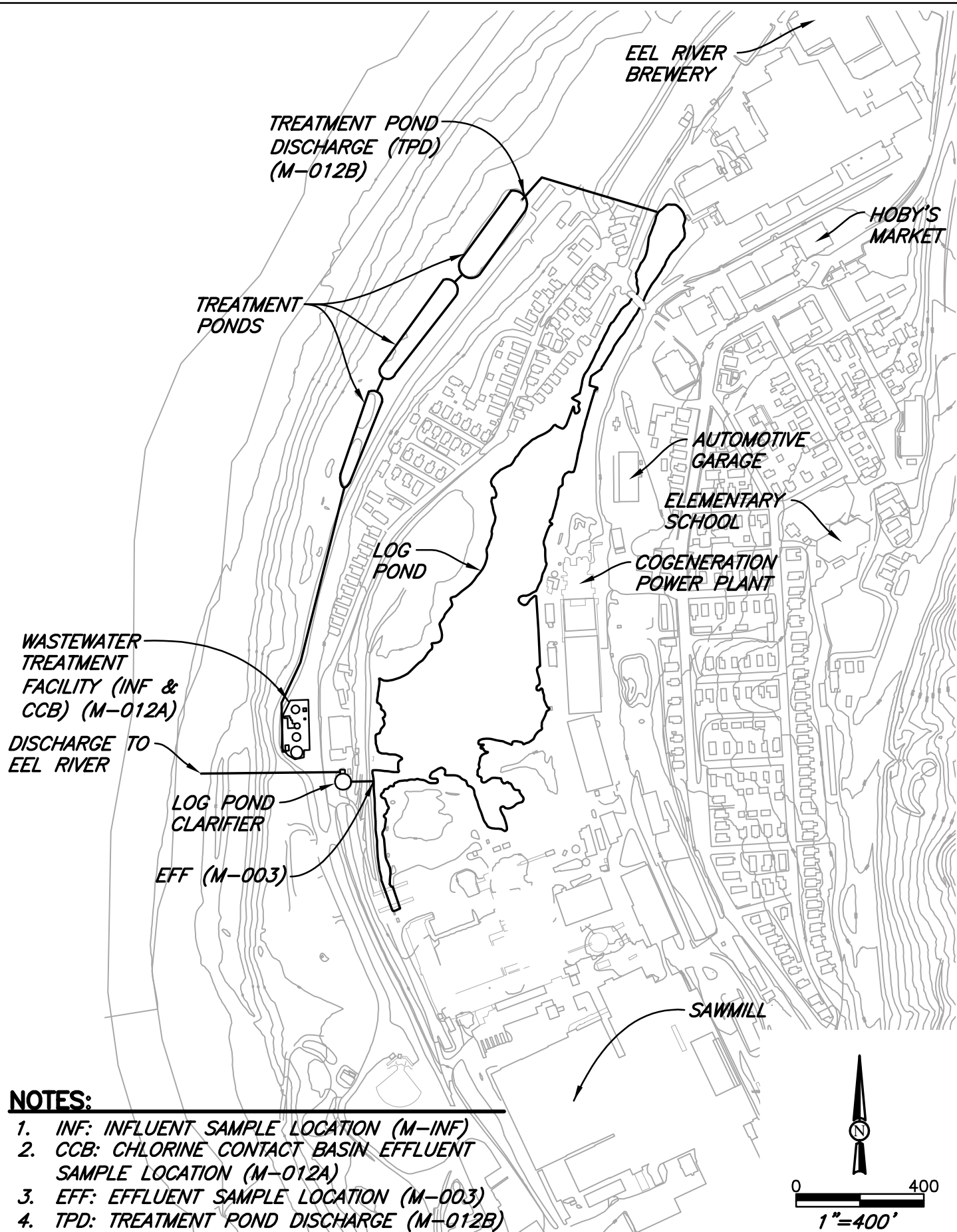
Various factors should be considered when assessing the capacity of a WWTF, including variable seasonal flow rates due to inflow and infiltration (I/I) in the collection system, seasonal fluctuations in industrial user production related discharges, seasonal fluctuations in natural biological processes in the ponds, and functionality of the mechanical components of the WWTF. These factors are especially important when considering the capacity of the SCSD WWTF, given that much of the mechanical equipment at the facility is in need of repair or replacement, and in some cases (such as, the primary clarifier), have already failed completely.

2021 Update–The primary clarifier has been repaired and is fully functional.

The following factors should be considered when interpreting results from this study:

1. The primary clarifier was off-line during the study due to a catastrophic failure of the clarifier drive mechanism the previous winter. This is expected to significantly reduce primary removal rates, which could result in lower local limits. For this reason, reference removal rates are used for primary removal efficiency. The primary clarifier is anticipated to be repaired in 2020.
2. Natural internal biological processes responsible for secondary treatment in the treatment ponds and log pond fluctuate seasonally. This study was conducted during the late-Summer/Fall, prior to significant temperature drops or rainfall-induced peak flows, so secondary treatment capacity of the ponds is expected to be optimal. However, it is typical for pond systems to decrease in BOD and TSS removal efficiency when temperature and hydraulic residence time decrease due to increased flow rates and winter weather. For this reason, BOD and TSS removal efficiencies have been calculated by evaluating historical monitoring data during the Summer and Winter separately, to determine the most protective limits for the facility.





Scotia Community Services District
Local Limits Study
Scotia, California

Site Map

SHN 017138.106

February 2020

017138-106-SITE-PLAN-WWTF

Figure 1

3. BOD and TSS effluent limits contained in the facility's waste discharge requirements (WDRs) apply to effluent from the treatment ponds prior to discharge to the storage pond (M012-B), whereas monitoring for other constituents, including toxicity, metals, nitrogen, and phosphorus, are conducted at the log pond discharge (M-003). For this reason, final removal efficiencies for BOD and TSS are calculated from monitoring data collected at location M-012B and final removal efficiencies for all other constituents are calculated from monitoring data collected at M-003.
4. This study was conducted during the discharge prohibition period (May 15-September 30), so samples collected from the outflow of the log pond represent a snapshot of the water quality at that location in the log pond at a time when effluent from the WWTF and HSC cogeneration power plant have been stored all summer and likely experience very limited mixing. The complex geochemistry of the log pond also includes legacy pollutant loads that may be stored in the large quantity of accumulated solids in the log pond from historical industrial practices in Scotia. An assessment of the highly complex treatment capacity of the log pond is beyond the scope of this study. Elevated pollutant concentrations at the effluent sample location may be due to natural internal processes, legacy loads, accumulation of HSC and WWTF discharges (which may concentrate throughout the summer due to evaporation), or unidentified discharges to the log pond. It is believed that there may be multiple unidentified discharges to the log pond, including stormwater, groundwater, and/or drains from various parts of the historic mill property. A supplemental study is currently being proposed to identify all potentially unidentified discharges to the log pond.
5. 2021 Update–Upon review of the estimated capacity of the trickling filter, it is likely that the organic loading rate to the trickling filter currently exceeds recommended loading rates for this type of treatment unit. Following the trickling filter is a secondary clarifier, chlorine gas disinfection, and aerated treatment ponds. It is likely that the processes that follow the trickling filter are currently removing the excess organic load that the trickling filter is unable to remove. For this reason, limits for factors impacting organic loading to the trickling have been re-evaluated including BOD, TSS, and ammonia-nitrogen. Additionally, trickling filter bacterial inhibition due to zinc has been re-evaluated using concentrations recommended for activated sludge due to concerns over potential zinc inhibition.

5.0 Scope of Work

The scope of work for the MAHL and MAIL analysis includes the following tasks:

- reviewing existing monitoring data from the SCSD, including sludge data, influent/effluent data, and data supplied by each IU;
- determining which pollutants should be included as POCs;
- developing a sampling scheme with the SCSD to provide necessary data;
- authoring a technical memorandum detailing the sampling program; and
- providing this report that presents the recommended MAHL and MAIL for each of the analyzed POCs.

On August 1, 2019, SHN provided the SCSD with a technical memorandum that outlined the recommended sampling program for local limits development (Appendix 1). The preliminary technical memorandum included recommendations for sampling locations, pollutant screening, sampling



frequencies, and other sampling considerations. The SCSD requested that SHN conduct the sampling. Sampling of the WWTF was conducted daily from August 23 through August 29, 2019. Sampling of IUs was conducted from August 28 through September 4, 2019 (see Figure 1 for IU locations). WWTF and IU sample locations are listed below in Table 1 (on the following page). Note that IUs included in Table 1 were identified as dischargers with the potential to discharge POCs in concentrations or amounts that could potentially disrupt or pass-through the WWTF; following evaluation of the data collected during this study, some IUs listed below may be determined to be insignificant due to low volume or low strength discharges.

The SCSD WWTF was not discharging to the Eel River during the period of the sampling due to the summertime discharge prohibition (May 15-September 30), in accordance with RWQCB Order R1-2012-0065 (Appendix 2). WWTF effluent samples were still collected from the discharge location (M-003) from the storage pond (also called the log pond) because the WWTF and HSC cogeneration power plant discharge to the storage pond during this time.

Laboratory tests were completed and reported by North Coast Laboratories and Eurofins Calscience LLC. Laboratory data are summarized in Tables 1 through 4 in Appendix 3. The laboratory analytical reports of the sampling are included as Appendix 4.

Table 1. Sample Locations
Scotia Wastewater Treatment Facility, Scotia, California

Sample Location Identifier	Sample Location Name	Sample Location Description
INF	WWTF influent	24-hour time composite sample collected from sample location M-INF
EFF	WWTF effluent	Grab sample collected from sample location M-003
CCB	WWTF chlorine contact basin effluent	Grab sample collected from sample location M-012A
ERB	Eel River Brewery	Grab sample collected from settling tanks at ERB
FISH	Fisheries Exhibit	Grab sample collected from lateral discharge to manhole behind fisheries exhibit building
HOB	Hoby's Market Kitchen	Grab sample collected from sewer cleanout outside Hoby's Market
SCL	Elementary School Kitchen	Grab sample collected from manhole inside campus playground
COGEN	Humboldt Sawmill Company Cogeneration Power Plant	Grab sample collected from lateral discharge to pump station at cogeneration facility
MILL	Humboldt Sawmill Company Mill	Grab sample collected from lateral discharge to manhole in mill corridor
GAR	Humboldt Sawmill Company Automotive Garage	Grab sample collected from lateral discharge to pump station at cogeneration facility



6.0 Calculation of MAHL and MAIL

The MAHL is a high-end estimate for pollutant loadings that the WWTF can process without pass-through or interference. The MAHL is calculated for each POC in three steps:

1. Calculate WWTF removal efficiencies.
2. Calculate AHLs for each environmental pollutant.
3. Designate as the MAHL the most stringent AHL for each POC.

The MAIL is based on the calculated MAHL. To determine the MAIL, the MAHL is reduced by a 20% safety/expansion factor, then the domestic and commercial loading allocation was subtracted from the reduced MAHL. The remaining loading is the MAIL.

The California State Water Resources Control Board (SWRCB) local limits determination spreadsheet was used to calculate SCSD's MAHL and MAIL. Copies of the spreadsheet are included as Appendix 4.

6.1 Calculation of Removal Efficiencies

The removal efficiency through a WWTF is measured as the fraction or percentage of influent pollutant loading that is removed by the treatment facility from the waste stream. The removal efficiency is a governing variable for the calculation of the MAHL. The EPA lists three methodologies for calculating removal efficiencies:

1. average daily removal efficiency,
2. mean removal efficiency, and
3. the decile method.

6.1.1 Removal Efficiency Calculation Methodology

The mean removal efficiency (MRE) method was used for the Scotia WWTF MAHL analysis. MRE techniques consist of averaging all influent and effluent data, and then calculating the removal efficiency across the entire WWTF using Equation 1.

$$MRE_{WWTF} = \frac{I_r - E_{WWTF,t}}{I_r} \quad \text{Equation 1}$$

Where:

MRE_{WWTF}	=	WWTF removal efficiency from headworks to outfall
I_r	=	WWTF influent pollutant concentration (milligrams per liter [mg/L])
E_{WWTF}	=	WWTF effluent pollutant concentration (mg/L)
r	=	Number of facility influent samples
t	=	Number of facility effluent samples

The average daily removal efficiency and decile method require lagged and paired data with respect to the hydraulic residence time of the WWTF and were, therefore, not considered. Table 2 (on the next page) summarizes the influent and effluent concentrations of the POCs for the Scotia WWTF and the MREs. A seasonal evaluation of MREs was done for BOD and TSS constituent loadings for the most



recent wet and dry period, which was evaluated to account for recent wastewater sewer line rehabilitation and reduction of I/I. BOD and TSS MREs were calculated using WWTF data from November 21, 2017 to April 10, 2018; recent data was chosen instead of historical data from 2014-2018 in order to be more representative of the current performance of the Scotia WWTF with regard to constituent loading calculations of BOD and TSS.

**Table 2. Mean Removal Efficiencies (MREs), November 2017 through April 2018
Scotia Wastewater Treatment Facility, Scotia, California**

Constituent	Units	Average Primary Influent ^a	Average Secondary Effluent ^b	Average WWTF Effluent ^c	Primary MRE (R _{PRIM})	WWTF MRE (R _{POTW})
Aluminum	ug/L ^d	239	401	143	NC ^e	40.3%
Ammonia	mg-N/L ^f	17.5	10.9	0.1	NC	99.7%
Arsenic	ug/L	ND ^g	ND	2.1 ^h	NC	NC
BOD ⁱ	mg/L ^j	293 ^k	12 ^k	NA ^l	40% ^m	94.7% ^k
Cadmium	ug/L	0.1 ^h	ND	ND	NC	NC
Chromium	ug/L	1.1 ^h	0.7 ^h	0.9 ⁿ	27% ^o	55% ^o
Copper	ug/L	32	22	2.6 ⁿ	22% ^o	91.8%
Cyanide ^p	ug/L	228 ⁿ (76) ⁿ	272 ⁿ (88) ⁿ	264 ⁿ (64) ⁿ	27% ^o	0% ^q (15.8%)
Lead	ug/L	1.3 ^h	1.4 ^h	0.3 ^h	57% ^o	55% ^o
Mercury	ug/L	0.04 ^h	0.06 ⁿ	ND	10% ^o	50% ^o
Molybdenum	ug/L	1.8 ^h	1.7 ^h	7.3 ⁿ	NA	0% ^q
Nickel	ug/L	4.0 ⁿ	4.4 ⁿ	4.7 ⁿ	14% ^o	0% ^q
Oil and Grease	mg/L	15	7 ⁿ	ND	NA	NC
Selenium	ug/L	ND	ND	ND	NC	NC
Silver	ug/L	ND	ND	ND	NC	NC
TSS ^{(18)r}	mg/L	319 ^k	6 ^k	NA	70% ^m	98.1% ^k
Zinc	ug/L	88	69	4.9 ⁿ	27% ^o	94.5%

^a Primary influent samples collected at sample location M-INF.

Secondary effluent collected at sample location M-012A, the chlorine contact basin effluent prior to the treatment ponds and storage pond.

^b WWTF: wastewater treatment facility; WWTF effluent samples collected at sample location M-003 effluent from the storage pond.

^c ug/L: micrograms per liter

^d NC: not calculated due to non-detection of pollutant or no data available.

^e mg-N/L: milligrams nitrogen per liter

^f ND: non-detectable; all 7 daily values below minimum detection level (MDL).

^g All 7 daily values below reporting limit (RL).

^h BOD: biochemical oxygen demand

ⁱ mg/L: milligrams per liter

^j Data from November 2017 through April 2018 represents most recent wet season.

^k NA: not applicable

^l Reference value from Metcalf & Eddy (2014) *Wastewater Engineering: Treatment and Resource Recovery; 5th Edition*.

^m Includes values below RL.

ⁿ Reference value from EPA guidance document: EPA, 2004. *Local Limits Development Guidance; 833-R-04-002A*.

^o Reference values used for primary removal efficiency because primary effluent data were not collected due to primary clarifier being offline during the study. Reference values used for WWTF removal efficiencies due to pollutant levels below detection or RL

^p Three values thrown out as outliers for cyanide: one at the influent, one at the chlorine contact basin, and one at the effluent; values in parenthesis represent averages after outliers were removed from the data set.

^q Negative removal efficiency calculated, reported as 0% removal efficiency.

^r TSS: total suspended solids (non-filterable residue)



6.1.2 Data Quality

The quality and quantity of data, as well as the analytical methods used on the samples, all impact the MAHL calculation. Data quality is affected by sampling techniques and analytical methods; data quantity is established over time. Typical problems with data collected for MAHL calculations include statistical outliers, concentrations below the minimum level of detection, negative removal efficiencies, and concentrations below the reporting limit.

1. **Outliers:** An optimal distribution of data points generally creates a normal (bell-shaped) distribution. Any point that varies by greater than two standard deviations from the mean of the bell-shaped curve is considered an outlier. In order to develop a normal distribution, a significant number of data points must be generated. For data sets that are not of significant quantity or do not approximate a normal distribution, an interquartile range (IQR) may be used to identify outliers. The method is to determine the 1st and 3rd quartile for the range in data points. Any data point that is 1.5 times the IQR below the 1st quartile or above the 3rd quartile is an outlier.

A total of 27 out of 630 values are outliers according the IQR method described above (see Table 3 on the following page); data evaluated for outliers include WWTF influent (INF), WWTF chlorine contact basin (CCB), and WWTF effluent (EFF). Most of the outliers listed below in Table 3 may be the result of relatively small ranges of values measured during the sampling for this study, with a few statistical outliers that do not fall outside of the normal range of concentrations for typical municipal sanitary wastewater.

Elevated concentrations of cyanide in three samples from INF, CCB, and EFF, do not follow any pass-through pattern; that is, elevated concentrations of cyanide did not occur first in the INF sample, followed by the CCB and EFF samples following the treatment train. Instead, elevated cyanide occurred first in the EFF sample collected August 24, 2019, and then elevated levels were detected in INF and CCB the following day (August 25, 2019) even though the latter two processes precede EFF in the treatment train. It is unclear at this time why these samples contained elevated levels of cyanide, it is possible that contamination occurred during sample collection, processing, or analysis. The analytical laboratory that analyzed these samples indicated the presence of cyanide in lab control samples, which may indicate contamination or calibration problems with the laboratory analytical equipment. These three sample results have been thrown out of the data set for calculating the average concentration of cyanide at each location in the WWTF.

2. **Concentrations Below Minimum Detection Level (MDL):** Sampling programs for WWTF local limit studies generally produce analytical results with non-detectable (ND) concentrations for a pollutant. Developing local limits and MAHL calculations from data with concentrations below the MDL creates inaccurate results. The EPA presents the following options to handle ND pollutant concentrations when calculating removal efficiencies:
 - If only a few NDs appear in the analytical results, the EPA recommends using one half the MDL as a replacement value or discarding the sample points.
 - If most of the data values are ND, the EPA recommends re-evaluating the need for a local limit for that pollutant or alternatively using removal rates from other WWTFs.

For the Scotia WWTF, any ND pollutant received the surrogate value of one half the MDL in order to produce an AHL. This occurred in the following instances:

- INF: arsenic, nitrate, selenium, and silver



- CCB: arsenic, cadmium, nitrite, selenium, and silver
- EFF: cadmium, mercury, nitrate, nitrite, oil and grease, selenium, and silver.

Table 3. WWTF Data Outliers
Scotia Wastewater Treatment Facility, Scotia, California

Data Point	Value	LQR ^a	UQR ^b
INF, Calcium [mg/L ^c], August 26, 2019	63.0	50.8	60.8
INF, Cyanide [mg/L], August 25, 2019^d	1.14	0^e	0.22
INF, Hardness [mg/L CaCO ₃ ^f], August 26, 2019	230	198	218
INF, Molybdenum [ug/L ^g], August 29, 2019	2.8	1.1	2.3
INF, Total Dissolved Solids [mg/L], August 28, 2019	1,500	0 ^e	1,048
INF, Total Phosphate Phosphorus [mg/L], August 25, 2019	3.3	3.6	6.4
INF, Total Phosphate Phosphorus [mg/L], August 26, 2019	6.6	3.6	6.4
CCB, Ammonia-Nitrogen [mg/L], August 26, 2019	19.0	4.0	16.0
CCB, Chromium [ug/L], August 27, 2019	2.5	0 ^e	1.9
CCB, Cyanide [mg/L], August 25, 2019^d	1.38	0^e	0.22
CCB, Free Chlorine [mg/L], August 29, 2019	0.93	0 ^e	0.41
CCB, Molybdenum [ug/L], August 27, 2019	3.1	0.3	2.9
CCB, Nickel [ug/L], August 27, 2019	6.7	1.9	6.3
CCB, Nitrate-Nitrogen [mg/L], August 23, 2019	0.07	0.0	0.04
CCB, Oil and Grease [mg/L], August 26, 2019	9.9	5.4	9.6
CCB, Oil and Grease [mg/L], August 27, 2019	4.3	5.4	9.6
CCB, Residual Chlorine [mg/L], August 23, 2019	7.0	0 ^e	6.8
CCB, Settleable Solids [ml/L ^h], August 27, 2019	4.5	0 ^e	3.9
EFF, Ammonia-Nitrogen [mg/L], August 25, 2019	0.08	0.04	0.06
EFF, Arsenic [ug/L], August 28, 2019	2.8	1.5	2.7
EFF, Chromium [ug/L], August 26, 2019	2.3	0 ^e	1.7
EFF, Copper [ug/L], August 25, 2019	3.4	1.8	3.2
EFF, Cyanide [mg/L], August 24, 2019^d	1.460	0.003	0.153
EFF, Hardness [mg/L CaCO ₃], August 23, 2019	460	463	523
EFF, Molybdenum [ug/L], August 28, 2019	6.7	6.9	7.9
EFF, Total Phosphate Phosphorus [mg/L], August 24, 2019	1.30	0.36	0.46
EFF, Turbidity [NTU ⁱ], August 24, 2019	35	23	31

^a LQR: Lower Quartile Range

^b UQR: Upper Quartile Range

^c mg/L: milligrams per liter

^d Average concentrations of cyanide were calculated without outliers.

^e Negative LQR reported as 0.

^f CaCO₃: calcium carbonate

^g ug/L: micrograms per liter

^h ml/L: milliliters per liter

ⁱ NTU: nephelometric turbidity units



- 3. Negative Removal Efficiencies:** Negative removal efficiencies do not necessarily mean there was an error in sampling or analyzing the data and should not be dismissed as outliers, unless there is technical justification to do so (that is, poor sampling or analytical technique). Negative removal efficiencies are also caused by data falling below the MDL and natural variability in the waste stream. The EPA recommends using the MRE approach to “dampen out” data variability and negative removal efficiencies. The MRE approach was used for the Scotia WWTF, and as shown in Table 2, negative removal efficiencies were calculated for the following sample locations and constituents:
- Molybdenum: R_{potw}
 - Nickel: R_{potw}
- 4. Reporting Limit (RL):** Analytical methods include an RL that is higher than the MDL and represents a minimum level of confidence in the precision of the result. Concentrations below the RL and above the MDL are reported as quantitative numeric values with a qualifying flag indicating the data values are reported with a lower level of confidence but can still be quantified. For the Scotia WWTF and IUs, data below the RL and above the MDL are used as reported.

6.1.3 Removal Efficiencies Reported by Others

Removal efficiencies are site-specific and represent the variability of a particular treatment facility. Therefore, the influent and effluent data received from the SCSD were used to produce the MREs for the pollutants listed in Table 2 where available. Where calculated MREs were greater than reference values, reference values are substituted for calculated MREs. This forms a conservative approach to estimating MREs at the Scotia WWTF that otherwise may not account for long-term variability in MREs. Reference removal efficiencies from Appendix R of EPA Local Limits Development Guidance Document (EPA, 2004).

6.2 Calculation of Allowable Headworks Loading (AHL)

AHLs are used to prevent pass-through or interference in a WWTF. The estimated maximum loadings that can be received by a treatment facility should not cause violation for the treatment facility or any governing environmental criterion. AHLs are calculated using environmental criteria, facility flow rates, and facility removal efficiencies. A mass balance approach, as presented in the SWRCB local limits determination spreadsheet, used steady state equations to develop AHLs for each pollutant described in Table 2 (SWRCB, 2018). The fate of each pollutant may be removed in either physical or chemical separation or biological treatment (by such mechanisms that include, but are not limited to, volatilization, degradation, or accumulation in sludge).

6.2.1 Determination of Suitable Environmental Criterion

A WWTF should be in compliance simultaneously with effluent-quality, sludge-quality, and air-quality environmental criteria. Inhibition-based criteria are also frequently used to ensure that pollutant concentrations will not disrupt the operations of the WWTF biological treatment processes.

To address these issues in the Scotia WWTF MAHL analysis, AHLs were calculated using the most stringent criteria for each POC. Effluent-quality-based, sludge-quality-based, and inhibition-based criteria were used for the analysis. The applied criteria are described in the following sections. Air-quality-based AHLs were not reviewed as part of this MAHL analysis.



6.2.2 Effluent-Quality Based AHLs

The Scotia WWTF currently discharges treated effluent to the Eel River between October 1 and May 14 in accordance with RWQCB Order No. R1-2012-0065 (Appendix 2). Treated effluent is stored in the log pond during the discharge prohibition period of May 15-September 30.

The WDRs for the Scotia WWTF sets forth effluent limitations for BOD, TSS, settleable solids, coliform organisms, pH, and total chlorine residual. The WDR does not set forth effluent limitations for the remaining POCs identified for the MAHL analysis. AHLs based on effluent limitations include BOD and TSS based on daily and monthly effluent limits.

In the absence of specific WDR limitations, the EPA recommends setting effluent-quality-based AHLs using state water quality standards (WQS) and/or federal water quality criteria (WQC). The federal WQC that would apply for the Scotia WWTF include chronic and acute aquatic toxicity standards identified in Appendix D of the EPA Local Limits Development Guidance document (EPA, 2004). These criteria are compared with receiving water quality data collected from the Eel River near the United States Geologic Survey (USGS) gaging station in Scotia (Station number 11477000; USGS, 2019). These data are summarized below in Table 4.

**Table 4. Eel River Receiving Water Quality Data^a
Scotia Wastewater Treatment Facility, Scotia, California**

Pollutant	Average Concentration ^b (ug/L) ^c	Sample Date Range (Sample Count)
Aluminum	21.0	1982-1995 (50)
Arsenic	1.5	1971-1991 (68)
Chromium	3.7	1979-1991 (47)
Copper	1.6	1974-1991 (32)
Lead	2.1	1972-1991 (40)
Mercury	0.2	1973-1991 (58)
Nickel	1.3	1979-1995 (45)
Zinc	13.5	1971-1991 (46)

^a United States Geologic Survey. (2019). "NWIS Site Information for California: Site Inventory; USGS 11477000 Eel R A Scotia CA." Accessed April 16, 2019. URL: https://waterdata.usgs.gov/ca/nwis/inventory/?site_no=11477000.

^b Metals concentrations represent dissolved (filtered) metals. Total (unfiltered) metals data are available but are limited to an older data set.

^c ug/L: micrograms per liter

6.2.3 Inhibition Based AHLs

The Scotia WWTF includes a trickling filter for reduction of BOD through biological treatment. Appendix G of the EPA Local Limits Development Guidance document (EPA, 2004) includes trickling filter inhibition concentrations for chromium-III and cyanide. Chromium-III was not analyzed for this study, however, applying the chromium-III inhibition limit to total chromium data collected during this study presents a conservative inhibition concentration for evaluation of AHL for chromium. All samples were below detection for selenium resulting in an indeterminate removal efficiency; a removal efficiency of 100% was substituted for selenium to determine MAHLs/MAILs for this study.



Primary and secondary clarifier sludge is transferred to a non-operational anaerobic digester for storage prior to off-hauling to the Ferndale WWTF for anaerobic digestion in a facultative sludge lagoon. Anaerobic digestion inhibition based AHLs is not included in this analysis because sludge is hauled to an offsite disposal location.

2021 Update–Zinc is a common metal contained in many substances and products (ranging from dietary supplements to galvanization of steel products) that can be introduced into wastewater. Zinc has antimicrobial and antibiotic properties that can inhibit biological treatment processes. Literature values for trickling filter bacteria inhibition by zinc could not be located; however, Anthony and Briemburst (1981) indicate that zinc concentrations above 0.3-5 mg/L may inhibit biological processes in conventional active sludge (CAS). The bacteria responsible for treatment in trickling filters and CAS systems are similar and likely have a similar sensitivity to zinc. Bacteria in trickling filters are known as fixed film because they grow attached to a medium (redwood slats in this case), whereas bacteria in CAS systems are suspended in a sludge. The fixed film trickling filter bacteria are less sensitive to inhibition by some pollutants because they grow in layers, providing shielding and protection from short-term exposure to high levels of pollutants. Suspended growth CAS bacteria do not develop the same level of protection and shielding from toxic substances and may be more sensitive than trickling filter bacteria populations.

Due to the likelihood that trickling filter bacteria are less sensitive to zinc toxicity and inhibition, the upper limit inhibition concentration for CAS bacteria of 5 mg/L should provide a protective limit for the SCSD trickling filter. For reference, note that the existing SCSD local limit for zinc is 0.135 mg/L, and the City of Eureka local limit for zinc is 0.678 mg/L.

Based on a maximum concentration of 5 mg/L, an average industrial user flow of approximately 33,000 gallons per day (gpd), an average combined domestic and commercial flow of approximately 45,000 gpd, and a 20% safety factor, the resulting MAHL for zinc is 4.07 pounds per day (lb/d).

6.2.4 Sludge-Quality Based AHLs

The Scotia WWTF currently disposes of digester sludge by hauling to the City of Ferndale WWTF where it is stored in a facultative sludge lagoon for anaerobic digestion. Sludge-quality based AHLs are not included in this analysis because sludge is hauled to an offsite disposal location.

6.3 AHLs for Conventional and Non-Conventional Pollutants

The EPA defines three conventional pollutants and one non-conventional pollutant as having special circumstances allowing for special mechanisms for their AHL development (EPA, 2004). The three conventional pollutants are BOD, TSS, and oil and grease. The non-conventional pollutant is ammonia.

6.3.1 BOD/TSS

The EPA recommends that BOD/TSS MAHLs be set to help minimize industry-related causes of WWTF effluent violations. Average influent BOD loading measured during the current local limits study was 307 lb/d, and the average influent BOD loading between January 2014 and December 2018 was 481 lb/d (self-monitoring data collected weekly for NPDES permit compliance).



2021 Update–SHN completed a detailed engineering analysis (DEA) in March 2016 for the SCSD WWTF that estimated the capacity of the trickling filter to be between 107-130 lb/d of biochemical oxygen demand (BOD; SHN, 2016a). A primary clarifier upstream of the trickling filter at the SCSD WWTF removes a portion of the influent BOD prior to reaching the trickling filter. Typical BOD removal rates for a primary clarifier may range from 25%-40% (Metcalf & Eddy, 2014). Working backward from the trickling filter loading capacity to the influent suggests that a MAHL of approximately 143-217 lb/d of BOD will prevent overloading of the trickling filter.

Average influent BOD loading to the SCSD WWTF during the local limits study (August 2019) was 307 lb/d, indicating that trickling filter loading was approximately 184-230 lb/d BOD. This exceeds the estimated trickling filter capacity (107-130 lb/d) described above. This indicates that the trickling filter is already overloaded on average with respect to organic loading. The excess organic loading that passes through the trickling filter will partially get oxidized by the chlorine disinfection process. Chlorination of organic matter can result in toxic disinfection byproducts. The purpose of the chlorination process is to kill pathogens (such as, bacteria and viruses) not to oxidize organic matter. More organic matter increases the chlorine demand necessary to obtain the appropriate pathogen deactivation, resulting in higher operating cost and potential disinfection byproduct formation.

Based on the estimated loading capacity of the trickling filter of 130 lb/d, and an estimated primary clarifier removal rate of 40%, the resulting MAHL for BOD is 217 lb/d. The maximum allowable industrial loading is calculated from the MAHL by subtracting a safety/expansion factor, 20% in this case, and subtracting the domestic/commercial loading. This results in a MAIL of 98.3 lb/d. Based on an estimated average industrial flow rate of 33,000 gpd, the resulting local limit for industrial users is 357 mg/L.

Total suspended solids (TSS) in sanitary wastewater typically include organic matter, which contributes to BOD, called particulate BOD. As the small organic particles break down through the treatment processes, the organic matter is consumed by bacteria using oxygen in the process. Industrial wastewater may contain TSS that do not contribute to BOD, such as, inorganic matter and sediment; however, industrial users (such as, a brewery, butcher shop, lumber mill, automotive garage, biomass power plant, and fisheries exhibit) likely contain TSS that will contribute significantly to BOD.

Based on a maximum concentration of 250 mg/L, characteristic of typical medium-strength sanitary wastewater, an average industrial user flow of approximately 33,000 gpd, an average combined domestic and commercial flow of approximately 45,000 gpd, and a 20% safety factor, the resulting MAHL for TSS is 203 lb/d.

6.3.2 Oil and Grease

A majority of WWTFs has adopted a 100 mg/L local limit for oil/grease (EPA, 2004). SHN recommends that the District use 100 mg/L as the local limit.

6.3.3 Ammonia

The EPA states that significant non-domestic industrial sources of ammonia are unusual as a result of industry-specific activities (EPA, 2004). Based on known activities conducted by the existing IUs within the SCSD there should be no significant sources of ammonia from industrial practices. The majority of the data collected during this study indicates that ammonia concentrations are within expected low



levels. However, a single sample collected from the HSC mill area indicated ammonia concentrations of 83 mg/L, far above what is typical for municipal wastewater. The source of the elevated ammonia concentration is currently unknown.

2021 Update–Ammonia-nitrogen (ammonia) creates an oxygen demand similar to BOD as it is oxidized to nitrate-nitrogen through bacterial processes in the trickling filter and the aerated treatment ponds. As described above, the trickling filter is already overloaded with respect to BOD, so high ammonia limits would impose an even greater load to the trickling filter and downstream processes, such as, chlorination and aeration in the treatment ponds.

Typical sanitary wastewater contains ammonia-nitrogen concentrations of 14-41 mg/L (Metcalf & Eddy, 2014). Influent ammonia concentrations measured during the local limits study (August 23 through August 29, 2019) ranged from 9.5 mg/L to 25.0 mg/L with an average of 17.5 mg/L. Industrial user samples collected during the local limits study had ammonia concentrations ranging from less than 1 mg/L up to 83 mg/L with six out of seven samples below approximately 5 mg/L.

Based on a maximum concentration of 41 mg/L, characteristic of typical high-strength sanitary wastewater, an average industrial user flow of approximately 33,000 gallons per day (gpd), an average combined domestic and commercial flow of approximately 45,000 gpd, and a 20% safety factor, the resulting MAHL for ammonia-nitrogen is 33.3 lb/d.

6.4 Determination of the Maximum Allowable Headworks Loading

6.4.1 Input Parameters

The MAHLs for the identified POCs were determined using the SWRCB local limits determination spreadsheet included in Appendix 5 (SWRCB, 2018). Input parameters for the spreadsheet consist of governing variables that were held constant in order to develop the MAHLs (Table 5).

**Table 5. MAHL^a Input Parameters
Scotia Wastewater Treatment Facility, Scotia, California**

Description	Flow (MGD) ^b
WWTF ^c Average Flow (Q_{POTW})	0.138
Industrial User Flow (Q_{IND})	0.033
Domestic and Commercial Flow (Q_{DOM})	0.045
Receiving Water Flow (Q_{STR})	1.38
Factor of Safety	20%

^a MAHL: maximum allowable headworks loading

^b MGD: million gallons per day

^c WWTF: wastewater treatment facility

Average WWTF flows were evaluated using a seasonal approach to assess potential differences in treatment capacity due to seasonal variation in flow and loading. Local limits were developed using data from November 21, 2017 to April 10, 2018, for the “wet season,” and April 17, 2018 to November 20, 2018, for “dry season.” Data from the wet season was determined to be more protective and are



used for local limits development. Recent data was chosen to be used over historical data from 2014 in order to be more representative of the current system performance of the Scotia WWTF with respect to BOD and TSS constituent loading. These system and performance changes are due to recent sewer rehabilitation work, which has notably reduced I/I, as well as the average WWTF influent flow.

Industrial flows were calculated using the equivalent dwelling unit (EDU) estimates from the *Wastewater User Fee Analysis and Recommendations* (SHN, 2016). Industrial users comprise 217 EDUs with an estimated total flow of 0.033 MGD (162.1 gallons per EDU per day) assuming 95% of potable water use is converted into wastewater (Metcalf and Eddy, 2014, p.195).

Non-regulated WWTF flows (domestic, commercial, and institutional users) were also calculated from EDU estimates (SHN, 2016). Non-industrial users comprise 348 EDUs with an estimated total flow of 0.045 MGD (162.1 gallons per EDU per day) assuming 80% of water used was converted into wastewater.

The Scotia WWTF is prohibited from discharging to the Eel River when WWTF discharge flows exceed 10% of the Eel River streamflow as measured at the Scotia gaging station (USGS gaging station 11477000). The most conservative method for the purposes of calculating local limits assumes minimal streamflow, 10 times the WWTF discharge flow rate.

For purposes of this analysis, it was assumed there was no domestic loading for any of the POCs, with the exception of BOD and TSS. The average domestic BOD concentration was assumed to be 200 mg/L, which represents a medium-strength concentration for untreated wastewater (Metcalf & Eddy, 2014). The average domestic TSS concentration was assumed to be 195 mg/L, which represents a medium-strength concentration for untreated wastewater (Metcalf & Eddy, 2014).

Due to the age of the Scotia WWTF and seasonal variability in treatment efficiency associated with the biological treatment systems, a 20% factor of safety is used in calculation of proposed MAIL and local limits. This factor of safety reduces the allowable industrial loading to the facility by 20% to protect the facility from interference and pass-through.

6.4.2 Proposed MAHLs/MAILs

Proposed MAHLs and MAILs for the SCSD WWTF are presented in Table 6.



**Table 6. Proposed MAHL^a, MAIL^b, and Local Limits
Scotia Wastewater Treatment Facility, Scotia, California**

Constituent	MAHL (lb/d) ^c	MAIL (lb/d)	Local Limits (mg/L) ^d	Limiting Criteria
Aluminum	1.44	1.16	4.15	Chronic Water Quality Standards
Ammonia	33.6	11.4	41.0	Trickling Filter Organic Loading Capacity
Arsenic	1.886	1.509	5.414	Chronic Water Quality Standards
BOD ^e	217	98	352	Trickling Filter Organic Loading Capacity
Cadmium	0.087	0.070	0.250	Chronic Water Quality Standards
Chromium	2.301	1.841	6.608	Chronic Water Quality Standards
Copper	1.166	0.933	3.349	Chronic Water Quality Standards
Cyanide	0.078	0.063	0.225	Chronic Water Quality Standards
Lead	0.017	0.013	0.048	Chronic Water Quality Standards
Mercury	0.015	0.012	0.043	Chronic Water Quality Standards
Molybdenum	-	-	-	None Available
Nickel	0.645	0.516	1.851	Chronic Water Quality Standards
Oil and Grease	-	-	100	Industry Standard
Selenium	0.058	0.047	0.17	Chronic Water Quality Standards
Silver	0.071	0.057	0.204	Chronic Water Quality Standards
TSS ^f	179	70	250	Trickling Filter Organic Loading Capacity
Zinc	1.7	1.4	5.00	Trickling Filter Inhibition

^a MAHL: maximum allowable headworks loading

^b MAIL: maximum allowable industrial loading

^c lb/d: pounds per day

^d mg/L: milligrams per liter

^e BOD: biochemical oxygen demand

^f TSS: total suspended solids



Trickling filter organic loading capacity is the governing criteria for development of MAHLs/MAILs for ammonia-nitrogen, BOD, and TSS. The local limit for oil and grease is based on an industry standard concentration used by other facilities and districts. Water quality standards for chronic aquatic toxicity are the governing criteria for development of MAHLs/MAILs for all other parameters with the exception of molybdenum (which does not have a governing criteria available), and zinc (which is based on potential inhibition of bacteria in the trickling filter).

7.0 Conclusions and Recommendations

The values shown in Table 5 are based on an estimated total IU flow rate of 0.033 MGD, and a total domestic flow rate of 0.045 MGD, which was estimated using EDU allocations (SHN, 2016). The MAHLs and MAILs are mass-based limits that take into account total flow rates for the WWTF in addition to IU flow rates. As the IU flow rates become a larger contributing fraction of the total flow, the resulting limits become smaller to balance the mass load allocation.

The assumption was made that the IUs are the only significant contributors of POCs (with the exception of domestic loading allocated for BOD and TSS). If domestic loading significantly contributes to the mass loading for any of the POCs, the resulting MAHL and MAIL for the IU loading would decrease.

SHN recommends that the SCSD adopt the MAHL, MAIL, and local limits presented in Table 6. If the implementation of new local limits does not result in the WWTF being able to consistently meet discharge limits during low flow periods of the year, the SCSD may want to consider adopting tiered local limits based on facility influent flows.

8.0 References

- Anthony, R. M., and L. H. Briemburst. 1981. *Determining Maximum Influent Concentrations of Priority Pollutants for Treatment Plants*. Journal Water Pollution Control Federation 53(10):1457-1468.
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Scotia WWTF Local Limits Sampling Memorandum

1



Technical Memorandum

Reference: 017138.106
Date: August 1, 2019
To: Leslie Marshall, General Manager
Scotia Community Services District
From: Mike Foget, PE
Subject: Sampling Plan for Local Limits Study

This memorandum provides a sampling plan for the Scotia Community Services District (SCSD) to collect the data necessary for developing local wastewater limits for commercial and industrial users.

Recommended Sampling Locations

Wastewater Treatment Facility

Sampling within the SCSD wastewater treatment facility (WWTF) is required to determine the removal efficiencies for the treatment facility. This section discusses three mandatory sampling locations that will be used to develop data from three waste streams of the WWTF: influent, effluent, and sludge.

1. **WWTF Influent:** SHN recommends SCSD collect samples at the WWTF influent sampling location (M-INF) to determine the concentration of pollutants of concern (POCs) entering the facility. The influent sampling point currently used for self-monitoring will continue to provide data for this waste stream.
2. **WWTF Effluent:** SHN recommends SCSD collect samples at the WWTF effluent sampling location (M-003) to determine the concentration of POCs discharged from the facility. SHN also recommends SCSD collect samples from the log pond influent to characterize the treatment capacity of the log pond due to Humboldt Redwood Company (HRC) industrial process water discharges to the log pond.
3. **WWTF Sludge:** SCSD contracts with an off-hauling service to dispose of untreated sludge; therefore, SCSD does not need to sample and test sludge quality.

Industrial Users

Sampling of industrial users (IUs) provides point-source discharge information, allowing the WWTF to allocate local limits amongst commercial and industrial wastewater users.

SCSD has identified the following potential IUs contributing to the WWTF influent:

- Humboldt Redwood Company (mill, power plant, and garage)
- Eel River Brewery
- Fisheries Building
- Hobie's Market
- School

To avoid the extra costs associated with sludge disposal at a Class II facility, local limits on some metals may need to be developed, and data for IU loadings of these will need to be collected.

Wastewater Collection System

Sampling within the wastewater collection system is important in understanding the pollutant loading to the WWTF from uncontrolled sources (that is, domestic users, commercial discharges, inflow and infiltration, and so on). SHN recommends that samples continue to be taken at the WWTF influent sample location on the same day that IU samples are collected. SCSD will then have data for IU discharge points and an influent receiving point, thus allowing comparison between the two. The difference between IU concentrations and influent concentrations will be the uncontrolled source contribution.

In general, uncontrolled sources are assumed to have lower pollutant concentrations than waste streams from IUs. Therefore, the uncontrolled sources are assumed to not contribute significant WWTF pollutant loading, and considering cost, sampling within the collection system should not be necessary for the local limit development.

Pollutant Screening

National Pollutants of Concern

The WWTF should, at minimum, sample for the 15 national POCs in the calculation of local limits.

The 15 national POCs are as follows:

- Ammonia
- Arsenic
- Biochemical oxygen demand (BOD)
- Cadmium
- Chromium
- Copper
- Cyanide
- Lead
- Mercury
- Molybdenum
- Nickel
- Selenium
- Silver
- Total suspended solids (TSS)
- Zinc

Wastewater Treatment Facility-Specific Pollutants of Concern

Additional facility-specific POCs include:

- Aluminum
- Chlorine, total residual
- Chlorine, free available
- Electrical conductivity (EC)
- Hardness (as CaCO_3)
- Nitrogen, nitrate
- Nitrogen, nitrite
- Nitrogen, total (TN)
- Nitrogen, total Kjeldahl (TKN)
- Oil and grease
- Phosphorus, total (TP)
- Polychlorinated biphenyls (PCBs)
- Settleable solids
- Total dissolved solids (TDS)
- Turbidity

The information necessary to assess facility-specific POCs is reported in the compliance monitoring for the National Pollutant Discharge Elimination System (NPDES) permit and is considered suitable for developing local limits.

Toxicity Characteristic Leaching Procedure Pollutants

The Toxicity Characteristic Leaching Procedure (TCLP) is not applicable to the SCSD WWTF. TCLP tests are for WWTFs that landfill sludge. SCSD contracts with Steve's Septic Service to collect untreated sludge from the Scotia WWTF and truck it to a treatment facility prior to hauling to the Anderson, California, landfill.

Sample Frequencies

Initial Program Development

The sampling frequency for the initial development of the program will include sampling times for national POCs and facility-specific POCs. For national and facility-specific POCs, SHN recommends that SCSD sample the facility influent and effluent a minimum of seven consecutive days (24-hour flow-proportioned composite at the influent, and grab samples at the effluent).

Ongoing Evaluation

Ongoing evaluation of the WWTF influent is useful for calculating removal efficiencies and for future comparisons of pollutant loadings and the Maximum Allowable Headworks Loading (MAHL). SHN recommends sampling pollutants used to adopt the local limits in the influent and effluent every three months. SHN recommends pollutants used for MAHL calculation, but not for the adoption of local limits, be sampled for in the influent and effluent once yearly.

Other Sampling Considerations

Representative Sample Collection

Samples should be taken at random and should be representative of the variability throughout the year. Rigid sampling schemes (for example, sampling the first week of the quarter, every year) would result in a biased result.

Infrequent, Routine Activities

Samples should be collected from activities that are practiced infrequently, yet routinely for the WWTF, collection system, or IU. Such samples should be analyzed and should be representative of the particular event. These events include receiving hauled waste, tank cleaning, or other maintenance-related activities that may affect wastewater characteristics.

Sample Methods

Flow-Proportioned Samples

A flow-proportioned sample is the removal of a known volume (sample) from the passage of a known volume of wastewater. For example, a 1-liter sample may be taken from the waste stream every time 1,000 gallons passes the sampling point, using a proportional sampling device approved by the North Coast Regional Water Quality Control Board (RWQCB).

Time-Composite Samples

A time-composite sample is an equal volume sample taken at regular intervals throughout the sampling period (for example, every 30 minutes for a 24-hour period). Time composite samples are not as accurate as flow-proportioned samples. The accuracy of the time-composite sample approaches the accuracy of a flow-proportioned sample as the inflow stream becomes more uniform. Time-composite samples may be used, but the statistical variance of the data will be greater than the flow-proportioned sample.

Grab Samples

A grab sample is an individual sample collected without regard to flow. When grab samples are collected at one location, at regular time intervals, they become time-composite samples. For local limit development, grab samples are appropriate for the following pollutants:

- pH
- Oil and grease
- Temperature
- Turbidity
- Electrical Conductivity (EC)

All other pollutants should be related to flow or time. If the waste stream flow between each interval is known, the grab samples become a flow-proportioned composite sample, as in Table 1.

Table 1. Example: Flow Proportioned Composite Grab Sample

Sample Name	Sample Collection Date and Time	Meter Reading (MG) ⁽¹⁾	Interval Flow (IF) Volume (MG)	Flow-Proportioned Composite (ml) ⁽²⁾ (IF / TF * 1,000 ml)
--	04/13/2009 @ 00:30	6,306.5	---	--
1	04/13/2009 @ 04:00	6,307.5	1.0	111
2	04/13/2009 @ 07:50	6,309.2	1.7	189
3	04/13/2009 @ 11:00	6,312.0	2.8	311
4	04/13/2009 @ 14:30	6,313.5	1.5	167
5	04/13/2009 @ 18:00	6,314.3	0.8	89
6	04/13/2009 @ 21:30	6,315.0	0.7	78
7	04/14/2009 @ 00:30	6,315.5	0.5	56
			Total Flow (TF): 9.0	
1. MG: million gallons		2. ml: milliliters		
Note: This example assumes that a 1-liter (1,000 ml) composite sample is prepared. If a different composite volume is used, calculate the flow proportioned composite (the individual grab sample volume to be included in the grab composite) using that volume. Source: EPA, 2004.				

In this example, the samples may be combined and analyzed. To be in compliance with the Monitoring and Reporting Program (MRP) set forth in Order R1-2012-0065, time between grab samples may not exceed 1 hour. If flow-proportioned average sampling is to be used, then grab samples must be analyzed separately and not combined. Table 2 is an example of this sampling method, and using this method requires analysis of individual samples.

Table 2. Example: Flow Proportioned Average Based on Grab Sample Results and Flow Intervals

Sample	Sample Collection Date and Time	Total Cyanide (TC) (ug/L) ⁽¹⁾	Interval Flow (IF) Volume (MG) ⁽²⁾	Flow-Proportioned Average (ug/L) (IF / TF * TC)
1	08/16/99 @ 06:00	49	1.0	6
2	08/16/99 @ 10:48	120	1.7	26
3	08/16/99 @ 15:36	110	2.8	39
4	08/16/99 @ 20:34	97	1.5	19
5	08/17/99 @ 01:12	20	0.8	2
		Average: 79	Total Flow (TF): 7.8	Flow-Weighted Average: 92
1. ug/L: micrograms per liter 2. MG: million gallons				
Note: This example assumes that a 1-liter (1,000 ml) composite sample is prepared. If a different composite volume is used, calculate the flow proportioned composite (the individual grab sample volume to be included in the grab composite) using that volume. Source: EPA, 2004.				

Sludge Samples

SCSD contracts with an off-hauling service to dispose of untreated sludge; therefore, SCSD does not need to sample and test sludge quality.

Analytical Methods

Methods Listed Under 40 CFR Part 136

SHN recommends SCSD follow EPA standard analytical methods described in 40 CFR (Code of Federal Regulations) Part 136. The section describes acceptable testing procedures for biological, inorganic, non-pesticide organic compound, pesticide, and pharmaceutical pollutants.

Information Collection and Maintenance

Field Measurement Records

SHN recommends SCSD record measurements and activities when taking samples in the field. The field measurement records should contain enough information to satisfy the chain-of-custody report.

Chain-of-Custody Records

SHN recommends SCSD track and maintain chain-of-custody (COC) reports. COC reports are used to identify person(s) who collected samples and any persons who may have handled the sample before

laboratory or inter-laboratory transfers. COC reports should, at minimum, contain the type of sample collected, the date(s) and time(s) of the collection, any chemical preservatives added, type of sample container used (glass, amber glass, polyethylene), and sample temperature. Any other pertinent information (such as, air temperature and personal notes taken during the sample period) should also be included. North Coast Laboratories (NCL) in Arcata, California, can provide COCs for SCSD to use (Attachment 1).

Laboratory Reports

Laboratory report contents should provide enough information to show proper holding times were met and the proper analytical method was used. Included with the analytical results, the reports should also contain unique sampling ID, the date and time of sample preparation/analysis, preparation/analytical methods used, the analyst's identity, and quality control data if problems were encountered. SHN recommends SCSD maintain these records until the data is no longer used for local limit development.

Review and Evaluation of Analytical Results

Data collected to develop local limits should be evaluated based upon quality assurance/quality control (QA/QC) requirements. Data may be skewed by improper collection procedures, elevated detection limits, and new POCs. Improperly collected data occurs when samples are collected at wrong locations, wrong times, mishandled, mislabeled, and so on. QA/QC of the field, chain-of-custody, and lab reports should limit or catch these occurrences. The Minimum Detectable Level (MDL) varies with different analytical methods. Re-sampling may be necessary in the scenario where a WWTF experiences an excessive number of lab results under the MDL.

If a new POC is found, multiple samples may need to be collected over a short period to link the occurrence to an event. Also, the new POC should be added to the WWTF's ongoing sampling evaluation.

Flow Data Collection

Total WWTF Flow

Total flow measured at the WWTF should include all sources of influent (commercial, industrial, domestic, hauled waste, inflow and infiltration, and so on). SCSD has provided SHN with substantial flow data required for NPDES compliance. This flow data will be used for local limit development.

Sludge Flow to Digester

SHN recommends SCSD measure (or estimate) and record sludge flow from the clarifier to the digester daily.

Sludge Flow to Disposal

SHN recommends SCSD measure (or estimate) and record sludge volumes off-hauled by Steve's Septic Service, including dates and times.



Flows from Controlled Sources

SHN recommends SCSD collect discharge flow information from controlled sources (IUs, hauled waste, specific commercial users) to develop local limits for specific users.

Flows from Uncontrolled Sources

Flows from uncontrolled sources will be assumed to be all other flows not included in the controlled source flow.

Data Collection Schedule

Influent Data

SHN recommends SCSD collect influent data for seven consecutive days starting on Monday, August 12, 2019. Sample collection will end on the following Monday at noon.

A flow-based composite sampler should be set up at the headworks and programmed to start collecting samples on Friday at noon. Following the 24-hour sample collection period, samples shall then be transferred to the appropriate laboratory-supplied containers, labeled, dated, and placed on ice for transport to NCL. Samples must be received at NCL within 48 hours after the composite time period has ended. On the last day (Friday) of the sample collection effort, samples shall be delivered to NCL by 2 p.m.

Samples collected at the influent shall be analyzed for the 15 national POCs and facility-specific POCs. Additionally, one sample collected shall be analyzed for the California Toxics Rule (CTR) constituents.

Effluent Data

SHN recommends SCSD collect one grab sample per day for seven consecutive days at the effluent sampling location. The samples will be analyzed for the 15 national POCs, and nitrogen (as N). Additionally, one sample collected shall be analyzed for the CTR constituents.

IU Data

SHN recommends SCSD collect the required quarterly sampling data during the same period as the local limits data analysis, if feasible. In addition, selected IUs will need to provide supplementary data for metals that are not currently being monitored but are listed as one of the 15 national POCs.

Included by Reference Only.

**Scotia WWTF
NPDES Permit,
RWQCB Order No.
R1-2012-0065**

2

Laboratory Data Summary

3

Table 1
Industrial User Data Summary
Scotia Community Services District Wastewater Local Limits Study

Constituent	Units	Industrial User						
		COGEN ¹	MILL ²	GAR ³	ERB ⁴	FISH ⁵	HOB ⁶	SCL ⁷
Aluminum	µg/L ⁽⁸⁾	110	160	140	76	250	420	23
Ammonia	mg/L ⁽⁹⁾ N ⁽¹⁰⁾	0.38	83	5.2	2.0	J0.03	3.4	3.9
Arsenic	µg/L	J ⁽¹¹⁾ 2.1	ND ⁽¹²⁾	ND	ND	ND	ND	ND
Biochemical Oxygen Demand	mg/L	5.0	170	35	870	1.0	1,700	33
Cadmium	µg/L	ND	J0.17	ND	ND	ND	J0.19	ND
Calcium	µg/L	160,000	59,000	93,000	46,000	53,000	67,000	51,000
Chromium	µg/L	ND	J0.98	ND	J0.58	J0.48	7.2	ND
Copper	µg/L	23	70	54	18	34	1,100	190
Cyanide	mg/L	ND	J0.0133	J0.0326	0.040	J0.0441	J0.0441	J0.0689
Free Chlorine	mg/L	0.11	ND	0.17	ND	ND	ND	0.13
Hardness	mg/L CaCO ₃ ⁽¹³⁾	620	220	350	180	190	240	190
Lead	µg/L	J0.33	J0.69	J0.41	J0.29	6.2	7.6	J0.21
Magnesium	µg/L	52,000	18,000	29,000	16,000	15,000	19,000	15,000
Mercury	µg/L	ND	ND	ND	ND	ND	J0.075	ND
Molybdenum	µg/L	J2.8	J1.6	J2.1	J2.2	J0.77	J1.4	J1
Nickel	µg/L	J4.9	J4.1	J4.9	J2.1	J2.2	13	J2.8
Nitrate	mg/L N	0.20	J0.081	ND	ND	0.57	J0.064	0.13
Nitrite	mg/L N	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen	mg/L N	1.2	84	10	14	ND	37	40
Total Suspended Solids	mg/L	6.0	94	28	72	2.6	1,500	20
Oil and Grease	mg/L	ND	15	42	ND	ND	91	ND
Residual Chlorine	mg/L	0.2	ND	0.3	0.1	ND	ND	ND
Selenium	µg/L	ND	ND	ND	ND	ND	ND	ND
Settleable Solids	ml/L ⁽¹⁴⁾	ND	ND	0.2	0.5	0.1	1.0	ND
Silver	µg/L	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solids	mg/L	740	430	J500	430	J200	J640	J280
Total Nitrogen	mg/L	1.4	84	10	14	J0.57	37	40
Total Phosphate Phosphorus	mg/L	0.9	9.6	1.4	5.1	0.2	5.7	2.4
Turbidity	NTU ⁽¹⁵⁾	4.5	76	17	150	0.9	1,100	6.8
Zinc	µg/L	16	70	25	49	30	210	38
1,2-Dichloroethane-d4	µg/L	1.1	1.1	1.1				
Benzene	µg/L	ND	ND	ND				
Dibromofluoromethane	µg/L	1.1	1.1	1.1				
Ethylbenzene	µg/L	ND	ND	ND				
m,p-Xylene	µg/L	ND	ND	ND				
Methyl tert-butyl ether (MTBE)	µg/L	ND	ND	ND				
o-Xylene	µg/L	ND	ND	ND				
Toluene	µg/L	ND	9.2	ND				
Toluene-d8	µg/L	0.96	0.97	0.95				
TPHC Diesel (C12-C22)	µg/L	J32	130	J1,300				
TPHC Gasoline	µg/L	ND	J44	ND				
TPHC Motor Oil	µg/L	300	610	24,000				
Polychlorinated Biphenyls (PCBs; 9)	µg/L			ND				

1. COGEN: Humboldt Sawmill Company cogeneration power plant

2. MILL: Humboldt Sawmill Company saw mill

3. GAR: Humboldt Sawmill Company automotive repair garage

4. ERB: Eel River Brewery

5. FISH: Humboldt Sawmill Company fisheries exhibit

6. HOB: Hobie's Market

7. SCL: Elementary School

8. µg/L: micrograms per liter

9. mg/L: milligrams per liter

10. N: nitrogen

11. J: laboratory data flag

12. ND: non-detection

13. CaCO₃: calcium carbonate

14. ml/L: milliliters per liter

15. NTU: nephelometric turbidity units

Table 2
Wastewater Treatment Facility Influent Data Summary (INF)¹
Scotia Community Services District Wastewater Local Limits Study

Constituent	Units	Date							Average
		8/23/2019	8/24/2019	8/25/2019	8/26/2019	8/27/2019	8/28/2019	8/29/2019	
Aluminum	µg/L ⁽²⁾	400	560	230	120	180	100	86	239
Ammonia	mg/L ⁽³⁾ N ⁽⁴⁾	25.0	20.0	20.0	21.0	14.0	9.5	13.0	17.5
Arsenic	µg/L	ND ⁽⁵⁾	ND	ND	ND	ND	ND	ND	ND
Biochemical Oxygen Demand	mg/L	330	400	130	190	1,200	1,300	390	563
Cadmium	µg/L	ND	J ⁽⁶⁾ 0.2	ND	ND	ND	ND	ND	ND
Calcium	µg/L	56,000	56,000	57,000	63,000	51,000	53,000	57,000	56,143
Chromium	µg/L	J1.0	J1.7	J0.65	ND	J2.6	J1.5	ND	J1.1
Copper	µg/L	33	42	35	28	43	20	22	32
Cyanide	mg/L	0.004	J0.125	1.14	0.05	J0.106	0.06	J0.116	J0.23
Free Chlorine	mg/L	ND	0.10	ND	ND	0.05	ND	ND	ND
Hardness	mg/L CaCO ₃ ⁽⁷⁾	210	210	210	230	200	200	210	210
Lead	µg/L	ND	J2.8	J1.5	J0.58	J1.4	J0.74	J0.7	J1.3
Magnesium	µg/L	17,000	17,000	17,000	18,000	16,000	16,000	16,000	16,714
Mercury	µg/L	ND	ND	ND	ND	J0.095	ND	ND	ND
Molybdenum	µg/L	J1.4	J1.8	J1.7	J1.2	J1.9	J1.8	J2.8	J1.8
Nickel	µg/L	J5.0	5.0	J3.9	J3.3	J3.3	J3.9	J3.4	J4.0
Nitrate	mg/L N	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite	mg/L N	ND	ND	ND	0.80	0.01	ND	ND	0.12
Total Kjeldahl Nitrogen	mg/L N	28	30	31	26	27	24	22	27
Total Suspended Solids	mg/L	120	160	86	56	180	130	52	112
Oil and Grease	mg/L	22.0	18.0	22.0	8.6	11.0	10.0	12.0	14.8
Residual Chlorine	mg/L	0.48	ND	ND	ND	0.05	ND	ND	0.11
Selenium	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Settleable Solids	ml/L ⁽⁸⁾	1.0	0.3	0.1	1.9	1.5	0.5	0.05	0.8
Silver	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solids	mg/L	370	360	330	360	780	1,500	J490	J599
Total Nitrogen	mg/L	28	30	31	26	27	24	22	27
Total Phosphate Phosphorus	mg/L	4.4	5.1	3.3	6.6	5.6	5.1	4.9	5.0
Turbidity	NTU ⁽⁹⁾	56	91	60	33	110	66	38	65
Zinc	µg/L	79	130	140	48	80	61	80	88
pH	s.u. ⁽¹⁰⁾	7.23	7	7.33	7.39	6.35	5	6.85	6.74
Temperature	C ⁽¹¹⁾	20.2	19.5	19.8	24.1	27.2	16.7	22.1	21.4
Specific Conductance	µS/cm ⁽¹²⁾	585	626	625	689	653	572.7	696	635

1. Samples collected from sample location M-INF

2. µg/L: micrograms per liter

3. mg/L: milligrams per liter

4. N: nitrogen

5. ND: non-detection

6. J: laboratory data flag

7. CaCO₃: calcium carbonate

8. ml/L: milliliters per liter

9. NTU: nephelometric turbidity units

10. s.u.: standard pH units

11. C: Celsius

12. µS/cm: microsiemens per centimeter

Table 3
Wastewater Treatment Facility Chlorine Contact Basin Effluent Data Summary (CCB)¹
Scotia Community Services District Wastewater Local Limits Study

Constituent	Units	Date							Average
		8/23/2019	8/24/2019	8/25/2019	8/26/2019	8/27/2019	8/28/2019	8/29/2019	
Aluminum	µg/L ⁽²⁾	240	190	210	390	770	400	610	401
Ammonia	mg/L ⁽³⁾ N ⁽⁴⁾	9.4	8.6	11.0	19.0	12.0	7.7	8.4	10.9
Arsenic	µg/L	ND ⁽⁵⁾	ND	ND	ND	ND	ND	ND	ND
Biochemical Oxygen Demand	mg/L	100	210	110	75	250	410	190	192
Cadmium	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	µg/L	54,000	61,000	56,000	57,000	63,000	61,000	54,000	58,000
Chromium	µg/L	ND	ND	ND	J ⁽⁶⁾ 0.85	J2.5	J0.76	J0.41	J0.69
Copper	µg/L	15	16	15	23	36	27	21	22
Cyanide	mg/L	J0.00721	J0.135	1.380	0.070	J0.112	0.075	J0.127	J0.272
Free Chlorine	mg/L	0.25	ND	0.14	0.11	0.05	ND	0.93	0.23
Hardness	mg/L CaCO ₃ ⁽⁷⁾	200	220	210	210	230	220	200	213
Lead	µg/L	J2.5	J0.62	J0.69	J1.4	J2.2	J1.3	J0.97	J1.38
Magnesium	µg/L	16,000	18,000	16,000	17,000	19,000	18,000	16,000	17,143
Mercury	µg/L	ND	ND	ND	ND	ND	J0.15	J0.074	J0.06
Molybdenum	µg/L	J1.4	J1.2	J1.1	J2.4	J3.1	J1.5	J1.5	J1.7
Nickel	µg/L	J3.5	J3.5	J3.6	J4.4	6.7	J4.9	J4.1	J4.4
Nitrate	mg/L N	J0.073	J0.025	J0.023	J0.023	ND	ND	J0.03	J0.03
Nitrite	mg/L N	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen	mg/L N	13	15	17	29	22	20	16	19
Total Suspended Solids	mg/L	44	60	44	110	140	92	64	79
Oil and Grease	mg/L	7.2	7.4	6.9	9.9	J4.3	8.6	7.0	J7.3
Residual Chlorine	mg/L	7.0	0.5	4.0	1.8	0.1	1.2	ND	2.1
Selenium	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Settleable Solids	ml/L ⁽⁸⁾	0.6	0.6	0.9	2.5	4.5	1.0	1.5	1.7
Silver	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solids	mg/L	350	420	370	340	430	490	440	J406
Total Nitrogen	mg/L	13	15	17	29	22	20	16	19
Total Phosphate Phosphorus	mg/L	3.4	3.3	2.9	4.4	5.0	4.9	4.0	4.0
Turbidity	NTU ⁽⁹⁾	40	47	36	58	98	78	63	60
Zinc	µg/L	41	47	38	91	130	79	59	69
pH	s.u. ⁽¹⁰⁾	6.98	6.69	7.11	7.19	6.85	6.54	6.77	6.88
Temperature	C ⁽¹¹⁾	20.9	25.5	21.9	23.3	22.6	20.3	25.9	22.9
Specific Conductance	µS/cm ⁽¹²⁾	585	575	575	621	632	567	601	594

1. Samples collected from sample location M-012A

2. µg/L: micrograms per liter

3. mg/L: milligrams per liter

4. N: nitrogen

5. ND: non-detection

6. J: laboratory data flag

7. CaCO₃: calcium carbonate

8. ml/L: milliliters per liter

9. NTU: nephelometric turbidity units

10. s.u.: standard pH units

11. C: Celsius

12. µS/cm: microsiemens per centimeter

Table 4
Wastewater Treatment Facility Effluent Data Summary (EFF)¹
Scotia Community Services District Wastewater Local Limits Study

Constituent	Units	Date							Average
		8/23/2019	8/24/2019	8/25/2019	8/26/2019	8/27/2019	8/28/2019	8/29/2019	
Aluminum	µg/L ⁽²⁾	110	120	180	150	110	170	160	143
Ammonia	mg/L ⁽³⁾ N ⁽⁴⁾	J ⁽⁵⁾ 0.048	J0.053	J0.078	J0.048	J0.047	J0.044	J0.048	J0.052
Arsenic	µg/L	J2.0	J1.5	J1.9	J2.3	J1.9	J2.8	J2.1	J2.1
Biochemical Oxygen Demand	mg/L	7.5	8.4	9.4	8.7	10.0	8.8	7.8	8.7
Cadmium	µg/L	ND ⁽⁶⁾	ND	ND	ND	ND	ND	ND	ND
Calcium	µg/L	110,000	120,000	110,000	110,000	120,000	120,000	120,000	115,714
Chromium	µg/L	J0.43	J0.56	J0.66	J2.3	J0.59	J0.82	J1.2	J0.09
Copper	µg/L	J2.2	J2.5	J3.4	J2.7	J2.2	J2.6	J2.7	J2.6
Cyanide	mg/L	0.004	1.460	J0.122	J0.0564	J0.0698	0.062	J0.0716	J0.264
Free Chlorine	mg/L	0.12	0.20	0.13	0.18	0.20	0.21	0.20	0.18
Hardness	mg/L CaCO ₃ ⁽⁷⁾	460	490	490	480	500	500	510	490
Lead	µg/L	J0.2	J0.25	J0.4	J0.34	J0.21	J0.32	J0.3	J0.29
Magnesium	µg/L	45,000	49,000	48,000	48,000	50,000	50,000	51,000	48,714
Mercury	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Molybdenum	µg/L	7.5	7.3	7.3	7.9	J7.5	6.7	7.2	J7.3
Nickel	µg/L	J4.2	J4.2	J4.5	5.5	J4.6	J4.8	5.1	J4.7
Nitrate	mg/L N	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite	mg/L N	ND	ND	ND	ND	ND	ND	ND	ND
Total Kjeldahl Nitrogen	mg/L N	2.4	2.5	2.8	2.7	2.2	2.6	2.4	2.5
Total Suspended Solids	mg/L	20	22	22	22	18	20	18	20
Oil and Grease	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Residual Chlorine	mg/L	0.14	0.16	0.17	0.18	0.20	0.21	0.17	0.18
Selenium	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Settleable Solids	ml/L ⁽⁸⁾	ND	ND	ND	0.10	0.05	0.10	ND	ND
Silver	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Total Dissolved Solids	mg/L	640	670	660	630	J680	620	J650	J650
Total Nitrogen	mg/L	2.4	2.5	2.8	2.7	2.2	2.6	2.4	2.5
Total Phosphate Phosphorus	mg/L	0.41	1.30	0.39	0.39	0.40	0.41	0.43	0.53
Turbidity	NTU ⁽⁹⁾	29	35	26	27	26	24	26	28
Zinc	µg/L	J4.5	J4.5	J6.2	J5.9	J4.0	J4.4	J4.7	J4.9
pH	s.u. ⁽¹⁰⁾	9.75	9.95	10.05	9.57	9.98	9.45	9.39	9.73
Temperature	C ⁽¹¹⁾	22.5	29	25.7	24.4	22.8	21.1	24.5	24.3
Specific Conductance	µS/cm ⁽¹²⁾	794	765	762	785	839	803	855	800
Dissolved Oxygen	mg/L					3.0	1.3	2.62	2.3

1. Samples collected from sample location M-003

2. µg/L: micrograms per liter

3. mg/L: milligrams per liter

4. N: nitrogen

5. J: laboratory data flag

6. ND: non-detection

7. CaCO₃: calcium carbonate

8. ml/L: milliliters per liter

9. NTU: nephelometric turbidity units

10. s.u.: standard pH units

11. C: Celsius

12. µS/cm: microsiemens per centimeter

Laboratory Reports

4



September 10, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908421
Invoice No.: 148438
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	INF
01B	INF
01C	INF
01D	INF
01E	INF
01F	INF
02A	CCB
02B	CCB
02C	CCB
02D	CCB
02E	CCB
02F	CCB
03A	EFF
03B	EFF
03C	EFF
03D	EFF
03E	EFF
03F	EFF

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:

Roxanne Moore, Project Manager

Date: 10-Sep-2019
WorkOrder: 1908421

CASE NARRATIVE

Samples for pH, chlorine and dissolved oxygen analysis must be analyzed within 15 minutes of collection. Therefore, any samples requiring these analyses were analyzed past the official holding time.

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

Date: 10-Sep-2019

WorkOrder: 1908421

ANALYTICAL REPORT

Client Sample ID: INF

Received: 8/23/2019

Lab ID: 1908421-01A

Matrix: Waste Water

Collected 8/23/2019 9:15

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	210			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/10/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	56,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 13:28
Magnesium	17,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 13:28

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	400			20	3	µg/L	1.0	8/30/2019	09/06/19 10:45
Arsenic	ND			5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 10:45
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 10:45
Chromium	1.0	J		5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 10:45
Copper	33			5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 10:45
Lead	1.7	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 10:45
Molybdenum	1.4	J		5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 10:45
Nickel	5.0	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 10:45
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 10:45
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 10:45
Zinc	79			10	1.1	µg/L	1.0	8/30/2019	09/06/19 10:45

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:05

Client Sample ID: INF

Received: 8/23/2019

Lab ID: 1908421-01B

Matrix: Waste Water

Collected 8/23/2019 9:15

Test Name: Ammonia Nitrogen without distillation

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	25			0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	28			2.0	1.9	mg/L	2.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Date: 10-Sep-2019

WorkOrder: 1908421

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	28			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus

Analyst: JLM

Reference: SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	4.4			0.20	0.074	mg/L	10	8/28/2019	09/04/19 0:00

Client Sample ID: INF

Received: 8/23/2019

Lab ID: 1908421-01C

Matrix: Waste Water

Collected 8/23/2019 9:15

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	330			2.0	2	mg/L	1.0		08/23/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	120			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: INF

Received: 8/23/2019

Lab ID: 1908421-01D

Matrix: Waste Water

Collected 8/23/2019 9:15

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	1.0			0.10	0.1	mL/L/hour	1.0		08/24/19 0:00

Client Sample ID: INF

Received: 8/23/2019

Lab ID: 1908421-01E

Matrix: Waste Water

Collected 8/23/2019 9:15

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/23/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/23/19 20:12
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/23/19 20:12

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	370			10	5.3	mg/L	1.0		08/27/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

Date: 10-Sep-2019

WorkOrder: 1908421

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.48			0.10	0.1	mg/L	1.0		08/23/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	56			0.50	0.5	NTU	10		08/23/19 0:00

Client Sample ID: INF

Received: 8/23/2019

Lab ID: 1908421-01F

Matrix: Waste Water

Collected 8/23/2019 9:15

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	22			4.7	4.1	mg/L	0.94	9/5/2019	09/06/19 11:00

Client Sample ID: CCB

Received: 8/23/2019

Lab ID: 1908421-02A

Matrix: Waste Water

Collected 8/23/2019 10:00

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	200			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/10/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	54,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 13:32
Magnesium	16,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 13:32

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	240			20	3	µg/L	1.0	8/30/2019	09/06/19 10:49
Arsenic	ND			5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 10:49
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 10:49
Chromium	ND			5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 10:49
Copper	15			5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 10:49
Lead	2.5	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 10:49
Molybdenum	1.4	J		5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 10:49
Nickel	3.5	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 10:49
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 10:49
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 10:49
Zinc	41			10	1.1	µg/L	1.0	8/30/2019	09/06/19 10:49

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:08

Date: 10-Sep-2019

WorkOrder: 1908421

ANALYTICAL REPORT**Client Sample ID:** CCB**Received:** 8/23/2019**Lab ID:** 1908421-02B**Matrix:** Waste Water**Collected** 8/23/2019 10:00**Test Name:** Ammonia Nitrogen without distillation**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	9.4			0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	13			1.0	0.96	mg/L	1.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	13			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	3.4			0.10	0.037	mg/L	5.0	8/28/2019	09/04/19 0:00

Client Sample ID: CCB**Received:** 8/23/2019**Lab ID:** 1908421-02C**Matrix:** Waste Water**Collected** 8/23/2019 10:00**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	100			2.0	2	mg/L	1.0		08/23/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	44			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: CCB**Received:** 8/23/2019**Lab ID:** 1908421-02D**Matrix:** Waste Water**Collected** 8/23/2019 10:00**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.60			0.10	0.1	mL/L/hour	1.0		08/24/19 0:00

Date: 10-Sep-2019

WorkOrder: 1908421

ANALYTICAL REPORT

Client Sample ID: CCB

Received: 8/23/2019

Lab ID: 1908421-02E

Matrix: Waste Water

Collected 8/23/2019 10:00

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.25			0.10	0.1	mg/L	1.0		08/23/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	0.073	J		0.10	0.02	mg/L	1.0		08/23/19 20:29
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/23/19 20:29

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	350			10	5.3	mg/L	1.0		08/27/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	7.0			0.50	0.5	mg/L	5.0		08/23/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	40			0.050	0.05	NTU	1.0		08/23/19 0:00

Client Sample ID: CCB

Received: 8/23/2019

Lab ID: 1908421-02F

Matrix: Waste Water

Collected 8/23/2019 10:00

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	7.2			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: EFF

Received: 8/23/2019

Lab ID: 1908421-03A

Matrix: Waste Water

Collected 8/23/2019 10:30

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	460			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/10/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	110,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 13:35
Magnesium	45,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 13:35

Date: 10-Sep-2019**WorkOrder:** 1908421**Test Name:** ICP-MS Metals**Reference:** EPA 200.8 Rev 5.4 (1994)**ANALYTICAL REPORT****Analyst:** ERK

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	110			20	3	µg/L	1.0	8/30/2019	09/06/19 10:53
Arsenic	2.0	J		5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 10:53
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 10:53
Chromium	0.43	J		5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 10:53
Copper	2.2	J		5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 10:53
Lead	0.20	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 10:53
Molybdenum	7.5			5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 10:53
Nickel	4.2	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 10:53
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 10:53
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 10:53
Zinc	4.5	J		10	1.1	µg/L	1.0	8/30/2019	09/06/19 10:53

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:10

Client Sample ID: EFF**Received:** 8/23/2019**Lab ID:** 1908421-03B**Matrix:** Waste Water**Collected:** 8/23/2019 10:30**Test Name:** Ammonia Nitrogen without distillation**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	0.048	J		0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	2.4			1.0	0.96	mg/L	1.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	2.4			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	0.41			0.040	0.015	mg/L	2.0	8/28/2019	09/04/19 0:00

Date: 10-Sep-2019

WorkOrder: 1908421

ANALYTICAL REPORT**Client Sample ID:** EFF**Received:** 8/23/2019**Lab ID:** 1908421-03C**Matrix:** Waste Water**Collected** 8/23/2019 10:30**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	7.5			2.0	2	mg/L	1.0		08/23/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	20			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: EFF**Received:** 8/23/2019**Lab ID:** 1908421-03D**Matrix:** Waste Water**Collected** 8/23/2019 10:30**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	ND			0.10	0.1	mL/L/hour	1.0		08/24/19 0:00

Client Sample ID: EFF**Received:** 8/23/2019**Lab ID:** 1908421-03E**Matrix:** Waste Water**Collected** 8/23/2019 10:30**Test Name:** Free Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.12			0.10	0.1	mg/L	1.0		08/23/19 0:00

Test Name: Nitrate and/or Nitrite**Analyst:** DAA**Reference:** EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/23/19 20:45
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/23/19 20:45

Test Name: Total Dissolved Solids**Analyst:** AJJ**Reference:** SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	640			10	5.3	mg/L	1.0		08/27/19 0:00

Test Name: Total Residual Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.14			0.10	0.1	mg/L	1.0		08/23/19 0:00

Test Name: Turbidity**Analyst:** JLM**Reference:** EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	29			0.050	0.05	NTU	1.0		08/23/19 0:00

Date: 10-Sep-2019**WorkOrder:** 1908421

ANALYTICAL REPORT

Client Sample ID: EFF**Received:** 8/23/2019**Lab ID:** 1908421-03F**Matrix:** Waste Water**Collected** 8/23/2019 10:30**Test Name:** Hexane Extractable Oil and Grease**Analyst:** JAP**Reference:** EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100704	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/6/2019 11:00:00 AM	Prep Date	9/5/2019	
Client ID:		Run ID:	WC_190905D					SeqNo:	1433470			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		ND	5.0									

Sample ID	MBLANK	Batch ID:	R100644	Test Code:	AMMW	Units:	mg/L	Analysis Date	8/30/2019	Prep Date		
Client ID:		Run ID:	WC_190830I					SeqNo:	1432352			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		0.04700	0.10									J

Sample ID	MB-082319	Batch ID:	R100559	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/23/2019 5:42:51 PM	Prep Date		
Client ID:		Run ID:	INIC2_190823A					SeqNo:	1431040			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		ND	0.10									
Nitrite (as Nitrogen)		ND	0.10									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/6/2019 10:33:08 AM** Prep Date **8/30/2019**
 Client ID: Run ID: **ICPMS2_190906A** SeqNo: **1433401**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.877	20									J
Arsenic	ND	5.0									
Cadmium	ND	5.0									
Chromium	ND	5.0									
Copper	ND	5.0									
Lead	ND	5.0									
Molybdenum	ND	5.0									
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Zinc	ND	10									

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/5/2019 1:22:15 PM** Prep Date **8/30/2019**
 Client ID: Run ID: **INICP2_190905A** SeqNo: **1433161**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	12.25	100									J
Magnesium	6.361	100									J

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/10/2019 10:19:10 AM** Prep Date **8/30/2019**
 Client ID: Run ID: **INICP2_190910B** SeqNo: **1434068**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	100									
Magnesium	4.737	100									J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MB-37762	Batch ID: 37762	Test Code: MERCW	Units: µg/L	Analysis Date 8/30/2019 9:58:17 AM	Prep Date 8/29/2019
Client ID:		Run ID: CVAA2_190830A		SeqNo: 1432126	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	1.0			
Sample ID MBLK	Batch ID: R100633	Test Code: NFRW	Units: mg/L	Analysis Date 8/29/2019	Prep Date
Client ID:		Run ID: WC_190829F		SeqNo: 1432260	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Non-Filterable Residue(TSS)	ND	1.0			
Sample ID MBLANK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L	Analysis Date 9/3/2019	Prep Date 8/29/2019
Client ID:		Run ID: WC_190903C		SeqNo: 1432628	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrogen- Total Kjeldahl	ND	1.0			
Sample ID MBLANK WL-0828	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/4/2019	Prep Date 8/28/2019
Client ID:		Run ID: WC_190904B		SeqNo: 1432804	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Phosphate Phosphorus	ND	0.020			
Sample ID MBLK	Batch ID: R100628	Test Code: TDS	Units: mg/L	Analysis Date 8/27/2019	Prep Date
Client ID:		Run ID: WC_190827I		SeqNo: 1432167	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids	ND	10			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	1908421-03AMS	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:57:39 AM	Prep Date	8/30/2019
Client ID:	EFF	Run ID:	ICPMS2_190906A	SeqNo:	1433407						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	589.7	100	500	112	95.5%	70	130	0			
Arsenic	507.2	25	500	2.02	101%	70	130	0			
Cadmium	502.7	25	500	0	101%	70	130	0			
Chromium	454.8	25	500	0.428	90.9%	70	130	0			
Copper	463.3	25	500	2.23	92.2%	70	130	0			
Lead	468.8	25	500	0.204	93.7%	70	130	0			
Molybdenum	517.3	25	500	7.50	102%	70	130	0			
Nickel	483.8	25	500	4.16	95.9%	70	130	0			
Selenium	497.7	50	500	0	99.5%	70	130	0			
Silver	58.25	25	62.5	0	93.2%	70	130	0			
Zinc	507.5	50	500	4.55	101%	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433471						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		39.50	5.0	40.0	0	98.8%	80	107	0			
Sample ID	LCSD	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433472						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		38.00	5.0	40.0	0	95.0%	80	107	39.5	3.87%	18	
Sample ID	BLKSPK	Batch ID: R100644	Test Code: AMMW	Units: mg/L	Analysis Date	8/30/2019			Prep Date			
Client ID:			Run ID: WC_190830I		SeqNo:	1432353						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.27	0.10	10.0	0.0470	102%	85	115	0			
Sample ID	BLKSPK	Batch ID: R100644	Test Code: AMMW	Units: mg/L	Analysis Date	8/30/2019			Prep Date			
Client ID:			Run ID: WC_190830I		SeqNo:	1432354						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.21	0.10	10.0	0.0470	102%	85	115	10.3	0.586%	20	
Sample ID	LCS-WL-082319-0	Batch ID: R100559	Test Code: ICNOW	Units: mg/L	Analysis Date	8/23/2019 5:59:29 PM			Prep Date			
Client ID:			Run ID: INIC2_190823A		SeqNo:	1431041						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		5.176	0.10	5.00	0	104%	90	110	0			
Nitrite (as Nitrogen)		5.049	0.10	5.00	0	101%	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-D-WL-082319-	Batch ID:	R100559	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/23/2019 6:16:08 PM	Prep Date	
Client ID:		Run ID:	INIC2_190823A	SeqNo:	1431042						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.196	0.10	5.00	0	104%	90	110	5.18	0.387%	10	
Nitrite (as Nitrogen)	5.129	0.10	5.00	0	103%	90	110	5.05	1.58%	10	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:37:14 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433402						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	471.1	100	500	9.88	92.2%	85	115	0			
Arsenic	508.5	25	500	0	102%	85	115	0			
Cadmium	499.1	25	500	0	99.8%	85	115	0			
Chromium	463.5	25	500	0	92.7%	85	115	0			
Copper	461.1	25	500	0	92.2%	85	115	0			
Lead	470.0	25	500	0	94.0%	85	115	0			
Molybdenum	517.3	25	500	0	103%	85	115	0			
Nickel	490.2	25	500	0	98.0%	85	115	0			
Selenium	511.8	50	500	0	102%	85	115	0			
Silver	57.70	25	62.5	0	92.3%	85	115	0			
Zinc	498.1	50	500	0	99.6%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:41:19 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433403						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	470.9	100	500	9.88	92.2%	85	115	471	0.0384%	20	
Arsenic	498.1	25	500	0	99.6%	85	115	508	2.06%	20	
Cadmium	499.7	25	500	0	99.9%	85	115	499	0.121%	20	
Chromium	463.4	25	500	0	92.7%	85	115	464	0.0119%	20	
Copper	458.8	25	500	0	91.8%	85	115	461	0.508%	20	
Lead	468.7	25	500	0	93.7%	85	115	470	0.289%	20	
Molybdenum	496.3	25	500	0	99.3%	85	115	517	4.16%	20	
Nickel	487.6	25	500	0	97.5%	85	115	490	0.526%	20	
Selenium	494.0	50	500	0	98.8%	85	115	512	3.53%	20	
Silver	58.56	25	62.5	0	93.7%	85	115	57.7	1.49%	20	
Zinc	494.4	50	500	0	98.9%	85	115	498	0.755%	20	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:24:00 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433162						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	527.2	100	500	12.2	103%	85	115	0			
Magnesium	511.5	100	500	6.36	101%	85	115	0			

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:26:34 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433163						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	523.1	100	500	12.2	102%	85	115	527	0.787%	20	
Magnesium	510.6	100	500	6.36	101%	85	115	512	0.184%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/10/2019 10:21:38 AM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190910B	SeqNo:	1434069						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	521.2	100	500	0	104%	85	115	0			
Magnesium	502.0	100	500	4.74	99.5%	85	115	0			
Sample ID	LCSD-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/10/2019 10:24:13 AM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190910B	SeqNo:	1434070						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	519.5	100	500	0	104%	85	115	521	0.321%	20	
Magnesium	503.4	100	500	4.74	99.7%	85	115	502	0.268%	20	
Sample ID	LCS-37762	Batch ID:	37762	Test Code:	MERCW	Units:	µg/L	Analysis Date	8/30/2019 10:00:58 AM	Prep Date	8/29/2019
Client ID:		Run ID:	CVAA2_190830A	SeqNo:	1432127						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.909	1.0	5.00	0	98.2%	85	115	0			
Sample ID	LCSD-37762	Batch ID:	37762	Test Code:	MERCW	Units:	µg/L	Analysis Date	8/30/2019 10:02:58 AM	Prep Date	8/29/2019
Client ID:		Run ID:	CVAA2_190830A	SeqNo:	1432128						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.891	1.0	5.00	0	97.8%	85	115	4.91	0.353%	20	
Sample ID	BLKSPK	Batch ID:	R100660	Test Code:	NKJEW	Units:	mg/L	Analysis Date	9/3/2019	Prep Date	8/29/2019
Client ID:		Run ID:	WC_190903C	SeqNo:	1432629						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl	10.84	1.0	10.0	0	108%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

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R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	BLKSPK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L	Analysis Date 9/3/2019				Prep Date 8/29/2019			
Client ID:			Run ID: WC_190903C			SeqNo: 1432630						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		10.17	1.0	10.0	0	102%	85	115	10.8	6.38%	20	

Sample ID	LCS WL-08281905	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/4/2019				Prep Date 8/28/2019			
Client ID:			Run ID: WC_190904B			SeqNo: 1432805						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4988	0.020	0.500	0	99.8%	85	115	0			

Sample ID	LCSD WL-082819	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/4/2019				Prep Date 8/28/2019			
Client ID:			Run ID: WC_190904B			SeqNo: 1432806						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4880	0.020	0.500	0	97.6%	85	115	0.499	2.19%	10	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908421
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

BOD Organic Standard

Sample ID	ORGANIC STAND	Batch ID:	R100606	Test Code:	BODW	Units:	mg/L	Analysis Date	8/23/2019 10:00:00 AM	Prep Date	
Client ID:		Run ID:	WC_190823F					SeqNo:	1431816		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	191.7	2.0	200	0	95.8%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6227-1
Client Project/Site: 1908421

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/5/2019 3:49:53 PM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

Job ID: 570-6227-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative 570-6227-1

Comments

No additional comments.

Receipt

The samples were received on 8/29/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

General Chemistry

Method(s) SM 4500 CN E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-16841 and analytical batch 570-16932 were outside control limits: (570-6237-A-3-C), (570-6237-A-3-A MS) and (570-6237-A-3-B MSD). The associated laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recovery met acceptance criteria.

Method(s) SM 4500 CN E: The continue calibration blank for preparation batch 570-16841 and analytical batch 570-16932 contained cyanide, total above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

Client Sample ID: 1908421-01G INF

Lab Sample ID: 570-6227-1

☐ No Detections.

Client Sample ID: 1908421-02G CCB

Lab Sample ID: 570-6227-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.00721	J ^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908421-03G EFF

Lab Sample ID: 570-6227-3

☐ No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

General Chemistry

Client Sample ID: 1908421-01G INF

Date Collected: 08/23/19 09:15

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6227-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L	—	09/04/19 08:41	09/04/19 11:32	1

Client Sample ID: 1908421-02G CCB

Date Collected: 08/23/19 10:00

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6227-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.00721	J ^	0.0200	0.00700	mg/L	—	09/04/19 08:41	09/04/19 11:33	1

Client Sample ID: 1908421-03G EFF

Date Collected: 08/23/19 10:30

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6227-3

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L	—	09/04/19 08:41	09/04/19 11:34	1

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-16841/1-A

Matrix: Water

Analysis Batch: 16932

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16841

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/04/19 08:41	09/04/19 11:15	1

Lab Sample ID: LCS 570-16841/2-A

Matrix: Water

Analysis Batch: 16932

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16841

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.2030		mg/L		101	80 - 120

Lab Sample ID: LCSD 570-16841/3-A

Matrix: Water

Analysis Batch: 16932

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16841

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.200	0.2055		mg/L		103	80 - 120	1	20

Lab Sample ID: 570-6237-A-3-A MS

Matrix: Water

Analysis Batch: 16932

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0698	^ F1	0.200	0.2012	F1	mg/L		66	74 - 115

Lab Sample ID: 570-6237-A-3-B MSD

Matrix: Water

Analysis Batch: 16932

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0698	^ F1	0.200	0.2021	F1	mg/L		66	74 - 115	0	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

General Chemistry

Prep Batch: 16841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6227-1	1908421-01G INF	Total/NA	Wastewater	SM 4500 CN C	
570-6227-2	1908421-02G CCB	Total/NA	Wastewater	SM 4500 CN C	
570-6227-3	1908421-03G EFF	Total/NA	Wastewater	SM 4500 CN C	
MB 570-16841/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-16841/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-16841/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6237-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-6237-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 16932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6227-1	1908421-01G INF	Total/NA	Wastewater	SM 4500 CN E	16841
570-6227-2	1908421-02G CCB	Total/NA	Wastewater	SM 4500 CN E	16841
570-6227-3	1908421-03G EFF	Total/NA	Wastewater	SM 4500 CN E	16841
MB 570-16841/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	16841
LCS 570-16841/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	16841
LCSD 570-16841/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	16841
570-6237-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	16841
570-6237-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	16841

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

Client Sample ID: 1908421-01G INF

Date Collected: 08/23/19 09:15

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6227-1

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16932	09/04/19 11:32	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908421-02G CCB

Date Collected: 08/23/19 10:00

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6227-2

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16932	09/04/19 11:33	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908421-03G EFF

Date Collected: 08/23/19 10:30

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6227-3

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16932	09/04/19 11:34	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

Method	Method Description	Protocol	Laboratory
SM 4500 CN E	Cyanide, Total	SM	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

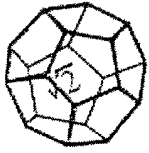
ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1908421

Job ID: 570-6227-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6227-1	1908421-01G INF	Wastewater	08/23/19 09:15	08/29/19 10:00	
570-6227-2	1908421-02G CCB	Wastewater	08/23/19 10:00	08/29/19 10:00	
570-6227-3	1908421-03G EFF	Wastewater	08/23/19 10:30	08/29/19 10:00	



**NORTH COAST
LABORATORIES LTD.**

Sub-Contract Chain of Custody Record

Date Shipped: 8/28/2019
PO #: 1908421

Subcontractor: Calscience Enironmental Labs
7440 Lincoln Way
Garden Grove, CA 92841

Attn: SAMPLE RECEIVING

714 895-5494

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

Email: sub@northcoastlabs.com



570-6227 Chain of Custody

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908421-01G INF	8/23/2019 09:15 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908421-02G CCB	8/23/2019 10:00 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908421-03G EFF	8/23/2019 10:30 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water

Relinquished by: *Ry* *8/28/19 1420*
Relinquished by:

Received by: *[Signature]* *8/29/19 1000*
Received by:

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.

3-4/3.6 SCC

** Col received 8/30/19*

570-6227 Waybill



570-6227 Waybill

ORIGIN ID:EKHA
SHIPPING/RECEIVING
NORTH COAST LABORATORIES
5680 WEST END RD

ARCATA, CA 955219202
UNITED STATES US

SHIP DATE: 28AUG19
ACTWGT: 59.00 LB MAN
CAD: 0311778/CAFE3211

BILL SENDER

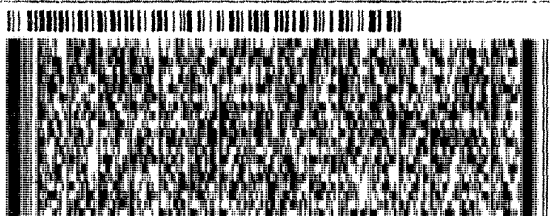
TO **SAMPLE RECEIVING**
CALSCIENCE ENVIRONMENTAL LABS
7440 LINCOLN WAY

GARDEN GROVE CA 92841

(530) 244-5227

REF:

DEPT:



FedEx
Express



2 of 2

MPS# 4946 6443 9849
0263

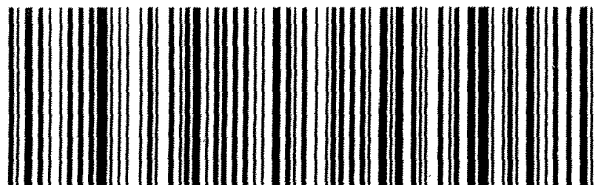
Mstr# 4946 6443 9838

0201

THU - 29 AUG 3:00P
STANDARD OVERNIGHT

92 APVA

92841
CA-US SNA



Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6227-1

Login Number: 6227**List Source: Eurofins Calscience****List Number: 1****Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Chain of Custody

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

SAMPLE CONTAINER ORDER FORM

CLIENT NAME: SHN		DATE OF REQUEST: 8/6/19	
ADDRESS (Street not PO Box) :			
CONTACT PERSON: Chuck Swanson		PHONE NUMBER:	
SHIP BY: 8/21/19		PROJECT NAME: Scotia CSD WW Study	

Deliver		Pickup	x	Cooler	x	Box	x
Ship		UPS		Airborne		Fed X	
DW Samples		Chlorinated Samples		US Mail		Fed X Ground	

SPECIAL INSTRUCTIONS:
Metals= Al, As, Cd, Cr, Cu, Pb, Hg, Mo, Ni, Se, Ag, Zn+Hardness Ca+Mg

ANALYSIS	# OF Samples	Bottle Type/ Sample Volume	Number of Containers	Preservation
Metals /	26	500ml plastic	26	HNO3
Amm. TKN, T. Phos	26	500ml plastic	26	H2SO4
BOD/TSS	26	½ gallon plastic	26	none
SSW /	26	½ gallon plastic	26	none
Turb, CLRW, CLFW, Nitrate/Nitrite, TDS	26	500ml plastic	26	none
Grease and Oil /	26	1L AMG	52	HCl
Cyanide /	26	1 L Brown Nalgene	26	NaOH-4 pellets
PCB's /	1	1L AMG	2	none

Request Taken By	RC	Prepared & Shipped By		Date Shipped		Method of Shipment	
------------------	----	-----------------------	--	--------------	--	--------------------	--



**NORTH COAST
LABORATORIES LTD.**

September 12, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908433
Invoice No.: 148502
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	INF
01B	INF
01C	INF
01D	INF
01E	INF
01F	INF
02A	CCB
02B	CCB
02C	CCB
02D	CCB
02E	CCB
02F	CCB
03A	EFF
03B	EFF
03C	EFF
03D	EFF
03E	EFF
03F	EFF

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:

Roxanne Moore, Project Manager

Date: 12-Sep-2019
WorkOrder: 1908433

CASE NARRATIVE

Samples for pH, chlorine and dissolved oxygen analysis must be analyzed within 15 minutes of collection. Therefore, any samples requiring these analyses were analyzed past the official holding time.

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

Date: 12-Sep-2019

WorkOrder: 1908433

ANALYTICAL REPORT

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908433-01A

Matrix: Waste Water

Collected 8/24/2019 12:30

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	210			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/05/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	56,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 13:42
Magnesium	17,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 13:42

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	560			20	3	µg/L	1.0	8/30/2019	09/06/19 11:01
Arsenic	ND			5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:01
Cadmium	0.20	J		5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:01
Chromium	1.7	J		5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:01
Copper	42			5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:01
Lead	2.8	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:01
Molybdenum	1.8	J		5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 11:01
Nickel	5.0			5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:01
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:01
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:01
Zinc	130			10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:01

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:12

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908433-01B

Matrix: Waste Water

Collected 8/24/2019 12:30

Test Name: Ammonia Nitrogen without distillation

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	20			0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	30			2.0	1.9	mg/L	2.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Date: 12-Sep-2019**WorkOrder:** 1908433**ANALYTICAL REPORT**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	30			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	5.1			0.20	0.074	mg/L	10	8/28/2019	09/04/19 0:00

Client Sample ID: INF**Received:** 8/26/2019**Lab ID:** 1908433-01C **Matrix:** Waste Water**Collected:** 8/24/2019 12:30**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	400			2.0	2	mg/L	1.0		08/26/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	160			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: INF**Received:** 8/26/2019**Lab ID:** 1908433-01D **Matrix:** Waste Water**Collected:** 8/24/2019 12:30**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.30			0.10	0.1	mL/L/hour	1.0		08/26/19 0:00

Client Sample ID: INF**Received:** 8/26/2019**Lab ID:** 1908433-01E **Matrix:** Waste Water**Collected:** 8/24/2019 12:30**Test Name:** Free Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.10			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Nitrate and/or Nitrite**Analyst:** DAA**Reference:** EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 11:44
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 11:44

Test Name: Total Dissolved Solids**Analyst:** RMS**Reference:** SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	360			10	5.3	mg/L	1.0		08/30/19 0:00

Test Name: Total Residual Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

Date: 12-Sep-2019

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ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	91			0.50	0.5	NTU	10		08/26/19 0:00

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908433-01F

Matrix: Waste Water

Collected 8/24/2019 12:30

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	18			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: CCB

Received: 8/26/2019

Lab ID: 1908433-02A

Matrix: Waste Water

Collected 8/24/2019 12:55

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	220			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/05/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	61,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 13:45
Magnesium	18,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 13:45

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	190			20	3	µg/L	1.0	8/30/2019	09/06/19 11:05
Arsenic	ND			5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:05
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:05
Chromium	ND			5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:05
Copper	16			5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:05
Lead	0.62	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:05
Molybdenum	1.2	J		5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 11:05
Nickel	3.5	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:05
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:05
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:05
Zinc	47			10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:05

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:14

Date: 12-Sep-2019

WorkOrder: 1908433

ANALYTICAL REPORT**Client Sample ID:** CCB**Received:** 8/26/2019**Lab ID:** 1908433-02B**Matrix:** Waste Water**Collected** 8/24/2019 12:55**Test Name:** Ammonia Nitrogen without distillation**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	8.6			0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	15			1.0	0.96	mg/L	1.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	15			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	3.3			0.10	0.037	mg/L	5.0	8/28/2019	09/04/19 0:00

Client Sample ID: CCB**Received:** 8/26/2019**Lab ID:** 1908433-02C**Matrix:** Waste Water**Collected** 8/24/2019 12:55**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	210			2.0	2	mg/L	1.0		08/26/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	60			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: CCB**Received:** 8/26/2019**Lab ID:** 1908433-02D**Matrix:** Waste Water**Collected** 8/24/2019 12:55**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.60			0.10	0.1	mL/L/hour	1.0		08/26/19 0:00

Date: 12-Sep-2019

WorkOrder: 1908433

ANALYTICAL REPORT

Client Sample ID: CCB

Received: 8/26/2019

Lab ID: 1908433-02E

Matrix: Waste Water

Collected 8/24/2019 12:55

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	0.025	J		0.10	0.02	mg/L	1.0		08/26/19 12:01
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 12:01

Test Name: Total Dissolved Solids

Analyst: RMS

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	420			10	5.3	mg/L	1.0		08/30/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.52			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	47			0.50	0.5	NTU	10		08/26/19 0:00

Client Sample ID: CCB

Received: 8/26/2019

Lab ID: 1908433-02F

Matrix: Waste Water

Collected 8/24/2019 12:55

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	7.4			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908433-03A

Matrix: Waste Water

Collected 8/24/2019 13:20

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	490			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/05/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	120,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 13:48
Magnesium	49,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 13:48

Date: 12-Sep-2019**WorkOrder:** 1908433**Test Name:** ICP-MS Metals**Reference:** EPA 200.8 Rev 5.4 (1994)**ANALYTICAL REPORT****Analyst:** ERK

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	120			20	3	µg/L	1.0	8/30/2019	09/06/19 11:09
Arsenic	1.5	J		5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:09
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:09
Chromium	0.56	J		5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:09
Copper	2.5	J		5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:09
Lead	0.25	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:09
Molybdenum	7.3			5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 11:09
Nickel	4.2	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:09
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:09
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:09
Zinc	4.5	J		10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:09

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:16

Client Sample ID: EFF**Received:** 8/26/2019**Lab ID:** 1908433-03B**Matrix:** Waste Water**Collected:** 8/24/2019 13:20**Test Name:** Ammonia Nitrogen without distillation**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	0.053	J		0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	2.5			1.0	0.96	mg/L	1.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	2.5			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	1.3			0.040	0.015	mg/L	2.0	8/28/2019	09/04/19 0:00

Date: 12-Sep-2019

WorkOrder: 1908433

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908433-03C

Matrix: Waste Water

Collected 8/24/2019 13:20

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Biochemical Oxygen Demand	8.4			2.0	2	mg/L	1.0		08/26/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Non-Filterable Residue(TSS)	22			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908433-03D

Matrix: Waste Water

Collected 8/24/2019 13:20

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Settleable Solids	ND			0.10	0.1	mL/L/hour	1.0		08/26/19 0:00

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908433-03E

Matrix: Waste Water

Collected 8/24/2019 13:20

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Free Chlorine	0.20			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 12:18
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 12:18

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Total Dissolved Solids	670			10	5.3	mg/L	1.0		08/30/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Residual Chlorine	0.16			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Turbidity	35			0.050	0.05	NTU	1.0		08/26/19 0:00

Date: 12-Sep-2019**WorkOrder:** 1908433

ANALYTICAL REPORT

Client Sample ID: EFF**Received:** 8/26/2019**Lab ID:** 1908433-03F**Matrix:** Waste Water**Collected** 8/24/2019 13:20**Test Name:** Hexane Extractable Oil and Grease**Analyst:** JAP**Reference:** EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.6	4	mg/L	0.92	9/5/2019	09/06/19 11:00

North Coast Laboratories, Ltd.

Date: 9/12/2019

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100704	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/6/2019 11:00:00 AM	Prep Date	9/5/2019
Client ID:		Run ID:	WC_190905D	SeqNo:	1433470						
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Oil and Grease		ND		5.0							

Sample ID	MBLANK	Batch ID:	R100644	Test Code:	AMMW	Units:	mg/L	Analysis Date	8/30/2019	Prep Date	
Client ID:		Run ID:	WC_190830I	SeqNo:	1432352						
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Ammonia Nitrogen		0.04700		0.10							

Sample ID	MB-082619	Batch ID:	R100569	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/26/2019 10:54:56 AM	Prep Date	
Client ID:		Run ID:	INIC2_190826A	SeqNo:	1431264						
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Nitrate (as Nitrogen)		ND		0.10							
Nitrite (as Nitrogen)		ND		0.10							

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/6/2019 10:33:08 AM** Prep Date **8/30/2019**
 Client ID: Run ID: **ICPMS2_190906A** SeqNo: **1433401**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.877	20									J
Arsenic	ND	5.0									
Cadmium	ND	5.0									
Chromium	ND	5.0									
Copper	ND	5.0									
Lead	ND	5.0									
Molybdenum	ND	5.0									
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Zinc	ND	10									

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/5/2019 1:22:15 PM** Prep Date **8/30/2019**
 Client ID: Run ID: **INICP2_190905A** SeqNo: **1433161**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	12.25	100									J
Magnesium	6.361	100									J

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/10/2019 10:19:10 AM** Prep Date **8/30/2019**
 Client ID: Run ID: **INICP2_190910B** SeqNo: **1434068**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	100									
Magnesium	4.737	100									J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MB-37762	Batch ID: 37762	Test Code: MERCW	Units: µg/L	Analysis Date 8/30/2019 9:58:17 AM	Prep Date 8/29/2019
Client ID:		Run ID: CVAA2_190830A		SeqNo: 1432126	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	1.0			
Sample ID MBLK	Batch ID: R100633	Test Code: NFRW	Units: mg/L	Analysis Date 8/29/2019	Prep Date
Client ID:		Run ID: WC_190829F		SeqNo: 1432260	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Non-Filterable Residue(TSS)	ND	1.0			
Sample ID MBLANK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L	Analysis Date 9/3/2019	Prep Date 8/29/2019
Client ID:		Run ID: WC_190903C		SeqNo: 1432628	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrogen- Total Kjeldahl	ND	1.0			
Sample ID MBLANK WL-0828	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/4/2019	Prep Date 8/28/2019
Client ID:		Run ID: WC_190904B		SeqNo: 1432804	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Phosphate Phosphorus	ND	0.020			
Sample ID MBLK	Batch ID: R100721	Test Code: TDS	Units: mg/L	Analysis Date 8/30/2019	Prep Date
Client ID:		Run ID: WC_190830N		SeqNo: 1433647	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids	ND	10			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100769	Test Code:	TDS	Units:	mg/L	Analysis Date	8/30/2019	Prep Date	
Client ID:		Run ID:	WC_190830Q	SeqNo:	1434183						
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
										LowLimit	
										HighLimit	
										RPD Ref Val	
										%RPD	
										RPDLimit	
										Qual	
Total Dissolved Solids		10.00		10							J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/12/2019

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433471						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		39.50	5.0	40.0	0	98.8%	80	107	0			
Sample ID	LCS D	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433472						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		38.00	5.0	40.0	0	95.0%	80	107	39.5	3.87%	18	
Sample ID	BLKSPK	Batch ID: R100644	Test Code: AMMW	Units: mg/L	Analysis Date	8/30/2019			Prep Date			
Client ID:			Run ID: WC_190830I		SeqNo:	1432353						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.27	0.10	10.0	0.0470	102%	85	115	0			
Sample ID	BLKSPK	Batch ID: R100644	Test Code: AMMW	Units: mg/L	Analysis Date	8/30/2019			Prep Date			
Client ID:			Run ID: WC_190830I		SeqNo:	1432354						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.21	0.10	10.0	0.0470	102%	85	115	10.3	0.586%	20	
Sample ID	LCS-WL-082619-0	Batch ID: R100569	Test Code: ICNOW	Units: mg/L	Analysis Date	8/26/2019 11:11:34 AM			Prep Date			
Client ID:			Run ID: INIC2_190826A		SeqNo:	1431265						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		5.325	0.10	5.00	0	106%	90	110	0			
Nitrite (as Nitrogen)		5.209	0.10	5.00	0	104%	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

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R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-D-WL-082619-	Batch ID:	R100569	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/26/2019 11:28:12 AM	Prep Date	
Client ID:		Run ID:	INIC2_190826A	SeqNo:	1431266						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.249	0.10	5.00	0	105%	90	110	5.32	1.43%	10	
Nitrite (as Nitrogen)	5.181	0.10	5.00	0	104%	90	110	5.21	0.539%	10	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:37:14 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433402						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	471.1	100	500	9.88	92.2%	85	115	0			
Arsenic	508.5	25	500	0	102%	85	115	0			
Cadmium	499.1	25	500	0	99.8%	85	115	0			
Chromium	463.5	25	500	0	92.7%	85	115	0			
Copper	461.1	25	500	0	92.2%	85	115	0			
Lead	470.0	25	500	0	94.0%	85	115	0			
Molybdenum	517.3	25	500	0	103%	85	115	0			
Nickel	490.2	25	500	0	98.0%	85	115	0			
Selenium	511.8	50	500	0	102%	85	115	0			
Silver	57.70	25	62.5	0	92.3%	85	115	0			
Zinc	498.1	50	500	0	99.6%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:41:19 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433403						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	470.9	100	500	9.88	92.2%	85	115	471	0.0384%	20	
Arsenic	498.1	25	500	0	99.6%	85	115	508	2.06%	20	
Cadmium	499.7	25	500	0	99.9%	85	115	499	0.121%	20	
Chromium	463.4	25	500	0	92.7%	85	115	464	0.0119%	20	
Copper	458.8	25	500	0	91.8%	85	115	461	0.508%	20	
Lead	468.7	25	500	0	93.7%	85	115	470	0.289%	20	
Molybdenum	496.3	25	500	0	99.3%	85	115	517	4.16%	20	
Nickel	487.6	25	500	0	97.5%	85	115	490	0.526%	20	
Selenium	494.0	50	500	0	98.8%	85	115	512	3.53%	20	
Silver	58.56	25	62.5	0	93.7%	85	115	57.7	1.49%	20	
Zinc	494.4	50	500	0	98.9%	85	115	498	0.755%	20	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:24:00 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433162						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	527.2	100	500	12.2	103%	85	115	0			
Magnesium	511.5	100	500	6.36	101%	85	115	0			

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:26:34 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433163						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	523.1	100	500	12.2	102%	85	115	527	0.787%	20	
Magnesium	510.6	100	500	6.36	101%	85	115	512	0.184%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/10/2019 10:21:38 AM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190910B	SeqNo:	1434069						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	521.2	100	500	0	104%	85	115	0			
Magnesium	502.0	100	500	4.74	99.5%	85	115	0			
Sample ID	LCSD-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/10/2019 10:24:13 AM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190910B	SeqNo:	1434070						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	519.5	100	500	0	104%	85	115	521	0.321%	20	
Magnesium	503.4	100	500	4.74	99.7%	85	115	502	0.268%	20	
Sample ID	LCS-37762	Batch ID:	37762	Test Code:	MERCW	Units:	µg/L	Analysis Date	8/30/2019 10:00:58 AM	Prep Date	8/29/2019
Client ID:		Run ID:	CVAA2_190830A	SeqNo:	1432127						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.909	1.0	5.00	0	98.2%	85	115	0			
Sample ID	LCSD-37762	Batch ID:	37762	Test Code:	MERCW	Units:	µg/L	Analysis Date	8/30/2019 10:02:58 AM	Prep Date	8/29/2019
Client ID:		Run ID:	CVAA2_190830A	SeqNo:	1432128						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.891	1.0	5.00	0	97.8%	85	115	4.91	0.353%	20	
Sample ID	BLKSPK	Batch ID:	R100660	Test Code:	NKJEW	Units:	mg/L	Analysis Date	9/3/2019	Prep Date	8/29/2019
Client ID:		Run ID:	WC_190903C	SeqNo:	1432629						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl	10.84	1.0	10.0	0	108%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	BLKSPK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L	Analysis Date 9/3/2019				Prep Date 8/29/2019			
Client ID:			Run ID: WC_190903C			SeqNo: 1432630						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		10.17	1.0	10.0	0	102%	85	115	10.8	6.38%	20	

Sample ID	LCS WL-08281905	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/4/2019				Prep Date 8/28/2019			
Client ID:			Run ID: WC_190904B			SeqNo: 1432805						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4988	0.020	0.500	0	99.8%	85	115	0			

Sample ID	LCSD WL-082819	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/4/2019				Prep Date 8/28/2019			
Client ID:			Run ID: WC_190904B			SeqNo: 1432806						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4880	0.020	0.500	0	97.6%	85	115	0.499	2.19%	10	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/12/2019

CLIENT: Scotia CSD
Work Order: 1908433
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

BOD Organic Standard

Sample ID	ORGANIC STAND	Batch ID: R100665	Test Code: BODW	Units: mg/L	Analysis Date 8/26/2019 10:00:00 AM				Prep Date		
Client ID:		Run ID: WC_190826G				SeqNo: 1432799					
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	211.7	2.0	200	0	106%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6230-1
Client Project/Site: 1908433

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/5/2019 3:52:13 PM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

Job ID: 570-6230-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative 570-6230-1

Comments

No additional comments.

Receipt

The samples were received on 8/29/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

General Chemistry

Method(s) SM 4500 CN E: The continuing calibration blank (CCB) for analytical batch 570-16932 contained cyanide, total above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

Client Sample ID: 1908433-01G INF

Lab Sample ID: 570-6230-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.125	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908433-02G CCB

Lab Sample ID: 570-6230-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.135	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908433-03G EFF

Lab Sample ID: 570-6230-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	1.46	^	0.200	0.0700	mg/L	10		SM 4500 CN E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

General Chemistry

Client Sample ID: 1908433-01G INF

Date Collected: 08/24/19 12:30

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6230-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.125	^	0.0200	0.00700	mg/L	—	09/04/19 08:41	09/04/19 11:24	1

Client Sample ID: 1908433-02G CCB

Date Collected: 08/24/19 12:55

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6230-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.135	^	0.0200	0.00700	mg/L	—	09/04/19 08:41	09/04/19 11:25	1

Client Sample ID: 1908433-03G EFF

Date Collected: 08/24/19 13:20

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6230-3

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	1.46	^	0.200	0.0700	mg/L	—	09/04/19 08:41	09/04/19 11:26	10

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-16841/1-A
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16841

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/04/19 08:41	09/04/19 11:15	1

Lab Sample ID: LCS 570-16841/2-A
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.2030		mg/L		101	80 - 120

Lab Sample ID: LCSD 570-16841/3-A
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.200	0.2055		mg/L		103	80 - 120	1	20

Lab Sample ID: 570-6237-A-3-A MS
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0698	^ F1	0.200	0.2012	F1	mg/L		66	74 - 115

Lab Sample ID: 570-6237-A-3-B MSD
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0698	^ F1	0.200	0.2021	F1	mg/L		66	74 - 115	0	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

General Chemistry

Prep Batch: 16841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6230-1	1908433-01G INF	Total/NA	Wastewater	SM 4500 CN C	
570-6230-2	1908433-02G CCB	Total/NA	Wastewater	SM 4500 CN C	
570-6230-3	1908433-03G EFF	Total/NA	Wastewater	SM 4500 CN C	
MB 570-16841/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-16841/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-16841/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6237-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-6237-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 16932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6230-1	1908433-01G INF	Total/NA	Wastewater	SM 4500 CN E	16841
570-6230-2	1908433-02G CCB	Total/NA	Wastewater	SM 4500 CN E	16841
570-6230-3	1908433-03G EFF	Total/NA	Wastewater	SM 4500 CN E	16841
MB 570-16841/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	16841
LCS 570-16841/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	16841
LCSD 570-16841/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	16841
570-6237-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	16841
570-6237-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	16841

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

Client Sample ID: 1908433-01G INF

Lab Sample ID: 570-6230-1

Date Collected: 08/24/19 12:30

Matrix: Wastewater

Date Received: 08/29/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16932	09/04/19 11:24	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908433-02G CCB

Lab Sample ID: 570-6230-2

Date Collected: 08/24/19 12:55

Matrix: Wastewater

Date Received: 08/29/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16932	09/04/19 11:25	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908433-03G EFF

Lab Sample ID: 570-6230-3

Date Collected: 08/24/19 13:20

Matrix: Wastewater

Date Received: 08/29/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		10	50 mL	50 mL	16932	09/04/19 11:26	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

Method	Method Description	Protocol	Laboratory
SM 4500 CN E	Cyanide, Total	SM	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1908433

Job ID: 570-6230-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6230-1	1908433-01G INF	Wastewater	08/24/19 12:30	08/29/19 10:00	
570-6230-2	1908433-02G CCB	Wastewater	08/24/19 12:55	08/29/19 10:00	
570-6230-3	1908433-03G EFF	Wastewater	08/24/19 13:20	08/29/19 10:00	



**NORTH COAST
LABORATORIES LTD.**

Sub-Contract Chain of Custody Record

Date Shipped: 8/28/2019

PO #: 1908433

Subcontractor: Calscience Environmental Labs
7440 Lincoln Way
Garden Grove, CA 92841

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649



570-6230 Chain of Custody

Attn: SAMPLE RECEIVING

714 895-5494

Email: sub@northcoastlabs.com

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908433-01G INF	8/24/2019 12:30 pm	Waste Water			Total Cyanide - Water
	500 mL brown HDPE with NaOH				
1908433-02G CCB	8/24/2019 12:55 pm	Waste Water			Total Cyanide - Water
	500 mL brown HDPE with NaOH				
1908433-03G EFF	8/24/2019 01:20 pm	Waste Water			Total Cyanide - Water
	500 mL brown HDPE with NaOH				

Relinquished by: *[Signature]* *8/28/19 1420*
Relinquished by:

Received by: *[Signature]* *8/28/19 1000 **
Received by:

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.

3.4/3.6 SCC

** Cal received 8/30/19*

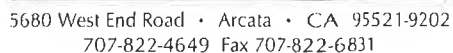
Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6230-1

Login Number: 6230**List Source: Eurofins Calscience****List Number: 1****Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT



September 10, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908434
Invoice No.: 148439
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	INF
01B	INF
01C	INF
01D	INF
01E	INF
01F	INF
02A	CCB
02B	CCB
02C	CCB
02D	CCB
02E	CCB
02F	CCB
03A	EFF
03B	EFF
03C	EFF
03D	EFF
03E	EFF
03F	EFF

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:

Roxanne Moore, Project Manager

Date: 10-Sep-2019
WorkOrder: 1908434

CASE NARRATIVE

Samples for pH, chlorine and dissolved oxygen analysis must be analyzed within 15 minutes of collection. Therefore, any samples requiring these analyses were analyzed past the official holding time.

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

Date: 10-Sep-2019

WorkOrder: 1908434

ANALYTICAL REPORT

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908434-01A

Matrix: Waste Water

Collected 8/25/2019 15:45

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	210			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/05/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	57,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 13:57
Magnesium	17,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 13:57

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	230			20	3	µg/L	1.0	8/30/2019	09/06/19 11:22
Arsenic	ND			5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:22
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:22
Chromium	0.65	J		5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:22
Copper	35			5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:22
Lead	1.5	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:22
Molybdenum	1.7	J		5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 11:22
Nickel	3.9	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:22
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:22
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:22
Zinc	140			10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:22

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:23

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908434-01B

Matrix: Waste Water

Collected 8/25/2019 15:45

Test Name: Ammonia Nitrogen without distillation

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	20			0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	31			2.0	1.9	mg/L	2.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Date: 10-Sep-2019**WorkOrder:** 1908434**ANALYTICAL REPORT**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	31			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	3.3			0.20	0.074	mg/L	10	8/28/2019	09/04/19 0:00

Client Sample ID: INF**Received:** 8/26/2019**Lab ID:** 1908434-01C**Matrix:** Waste Water**Collected:** 8/25/2019 15:45**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	130			2.0	2	mg/L	1.0		08/26/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	86			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: INF**Received:** 8/26/2019**Lab ID:** 1908434-01D**Matrix:** Waste Water**Collected:** 8/25/2019 15:45**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.10			0.10	0.1	mL/L/hour	1.0		08/26/19 0:00

Client Sample ID: INF**Received:** 8/26/2019**Lab ID:** 1908434-01E**Matrix:** Waste Water**Collected:** 8/25/2019 15:45**Test Name:** Free Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Nitrate and/or Nitrite**Analyst:** DAA**Reference:** EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 12:34
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 12:34

Test Name: Total Dissolved Solids**Analyst:** RMS**Reference:** SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	330			10	5.3	mg/L	1.0		08/30/19 0:00

Test Name: Total Residual Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

Date: 10-Sep-2019

WorkOrder: 1908434

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	60			0.50	0.5	NTU	10		08/26/19 0:00

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908434-01F

Matrix: Waste Water

Collected 8/25/2019 15:45

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	22			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: CCB

Received: 8/26/2019

Lab ID: 1908434-02A

Matrix: Waste Water

Collected 8/25/2019 16:15

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	210			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/05/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	56,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 14:01
Magnesium	16,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 14:01

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	210			20	3	µg/L	1.0	8/30/2019	09/06/19 11:26
Arsenic	ND			5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:26
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:26
Chromium	ND			5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:26
Copper	15			5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:26
Lead	0.69	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:26
Molybdenum	1.1	J		5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 11:26
Nickel	3.6	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:26
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:26
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:26
Zinc	38			10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:26

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:25

Date: 10-Sep-2019

WorkOrder: 1908434

ANALYTICAL REPORT**Client Sample ID:** CCB**Received:** 8/26/2019**Lab ID:** 1908434-02B**Matrix:** Waste Water**Collected** 8/25/2019 16:15**Test Name:** Ammonia Nitrogen without distillation**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	11			0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	17			1.0	0.96	mg/L	1.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	17			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	2.9			0.10	0.037	mg/L	5.0	8/28/2019	09/04/19 0:00

Client Sample ID: CCB**Received:** 8/26/2019**Lab ID:** 1908434-02C**Matrix:** Waste Water**Collected** 8/25/2019 16:15**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	110			2.0	2	mg/L	1.0		08/26/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	44			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: CCB**Received:** 8/26/2019**Lab ID:** 1908434-02D**Matrix:** Waste Water**Collected** 8/25/2019 16:15**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.90			0.10	0.1	mL/L/hour	1.0		08/26/19 0:00

Date: 10-Sep-2019

WorkOrder: 1908434

ANALYTICAL REPORT

Client Sample ID: CCB

Received: 8/26/2019

Lab ID: 1908434-02E

Matrix: Waste Water

Collected 8/25/2019 16:15

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.14			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	0.023	J		0.10	0.02	mg/L	1.0		08/26/19 12:51
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 12:51

Test Name: Total Dissolved Solids

Analyst: RMS

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	370			10	5.3	mg/L	1.0		08/30/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	4.0			0.20	0.2	mg/L	2.0		08/26/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	36			0.50	0.5	NTU	10		08/26/19 0:00

Client Sample ID: CCB

Received: 8/26/2019

Lab ID: 1908434-02F

Matrix: Waste Water

Collected 8/25/2019 16:15

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	6.9			4.6	4.1	mg/L	0.93	9/5/2019	09/06/19 11:00

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908434-03A

Matrix: Waste Water

Collected 8/25/2019 16:45

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	490			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/05/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	110,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 14:04
Magnesium	48,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 14:04

Date: 10-Sep-2019**WorkOrder:** 1908434**Test Name:** ICP-MS Metals**Reference:** EPA 200.8 Rev 5.4 (1994)**ANALYTICAL REPORT****Analyst:** ERK

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	180			20	3	µg/L	1.0	8/30/2019	09/06/19 11:30
Arsenic	1.9	J		5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:30
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:30
Chromium	0.66	J		5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:30
Copper	3.4	J		5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:30
Lead	0.40	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:30
Molybdenum	7.3			5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 11:30
Nickel	4.5	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:30
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:30
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:30
Zinc	6.2	J		10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:30

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:29

Client Sample ID: EFF**Received:** 8/26/2019**Lab ID:** 1908434-03B**Matrix:** Waste Water**Collected:** 8/25/2019 16:45**Test Name:** Ammonia Nitrogen without distillation**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	0.078	J		0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	2.8			1.0	0.96	mg/L	1.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	2.8			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	0.39			0.040	0.015	mg/L	2.0	8/28/2019	09/04/19 0:00

Date: 10-Sep-2019

WorkOrder: 1908434

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908434-03C

Matrix: Waste Water

Collected 8/25/2019 16:45

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	9.4			2.0	2	mg/L	1.0		08/26/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	22			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908434-03D

Matrix: Waste Water

Collected 8/25/2019 16:45

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	ND			0.10	0.1	mL/L/hour	1.0		08/26/19 0:00

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908434-03E

Matrix: Waste Water

Collected 8/25/2019 16:45

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.13			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 13:08
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 13:08

Test Name: Total Dissolved Solids

Analyst: RMS

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	660			10	5.3	mg/L	1.0		08/30/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.17			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	26			0.050	0.05	NTU	1.0		08/26/19 0:00

Date: 10-Sep-2019**WorkOrder:** 1908434

ANALYTICAL REPORT

Client Sample ID: EFF**Received:** 8/26/2019**Lab ID:** 1908434-03F**Matrix:** Waste Water**Collected** 8/25/2019 16:45**Test Name:** Hexane Extractable Oil and Grease**Analyst:** JAP**Reference:** EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100704	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/6/2019 11:00:00 AM	Prep Date	9/5/2019	
Client ID:		Run ID:	WC_190905D					SeqNo:	1433470			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		ND	5.0									

Sample ID	MBLANK	Batch ID:	R100644	Test Code:	AMMW	Units:	mg/L	Analysis Date	8/30/2019	Prep Date		
Client ID:		Run ID:	WC_190830I					SeqNo:	1432352			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		0.04700	0.10									J

Sample ID	MB-082619	Batch ID:	R100569	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/26/2019 10:54:56 AM	Prep Date		
Client ID:		Run ID:	INIC2_190826A					SeqNo:	1431264			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		ND	0.10									
Nitrite (as Nitrogen)		ND	0.10									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/6/2019 10:33:08 AM** Prep Date **8/30/2019**
 Client ID: Run ID: **ICPMS2_190906A** SeqNo: **1433401**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.877	20									J
Arsenic	ND	5.0									
Cadmium	ND	5.0									
Chromium	ND	5.0									
Copper	ND	5.0									
Lead	ND	5.0									
Molybdenum	ND	5.0									
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Zinc	ND	10									

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/5/2019 1:22:15 PM** Prep Date **8/30/2019**
 Client ID: Run ID: **INICP2_190905A** SeqNo: **1433161**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	12.25	100									J
Magnesium	6.361	100									J

Sample ID **MB-37762** Batch ID: **37762** Test Code: **MERCW** Units: **µg/L** Analysis Date **8/30/2019 9:58:17 AM** Prep Date **8/29/2019**
 Client ID: Run ID: **CVAA2_190830A** SeqNo: **1432126**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MBLK	Batch ID: R100633	Test Code: NFRW	Units: mg/L	Analysis Date 8/29/2019	Prep Date
Client ID:		Run ID: WC_190829F		SeqNo: 1432260	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Non-Filterable Residue(TSS)	ND	1.0			
Sample ID MBLANK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L	Analysis Date 9/3/2019	Prep Date 8/29/2019
Client ID:		Run ID: WC_190903C		SeqNo: 1432628	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrogen- Total Kjeldahl	ND	1.0			
Sample ID MBLANK WL-0828	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/4/2019	Prep Date 8/28/2019
Client ID:		Run ID: WC_190904B		SeqNo: 1432804	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Phosphate Phosphorus	ND	0.020			
Sample ID MBLK	Batch ID: R100721	Test Code: TDS	Units: mg/L	Analysis Date 8/30/2019	Prep Date
Client ID:		Run ID: WC_190830N		SeqNo: 1433647	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids	ND	10			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	1908434-03FMS	Batch ID:	R100704	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/6/2019 11:00:00 AM	Prep Date	9/5/2019
Client ID:	EFF	Run ID:	WC_190905D	SeqNo:	1433473						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease	33.80	5.0	40.0	0	84.5%	80	107	0			

Sample ID	1908434-03EMS	Batch ID:	R100569	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/26/2019 1:24:40 PM	Prep Date	
Client ID:	EFF	Run ID:	INIC2_190826A	SeqNo:	1431267						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.221	0.10	5.00	0	104%	80	120	0			
Nitrite (as Nitrogen)	4.959	0.10	5.00	0	99.2%	80	120	0			

Sample ID	1908434-02AMS	Batch ID:	37762	Test Code:	MERCW	Units:	µg/L	Analysis Date	8/30/2019 10:27:13 AM	Prep Date	8/29/2019
Client ID:	CCB	Run ID:	CVAA2_190830A	SeqNo:	1432139						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.569	1.0	5.00	0	91.4%	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433471						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		39.50	5.0	40.0	0	98.8%	80	107	0			
Sample ID	LCSD	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433472						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		38.00	5.0	40.0	0	95.0%	80	107	39.5	3.87%	18	
Sample ID	BLKSPK	Batch ID: R100644	Test Code: AMMW	Units: mg/L	Analysis Date	8/30/2019			Prep Date			
Client ID:			Run ID: WC_190830I		SeqNo:	1432353						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.27	0.10	10.0	0.0470	102%	85	115	0			
Sample ID	BLKSPK	Batch ID: R100644	Test Code: AMMW	Units: mg/L	Analysis Date	8/30/2019			Prep Date			
Client ID:			Run ID: WC_190830I		SeqNo:	1432354						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.21	0.10	10.0	0.0470	102%	85	115	10.3	0.586%	20	
Sample ID	LCS-WL-082619-0	Batch ID: R100569	Test Code: ICNOW	Units: mg/L	Analysis Date	8/26/2019 11:11:34 AM			Prep Date			
Client ID:			Run ID: INIC2_190826A		SeqNo:	1431265						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		5.325	0.10	5.00	0	106%	90	110	0			
Nitrite (as Nitrogen)		5.209	0.10	5.00	0	104%	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-D-WL-082619-	Batch ID:	R100569	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/26/2019 11:28:12 AM	Prep Date	
Client ID:		Run ID:	INIC2_190826A	SeqNo:	1431266						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.249	0.10	5.00	0	105%	90	110	5.32	1.43%	10	
Nitrite (as Nitrogen)	5.181	0.10	5.00	0	104%	90	110	5.21	0.539%	10	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:37:14 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433402						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	471.1	100	500	9.88	92.2%	85	115	0			
Arsenic	508.5	25	500	0	102%	85	115	0			
Cadmium	499.1	25	500	0	99.8%	85	115	0			
Chromium	463.5	25	500	0	92.7%	85	115	0			
Copper	461.1	25	500	0	92.2%	85	115	0			
Lead	470.0	25	500	0	94.0%	85	115	0			
Molybdenum	517.3	25	500	0	103%	85	115	0			
Nickel	490.2	25	500	0	98.0%	85	115	0			
Selenium	511.8	50	500	0	102%	85	115	0			
Silver	57.70	25	62.5	0	92.3%	85	115	0			
Zinc	498.1	50	500	0	99.6%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:41:19 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433403						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	470.9	100	500	9.88	92.2%	85	115	471	0.0384%	20	
Arsenic	498.1	25	500	0	99.6%	85	115	508	2.06%	20	
Cadmium	499.7	25	500	0	99.9%	85	115	499	0.121%	20	
Chromium	463.4	25	500	0	92.7%	85	115	464	0.0119%	20	
Copper	458.8	25	500	0	91.8%	85	115	461	0.508%	20	
Lead	468.7	25	500	0	93.7%	85	115	470	0.289%	20	
Molybdenum	496.3	25	500	0	99.3%	85	115	517	4.16%	20	
Nickel	487.6	25	500	0	97.5%	85	115	490	0.526%	20	
Selenium	494.0	50	500	0	98.8%	85	115	512	3.53%	20	
Silver	58.56	25	62.5	0	93.7%	85	115	57.7	1.49%	20	
Zinc	494.4	50	500	0	98.9%	85	115	498	0.755%	20	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:24:00 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433162						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	527.2	100	500	12.2	103%	85	115	0			
Magnesium	511.5	100	500	6.36	101%	85	115	0			

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:26:34 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433163						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	523.1	100	500	12.2	102%	85	115	527	0.787%	20	
Magnesium	510.6	100	500	6.36	101%	85	115	512	0.184%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37762	Batch ID: 37762	Test Code: MERCW	Units: µg/L		Analysis Date	8/30/2019 10:00:58 AM			Prep Date	8/29/2019	
Client ID:			Run ID: CVAA2_190830A			SeqNo:	1432127					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		4.909	1.0	5.00	0	98.2%	85	115	0			
Sample ID	LCSD-37762	Batch ID: 37762	Test Code: MERCW	Units: µg/L		Analysis Date	8/30/2019 10:02:58 AM			Prep Date	8/29/2019	
Client ID:			Run ID: CVAA2_190830A			SeqNo:	1432128					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		4.891	1.0	5.00	0	97.8%	85	115	4.91	0.353%	20	
Sample ID	BLKSPK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L		Analysis Date	9/3/2019			Prep Date	8/29/2019	
Client ID:			Run ID: WC_190903C			SeqNo:	1432629					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		10.84	1.0	10.0	0	108%	85	115	0			
Sample ID	BLKSPK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L		Analysis Date	9/3/2019			Prep Date	8/29/2019	
Client ID:			Run ID: WC_190903C			SeqNo:	1432630					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		10.17	1.0	10.0	0	102%	85	115	10.8	6.38%	20	
Sample ID	LCS WL-08281905	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L		Analysis Date	9/4/2019			Prep Date	8/28/2019	
Client ID:			Run ID: WC_190904B			SeqNo:	1432805					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4988	0.020	0.500	0	99.8%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD WL-082819	Batch ID:	R100666	Test Code:	PO4TOW	Units:	mg/L	Analysis Date	9/4/2019	Prep Date	8/28/2019
Client ID:		Run ID:	WC_190904B	SeqNo:	1432806						
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
										LowLimit	
										HighLimit	
										RPD Ref Val	
										%RPD	
										RPDLimit	
										Qual	
Total Phosphate Phosphorus		0.4880		0.020		0.500		0		97.6%	
										85	
										115	
										0.499	
										2.19%	
										10	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908434
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

BOD Organic Standard

Sample ID	ORGANIC STAND	Batch ID:	R100665	Test Code:	BODW	Units:	mg/L	Analysis Date	8/26/2019 10:00:00 AM	Prep Date	
Client ID:		Run ID:	WC_190826G					SeqNo:	1432799		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	211.7	2.0	200	0	106%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6235-1
Client Project/Site: 1908434

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/6/2019 4:57:08 PM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

Job ID: 570-6235-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative 570-6235-1

Comments

No additional comments.

Receipt

The samples were received on 8/29/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

General Chemistry

Method(s) SM 4500 CN E: The continuing calibration blank (CCB) for analytical batch 570-16932 contained cyanide, total above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method(s) SM 4500 CN E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-16841 and analytical batch 570-16932 were outside control limits: (570-6237-A-3-C), (570-6237-A-3-A MS) and (570-6237-A-3-B MSD). The associated laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recovery met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

Client Sample ID: 1908434-01G INF

Lab Sample ID: 570-6235-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	1.14	^	0.200	0.0700	mg/L	10		SM 4500 CN E	Total/NA

Client Sample ID: 1908434-02G CCB

Lab Sample ID: 570-6235-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	1.38	^	0.200	0.0700	mg/L	10		SM 4500 CN E	Total/NA

Client Sample ID: 1908434-03G EFF

Lab Sample ID: 570-6235-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.122	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

General Chemistry

Client Sample ID: 1908434-01G INF

Date Collected: 08/25/19 15:45

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6235-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	1.14	^	0.200	0.0700	mg/L	—	09/04/19 08:41	09/04/19 11:27	10

Client Sample ID: 1908434-02G CCB

Date Collected: 08/25/19 16:15

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6235-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	1.38	^	0.200	0.0700	mg/L	—	09/04/19 08:41	09/04/19 11:28	10

Client Sample ID: 1908434-03G EFF

Date Collected: 08/25/19 16:45

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6235-3

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.122	^	0.0200	0.00700	mg/L	—	09/04/19 08:41	09/04/19 11:29	1

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-16841/1-A
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16841

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/04/19 08:41	09/04/19 11:15	1

Lab Sample ID: LCS 570-16841/2-A
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.2030		mg/L		101	80 - 120

Lab Sample ID: LCSD 570-16841/3-A
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.200	0.2055		mg/L		103	80 - 120	1	20

Lab Sample ID: 570-6237-A-3-A MS
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0698	^ F1	0.200	0.2012	F1	mg/L		66	74 - 115

Lab Sample ID: 570-6237-A-3-B MSD
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0698	^ F1	0.200	0.2021	F1	mg/L		66	74 - 115	0	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

General Chemistry

Prep Batch: 16841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6235-1	1908434-01G INF	Total/NA	Wastewater	SM 4500 CN C	
570-6235-2	1908434-02G CCB	Total/NA	Wastewater	SM 4500 CN C	
570-6235-3	1908434-03G EFF	Total/NA	Wastewater	SM 4500 CN C	
MB 570-16841/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-16841/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-16841/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6237-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-6237-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 16932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6235-1	1908434-01G INF	Total/NA	Wastewater	SM 4500 CN E	16841
570-6235-2	1908434-02G CCB	Total/NA	Wastewater	SM 4500 CN E	16841
570-6235-3	1908434-03G EFF	Total/NA	Wastewater	SM 4500 CN E	16841
MB 570-16841/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	16841
LCS 570-16841/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	16841
LCSD 570-16841/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	16841
570-6237-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	16841
570-6237-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	16841

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

Client Sample ID: 1908434-01G INF

Date Collected: 08/25/19 15:45

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6235-1

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		10	50 mL	50 mL	16932	09/04/19 11:27	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908434-02G CCB

Date Collected: 08/25/19 16:15

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6235-2

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		10	50 mL	50 mL	16932	09/04/19 11:28	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908434-03G EFF

Date Collected: 08/25/19 16:45

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6235-3

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16932	09/04/19 11:29	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

Method	Method Description	Protocol	Laboratory
SM 4500 CN E	Cyanide, Total	SM	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1908434

Job ID: 570-6235-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6235-1	1908434-01G INF	Wastewater	08/25/19 15:45	08/29/19 10:00	
570-6235-2	1908434-02G CCB	Wastewater	08/25/19 16:15	08/29/19 10:00	
570-6235-3	1908434-03G EFF	Wastewater	08/25/19 16:45	08/29/19 10:00	

6235

Date Shipped: 8/28/2019
PO #: 1908434

Sub-Contract Chain of Custody Record



Subcontractor: Calscience Environmental Labs
7440 Lincoln Way
Garden Grove, CA 92841
Attn: SAMPLE RECEIVING

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

714 895-5494

Email: sub@northcoastlabs.com



570-6235 Chain of Custody

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908434-01G	8/25/2019 03:45 pm	Waste Water			Total Cyanide - Water
INF	500 mL brown HDPE with NaOH				
1908434-02G	8/25/2019 04:15 pm	Waste Water			Total Cyanide - Water
CCB	500 mL brown HDPE with NaOH				
1908434-03G	8/25/2019 04:45 pm	Waste Water			Total Cyanide - Water
EFF	500 mL brown HDPE with NaOH				

Relinquished by: *RG* Date/Time: 8/28/19 1:12
Received by: *Wambel* Date/Time: 8/29/19 1:00
Relinquished by: _____ Received by: _____ Date/Time: _____

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.

3-4/2-6 SCC
APC received 8/30/19

Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6235-1

Login Number: 6235**List Source: Eurofins Calscience****List Number: 1****Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

✓

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT



September 10, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908454
Invoice No.: 148440
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	INF
01B	INF
01C	INF
01D	INF
01E	INF
01F	INF
02A	CCB
02B	CCB
02C	CCB
02D	CCB
02E	CCB
02F	CCB
03A	EFF
03B	EFF
03C	EFF
03D	EFF
03E	EFF
03F	EFF

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:



Roxanne Moore, Project Manager

Date: 10-Sep-2019
WorkOrder: 1908454

CASE NARRATIVE

Samples for pH, chlorine and dissolved oxygen analysis must be analyzed within 15 minutes of collection. Therefore, any samples requiring these analyses were analyzed past the official holding time.

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

Date: 10-Sep-2019

WorkOrder: 1908454

ANALYTICAL REPORT

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908454-01A

Matrix: Waste Water

Collected 8/26/2019 11:30

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	230			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/05/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	63,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 14:08
Magnesium	18,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 14:08

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	120			20	3	µg/L	1.0	8/30/2019	09/06/19 11:34
Arsenic	ND			5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:34
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:34
Chromium	ND			5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:34
Copper	28			5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:34
Lead	0.58	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:34
Molybdenum	1.2	J		5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 11:34
Nickel	3.3	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:34
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:34
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:34
Zinc	48			10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:34

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:31

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908454-01B

Matrix: Waste Water

Collected 8/26/2019 11:30

Test Name: Ammonia Nitrogen without distillation

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	21			0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	26			2.0	1.9	mg/L	2.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Date: 10-Sep-2019

WorkOrder: 1908454

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	26			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus

Analyst: JLM

Reference: SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	6.6			0.20	0.074	mg/L	10	8/28/2019	09/04/19 0:00

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908454-01C

Matrix: Waste Water

Collected 8/26/2019 11:30

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	190			2.0	2	mg/L	1.0		08/26/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	56			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908454-01D

Matrix: Waste Water

Collected 8/26/2019 11:30

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	1.9			0.10	0.1	mL/L/hour	1.0		08/27/19 0:00

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908454-01E

Matrix: Waste Water

Collected 8/26/2019 11:30

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 18:24
Nitrite (as Nitrogen)	0.80			0.10	0.02	mg/L	1.0		08/26/19 18:24

Test Name: Total Dissolved Solids

Analyst: RMS

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	360			10	5.3	mg/L	1.0		09/03/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

Date: 10-Sep-2019

WorkOrder: 1908454

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	33			0.50	0.5	NTU	10		08/26/19 0:00

Client Sample ID: INF

Received: 8/26/2019

Lab ID: 1908454-01F

Matrix: Waste Water

Collected 8/26/2019 11:30

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	8.6			4.6	4	mg/L	0.92	9/5/2019	09/06/19 11:00

Client Sample ID: CCB

Received: 8/26/2019

Lab ID: 1908454-02A

Matrix: Waste Water

Collected 8/26/2019 11:55

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	210			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/05/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	57,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 14:11
Magnesium	17,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 14:11

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	390			20	3	µg/L	1.0	8/30/2019	09/06/19 11:38
Arsenic	ND			5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:38
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:38
Chromium	0.85	J		5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:38
Copper	23			5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:38
Lead	1.4	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:38
Molybdenum	2.4	J		5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 11:38
Nickel	4.4	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:38
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:38
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:38
Zinc	91			10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:38

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:34

Date: 10-Sep-2019

WorkOrder: 1908454

ANALYTICAL REPORT**Client Sample ID:** CCB**Received:** 8/26/2019**Lab ID:** 1908454-02B**Matrix:** Waste Water**Collected** 8/26/2019 11:55**Test Name:** Ammonia Nitrogen without distillation**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	19			0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	29			1.0	0.96	mg/L	1.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	29			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	4.4			0.10	0.037	mg/L	5.0	8/28/2019	09/04/19 0:00

Client Sample ID: CCB**Received:** 8/26/2019**Lab ID:** 1908454-02C**Matrix:** Waste Water**Collected** 8/26/2019 11:55**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	75			2.0	2	mg/L	1.0		08/26/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	110			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: CCB**Received:** 8/26/2019**Lab ID:** 1908454-02D**Matrix:** Waste Water**Collected** 8/26/2019 11:55**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	2.5			0.10	0.1	mL/L/hour	1.0		08/27/19 0:00

Date: 10-Sep-2019

WorkOrder: 1908454

ANALYTICAL REPORT

Client Sample ID: CCB

Received: 8/26/2019

Lab ID: 1908454-02E

Matrix: Waste Water

Collected 8/26/2019 11:55

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.11			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	0.023	J		0.10	0.02	mg/L	1.0		08/26/19 18:41
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 18:41

Test Name: Total Dissolved Solids

Analyst: RMS

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	340			10	5.3	mg/L	1.0		09/03/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	1.8			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	58			0.50	0.5	NTU	10		08/26/19 0:00

Client Sample ID: CCB

Received: 8/26/2019

Lab ID: 1908454-02F

Matrix: Waste Water

Collected 8/26/2019 11:55

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	9.9			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908454-03A

Matrix: Waste Water

Collected 8/26/2019 12:25

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	480			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/05/19 0:00

Test Name: ICAP Metals

Analyst: RMS

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	110,000			100	9.8	µg/L	1.0	8/30/2019	09/05/19 14:17
Magnesium	48,000			100	1.4	µg/L	1.0	8/30/2019	09/05/19 14:17

Date: 10-Sep-2019**WorkOrder:** 1908454**Test Name:** ICP-MS Metals**Reference:** EPA 200.8 Rev 5.4 (1994)**ANALYTICAL REPORT****Analyst:** ERK

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	150			20	3	µg/L	1.0	8/30/2019	09/06/19 11:46
Arsenic	2.3	J		5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:46
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:46
Chromium	2.3	J		5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:46
Copper	2.7	J		5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:46
Lead	0.34	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:46
Molybdenum	7.9			5.0	0.063	µg/L	1.0	8/30/2019	09/06/19 11:46
Nickel	5.5			5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:46
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:46
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:46
Zinc	5.9	J		10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:46

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:36

Client Sample ID: EFF**Received:** 8/26/2019**Lab ID:** 1908454-03B**Matrix:** Waste Water**Collected:** 8/26/2019 12:25**Test Name:** Ammonia Nitrogen without distillation**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	0.048	J		0.10	0.017	mg/L	1.0		08/30/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	2.7			1.0	0.96	mg/L	1.0	8/29/2019	09/03/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	2.7			1.0	N/A	mg/L	1.0		09/04/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	0.39			0.040	0.015	mg/L	2.0	8/28/2019	09/04/19 0:00

Date: 10-Sep-2019

WorkOrder: 1908454

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908454-03C

Matrix: Waste Water

Collected 8/26/2019 12:25

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	8.7			2.0	2	mg/L	1.0		08/26/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	22			1.0	0.6	mg/L	1.0		08/29/19 0:00

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908454-03D

Matrix: Waste Water

Collected 8/26/2019 12:25

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.10			0.10	0.1	mL/L/hour	1.0		08/27/19 0:00

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908454-03E

Matrix: Waste Water

Collected 8/26/2019 12:25

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.18			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 18:57
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/26/19 18:57

Test Name: Total Dissolved Solids

Analyst: RMS

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	630			10	5.3	mg/L	1.0		09/03/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.18			0.10	0.1	mg/L	1.0		08/26/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	27			0.050	0.05	NTU	1.0		08/26/19 0:00

Date: 10-Sep-2019

WorkOrder: 1908454

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/26/2019

Lab ID: 1908454-03F

Matrix: Waste Water

Collected 8/26/2019 12:25

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100704	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/6/2019 11:00:00 AM	Prep Date	9/5/2019
Client ID:		Run ID:	WC_190905D	SeqNo:	1433470						
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Oil and Grease		ND		5.0							

Sample ID	MBLANK	Batch ID:	R100644	Test Code:	AMMW	Units:	mg/L	Analysis Date	8/30/2019	Prep Date	
Client ID:		Run ID:	WC_190830I	SeqNo:	1432352						
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Ammonia Nitrogen		0.04700		0.10							J

Sample ID	MB-082619	Batch ID:	R100569	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/26/2019 10:54:56 AM	Prep Date	
Client ID:		Run ID:	INIC2_190826A	SeqNo:	1431264						
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Nitrate (as Nitrogen)		ND		0.10							
Nitrite (as Nitrogen)		ND		0.10							

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/6/2019 10:33:08 AM** Prep Date **8/30/2019**
 Client ID: Run ID: **ICPMS2_190906A** SeqNo: **1433401**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.877	20									J
Arsenic	ND	5.0									
Cadmium	ND	5.0									
Chromium	ND	5.0									
Copper	ND	5.0									
Lead	ND	5.0									
Molybdenum	ND	5.0									
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Zinc	ND	10									

Sample ID **MB-37764** Batch ID: **37764** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/5/2019 1:22:15 PM** Prep Date **8/30/2019**
 Client ID: Run ID: **INICP2_190905A** SeqNo: **1433161**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	12.25	100									J
Magnesium	6.361	100									J

Sample ID **MB-37762** Batch ID: **37762** Test Code: **MERCW** Units: **µg/L** Analysis Date **8/30/2019 9:58:17 AM** Prep Date **8/29/2019**
 Client ID: Run ID: **CVAA2_190830A** SeqNo: **1432126**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MBLK	Batch ID: R100633	Test Code: NFRW	Units: mg/L	Analysis Date 8/29/2019	Prep Date
Client ID:		Run ID: WC_190829F		SeqNo: 1432260	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Non-Filterable Residue(TSS)	ND	1.0			
Sample ID MBLANK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L	Analysis Date 9/3/2019	Prep Date 8/29/2019
Client ID:		Run ID: WC_190903C		SeqNo: 1432628	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrogen- Total Kjeldahl	ND	1.0			
Sample ID MBLANK WL-0828	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/4/2019	Prep Date 8/28/2019
Client ID:		Run ID: WC_190904B		SeqNo: 1432804	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Phosphate Phosphorus	ND	0.020			
Sample ID MBLK	Batch ID: R100722	Test Code: TDS	Units: mg/L	Analysis Date 9/3/2019	Prep Date
Client ID:		Run ID: WC_190903F		SeqNo: 1433770	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids	5.714	10			J

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	1908454-02AMS	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 11:42:40 AM	Prep Date	8/30/2019
Client ID:	CCB	Run ID:	ICPMS2_190906A	SeqNo:	1433418						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	959.4	100	500	392	114%	70	130	0			
Arsenic	508.0	25	500	0	102%	70	130	0			
Cadmium	513.7	25	500	0	103%	70	130	0			
Chromium	488.0	25	500	0.851	97.4%	70	130	0			
Copper	493.0	25	500	22.6	94.1%	70	130	0			
Lead	478.0	25	500	1.40	95.3%	70	130	0			
Molybdenum	509.1	25	500	2.45	101%	70	130	0			
Nickel	501.4	25	500	4.45	99.4%	70	130	0			
Selenium	496.8	50	500	0	99.4%	70	130	0			
Silver	60.10	25	62.5	0	96.2%	70	130	0			
Zinc	589.3	50	500	91.5	99.6%	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433471						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		39.50	5.0	40.0	0	98.8%	80	107	0			
Sample ID	LCS D	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433472						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		38.00	5.0	40.0	0	95.0%	80	107	39.5	3.87%	18	
Sample ID	BLKSPK	Batch ID: R100644	Test Code: AMMW	Units: mg/L	Analysis Date	8/30/2019			Prep Date			
Client ID:			Run ID: WC_190830I		SeqNo:	1432353						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.27	0.10	10.0	0.0470	102%	85	115	0			
Sample ID	BLKSPK	Batch ID: R100644	Test Code: AMMW	Units: mg/L	Analysis Date	8/30/2019			Prep Date			
Client ID:			Run ID: WC_190830I		SeqNo:	1432354						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.21	0.10	10.0	0.0470	102%	85	115	10.3	0.586%	20	
Sample ID	LCS-WL-082619-0	Batch ID: R100569	Test Code: ICNOW	Units: mg/L	Analysis Date	8/26/2019 11:11:34 AM			Prep Date			
Client ID:			Run ID: INIC2_190826A		SeqNo:	1431265						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		5.325	0.10	5.00	0	106%	90	110	0			
Nitrite (as Nitrogen)		5.209	0.10	5.00	0	104%	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-D-WL-082619-	Batch ID:	R100569	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/26/2019 11:28:12 AM	Prep Date	
Client ID:		Run ID:	INIC2_190826A	SeqNo:	1431266						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.249	0.10	5.00	0	105%	90	110	5.32	1.43%	10	
Nitrite (as Nitrogen)	5.181	0.10	5.00	0	104%	90	110	5.21	0.539%	10	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:37:14 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433402						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	471.1	100	500	9.88	92.2%	85	115	0			
Arsenic	508.5	25	500	0	102%	85	115	0			
Cadmium	499.1	25	500	0	99.8%	85	115	0			
Chromium	463.5	25	500	0	92.7%	85	115	0			
Copper	461.1	25	500	0	92.2%	85	115	0			
Lead	470.0	25	500	0	94.0%	85	115	0			
Molybdenum	517.3	25	500	0	103%	85	115	0			
Nickel	490.2	25	500	0	98.0%	85	115	0			
Selenium	511.8	50	500	0	102%	85	115	0			
Silver	57.70	25	62.5	0	92.3%	85	115	0			
Zinc	498.1	50	500	0	99.6%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:41:19 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433403						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	470.9	100	500	9.88	92.2%	85	115	471	0.0384%	20	
Arsenic	498.1	25	500	0	99.6%	85	115	508	2.06%	20	
Cadmium	499.7	25	500	0	99.9%	85	115	499	0.121%	20	
Chromium	463.4	25	500	0	92.7%	85	115	464	0.0119%	20	
Copper	458.8	25	500	0	91.8%	85	115	461	0.508%	20	
Lead	468.7	25	500	0	93.7%	85	115	470	0.289%	20	
Molybdenum	496.3	25	500	0	99.3%	85	115	517	4.16%	20	
Nickel	487.6	25	500	0	97.5%	85	115	490	0.526%	20	
Selenium	494.0	50	500	0	98.8%	85	115	512	3.53%	20	
Silver	58.56	25	62.5	0	93.7%	85	115	57.7	1.49%	20	
Zinc	494.4	50	500	0	98.9%	85	115	498	0.755%	20	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:24:00 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433162						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	527.2	100	500	12.2	103%	85	115	0			
Magnesium	511.5	100	500	6.36	101%	85	115	0			

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:26:34 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433163						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	523.1	100	500	12.2	102%	85	115	527	0.787%	20	
Magnesium	510.6	100	500	6.36	101%	85	115	512	0.184%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37762	Batch ID: 37762	Test Code: MERCW	Units: µg/L		Analysis Date	8/30/2019 10:00:58 AM			Prep Date	8/29/2019	
Client ID:			Run ID: CVAA2_190830A			SeqNo:	1432127					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		4.909	1.0	5.00	0	98.2%	85	115	0			
Sample ID	LCSD-37762	Batch ID: 37762	Test Code: MERCW	Units: µg/L		Analysis Date	8/30/2019 10:02:58 AM			Prep Date	8/29/2019	
Client ID:			Run ID: CVAA2_190830A			SeqNo:	1432128					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		4.891	1.0	5.00	0	97.8%	85	115	4.91	0.353%	20	
Sample ID	BLKSPK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L		Analysis Date	9/3/2019			Prep Date	8/29/2019	
Client ID:			Run ID: WC_190903C			SeqNo:	1432629					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		10.84	1.0	10.0	0	108%	85	115	0			
Sample ID	BLKSPK	Batch ID: R100660	Test Code: NKJEW	Units: mg/L		Analysis Date	9/3/2019			Prep Date	8/29/2019	
Client ID:			Run ID: WC_190903C			SeqNo:	1432630					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		10.17	1.0	10.0	0	102%	85	115	10.8	6.38%	20	
Sample ID	LCS WL-08281905	Batch ID: R100666	Test Code: PO4TOW	Units: mg/L		Analysis Date	9/4/2019			Prep Date	8/28/2019	
Client ID:			Run ID: WC_190904B			SeqNo:	1432805					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4988	0.020	0.500	0	99.8%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD WL-082819	Batch ID:	R100666	Test Code:	PO4TOW	Units:	mg/L	Analysis Date	9/4/2019	Prep Date	8/28/2019
Client ID:		Run ID:	WC_190904B	SeqNo:	1432806						
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
										LowLimit	
										HighLimit	
										RPD Ref Val	
										%RPD	
										RPDLimit	
										Qual	
Total Phosphate Phosphorus		0.4880		0.020		0.500		0		97.6%	
										85	
										115	
										0.499	
										2.19%	
										10	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/10/2019

CLIENT: Scotia CSD
Work Order: 1908454
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

BOD Organic Standard

Sample ID	ORGANIC STAND	Batch ID:	R100665	Test Code:	BODW	Units:	mg/L	Analysis Date	8/26/2019 10:00:00 AM	Prep Date	
Client ID:		Run ID:	WC_190826G					SeqNo:	1432799		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	211.7	2.0	200	0	106%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6344-1
Client Project/Site: 1908454

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/6/2019 11:40:41 AM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

Job ID: 570-6344-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative 570-6344-1

Comments

No additional comments.

Receipt

The samples were received on 8/29/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

The Chain-of-Custody (COC) was incompleated.

COC not relinquished.

General Chemistry

Method(s) SM 4500 CN E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-16959 and analytical batch 570-17226 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

Client Sample ID: 1908454-01G INF

Lab Sample ID: 570-6344-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0493		0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908454-02G CCB

Lab Sample ID: 570-6344-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0698		0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908454-03G EFF

Lab Sample ID: 570-6344-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0564	F1	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

General Chemistry

Client Sample ID: 1908454-01G INF

Date Collected: 08/26/19 11:30

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6344-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0493		0.0200	0.00700	mg/L	—	09/04/19 13:00	09/05/19 11:00	1

Client Sample ID: 1908454-02G CCB

Date Collected: 08/26/19 11:55

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6344-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0698		0.0200	0.00700	mg/L	—	09/04/19 13:00	09/05/19 10:59	1

Client Sample ID: 1908454-03G EFF

Date Collected: 08/26/19 12:25

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6344-3

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0564	F1	0.0200	0.00700	mg/L	—	09/04/19 13:00	09/05/19 10:58	1

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-16959/1-A
Matrix: Water
Analysis Batch: 17226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16959

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/04/19 13:00	09/05/19 10:53	1

Lab Sample ID: LCS 570-16959/2-A
Matrix: Water
Analysis Batch: 17226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16959

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.1816		mg/L		91	80 - 120

Lab Sample ID: LCSD 570-16959/3-A
Matrix: Water
Analysis Batch: 17226

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16959

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cyanide, Total	0.200	0.1857		mg/L		93	80 - 120	2	20

Lab Sample ID: 570-6344-3 MS
Matrix: Wastewater
Analysis Batch: 17226

Client Sample ID: 1908454-03G EFF
Prep Type: Total/NA
Prep Batch: 16959

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0564	F1	0.200	0.1904	F1	mg/L		67	74 - 115

Lab Sample ID: 570-6344-3 MSD
Matrix: Wastewater
Analysis Batch: 17226

Client Sample ID: 1908454-03G EFF
Prep Type: Total/NA
Prep Batch: 16959

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cyanide, Total	0.0564	F1	0.200	0.1915	F1	mg/L		68	74 - 115	1	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

General Chemistry

Prep Batch: 16959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6344-1	1908454-01G INF	Total/NA	Wastewater	SM 4500 CN C	
570-6344-2	1908454-02G CCB	Total/NA	Wastewater	SM 4500 CN C	
570-6344-3	1908454-03G EFF	Total/NA	Wastewater	SM 4500 CN C	
MB 570-16959/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-16959/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-16959/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6344-3 MS	1908454-03G EFF	Total/NA	Wastewater	SM 4500 CN C	
570-6344-3 MSD	1908454-03G EFF	Total/NA	Wastewater	SM 4500 CN C	

Analysis Batch: 17226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6344-1	1908454-01G INF	Total/NA	Wastewater	SM 4500 CN E	16959
570-6344-2	1908454-02G CCB	Total/NA	Wastewater	SM 4500 CN E	16959
570-6344-3	1908454-03G EFF	Total/NA	Wastewater	SM 4500 CN E	16959
MB 570-16959/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	16959
LCS 570-16959/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	16959
LCSD 570-16959/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	16959
570-6344-3 MS	1908454-03G EFF	Total/NA	Wastewater	SM 4500 CN E	16959
570-6344-3 MSD	1908454-03G EFF	Total/NA	Wastewater	SM 4500 CN E	16959

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

Client Sample ID: 1908454-01G INF

Lab Sample ID: 570-6344-1

Date Collected: 08/26/19 11:30

Matrix: Wastewater

Date Received: 08/29/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16959	09/04/19 13:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17226	09/05/19 11:00	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908454-02G CCB

Lab Sample ID: 570-6344-2

Date Collected: 08/26/19 11:55

Matrix: Wastewater

Date Received: 08/29/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16959	09/04/19 13:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17226	09/05/19 10:59	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908454-03G EFF

Lab Sample ID: 570-6344-3

Date Collected: 08/26/19 12:25

Matrix: Wastewater

Date Received: 08/29/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16959	09/04/19 13:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17226	09/05/19 10:58	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

Method	Method Description	Protocol	Laboratory
SM 4500 CN E	Cyanide, Total	SM	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

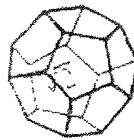
Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1908454

Job ID: 570-6344-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6344-1	1908454-01G INF	Wastewater	08/26/19 11:30	08/29/19 10:00	
570-6344-2	1908454-02G CCB	Wastewater	08/26/19 11:55	08/29/19 10:00	
570-6344-3	1908454-03G EFF	Wastewater	08/26/19 12:25	08/29/19 10:00	

6344



**NORTH COAST
LABORATORIES LTD.**

Sub-Contract Chain of Custody Record

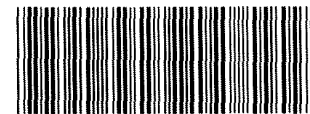
Date Shipped: 9/3/2019
PO #: 1908454

Subcontractor: Calscience Environmental Labs
7440 Lincoln Way
Garden Grove, CA 92841
Attn: SAMPLE RECEIVING

714 895 5494

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649
Email: sub@northcoastlabs.com

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908454-01G	8/26/2019 11:30 am	Waste Water			Total Cyanide - Water
INF	500 mL brown HDPE with NaOH				
1908454-02G	8/26/2019 11:55 am	Waste Water			Total Cyanide - Water
CCB	500 mL brown HDPE with NaOH				
1908454-03G	8/26/2019 12:25 pm	Waste Water			Total Cyanide - Water
EFF	500 mL brown HDPE with NaOH				



570-6344 Chain of Custody

Date/Time

Relinquished by:

Received by:

Date/Time

8/29/19 1000

Relinquished by:

Received by:

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.

3.4/3.6 SC6

Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6344-1

Login Number: 6344**List Source: Eurofins Calscience****List Number: 1****Creator: Le, Danny**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	COC not relinquished.
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



5680 West End Road • Arcata • CA 95521-9202
707-822-4649 Fax 707-822-6831

P. 1 of 35 of 35

Chain of Custody

✓ P. 28

1908454

LABORATORY NUMBER:

Attention: Leslie Marshall

Results & Invoice to: Scotia CSD

Address: 400 Church St.

Scotia, CA 95565

Phone: (707) 764-3030

Copies of Report to: Chuck Swanson, SHN

Sampler (Sign & Print): R. Klacken - R. Klacken

PROJECT INFORMATION

Project Number: 017138.106

Project Name: Scotia Local Limits Study

Purchase Order Number: NA[illegible][illegible]

TAT: ☒ STD(2-3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR
RUSH SAMPLES.

REPORTING REQUIREMENTS:

☐ State Forms
☐ Geotracker ☐ SWAMP ☐ Other EDD:
☒ Final Report PDF ☐ FAX By:

CONTAINER CODES: 1— $\frac{1}{2}$ gal. pl; 2—250 ml pl;
3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG;
6—500 ml BG; 7—1 L BG; 8—40 ml VOA;
9—60 ml VOA; 10—125 ml VOA; 11—4 oz glass jar;
12—8 oz glass jar; 13—brass tube; 14—other
PRESERVATIVE CODES: a— HNO_3 ; b— HCl ; c— H_2SO_4 ;
d— $\text{Na}_2\text{S}_2\text{O}_3$; e— NaOH ; f— $\text{C}_2\text{H}_3\text{O}_2\text{Cl}$; g—other

SAMPLE CONDITION/SPECIAL INSTRUCTIONS	
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*Metals: Al, As, Cd, Cr, Cu, Pb, Hg, Mo, Ni,
Se, Ag, Zn, Hardness

3.8°C / 5.4°C / 5.0°C

SAMPLE DISPOSAL

☒ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA

SHIPPED VIA: UPS Fed-Ex Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; WW = Waste Water; S = Soil; O = Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT



September 11, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908472
Invoice No.: 148464
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	INF
01B	INF
01C	INF
01D	INF
01E	INF
01F	INF
02A	CCB
02B	CCB
02C	CCB
02D	CCB
02E	CCB
02F	CCB
03A	EFF
03B	EFF
03C	EFF
03D	EFF
03E	EFF
03F	EFF

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:

Roxanne Moore, Project Manager

Date: 11-Sep-2019
WorkOrder: 1908472

CASE NARRATIVE

Samples for pH, chlorine and dissolved oxygen analysis must be analyzed within 15 minutes of collection. Therefore, any samples requiring these analyses were analyzed past the official holding time.

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

Date: 11-Sep-2019

WorkOrder: 1908472

ANALYTICAL REPORT

Client Sample ID: INF

Received: 8/27/2019

Lab ID: 1908472-01A

Matrix: Waste Water

Collected 8/27/2019 14:00

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	200			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	51,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 10:23
Magnesium	16,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 10:23

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	180			20	3	µg/L	1.0	9/5/2019	09/09/19 14:43
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 14:43
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 14:43
Chromium	2.6	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 14:43
Copper	43			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 14:43
Lead	1.4	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 14:43
Molybdenum	1.9	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 14:43
Nickel	3.3	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 14:43
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 14:43
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 14:43
Zinc	80			10	1.1	µg/L	1.0	9/5/2019	09/09/19 14:43

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	0.095	J		1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:46

Client Sample ID: INF

Received: 8/27/2019

Lab ID: 1908472-01B

Matrix: Waste Water

Collected 8/27/2019 14:00

Test Name: Ammonia Nitrogen without distillation

Analyst: RMS

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	14			0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	27			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Date: 11-Sep-2019

WorkOrder: 1908472

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	27			1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus

Analyst: JLM

Reference: SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	5.6			0.20	0.074	mg/L	10	9/5/2019	09/06/19 0:00

Client Sample ID: INF

Received: 8/27/2019

Lab ID: 1908472-01C

Matrix: Waste Water

Collected 8/27/2019 14:00

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	1,200			2.0	2	mg/L	1.0		08/29/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	180			1.0	0.6	mg/L	1.0		09/03/19 0:00

Client Sample ID: INF

Received: 8/27/2019

Lab ID: 1908472-01D

Matrix: Waste Water

Collected 8/27/2019 14:00

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	1.5			0.10	0.1	mL/L/hour	1.0		08/28/19 0:00

Client Sample ID: INF

Received: 8/27/2019

Lab ID: 1908472-01E

Matrix: Waste Water

Collected 8/27/2019 14:00

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/27/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/27/19 22:18
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/27/19 22:18

Test Name: Total Dissolved Solids

Analyst: RMS

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	780			10	5.3	mg/L	1.0		09/03/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

Date: 11-Sep-2019

WorkOrder: 1908472

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/27/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	110			0.25	0.25	NTU	5.0		08/28/19 0:00

Client Sample ID: INF

Received: 8/27/2019

Lab ID: 1908472-01F

Matrix: Waste Water

Collected 8/27/2019 14:00

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	11			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: CCB

Received: 8/27/2019

Lab ID: 1908472-02A

Matrix: Waste Water

Collected 8/27/2019 12:35

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	230			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	63,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 10:27
Magnesium	19,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 10:27

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	770			20	3	µg/L	1.0	9/5/2019	09/09/19 14:47
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 14:47
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 14:47
Chromium	2.5	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 14:47
Copper	36			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 14:47
Lead	2.2	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 14:47
Molybdenum	3.1	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 14:47
Nickel	6.7			5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 14:47
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 14:47
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 14:47
Zinc	130			10	1.1	µg/L	1.0	9/5/2019	09/09/19 14:47

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:50

Date: 11-Sep-2019

WorkOrder: 1908472

ANALYTICAL REPORT

Client Sample ID: CCB

Received: 8/27/2019

Lab ID: 1908472-02B

Matrix: Waste Water

Collected 8/27/2019 12:35

Test Name: Ammonia Nitrogen without distillation

Analyst: RMS

Reference: SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	12			0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	22			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	22			1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus

Analyst: JLM

Reference: SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	5.0			0.20	0.074	mg/L	10	9/5/2019	09/06/19 0:00

Client Sample ID: CCB

Received: 8/27/2019

Lab ID: 1908472-02C

Matrix: Waste Water

Collected 8/27/2019 12:35

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	250			2.0	2	mg/L	1.0		08/29/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	140			1.0	0.6	mg/L	1.0		09/03/19 0:00

Client Sample ID: CCB

Received: 8/27/2019

Lab ID: 1908472-02D

Matrix: Waste Water

Collected 8/27/2019 12:35

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	4.5			0.10	0.1	mL/L/hour	1.0		08/28/19 0:00

Date: 11-Sep-2019

WorkOrder: 1908472

ANALYTICAL REPORT

Client Sample ID: CCB

Received: 8/27/2019

Lab ID: 1908472-02E

Matrix: Waste Water

Collected 8/27/2019 12:35

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/27/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/27/19 22:35
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/27/19 22:35

Test Name: Total Dissolved Solids

Analyst: RMS

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	430			10	5.3	mg/L	1.0		09/03/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/27/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	98			0.25	0.25	NTU	5.0		08/28/19 0:00

Client Sample ID: CCB

Received: 8/27/2019

Lab ID: 1908472-02F

Matrix: Waste Water

Collected 8/27/2019 12:35

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	4.3	J		4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: EFF

Received: 8/27/2019

Lab ID: 1908472-03A

Matrix: Waste Water

Collected 8/27/2019 10:45

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	500			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	120,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 10:30
Magnesium	50,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 10:30

Date: 11-Sep-2019**WorkOrder:** 1908472**Test Name:** ICP-MS Metals**Reference:** EPA 200.8 Rev 5.4 (1994)**ANALYTICAL REPORT****Analyst:** ERK

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	110			20	3	µg/L	1.0	9/5/2019	09/09/19 14:51
Arsenic	1.9	J		5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 14:51
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 14:51
Chromium	0.59	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 14:51
Copper	2.2	J		5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 14:51
Lead	0.21	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 14:51
Molybdenum	7.5			5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 14:51
Nickel	4.6	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 14:51
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 14:51
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 14:51
Zinc	4.0	J		10	1.1	µg/L	1.0	9/5/2019	09/09/19 14:51

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:53

Client Sample ID: EFF**Received:** 8/27/2019**Lab ID:** 1908472-03B**Matrix:** Waste Water**Collected:** 8/27/2019 10:45**Test Name:** Ammonia Nitrogen without distillation**Analyst:** RMS**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	0.047	J		0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	2.2			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	2.2			1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	0.40			0.020	0.0074	mg/L	1.0	9/5/2019	09/06/19 0:00

Date: 11-Sep-2019

WorkOrder: 1908472

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/27/2019

Lab ID: 1908472-03C

Matrix: Waste Water

Collected 8/27/2019 10:45

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	10			2.0	2	mg/L	1.0		08/29/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	18			1.0	0.6	mg/L	1.0		09/03/19 0:00

Client Sample ID: EFF

Received: 8/27/2019

Lab ID: 1908472-03D

Matrix: Waste Water

Collected 8/27/2019 10:45

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	ND			0.10	0.1	mL/L/hour	1.0		08/28/19 0:00

Client Sample ID: EFF

Received: 8/27/2019

Lab ID: 1908472-03E

Matrix: Waste Water

Collected 8/27/2019 10:45

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.20			0.10	0.1	mg/L	1.0		08/27/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/27/19 22:51
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/27/19 22:51

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	680	B		10	5.3	mg/L	1.0		09/03/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.20			0.10	0.1	mg/L	1.0		08/27/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	26			0.10	0.1	NTU	2.0		08/28/19 0:00

Date: 11-Sep-2019

WorkOrder: 1908472

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/27/2019

Lab ID: 1908472-03F

Matrix: Waste Water

Collected 8/27/2019 10:45

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

North Coast Laboratories, Ltd.

Date: 9/11/2019

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100704	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/6/2019 11:00:00 AM	Prep Date	9/5/2019	
Client ID:		Run ID:	WC_190905D					SeqNo:	1433470			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		ND	5.0									

Sample ID	MBLK	Batch ID:	R100706	Test Code:	AMMW	Units:	mg/L	Analysis Date	9/6/2019	Prep Date		
Client ID:		Run ID:	WC_190906C					SeqNo:	1433423			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		0.05200	0.10									J

Sample ID	MBLK 082719	Batch ID:	R100591	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/27/2019 5:52:23 PM	Prep Date		
Client ID:		Run ID:	INIC2_190827B					SeqNo:	1431550			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		0.04819	0.10									J
Nitrite (as Nitrogen)		ND	0.10									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID **MB-37784** Batch ID: **37784** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/9/2019 2:23:20 PM** Prep Date **9/5/2019**
 Client ID: Run ID: **ICPMS2_190909A** SeqNo: **1433957**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.663	20									J
Arsenic	ND	5.0									
Cadmium	ND	5.0									
Chromium	ND	5.0									
Copper	ND	5.0									
Lead	ND	5.0									
Molybdenum	0.08300	5.0									J
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Zinc	ND	10									

Sample ID **MB-37784** Batch ID: **37784** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/9/2019 10:14:07 AM** Prep Date **9/5/2019**
 Client ID: Run ID: **INICP2_190909A** SeqNo: **1433860**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	13.12	100									J
Magnesium	3.606	100									J

Sample ID **MB-37762** Batch ID: **37762** Test Code: **MERCW** Units: **µg/L** Analysis Date **8/30/2019 9:58:17 AM** Prep Date **8/29/2019**
 Client ID: Run ID: **CVAA2_190830A** SeqNo: **1432126**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MBLK	Batch ID: R100675	Test Code: NFRW	Units: mg/L	Analysis Date 9/3/2019	Prep Date
Client ID:		Run ID: WC_190903D		SeqNo: 1432926	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Non-Filterable Residue(TSS)	ND	1.0			
Sample ID MBLANK	Batch ID: R100690	Test Code: NKJEW	Units: mg/L	Analysis Date 9/5/2019	Prep Date 9/4/2019
Client ID:		Run ID: WC_190905B		SeqNo: 1433126	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrogen- Total Kjeldahl	ND	1.0			
Sample ID MBLANK WL-0905	Batch ID: R100699	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/6/2019	Prep Date 9/5/2019
Client ID:		Run ID: WC_190906A		SeqNo: 1433307	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Phosphate Phosphorus	ND	0.020			
Sample ID MBLK	Batch ID: R100722	Test Code: TDS	Units: mg/L	Analysis Date 9/3/2019	Prep Date
Client ID:		Run ID: WC_190903F		SeqNo: 1433770	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids	5.714	10			J
Sample ID MBLK	Batch ID: R100772	Test Code: TDS	Units: mg/L	Analysis Date 9/3/2019	Prep Date
Client ID:		Run ID: WC_190903G		SeqNo: 1434193	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids	10.00	10			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/11/2019

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	1908472-01AMS	Batch ID:	37762	Test Code:	MERCW	Units:	µg/L	Analysis Date	8/30/2019 10:48:53 AM	Prep Date	8/29/2019
Client ID:	INF	Run ID:	CVAA2_190830A	SeqNo:	1432149						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.273	1.0	5.00	0.0949	83.6%	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/11/2019

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433471						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		39.50	5.0	40.0	0	98.8%	80	107	0			
Sample ID	LCSD	Batch ID: R100704	Test Code: 1664GOW	Units: mg/L	Analysis Date	9/6/2019 11:00:00 AM			Prep Date	9/5/2019		
Client ID:			Run ID: WC_190905D		SeqNo:	1433472						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		38.00	5.0	40.0	0	95.0%	80	107	39.5	3.87%	18	
Sample ID	LCS	Batch ID: R100706	Test Code: AMMW	Units: mg/L	Analysis Date	9/6/2019			Prep Date			
Client ID:			Run ID: WC_190906C		SeqNo:	1433424						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.26	0.10	10.0	0	103%	85	115	0			
Sample ID	LCSD	Batch ID: R100706	Test Code: AMMW	Units: mg/L	Analysis Date	9/6/2019			Prep Date			
Client ID:			Run ID: WC_190906C		SeqNo:	1433425						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.17	0.10	10.0	0	102%	85	115	0			
Sample ID	LCS WL-082719-0	Batch ID: R100591	Test Code: ICNOW	Units: mg/L	Analysis Date	8/27/2019 6:09:01 PM			Prep Date			
Client ID:			Run ID: INIC2_190827B		SeqNo:	1431551						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		5.009	0.10	5.00	0	100%	90	110	0			
Nitrite (as Nitrogen)		4.918	0.10	5.00	0	98.4%	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-D WL-082719-	Batch ID:	R100591	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/27/2019 6:25:39 PM	Prep Date	
Client ID:		Run ID:	INIC2_190827B	SeqNo:	1431552						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.008	0.10	5.00	0	100%	90	110	5.01	0.0161%	10	
Nitrite (as Nitrogen)	4.886	0.10	5.00	0	97.7%	90	110	4.92	0.661%	10	

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/9/2019 2:27:26 PM	Prep Date	9/5/2019
Client ID:		Run ID:	ICPMS2_190909A	SeqNo:	1433958						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	493.4	100	500	9.66	96.7%	85	115	0			
Arsenic	518.1	25	500	0	104%	85	115	0			
Cadmium	522.5	25	500	0	104%	85	115	0			
Chromium	472.7	25	500	0	94.5%	85	115	0			
Copper	470.8	25	500	0	94.2%	85	115	0			
Lead	483.4	25	500	0	96.7%	85	115	0			
Molybdenum	506.0	25	500	0.0830	101%	85	115	0			
Nickel	487.6	25	500	0	97.5%	85	115	0			
Selenium	532.1	50	500	0	106%	85	115	0			
Silver	60.47	25	62.5	0	96.7%	85	115	0			
Zinc	507.5	50	500	0	101%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/9/2019 2:31:31 PM	Prep Date	9/5/2019
Client ID:		Run ID:	ICPMS2_190909A	SeqNo:	1433959						

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519.4	100	500	9.66	102%	85	115	493	5.13%	20	
Arsenic	547.3	25	500	0	109%	85	115	518	5.49%	20	
Cadmium	541.6	25	500	0	108%	85	115	522	3.59%	20	
Chromium	505.8	25	500	0	101%	85	115	473	6.77%	20	
Copper	500.3	25	500	0	100%	85	115	471	6.07%	20	
Lead	499.7	25	500	0	99.9%	85	115	483	3.32%	20	
Molybdenum	538.7	25	500	0.0830	108%	85	115	506	6.27%	20	
Nickel	529.1	25	500	0	106%	85	115	488	8.17%	20	
Selenium	552.0	50	500	0	110%	85	115	532	3.68%	20	
Silver	64.16	25	62.5	0	103%	85	115	60.5	5.92%	20	
Zinc	524.8	50	500	0	105%	85	115	508	3.36%	20	

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/9/2019 10:16:05 AM	Prep Date	9/5/2019
Client ID:		Run ID:	INICP2_190909A	SeqNo:	1433861						

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	517.1	100	500	13.1	101%	85	115	0			
Magnesium	499.6	100	500	3.61	99.2%	85	115	0			

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/9/2019 10:18:32 AM	Prep Date	9/5/2019
Client ID:		Run ID:	INICP2_190909A	SeqNo:	1433862						

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	515.7	100	500	13.1	101%	85	115	517	0.276%	20	
Magnesium	502.0	100	500	3.61	99.7%	85	115	500	0.475%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37762	Batch ID: 37762	Test Code: MERCW	Units: µg/L		Analysis Date	8/30/2019 10:00:58 AM			Prep Date	8/29/2019	
Client ID:			Run ID: CVAA2_190830A			SeqNo:	1432127					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		4.909	1.0	5.00	0	98.2%	85	115	0			
Sample ID	LCSD-37762	Batch ID: 37762	Test Code: MERCW	Units: µg/L		Analysis Date	8/30/2019 10:02:58 AM			Prep Date	8/29/2019	
Client ID:			Run ID: CVAA2_190830A			SeqNo:	1432128					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		4.891	1.0	5.00	0	97.8%	85	115	4.91	0.353%	20	
Sample ID	BLKSPK	Batch ID: R100690	Test Code: NKJEW	Units: mg/L		Analysis Date	9/5/2019			Prep Date	9/4/2019	
Client ID:			Run ID: WC_190905B			SeqNo:	1433127					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		9.800	1.0	10.0	0	98.0%	85	115	0			
Sample ID	BLKSPK	Batch ID: R100690	Test Code: NKJEW	Units: mg/L		Analysis Date	9/5/2019			Prep Date	9/4/2019	
Client ID:			Run ID: WC_190905B			SeqNo:	1433128					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		9.924	1.0	10.0	0	99.2%	85	115	9.80	1.26%	20	
Sample ID	LCS WL-09051905	Batch ID: R100699	Test Code: PO4TOW	Units: mg/L		Analysis Date	9/6/2019			Prep Date	9/5/2019	
Client ID:			Run ID: WC_190906A			SeqNo:	1433308					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4983	0.020	0.500	0	99.7%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD WL-090519	Batch ID:	R100699	Test Code:	PO4TOW	Units:	mg/L	Analysis Date	9/6/2019	Prep Date	9/5/2019
Client ID:		Run ID:	WC_190906A	SeqNo:	1433309						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus	0.4892	0.020	0.500	0	97.8%	85	115	0.498	1.84%	10	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/11/2019

CLIENT: Scotia CSD
Work Order: 1908472
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

BOD Organic Standard

Sample ID	ORGANIC STAND	Batch ID:	R100667	Test Code:	BODW	Units:	mg/L	Analysis Date	8/29/2019 10:00:00 AM	Prep Date	
Client ID:		Run ID:	WC_190829G					SeqNo:	1432849		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	208.3	2.0	200	0	104%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6237-1
Client Project/Site: 1908472

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/6/2019 4:58:36 PM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

Job ID: 570-6237-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative 570-6237-1

Comments

No additional comments.

Receipt

The samples were received on 8/29/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

General Chemistry

Method(s) SM 4500 CN E: The continuing calibration blank (CCB) for analytical batch 570-16932 contained cyanide, total above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method(s) SM 4500 CN E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-16841 and analytical batch 570-16932 were outside control limits: 1908472-03G EFF (570-6237-3), (570-6237-A-3-A MS) and (570-6237-A-3-B MSD). The associated laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recovery met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

Client Sample ID: 1908472-01G INF

Lab Sample ID: 570-6237-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.106	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908472-02G CCB

Lab Sample ID: 570-6237-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.112	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908472-03G EFF

Lab Sample ID: 570-6237-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0698	^ F1	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

General Chemistry

Client Sample ID: 1908472-01G INF

Date Collected: 08/27/19 14:00

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6237-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.106	^	0.0200	0.00700	mg/L	—	09/04/19 08:41	09/04/19 11:21	1

Client Sample ID: 1908472-02G CCB

Date Collected: 08/27/19 12:35

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6237-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.112	^	0.0200	0.00700	mg/L	—	09/04/19 08:41	09/04/19 11:22	1

Client Sample ID: 1908472-03G EFF

Date Collected: 08/27/19 10:45

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6237-3

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0698	^ F1	0.0200	0.00700	mg/L	—	09/04/19 08:41	09/04/19 11:20	1

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-16841/1-A
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16841

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/04/19 08:41	09/04/19 11:15	1

Lab Sample ID: LCS 570-16841/2-A
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.2030		mg/L		101	80 - 120

Lab Sample ID: LCSD 570-16841/3-A
Matrix: Water
Analysis Batch: 16932

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cyanide, Total	0.200	0.2055		mg/L		103	80 - 120	1	20

Lab Sample ID: 570-6237-3 MS
Matrix: Wastewater
Analysis Batch: 16932

Client Sample ID: 1908472-03G EFF
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0698	^ F1	0.200	0.2012	F1	mg/L		66	74 - 115

Lab Sample ID: 570-6237-3 MSD
Matrix: Wastewater
Analysis Batch: 16932

Client Sample ID: 1908472-03G EFF
Prep Type: Total/NA
Prep Batch: 16841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cyanide, Total	0.0698	^ F1	0.200	0.2021	F1	mg/L		66	74 - 115	0	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

General Chemistry

Prep Batch: 16841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6237-1	1908472-01G INF	Total/NA	Wastewater	SM 4500 CN C	
570-6237-2	1908472-02G CCB	Total/NA	Wastewater	SM 4500 CN C	
570-6237-3	1908472-03G EFF	Total/NA	Wastewater	SM 4500 CN C	
MB 570-16841/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-16841/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-16841/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6237-3 MS	1908472-03G EFF	Total/NA	Wastewater	SM 4500 CN C	
570-6237-3 MSD	1908472-03G EFF	Total/NA	Wastewater	SM 4500 CN C	

Analysis Batch: 16932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6237-1	1908472-01G INF	Total/NA	Wastewater	SM 4500 CN E	16841
570-6237-2	1908472-02G CCB	Total/NA	Wastewater	SM 4500 CN E	16841
570-6237-3	1908472-03G EFF	Total/NA	Wastewater	SM 4500 CN E	16841
MB 570-16841/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	16841
LCS 570-16841/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	16841
LCSD 570-16841/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	16841
570-6237-3 MS	1908472-03G EFF	Total/NA	Wastewater	SM 4500 CN E	16841
570-6237-3 MSD	1908472-03G EFF	Total/NA	Wastewater	SM 4500 CN E	16841

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

Client Sample ID: 1908472-01G INF

Date Collected: 08/27/19 14:00

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6237-1

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16932	09/04/19 11:21	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908472-02G CCB

Date Collected: 08/27/19 12:35

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6237-2

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16932	09/04/19 11:22	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908472-03G EFF

Date Collected: 08/27/19 10:45

Date Received: 08/29/19 10:00

Lab Sample ID: 570-6237-3

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16841	09/04/19 08:41	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16932	09/04/19 11:20	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

Method	Method Description	Protocol	Laboratory
SM 4500 CN E	Cyanide, Total	SM	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1908472

Job ID: 570-6237-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6237-1	1908472-01G INF	Wastewater	08/27/19 14:00	08/29/19 10:00	
570-6237-2	1908472-02G CCB	Wastewater	08/27/19 12:35	08/29/19 10:00	
570-6237-3	1908472-03G EFF	Wastewater	08/27/19 10:45	08/29/19 10:00	

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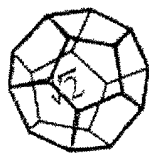
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**NORTH COAST
LABORATORIES LTD.**

Sub-Contract Chain of Custody Record

Date Shipped: 8/28/2019
PO #: 1908472

Subcontractor: Calscience Enironmental Labs
7440 Lincoln Way
Garden Grove, CA 92841

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649



570-6237 Chain of Custody

Attn: SAMPLE RECEIVING

714 895-5494

Email: sub@northcoastlabs.com

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908472-01G INF	8/27/2019 02:00 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908472-02G CCB	8/27/2019 12:35 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908472-03G EFF	8/27/2019 10:45 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water

Relinquished by: *[Signature]* Date/Time: 8/27/19 1420

Relinquished by: _____

Received by: *[Signature]* Date/Time: 8/29/19 1000P

Received by: _____

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.

3-4/3.6 SCG

[Signature] we received 8/30/19

Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6237-1

Login Number: 6237**List Source: Eurofins Calscience****List Number: 1****Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



September 30, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908473
Invoice No.: 148850
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
----------	---------------------------

01A	INF
01B	INF
01C	INF
01D	INF
01E	INF

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:

Roxanne Moore, Project Manager

Date: 03-Oct-2019
WorkOrder: 1908473

CASE NARRATIVE

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

EPA 624:

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recovery was above the upper acceptance limit for trichlorofluoromethane. The elevated recovery equates to a high bias. There were no detectable levels of the analyte in the sample; therefore, the data were accepted.

The laboratory control sample (LCS) recovery was below the lower acceptance limit for chloromethane. The response of the reporting limit standard was such that the analyte would have been detected even with the low recovery; therefore, the data were accepted.

Date: 02-Oct-2019**WorkOrder:** 1908473**ANALYTICAL REPORT****Client Sample ID:** INF**Received:** 8/27/2019**Lab ID:** 1908473-01A**Matrix:** Waste Water**Collected** 8/27/2019 14:00**Test Name:** Hardness**Analyst:** RMS**Reference:** SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	210			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals**Analyst:** ERK**Reference:** EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	55,000			20	9.8	µg/L	1.0	9/5/2019	09/09/19 10:33
Magnesium	17,000			20	1.4	µg/L	1.0	9/5/2019	09/09/19 10:33

Test Name: ICP-MS Metals**Analyst:** ERK**Reference:** EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Antimony	1.0	J		5.0	0.047	µg/L	1.0	9/5/2019	09/09/19 14:56
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 14:56
Beryllium	ND			1.0	0.057	µg/L	1.0	9/5/2019	09/09/19 14:56
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 14:56
Chromium	1.0	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 14:56
Copper	48			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 14:56
Lead	2.1	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 14:56
Nickel	3.9	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 14:56
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 14:56
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 14:56
Thallium	ND			5.0	0.026	µg/L	1.0	9/5/2019	09/09/19 14:56
Zinc	95			10	1.1	µg/L	1.0	9/5/2019	09/09/19 14:56

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	0.37	J		1.0	0.072	µg/L	1.0	9/6/2019	09/08/19 11:35

Test Name: Trivalent chromium**Analyst:** RMS**Reference:** Calculation

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Trivalent Chromium	ND	J		10	N/A	µg/L	1.0		09/10/19 0:00

Client Sample ID: INF**Received:** 8/27/2019**Lab ID:** 1908473-01B**Matrix:** Waste Water**Collected** 8/27/2019 14:00**Test Name:** Hexavalent Chromium**Analyst:** JLM**Reference:** SM 3500-CrB, 2009. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hexavalent Chromium	ND			5.0	1.5	µg/L	1.0	8/28/2019	09/05/19 0:00

NORTH COAST LABORATORIES

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Date: 02-Oct-2019

WorkOrder: 1908473

ANALYTICAL REPORT

Client Sample ID: INF

Received: 8/27/2019

Lab ID: 1908473-01C

Matrix: Waste Water

Collected 8/27/2019 14:00

Test Name: Purgeables by GC/MS

Analyst: JWP

Reference: EPA 624.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Chloromethane	ND			2.0	0.15	µg/L	1.0		09/06/19 17:06
Vinyl Chloride	ND			1.0	0.07	µg/L	1.0		09/06/19 17:06
Bromomethane	ND			2.0	0.24	µg/L	1.0		09/06/19 17:06
Chloroethane	ND			1.0	0.13	µg/L	1.0		09/06/19 17:06
Trichlorofluoromethane	ND			1.0	0.22	µg/L	1.0		09/06/19 17:06
1,1-Dichloroethene	ND			1.0	0.33	µg/L	1.0		09/06/19 17:06
Methylene chloride	0.24	J		2.0	0.14	µg/L	1.0		09/06/19 17:06
trans-1,2-dichloroethene	ND			1.0	0.26	µg/L	1.0		09/06/19 17:06
1,1-Dichloroethane	ND			1.0	0.29	µg/L	1.0		09/06/19 17:06
Chloroform	1.3			1.0	0.33	µg/L	1.0		09/06/19 17:06
Carbon tetrachloride	ND			1.0	0.44	µg/L	1.0		09/06/19 17:06
1,1,1-Trichloroethane	ND			1.0	0.31	µg/L	1.0		09/06/19 17:06
Benzene	ND			1.0	0.28	µg/L	1.0		09/06/19 17:06
1,2-Dichloroethane	ND			1.0	0.32	µg/L	1.0		09/06/19 17:06
Trichloroethene	ND			1.0	0.25	µg/L	1.0		09/06/19 17:06
1,2-Dichloropropane	ND			1.0	0.25	µg/L	1.0		09/06/19 17:06
Bromodichloromethane	0.77	J		1.0	0.32	µg/L	1.0		09/06/19 17:06
cis-1,3-dichloropropene	ND			1.0	0.3	µg/L	1.0		09/06/19 17:06
Toluene	3.2			1.0	0.16	µg/L	1.0		09/06/19 17:06
Tetrachloroethene	ND			1.0	0.23	µg/L	1.0		09/06/19 17:06
trans-1,3-dichloropropene	ND			1.0	0.17	µg/L	1.0		09/06/19 17:06
1,1,2-Trichloroethane	ND			1.0	0.21	µg/L	1.0		09/06/19 17:06
Dibromochloromethane	0.90	J		1.0	0.24	µg/L	1.0		09/06/19 17:06
Chlorobenzene	ND			1.0	0.2	µg/L	1.0		09/06/19 17:06
Ethylbenzene	ND			1.0	0.2	µg/L	1.0		09/06/19 17:06
m,p-Xylene	ND			1.0	0.3	µg/L	1.0		09/06/19 17:06
o-Xylene	ND			1.0	0.15	µg/L	1.0		09/06/19 17:06
Bromoform	0.53	J		1.0	0.32	µg/L	1.0		09/06/19 17:06
1,1,2,2-Tetrachloroethane	ND			1.0	0.16	µg/L	1.0		09/06/19 17:06
1,3-Dichlorobenzene	ND			1.0	0.18	µg/L	1.0		09/06/19 17:06
1,4-Dichlorobenzene	ND			1.0	0.23	µg/L	1.0		09/06/19 17:06
1,2-Dichlorobenzene	ND			1.0	0.19	µg/L	1.0		09/06/19 17:06
Surrogate: 1,2-Dichlorobenzene-d4	100			70-130	N/A	% Rec	1.0		09/06/19 17:06
Surrogate: 1,2-Dichloroethane-d4	111			72.1-128	N/A	% Rec	1.0		09/06/19 17:06
Surrogate: Dibromofluoromethane	109			80.1-124	N/A	% Rec	1.0		09/06/19 17:06
Surrogate: Toluene-d8	95.4			72.2-125	N/A	% Rec	1.0		09/06/19 17:06

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Date: 02-Oct-2019

WorkOrder: 1908473

ANALYTICAL REPORT

Client Sample ID: INF

Lab ID: 1908473-01D

Matrix: Waste Water

Test Name: Acrolein/acrylonitrile by EPA 624

Reference: EPA 624

Received: 8/27/2019

Collected 8/27/2019 14:00

Analyst: JWP

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
2-Chloroethylvinyl ether	ND			5.0	0.33	µg/L	1.0		08/28/19 19:05
Acrolein	ND			2.0	0.71	µg/L	1.0		08/28/19 19:05
Acrylonitrile	ND			2.0	0.19	µg/L	1.0		08/28/19 19:05
Surrogate: Dibromofluoromethane	100			70-130	N/A	% Rec	1.0		08/28/19 19:05

Client Sample ID: INF

Lab ID: 1908473-01E

Matrix: Waste Water

Test Name: Organochlorine Pesticides and PCBs

Reference: EPA 608

Received: 8/27/2019

Collected 8/27/2019 14:00

Analyst: WHB

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Endrin Ketone	ND			0.10	0.025	µg/L	1.0	8/30/2019	09/21/19 9:59
alpha-BHC	ND			0.10	0.027	µg/L	1.0	8/30/2019	09/21/19 9:59
beta-BHC	ND			0.10	0.023	µg/L	1.0	8/30/2019	09/21/19 9:59
Lindane	ND			0.10	0.024	µg/L	1.0	8/30/2019	09/21/19 9:59
delta-BHC	ND			0.10	0.043	µg/L	1.0	8/30/2019	09/21/19 9:59
Heptachlor	ND			0.10	0.024	µg/L	1.0	8/30/2019	09/21/19 9:59
Aldrin	ND			0.10	0.052	µg/L	1.0	8/30/2019	09/21/19 9:59
Heptachlor Epoxide	ND			0.10	0.022	µg/L	1.0	8/30/2019	09/21/19 9:59
Endosulfan I	ND			0.10	0.032	µg/L	1.0	8/30/2019	09/21/19 9:59
4,4'-DDE	ND			0.10	0.032	µg/L	1.0	8/30/2019	09/21/19 9:59
Dieldrin	ND			0.10	0.03	µg/L	1.0	8/30/2019	09/21/19 9:59
Endrin	ND			0.10	0.026	µg/L	1.0	8/30/2019	09/21/19 9:59
Endosulfan II	ND			0.10	0.072	µg/L	1.0	8/30/2019	09/21/19 9:59
4,4'-DDD	ND			0.10	0.027	µg/L	1.0	8/30/2019	09/21/19 9:59
Endrin Aldehyde	ND			0.10	0.09	µg/L	1.0	8/30/2019	09/21/19 9:59
Endosulfan Sulfate	ND			0.10	0.033	µg/L	1.0	8/30/2019	09/21/19 9:59
4,4'-DDT	ND			0.10	0.033	µg/L	1.0	8/30/2019	09/21/19 9:59
Methoxychlor	ND			0.10	0.032	µg/L	1.0	8/30/2019	09/21/19 9:59
Chlordane	ND			1.0	0.5	µg/L	1.0	8/30/2019	09/22/19 2:44
Toxaphene	ND			1.0	0.1	µg/L	1.0	8/30/2019	09/22/19 18:39
PCB Aroclor 1016	ND			0.50	0.1	µg/L	1.0	8/30/2019	09/24/19 0:57
PCB Aroclor 1221	ND			0.50	0.1	µg/L	1.0	8/30/2019	09/24/19 0:57
PCB Aroclor 1232	ND			0.50	0.1	µg/L	1.0	8/30/2019	09/24/19 0:57
PCB Aroclor 1242	ND			0.50	0.16	µg/L	1.0	8/30/2019	09/24/19 0:57
PCB Aroclor 1248	ND			0.50	0.1	µg/L	1.0	8/30/2019	09/24/19 0:57
PCB Aroclor 1254	ND			0.50	0.21	µg/L	1.0	8/30/2019	09/24/19 0:57
PCB Aroclor 1260	ND			0.50	0.2	µg/L	1.0	8/30/2019	09/24/19 0:57
Surrogate: DCB	75.7			42.6-109	N/A	% Rec	1.0	8/30/2019	09/21/19 9:59
Surrogate: TCmX	60.4			20-114	N/A	% Rec	1.0	8/30/2019	09/21/19 9:59

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North Coast Laboratories, Ltd.

Date: 10/2/2019

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MB-37766	Batch ID:	37766	Test Code:	608	Units:	µg/L	Analysis Date	9/21/2019 5:47:47 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ORGC15_190920A					SeqNo:	1437369		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Endrin Ketone	ND	0.10									
alpha-BHC	ND	0.10									
beta-BHC	ND	0.10									
Lindane	ND	0.10									
delta-BHC	ND	0.10									
Heptachlor	ND	0.10									
Aldrin	ND	0.10									
Heptachlor Epoxide	ND	0.10									
Endosulfan I	ND	0.10									
4,4'-DDE	ND	0.10									
Dieldrin	ND	0.10									
Endrin	ND	0.10									
Endosulfan II	ND	0.10									
4,4'-DDD	ND	0.10									
Endrin Aldehyde	ND	0.10									
Endosulfan Sulfate	ND	0.10									
4,4'-DDT	ND	0.10									
Methoxychlor	ND	0.10									
Chlordane	ND	1.0									
Toxaphene	ND	1.0									
PCB Aroclor 1016	ND	0.50									
PCB Aroclor 1221	ND	0.50									
PCB Aroclor 1232	ND	0.50									
PCB Aroclor 1242	ND	0.50									
PCB Aroclor 1248	ND	0.50									
PCB Aroclor 1254	ND	0.50									
PCB Aroclor 1260	ND	0.50									
Surrogate: TCmX	0.117	0.10	0.500	0	23.4%	20	114	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT:

Work Order:

Project:

Scotia CSD
1908473
017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Surrogate: DCB	0.386	0.10	0.500	0	77.3%	43	109	0
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CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MB 090619	Batch ID: R100720	Test Code: 624	Units: µg/L	Analysis Date	9/6/2019 2:41:00 PM			Prep Date		
Client ID:		Run ID:	ORGCMS2_190906B		SeqNo:	1433641					
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	0.3252	2.0									J
Vinyl Chloride	ND	1.0									
Bromomethane	ND	2.0									
Chloroethane	ND	1.0									
Trichlorofluoromethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
Methylene chloride	ND	2.0									
trans-1,2-dichloroethene	ND	1.0									
1,1-Dichloroethane	ND	1.0									
Chloroform	ND	1.0									
Carbon tetrachloride	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
Benzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
Trichloroethene	ND	1.0									
1,2-Dichloropropane	ND	1.0									
Bromodichloromethane	ND	1.0									
cis-1,3-dichloropropene	ND	1.0									
Toluene	ND	1.0									
Tetrachloroethene	ND	1.0									
trans-1,3-dichloropropene	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
Dibromochloromethane	ND	1.0									
Chlorobenzene	ND	1.0									
Ethylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
o-Xylene	ND	1.0									
Bromoform	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

1,3-Dichlorobenzene	ND	1.0							
1,4-Dichlorobenzene	ND	1.0							
1,2-Dichlorobenzene	ND	1.0							
Surrogate: Dibromofluoromethane	1.04	0.10	1.00	0	104%	80	124	0	
Surrogate: 1,2-Dichloroethane-d4	1.11	0.10	1.00	0	111%	72	128	0	
Surrogate: Toluene-d8	0.959	0.10	1.00	0	95.9%	72	125	0	
Surrogate: 1,2-Dichlorobenzene-d4	1.02	0.10	1.00	0	102%	70	130	0	

Sample ID	MB 082819	Batch ID:	R100602	Test Code:	A624W	Units:	µg/L	Analysis Date	8/28/2019 5:03:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS3_190828A	SeqNo:	1431751						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethylvinyl ether	ND	5.0									
Acrolein	ND	2.0									
Acrylonitrile	ND	2.0									
Surrogate: Dibromofluoromethane	1.03	0.10	1.00	0	103%	80	120	0			

Sample ID	MBLANK WL-0905	Batch ID:	R100679	Test Code:	CHR6CW	Units:	µg/L	Analysis Date	9/5/2019	Prep Date	9/5/2019	
Client ID:		Run ID:	WC_190905A					SeqNo:	1432988			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium		ND	5.0									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID **MB-37784** Batch ID: **37784** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/9/2019 2:23:20 PM** Prep Date **9/5/2019**
 Client ID: Run ID: **ICPMS2_190909A** SeqNo: **1433957**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.0									
Arsenic	ND	5.0									
Beryllium	ND	1.0									
Cadmium	ND	5.0									
Chromium	ND	5.0									
Copper	ND	5.0									
Lead	ND	5.0									
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Thallium	ND	5.0									
Zinc	ND	10									

Sample ID **MB-37784** Batch ID: **37784** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/9/2019 10:14:07 AM** Prep Date **9/5/2019**
 Client ID: Run ID: **INICP2_190909A** SeqNo: **1433860**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	13.12	100									J
Magnesium	3.606	100									J

Sample ID **MB-37790** Batch ID: **37790** Test Code: **MERCW** Units: **µg/L** Analysis Date **9/8/2019 11:22:12 AM** Prep Date **9/6/2019**
 Client ID: Run ID: **CVAA2_190908A** SeqNo: **1433619**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 10/2/2019

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	1908473-01AMS	Batch ID:	37790	Test Code:	MERCW	Units:	µg/L	Analysis Date	9/8/2019 11:37:48 AM	Prep Date	9/6/2019
Client ID:	INF	Run ID:	CVAA2_190908A	SeqNo:	1433626						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.804	1.0	5.00	0.373	88.6%	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 10/2/2019

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37766	Batch ID:	37766	Test Code:	608	Units:	µg/L	Analysis Date	9/21/2019 6:38:03 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ORGC15_190920A	SeqNo:	1437370						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Endrin Ketone	0.3637	0.10	0.500	0	72.7%	44	119	0			
alpha-BHC	0.3692	0.10	0.500	0	73.8%	41	121	0			
beta-BHC	0.3907	0.10	0.500	0	78.1%	48	120	0			
Lindane	0.3778	0.10	0.500	0	75.6%	49	116	0			
delta-BHC	0.3466	0.10	0.500	0	69.3%	49	123	0			
Heptachlor	0.2617	0.10	0.500	0	52.3%	22	116	0			
Aldrin	0.1527	0.10	0.500	0	30.5%	20	116	0			
Heptachlor Epoxide	0.4005	0.10	0.500	0	80.1%	49	115	0			
Endosulfan I	0.3994	0.10	0.500	0	79.9%	48	120	0			
4,4'-DDE	0.4021	0.10	0.500	0	80.4%	20	127	0			
Dieldrin	0.3647	0.10	0.500	0	72.9%	47	121	0			
Endrin	0.4231	0.10	0.500	0	84.6%	40	166	0			
Endosulfan II	0.3907	0.10	0.500	0	78.1%	45	122	0			
4,4'-DDD	0.3721	0.10	0.500	0	74.4%	51	117	0			
Endrin Aldehyde	0.3200	0.10	0.500	0	64.0%	41	113	0			
Endosulfan Sulfate	0.3445	0.10	0.500	0	68.9%	51	118	0			
4,4'-DDT	0.4136	0.10	0.500	0	82.7%	47	123	0			
Methoxychlor	0.4200	0.10	0.500	0	84.0%	54	129	0			
Chlordane	4.980	1.0	5.00	0	99.6%	70	120	0			
Toxaphene	3.966	1.0	5.00	0	79.3%	41	126	0			
PCB Aroclor 1260	3.412	0.50	5.00	0	68.2%	8	127	0			
Surrogate: TCmX	0.128	0.10	0.500	0	25.5%	20	114	0			
Surrogate: DCB	0.382	0.10	0.500	0	76.5%	43	109	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-37766	Batch ID:	37766	Test Code:	608	Units:	µg/L	Analysis Date	9/21/2019 7:28:19 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ORGC15_190920A					SeqNo:	1437371		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Endrin Ketone	0.3774	0.10	0.500	0	75.5%	44	119	0.364	3.70%	30	
alpha-BHC	0.3814	0.10	0.500	0	76.3%	41	121	0.369	3.24%	30	
beta-BHC	0.4019	0.10	0.500	0	80.4%	48	120	0.391	2.83%	30	
Lindane	0.3973	0.10	0.500	0	79.5%	49	116	0.378	5.03%	30	
delta-BHC	0.3491	0.10	0.500	0	69.8%	49	123	0.347	0.711%	30	
Heptachlor	0.2770	0.10	0.500	0	55.4%	22	116	0.262	5.68%	30	
Aldrin	0.1567	0.10	0.500	0	31.3%	20	116	0.153	2.57%	30	
Heptachlor Epoxide	0.4203	0.10	0.500	0	84.1%	49	115	0.400	4.82%	30	
Endosulfan I	0.4196	0.10	0.500	0	83.9%	48	120	0.399	4.92%	30	
4,4' -DDE	0.4212	0.10	0.500	0	84.2%	20	127	0.402	4.64%	30	
Dieldrin	0.3903	0.10	0.500	0	78.1%	47	121	0.365	6.78%	30	
Endrin	0.4435	0.10	0.500	0	88.7%	40	166	0.423	4.72%	30	
Endosulfan II	0.3971	0.10	0.500	0	79.4%	45	122	0.391	1.64%	30	
4,4' -DDD	0.3941	0.10	0.500	0	78.8%	51	117	0.372	5.74%	30	
Endrin Aldehyde	0.3496	0.10	0.500	0	69.9%	41	113	0.320	8.84%	30	
Endosulfan Sulfate	0.3566	0.10	0.500	0	71.3%	51	118	0.344	3.46%	30	
4,4' -DDT	0.4347	0.10	0.500	0	86.9%	47	123	0.414	4.96%	30	
Methoxychlor	0.4452	0.10	0.500	0	89.0%	54	129	0.420	5.83%	30	
Chlordane	3.689	1.0	5.00	0	73.8%	70	120	4.98	29.8%	30	
Toxaphene	3.888	1.0	5.00	0	77.8%	41	126	3.97	1.98%	30	
PCB Aroclor 1260	3.834	0.50	5.00	0	76.7%	8	127	3.41	11.6%	30	
Surrogate: TCmX	0.144	0.10	0.500	0	28.8%	20	114	0.128	12.3%	30	
Surrogate: DCB	0.395	0.10	0.500	0	79.0%	43	109	0.382	3.28%	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-19233	Batch ID:	R100720	Test Code:	624	Units:	µg/L	Analysis Date	9/6/2019 11:48:00 AM	Prep Date	
Client ID:		Run ID:	ORGCMS2_190906B	SeqNo:	1433639						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	13.15	2.0	20.0	0	65.8%	70	130	0			S
Vinyl Chloride	15.39	1.0	20.0	0	76.9%	70	130	0			
Bromomethane	22.30	2.0	20.0	0	111%	70	130	0			
Chloroethane	18.58	1.0	20.0	0	92.9%	70	130	0			
Trichlorofluoromethane	30.45	1.0	20.0	0	152%	70	130	0			S
1,1-Dichloroethene	21.73	1.0	20.0	0	109%	70	130	0			
Methylene chloride	20.07	2.0	20.0	0	100%	70	130	0			
trans-1,2-dichloroethene	21.51	1.0	20.0	0	108%	70	130	0			
1,1-Dichloroethane	21.75	1.0	20.0	0	109%	70	130	0			
Chloroform	21.26	1.0	20.0	0	106%	70	130	0			
Carbon tetrachloride	22.71	1.0	20.0	0	114%	70	130	0			
1,1,1-Trichloroethane	22.17	1.0	20.0	0	111%	70	130	0			
Benzene	21.18	1.0	20.0	0	106%	70	130	0			
1,2-Dichloroethane	21.42	1.0	20.0	0	107%	70	130	0			
Trichloroethene	20.69	1.0	20.0	0	103%	70	130	0			
1,2-Dichloropropane	20.69	1.0	20.0	0	103%	70	130	0			
Bromodichloromethane	22.32	1.0	20.0	0	112%	70	130	0			
cis-1,3-dichloropropene	22.18	1.0	20.0	0	111%	70	130	0			
Toluene	19.63	1.0	20.0	0	98.1%	70	130	0			
Tetrachloroethene	16.46	1.0	20.0	0	82.3%	70	130	0			
trans-1,3-dichloropropene	21.90	1.0	20.0	0	110%	70	130	0			
1,1,2-Trichloroethane	19.71	1.0	20.0	0	98.6%	70	130	0			
Dibromochloromethane	19.86	1.0	20.0	0	99.3%	70	130	0			
Chlorobenzene	18.68	1.0	20.0	0	93.4%	70	130	0			
Ethylbenzene	19.10	1.0	20.0	0	95.5%	70	130	0			
m,p-Xylene	38.41	1.0	40.0	0	96.0%	70	130	0			
o-Xylene	19.01	1.0	20.0	0	95.1%	70	130	0			
Bromoform	17.57	1.0	20.0	0	87.9%	70	130	0			
1,1,2,2-Tetrachloroethane	20.67	1.0	20.0	0	103%	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

1,3-Dichlorobenzene	18.48	1.0	20.0	0	92.4%	70	130	0
1,4-Dichlorobenzene	18.41	1.0	20.0	0	92.1%	70	130	0
1,2-Dichlorobenzene	18.38	1.0	20.0	0	91.9%	70	130	0
Surrogate: Dibromofluoromethane	1.11	0.10	1.00	0	111%	80	124	0
Surrogate: 1,2-Dichloroethane-d4	1.13	0.10	1.00	0	113%	72	128	0
Surrogate: Toluene-d8	0.974	0.10	1.00	0	97.4%	72	125	0
Surrogate: 1,2-Dichlorobenzene-d4	1.00	0.10	1.00	0	100%	70	130	0

Qualifiers: ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-19233	Batch ID:	R100720	Test Code:	624	Units:	µg/L	Analysis Date	9/6/2019 12:16:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS2_190906B	SeqNo:	1433640						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	14.45	2.0	20.0	0	72.3%	70	130	13.2	9.42%	30	
Vinyl Chloride	20.03	1.0	20.0	0	100%	70	130	15.4	26.2%	30	
Bromomethane	22.40	2.0	20.0	0	112%	70	130	22.3	0.473%	30	
Chloroethane	17.73	1.0	20.0	0	88.7%	70	130	18.6	4.67%	30	
Trichlorofluoromethane	28.55	1.0	20.0	0	143%	70	130	30.4	6.43%	30	S
1,1-Dichloroethene	19.72	1.0	20.0	0	98.6%	70	130	21.7	9.72%	30	
Methylene chloride	19.29	2.0	20.0	0	96.4%	70	130	20.1	3.99%	30	
trans-1,2-dichloroethene	20.42	1.0	20.0	0	102%	70	130	21.5	5.20%	30	
1,1-Dichloroethane	20.43	1.0	20.0	0	102%	70	130	21.8	6.24%	30	
Chloroform	20.28	1.0	20.0	0	101%	70	130	21.3	4.72%	30	
Carbon tetrachloride	21.27	1.0	20.0	0	106%	70	130	22.7	6.55%	30	
1,1,1-Trichloroethane	20.93	1.0	20.0	0	105%	70	130	22.2	5.72%	30	
Benzene	20.08	1.0	20.0	0	100%	70	130	21.2	5.32%	30	
1,2-Dichloroethane	21.04	1.0	20.0	0	105%	70	130	21.4	1.77%	30	
Trichloroethene	19.43	1.0	20.0	0	97.2%	70	130	20.7	6.28%	30	
1,2-Dichloropropane	20.08	1.0	20.0	0	100%	70	130	20.7	2.97%	30	
Bromodichloromethane	21.37	1.0	20.0	0	107%	70	130	22.3	4.33%	30	
cis-1,3-dichloropropene	21.79	1.0	20.0	0	109%	70	130	22.2	1.76%	30	
Toluene	18.44	1.0	20.0	0	92.2%	70	130	19.6	6.24%	30	
Tetrachloroethene	15.43	1.0	20.0	0	77.1%	70	130	16.5	6.49%	30	
trans-1,3-dichloropropene	21.06	1.0	20.0	0	105%	70	130	21.9	3.94%	30	
1,1,2-Trichloroethane	19.11	1.0	20.0	0	95.6%	70	130	19.7	3.11%	30	
Dibromochloromethane	19.43	1.0	20.0	0	97.1%	70	130	19.9	2.19%	30	
Chlorobenzene	17.80	1.0	20.0	0	89.0%	70	130	18.7	4.81%	30	
Ethylbenzene	18.42	1.0	20.0	0	92.1%	70	130	19.1	3.59%	30	
m,p-Xylene	36.38	1.0	40.0	0	91.0%	70	130	38.4	5.42%	30	
o-Xylene	18.14	1.0	20.0	0	90.7%	70	130	19.0	4.72%	30	
Bromoform	17.13	1.0	20.0	0	85.6%	70	130	17.6	2.58%	30	
1,1,2,2-Tetrachloroethane	20.55	1.0	20.0	0	103%	70	130	20.7	0.574%	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

1,3-Dichlorobenzene	17.71	1.0	20.0	0	88.6%	70	130	18.5	4.24%	30
1,4-Dichlorobenzene	17.97	1.0	20.0	0	89.9%	70	130	18.4	2.40%	30
1,2-Dichlorobenzene	18.11	1.0	20.0	0	90.6%	70	130	18.4	1.45%	30
Surrogate: Dibromofluoromethane	1.10	0.10	1.00	0	110%	80	124	1.11	1.03%	30
Surrogate: 1,2-Dichloroethane-d4	1.12	0.10	1.00	0	112%	72	128	1.13	0.928%	30
Surrogate: Toluene-d8	0.962	0.10	1.00	0	96.2%	72	125	0.974	1.20%	30
Surrogate: 1,2-Dichlorobenzene-d4	1.01	0.10	1.00	0	101%	70	130	1.00	0.745%	30

Sample ID	LCS-19224	Batch ID:	R100602	Test Code:	A624W	Units:	µg/L	Analysis Date	8/28/2019 3:39:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS3_190828A	SeqNo:	1431749						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethylvinyl ether	22.62	5.0	20.0	0	113%	70	130	0			
Acrolein	21.43	2.0	20.0	0	107%	39	155	0			
Acrylonitrile	23.21	2.0	20.0	0	116%	63	135	0			
Surrogate: Dibromofluoromethane	1.03	0.10	1.00	0	103%	70	130	0			

Sample ID	LCSD-19224	Batch ID:	R100602	Test Code:	A624W	Units:	µg/L	Analysis Date	8/28/2019 4:05:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS3_190828A	SeqNo:	1431750						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethylvinyl ether	19.57	5.0	20.0	0	97.9%	70	130	22.6	14.4%	30	
Acrolein	18.68	2.0	20.0	0	93.4%	39	155	21.4	13.7%	30	
Acrylonitrile	19.21	2.0	20.0	0	96.1%	63	135	23.2	18.9%	30	
Surrogate: Dibromofluoromethane	1.02	0.10	1.00	0	102%	70	130	1.03	0.976%	30	

Sample ID	LCS WL-09051901	Batch ID:	R100679	Test Code:	CHR6CW	Units:	µg/L	Analysis Date	9/5/2019	Prep Date	9/5/2019
Client ID:		Run ID:	WC_190905A					SeqNo:	1432989		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	26.03	5.0	25.0	0	104%	83	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-D WL-090519	Batch ID:	R100679	Test Code:	CHR6CW	Units:	µg/L	Analysis Date	9/5/2019	Prep Date	9/5/2019
Client ID:		Run ID:	WC_190905A	SeqNo:	1432990						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	26.19	5.0	25.0	0	105%	83	120	26.0	0.601%	20	

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/9/2019 2:27:26 PM	Prep Date	9/5/2019
Client ID:		Run ID:	ICPMS2_190909A	SeqNo:	1433958						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	527.1	25	500	0	105%	85	115	0			
Arsenic	518.1	25	500	0	104%	85	115	0			
Beryllium	485.1	5.0	500	0	97.0%	85	115	0			
Cadmium	522.5	25	500	0	104%	85	115	0			
Chromium	472.7	25	500	0	94.5%	85	115	0			
Copper	470.8	25	500	0	94.2%	85	115	0			
Lead	483.4	25	500	0	96.7%	85	115	0			
Nickel	487.6	25	500	0	97.5%	85	115	0			
Selenium	532.1	50	500	0	106%	85	115	0			
Silver	60.47	25	62.5	0	96.7%	85	115	0			
Thallium	481.0	25	500	0	96.2%	85	115	0			
Zinc	507.5	50	500	0	101%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-37784	Batch ID:	37784	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/9/2019 2:31:31 PM	Prep Date	9/5/2019
Client ID:		Run ID:	ICPMS2_190909A	SeqNo:	1433959						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	552.3	25	500	0	110%	85	115	527	4.65%	20	
Arsenic	547.3	25	500	0	109%	85	115	518	5.49%	20	
Beryllium	520.0	5.0	500	0	104%	85	115	485	6.95%	20	
Cadmium	541.6	25	500	0	108%	85	115	522	3.59%	20	
Chromium	505.8	25	500	0	101%	85	115	473	6.77%	20	
Copper	500.3	25	500	0	100%	85	115	471	6.07%	20	
Lead	499.7	25	500	0	99.9%	85	115	483	3.32%	20	
Nickel	529.1	25	500	0	106%	85	115	488	8.17%	20	
Selenium	552.0	50	500	0	110%	85	115	532	3.68%	20	
Silver	64.16	25	62.5	0	103%	85	115	60.5	5.92%	20	
Thallium	508.3	25	500	0	102%	85	115	481	5.51%	20	
Zinc	524.8	50	500	0	105%	85	115	508	3.36%	20	

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/9/2019 10:16:05 AM	Prep Date	9/5/2019
Client ID:		Run ID:	INICP2_190909A	SeqNo:	1433861						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	517.1	100	500	13.1	101%	85	115	0			
Magnesium	499.6	100	500	3.61	99.2%	85	115	0			

Sample ID	LCSD-37784	Batch ID:	37784	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/9/2019 10:18:32 AM	Prep Date	9/5/2019
Client ID:		Run ID:	INICP2_190909A	SeqNo:	1433862						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	515.7	100	500	13.1	101%	85	115	517	0.276%	20	
Magnesium	502.0	100	500	3.61	99.7%	85	115	500	0.475%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908473
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37790	Batch ID:	37790	Test Code:	MERCW	Units:	µg/L	Analysis Date	9/8/2019 11:24:43 AM	Prep Date	9/6/2019	
Client ID:		Run ID:	CVAA2_190908A	SeqNo:	1433620							
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		5.069	1.0	5.00	0	101%	85	115	0			

Sample ID	LCSD-37790	Batch ID:	37790	Test Code:	MERCW	Units:	µg/L	Analysis Date	9/8/2019 11:26:43 AM	Prep Date	9/6/2019	
Client ID:		Run ID:	CVAA2_190908A	SeqNo:	1433621							
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		4.882	1.0	5.00	0	97.6%	85	115	5.07	3.75%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank



EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577
 Phone/Fax: (510) 895-3675 / (510) 895-3680
<http://www.EMSL.com> / sanleandrolab@emsl.com

EMSL Order ID: 091920371
 Customer ID: NORT99
 Customer PO: 1908473
 Project ID:

Attn: RON CANADY
 North Coast Laboratories, LTD.
 5680 West End Road
 Arcata, CA 95521-9202

Phone: (707) 822-4649
 Fax: (707) 822-6831
 Received: 08/29/2019
 Analyzed: 09/12/2019

Proj: 1908473

Test Report: Determination of Asbestos Structures > 10µm in Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm²)	Area Analyzed (mm²)	ASBESTOS				
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits
					MFL (million fibers per liter)				
1908473-011	8/29/2019	3	1314	0.2480	None Detected	ND	1.80	<1.80	0.00 - 6.50
091920371-0001	12:00 AM								

Collection Date/Time: 08/27/2019 14:00 PM

Due to excessive particulate the analytical sensitivity of 0.2 MFL as required by the method was not reached.

Analyst(s)

Rui Cindy Geng

(1)

Matthew Batongbacal
 or Other Approved Signatory

Any questions please contact Matthew Batongbacal.

Initial report from: 09/12/2019 07:59:16

Sample collection and containers provided by the client, acceptable bottle blank level is defined as $\leq 0.01 \text{ MFL} > 10 \mu\text{m}$. ND=None Detected. This report may not be reproduced, except in full, without written permission by EMSL Analytical, Inc. This report relates only to those items tested. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA CA ELAP 1620, HI reciprocity, ID CA 01477, WA C884

September 9, 2019

FAL Project: 12626

Mr. Ron Canady
North Coast Laboratories LTD.
5680 West End Road
Arcata, CA 95521

Dear Mr. Canady,

The following results are associated with Frontier Analytical Laboratory project **12626**. This corresponds to your project/purchase order number **1908473**. One aqueous sample was received on 8/30/2019 in good condition. This sample was extracted and analyzed by EPA Method 1613 for 2,3,7,8-TCDD only. A turnaround time of fifteen business days was assigned to this project.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and a sample photo. The attached results are specifically for the sample referenced in this report only. These results meet all NELAC requirements and shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is **4041**. Our State of California ELAP certificate number is **2934**. This report has been emailed to you as a portable document format (PDF) file. A hardcopy will not be sent to you unless specifically requested.

If you have any questions regarding project **12626**, please contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,



Bradley B. Silverbush
Director of Operations



Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 12626

Received on: 08/30/2019

Project Due: 09/24/2019 Storage: R-3

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
12626-001-SA	1	1908473	1908473-01G INF	EPA 1613 TCDD	Aqueous	08/27/2019	02:00 pm	08/26/2020

EPA Method 1613

TCDD



FAL ID: 12626-001-MB
Client ID: Method Blank
Matrix: Aqueous
Batch No: X5042

Date Extracted: 09-05-2019
Date Received: NA
Amount: 1.000 L

ICal: PCDDFAL4-3-20-19
GC Column: DB5MS
Units: pg/L

Acquired: 09-06-2019
WHO TEQ: NA

Compound	Conc	DL	Qual	MDL
2,3,7,8-TCDD	ND	0.583		0.447

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	83.1	31.0 - 137	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	79.0	42.0 - 164

A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B Analyte is present in Method Blank
C Chemical Interference
D Presence of Diphenyl Ethers
DNQ Analyte concentration is below calibration range
E Analyte concentration is above calibration range
F Analyte confirmation on secondary column
J Analyte concentration is below calibration range
M Maximum possible concentration
ND Analyte Not Detected at Detection Limit Level
NP Not Provided
P Pre-filtered through a Whatman 0.7um GF/F filter
S Sample acceptance criteria not met
X Matrix interferences
* Result taken from dilution or reinjection

Analyst: 

Date: 9/9/2019

Reviewed By: 

Date: 9/9/2019

000003 of 000008

EPA Method 1613 TCDD



FAL ID: 12626-001-OPR
Client ID: OPR
Matrix: Aqueous
Batch No: X5042

Date Extracted: 09-05-2019
Date Received: NA
Amount: 1.000 L

ICal: PCDDFAL4-3-20-19
GC Column: DB5MS
Units: ng/ml

Acquired: 09-06-2019
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	9.67	7.30 - 14.6
Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	82.4	25.0 - 141
Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	80.1	37.0 - 158

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- DNQ Analyte concentration is below calibration range
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected at Detection Limit Level
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection

Analyst: 

Date: 9/9/2019

Reviewed By: 

Date: 9/9/2019

EPA Method 1613

TCDD



FAL ID: 12626-001-SA
Client ID: 1908473-01G INF
Matrix: Aqueous
Batch No: X5042

Date Extracted: 09-05-2019
Date Received: 08-30-2019
Amount: 1.033 L

ICal: PCDDFAL4-3-20-19
GC Column: DB5MS
Units: pg/L

Acquired: 09-07-2019
WHO TEQ: NA

Compound	Conc	DL	Qual	MDL
2,3,7,8-TCDD	ND	0.702		0.447

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	79.9	31.0 - 137	

Cleanup Surrogate	% Rec	QC Limits
37Cl-2,3,7,8-TCDD	99.6	42.0 - 164

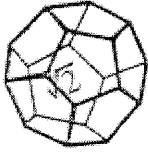
A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B Analyte is present in Method Blank
C Chemical Interference
D Presence of Diphenyl Ethers
DNQ Analyte concentration is below calibration range
E Analyte concentration is above calibration range
F Analyte confirmation on secondary column
J Analyte concentration is below calibration range
M Maximum possible concentration
ND Analyte Not Detected at Detection Limit Level
NP Not Provided
P Pre-filtered through a Whatman 0.7um GF/F filter
S Sample acceptance criteria not met
X Matrix interferences
* Result taken from dilution or reinjection

Analyst: 

Date: 9/9/2019

Reviewed By: 

Date: 9/9/2019



**NORTH COAST
LABORATORIES LTD.**

Sub-Contract Chain of Custody Record

Date Shipped: 8/28/2019
PO #: 1908473

Subcontractor: Frontier Analytical Laboratory
5172 Hillsdale Circle
El Dorado Hills, CA 95762

Attn: Sample Receiving

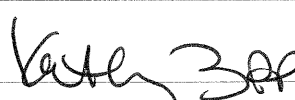
(916)934-0900

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

Email: sub@northcoastlabs.com

12626
000

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908473-01G	8/27/2019 02:00 pm	Waste Water			2,3,7,8-TCDD(Dioxin)
INF	1 L amber glass				by 1613

		Date/Time			Date/Time
Relinquished by:		8/29/19	1305	Received by:	
Relinquished by:				Received by:	8/30/19 910

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.



Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: **12626**

Client:	North Coast Laboratories LTD.
Client Project ID:	1908473
Date Received:	08/30/2019
Time Received:	09:10 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	1
Storage Location:	R-3

Method of Delivery:	Fed-Ex
Tracking Number:	494664439871
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Blue Ice/Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test aqueous sample for residual Chlorine	Yes
Sodium Thiosulfate Added	No
Adequate Sample Volume	Yes
Appropriate Sample Container	Yes
pH Range of Aqueous Sample	Between 4 and 9
Anomalies or additional comments:	



**NORTH COAST
LABORATORIES LTD.**

Sub-Contract Chain of Custody Record

Date Shipped: 8/28/2019
PO #: 1908473

Subcontractor: Frontier Analytical Laboratory
5172 Hillsdale Circle
El Dorado Hills, CA 95762
Attn: Sample Receiving

(916)934-0900

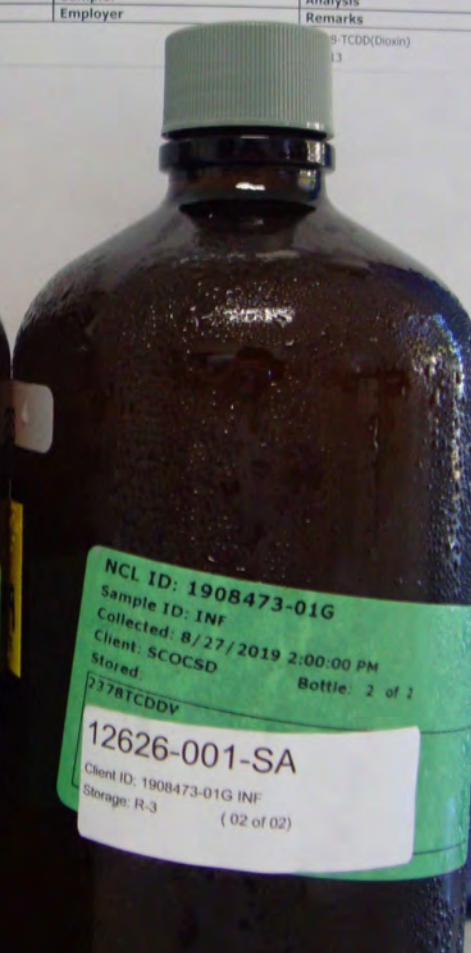
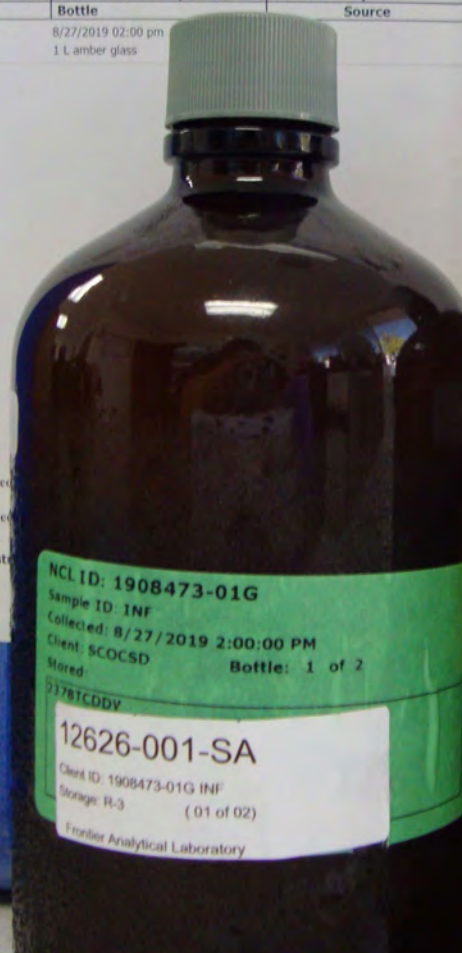
Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

Email: sub@northcoastlabs.com

12626
O^oC

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle	Source	Employer	Remarks	
1908473-01G	8/27/2019 02:00 pm				9-TCDD(Dioxin)
INF	1 L amber glass				13

Relinquished
Relinquished
Special Instr



2019/08/30

000008 of 000008

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6140-1
Client Project/Site: 1908473

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/11/2019 3:37:16 PM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Job ID: 570-6140-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative 570-6140-1

Comments

No additional comments.

Receipt

The samples were received on 8/30/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.6° C and 5.8° C.

GC/MS Semi VOA

Method(s) 625.1: The following analyte(s) recovered outside control limits for the LCSD associated with preparation batch 570-16781 and analytical batch 570-16917: Pyridine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 625.1: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-17933 and analytical batch 570-18147 recovered outside control limits for the following analytes: N-Nitrosodiphenylamine. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 625.1: The following sample was re-prepared outside of preparation holding time due to surrogate failure in the first extraction : 570-6140-1.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-17933. LCS/LCSD performed to meet QC requirements.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Client Sample ID: 1908473-01F INF

Lab Sample ID: 570-6140-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3/4-Methylphenol	26	H	9.8	2.7	ug/L	1		625.1	Total/NA
4-Nitroaniline	2.3	J H	9.8	0.96	ug/L	1		625.1	Total/NA
Alpha-Terpineol	17	H	9.8	0.96	ug/L	1		625.1	Total/NA
Benzoic acid	52	H	49	24	ug/L	1		625.1	Total/NA
Benzyl alcohol	35	H	9.8	1.9	ug/L	1		625.1	Total/NA
Bis(2-ethylhexyl) phthalate	5.0	J H	9.8	3.7	ug/L	1		625.1	Total/NA
Diethyl phthalate	3.3	J H	9.8	1.4	ug/L	1		625.1	Total/NA
Phenol	5.2	J H	9.8	0.54	ug/L	1		625.1	Total/NA

Client Sample ID: 1908473-01H INF

Lab Sample ID: 570-6140-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: 1908473-01F INF

Date Collected: 08/27/19 14:00

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6140-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
1,2-Dichlorobenzene	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
1,2-Diphenylhydrazine	ND	H	9.8	2.0	ug/L		09/09/19 13:23	09/10/19 19:28	1
1,3-Dichlorobenzene	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
1,4-Dichlorobenzene	ND	H	9.8	1.6	ug/L		09/09/19 13:23	09/10/19 19:28	1
1-Methylnaphthalene	ND	H	9.8	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
2,3-Dichloroaniline	ND	H	9.8	0.99	ug/L		09/09/19 13:23	09/10/19 19:28	1
2,4,5-Trichlorophenol	ND	H	9.8	1.9	ug/L		09/09/19 13:23	09/10/19 19:28	1
2,4,6-Trichlorophenol	ND	H	9.8	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
2,4-Dichlorophenol	ND	H	9.8	1.6	ug/L		09/09/19 13:23	09/10/19 19:28	1
2,4-Dimethylphenol	ND	H	9.8	0.83	ug/L		09/09/19 13:23	09/10/19 19:28	1
2,4-Dinitrophenol	ND	H	49	19	ug/L		09/09/19 13:23	09/10/19 19:28	1
2,4-Dinitrotoluene	ND	H	9.8	1.7	ug/L		09/09/19 13:23	09/10/19 19:28	1
2,6-Dinitrotoluene	ND	H	9.8	1.7	ug/L		09/09/19 13:23	09/10/19 19:28	1
2-Chloronaphthalene	ND	H	9.8	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
2-Chlorophenol	ND	H	9.8	1.6	ug/L		09/09/19 13:23	09/10/19 19:28	1
2-Methylnaphthalene	ND	H	9.8	1.3	ug/L		09/09/19 13:23	09/10/19 19:28	1
2-Methylphenol	ND	H	9.8	1.3	ug/L		09/09/19 13:23	09/10/19 19:28	1
2-Nitroaniline	ND	H	9.8	2.0	ug/L		09/09/19 13:23	09/10/19 19:28	1
2-Nitrophenol	ND	H	9.8	2.6	ug/L		09/09/19 13:23	09/10/19 19:28	1
3,3'-Dichlorobenzidine	ND	H	24	8.1	ug/L		09/09/19 13:23	09/10/19 19:28	1
3/4-Methylphenol	26	H	9.8	2.7	ug/L		09/09/19 13:23	09/10/19 19:28	1
3-Nitroaniline	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
4,6-Dinitro-2-methylphenol	ND	H	49	20	ug/L		09/09/19 13:23	09/10/19 19:28	1
4-Bromophenyl phenyl ether	ND	H	9.8	1.3	ug/L		09/09/19 13:23	09/10/19 19:28	1
4-Chloro-3-methylphenol	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
4-Chloroaniline	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
4-Chlorophenyl phenyl ether	ND	H	9.8	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
4-Nitroaniline	2.3	J H	9.8	0.96	ug/L		09/09/19 13:23	09/10/19 19:28	1
4-Nitrophenol	ND	H	9.8	1.1	ug/L		09/09/19 13:23	09/10/19 19:28	1
Acenaphthene	ND	H	9.8	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
Acenaphthylene	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
Acetophenone	ND	H	9.8	0.73	ug/L		09/09/19 13:23	09/10/19 19:28	1
Alpha-Terpineol	17	H	9.8	0.96	ug/L		09/09/19 13:23	09/10/19 19:28	1
Aniline	ND	H	9.8	1.2	ug/L		09/09/19 13:23	09/10/19 19:28	1
Anthracene	ND	H	9.8	1.2	ug/L		09/09/19 13:23	09/10/19 19:28	1
Azobenzene	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
Benzidine	ND	H	49	28	ug/L		09/09/19 13:23	09/10/19 19:28	1
Benzo[a]anthracene	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
Benzo[a]pyrene	ND	H	9.8	2.0	ug/L		09/09/19 13:23	09/10/19 19:28	1
Benzo[b]fluoranthene	ND	H	9.8	2.0	ug/L		09/09/19 13:23	09/10/19 19:28	1
Benzo[g,h,i]perylene	ND	H	9.8	2.2	ug/L		09/09/19 13:23	09/10/19 19:28	1
Benzo[k]fluoranthene	ND	H	9.8	1.9	ug/L		09/09/19 13:23	09/10/19 19:28	1
Benzoic acid	52	H	49	24	ug/L		09/09/19 13:23	09/10/19 19:28	1
Benzyl alcohol	35	H	9.8	1.9	ug/L		09/09/19 13:23	09/10/19 19:28	1
Bis(2-chloroethoxy)methane	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
Bis(2-chloroethyl)ether	ND	H	24	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
bis (2-chloroisopropyl) ether	ND	H	9.8	1.9	ug/L		09/09/19 13:23	09/10/19 19:28	1
Bis(2-ethylhexyl) phthalate	5.0	J H	9.8	3.7	ug/L		09/09/19 13:23	09/10/19 19:28	1

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Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: 1908473-01F INF

Date Collected: 08/27/19 14:00

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6140-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	ND	H	9.8	3.3	ug/L		09/09/19 13:23	09/10/19 19:28	1
Carbazole	ND	H	9.8	1.9	ug/L		09/09/19 13:23	09/10/19 19:28	1
Chrysene	ND	H	9.8	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
Dibenz(a,h)anthracene	ND	H	9.8	2.7	ug/L		09/09/19 13:23	09/10/19 19:28	1
Dibenzofuran	ND	H	9.8	1.2	ug/L		09/09/19 13:23	09/10/19 19:28	1
Diethyl phthalate	3.3	J H	9.8	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
Dimethyl phthalate	ND	H	9.8	1.2	ug/L		09/09/19 13:23	09/10/19 19:28	1
Di-n-butyl phthalate	ND	H	9.8	4.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
Di-n-octyl phthalate	ND	H	24	12	ug/L		09/09/19 13:23	09/10/19 19:28	1
Fluoranthene	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
Fluorene	ND	H	9.8	1.6	ug/L		09/09/19 13:23	09/10/19 19:28	1
Hexachloro-1,3-butadiene	ND	H	9.8	2.0	ug/L		09/09/19 13:23	09/10/19 19:28	1
Hexachlorobenzene	ND	H	9.8	0.89	ug/L		09/09/19 13:23	09/10/19 19:28	1
Hexachlorocyclopentadiene	ND	H	24	11	ug/L		09/09/19 13:23	09/10/19 19:28	1
Hexachloroethane	ND	H	9.8	2.0	ug/L		09/09/19 13:23	09/10/19 19:28	1
Indeno[1,2,3-cd]pyrene	ND	H	9.8	2.3	ug/L		09/09/19 13:23	09/10/19 19:28	1
Isophorone	ND	H	9.8	1.7	ug/L		09/09/19 13:23	09/10/19 19:28	1
Naphthalene	ND	H	9.8	1.5	ug/L		09/09/19 13:23	09/10/19 19:28	1
n-Decane	ND	H	9.8	1.2	ug/L		09/09/19 13:23	09/10/19 19:28	1
Nitrobenzene	ND	H	24	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
N-Nitrosodimethylamine	ND	H	9.8	1.0	ug/L		09/09/19 13:23	09/10/19 19:28	1
N-Nitrosodi-n-propylamine	ND	H	9.8	1.9	ug/L		09/09/19 13:23	09/10/19 19:28	1
N-Nitrosodiphenylamine	ND	H *	9.8	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
n-Octadecane	ND	H	9.8	0.84	ug/L		09/09/19 13:23	09/10/19 19:28	1
Pentachlorophenol	ND	H	24	9.6	ug/L		09/09/19 13:23	09/10/19 19:28	1
Phenanthrene	ND	H	9.8	1.4	ug/L		09/09/19 13:23	09/10/19 19:28	1
Phenol	5.2	J H	9.8	0.54	ug/L		09/09/19 13:23	09/10/19 19:28	1
Pyrene	ND	H	9.8	1.7	ug/L		09/09/19 13:23	09/10/19 19:28	1
Pyridine	ND	H	9.8	0.70	ug/L		09/09/19 13:23	09/10/19 19:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	96		27 - 159				09/09/19 13:23	09/10/19 19:28	1
2-Fluorobiphenyl (Surr)	78		33 - 120				09/09/19 13:23	09/10/19 19:28	1
2-Fluorophenol (Surr)	56		24 - 120				09/09/19 13:23	09/10/19 19:28	1
Nitrobenzene-d5 (Surr)	81		38 - 120				09/09/19 13:23	09/10/19 19:28	1
Phenol-d6 (Surr)	41		16 - 120				09/09/19 13:23	09/10/19 19:28	1
p-Terphenyl-d14 (Surr)	89		41 - 137				09/09/19 13:23	09/10/19 19:28	1

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

General Chemistry

Client Sample ID: 1908473-01H INF

Date Collected: 08/27/19 14:00

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6140-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L	—	09/03/19 09:00	09/03/19 11:19	1

Surrogate Summary

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Wastewater

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	TBP (27-159)	FBP (33-120)	2FP (24-120)	NBZ (38-120)	PHL6 (16-120)	TPHD14 (41-137)
570-6140-1	1908473-01F INF	96	78	56	81	41	89

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl (Surr)

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHD14 = p-Terphenyl-d14 (Surr)

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	TBP (27-159)	FBP (33-120)	2FP (24-120)	NBZ (38-120)	PHL6 (16-120)	TPHD14 (41-137)
LCS 570-17933/2-A	Lab Control Sample	98	85	67	90	45	107
LCSD 570-17933/3-A	Lab Control Sample Dup	99	86	69	97	47	112
MB 570-17933/1-A	Method Blank	124	95	79	106	53	114

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl (Surr)

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHD14 = p-Terphenyl-d14 (Surr)

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-17933/1-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17933

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
1,2-Dichlorobenzene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
1,2-Diphenylhydrazine	ND		10	2.1	ug/L		09/09/19 13:23	09/10/19 15:15	1
1,3-Dichlorobenzene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
1,4-Dichlorobenzene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
1-Methylnaphthalene	ND		10	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,3-Dichloroaniline	ND		10	1.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4,5-Trichlorophenol	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4,6-Trichlorophenol	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4-Dichlorophenol	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4-Dimethylphenol	ND		10	0.85	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4-Dinitrophenol	ND		50	19	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4-Dinitrotoluene	ND		10	1.8	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,6-Dinitrotoluene	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Chloronaphthalene	ND		10	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Chlorophenol	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Methylnaphthalene	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Methylphenol	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Nitroaniline	ND		10	2.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Nitrophenol	ND		10	2.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
3,3'-Dichlorobenzidine	ND		25	8.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
3/4-Methylphenol	ND		10	2.8	ug/L		09/09/19 13:23	09/10/19 15:15	1
3-Nitroaniline	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
4,6-Dinitro-2-methylphenol	ND		50	20	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Bromophenyl phenyl ether	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Chloro-3-methylphenol	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Chloroaniline	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Chlorophenyl phenyl ether	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Nitroaniline	ND		10	0.98	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Nitrophenol	ND		10	1.2	ug/L		09/09/19 13:23	09/10/19 15:15	1
Acenaphthene	ND		10	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
Acenaphthylene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Acetophenone	ND		10	0.75	ug/L		09/09/19 13:23	09/10/19 15:15	1
Alpha-Terpineol	ND		10	0.98	ug/L		09/09/19 13:23	09/10/19 15:15	1
Aniline	ND		10	1.2	ug/L		09/09/19 13:23	09/10/19 15:15	1
Anthracene	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
Azobenzene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzidine	ND		50	28	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[a]anthracene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[a]pyrene	ND		10	2.1	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[b]fluoranthene	ND		10	2.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[g,h,i]perylene	ND		10	2.2	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[k]fluoranthene	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzoic acid	ND		50	24	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzyl alcohol	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
Bis(2-chloroethoxy)methane	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
Bis(2-chloroethyl)ether	ND		25	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1

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QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-17933/1-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17933

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10	3.8	ug/L		09/09/19 13:23	09/10/19 15:15	1
Butyl benzyl phthalate	ND		10	3.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
Carbazole	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
Chrysene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
Dibenz(a,h)anthracene	ND		10	2.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
Dibenzofuran	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
Diethyl phthalate	ND		10	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
Dimethyl phthalate	ND		10	1.2	ug/L		09/09/19 13:23	09/10/19 15:15	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Di-n-octyl phthalate	ND		25	13	ug/L		09/09/19 13:23	09/10/19 15:15	1
Fluoranthene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
Fluorene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Hexachloro-1,3-butadiene	ND		10	2.1	ug/L		09/09/19 13:23	09/10/19 15:15	1
Hexachlorobenzene	ND		10	0.91	ug/L		09/09/19 13:23	09/10/19 15:15	1
Hexachlorocyclopentadiene	ND		25	11	ug/L		09/09/19 13:23	09/10/19 15:15	1
Hexachloroethane	ND		10	2.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
Indeno[1,2,3-cd]pyrene	ND		10	2.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
Isophorone	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
Naphthalene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
n-Decane	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
Nitrobenzene	ND		25	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
N-Nitrosodimethylamine	ND		10	1.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
N-Nitrosodi-n-propylamine	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
N-Nitrosodiphenylamine	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
n-Octadecane	ND		10	0.86	ug/L		09/09/19 13:23	09/10/19 15:15	1
Pentachlorophenol	ND		25	9.8	ug/L		09/09/19 13:23	09/10/19 15:15	1
Phenanthrene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
Phenol	ND		10	0.56	ug/L		09/09/19 13:23	09/10/19 15:15	1
Pyrene	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
Pyridine	ND		10	0.72	ug/L		09/09/19 13:23	09/10/19 15:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	124		27 - 159	09/09/19 13:23	09/10/19 15:15	1
2-Fluorobiphenyl (Surr)	95		33 - 120	09/09/19 13:23	09/10/19 15:15	1
2-Fluorophenol (Surr)	79		24 - 120	09/09/19 13:23	09/10/19 15:15	1
Nitrobenzene-d5 (Surr)	106		38 - 120	09/09/19 13:23	09/10/19 15:15	1
Phenol-d6 (Surr)	53		16 - 120	09/09/19 13:23	09/10/19 15:15	1
p-Terphenyl-d14 (Surr)	114		41 - 137	09/09/19 13:23	09/10/19 15:15	1

Lab Sample ID: LCS 570-17933/2-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	100	73.27		ug/L		73	44 - 142
1,2-Dichlorobenzene	100	63.99		ug/L		64	35 - 100
1,3-Dichlorobenzene	100	61.21		ug/L		61	30 - 100
1,4-Dichlorobenzene	100	62.91		ug/L		63	30 - 100

Eurofins Calscience LLC

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-17933/2-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,6-Trichlorophenol	100	93.77		ug/L		94	37 - 144
2,4-Dichlorophenol	100	95.35		ug/L		95	39 - 135
2,4-Dimethylphenol	100	104.9		ug/L		105	32 - 120
2,4-Dinitrophenol	100	40.08	J	ug/L		40	1 - 191
2,4-Dinitrotoluene	100	102.8		ug/L		103	39 - 139
2,6-Dinitrotoluene	100	103.9		ug/L		104	50 - 158
2-Chloronaphthalene	100	84.18		ug/L		84	60 - 120
2-Chlorophenol	100	93.32		ug/L		93	23 - 143
2-Nitrophenol	100	91.63		ug/L		92	29 - 182
3,3'-Dichlorobenzidine	100	107.3		ug/L		107	1 - 262
4-Bromophenyl phenyl ether	100	85.52		ug/L		86	53 - 127
4-Chloro-3-methylphenol	100	99.81		ug/L		100	22 - 147
4-Chlorophenyl phenyl ether	100	85.29		ug/L		85	25 - 158
4-Nitrophenol	100	49.70		ug/L		50	1 - 132
Acenaphthene	100	89.94		ug/L		90	47 - 145
Acenaphthylene	100	106.5		ug/L		107	33 - 145
Anthracene	100	102.1		ug/L		102	27 - 133
Benzo[a]anthracene	100	109.3		ug/L		109	33 - 143
Benzo[a]pyrene	100	109.1		ug/L		109	17 - 163
Benzo[b]fluoranthene	100	103.4		ug/L		103	24 - 159
Benzo[g,h,i]perylene	100	103.5		ug/L		104	1 - 219
Benzo[k]fluoranthene	100	110.7		ug/L		111	11 - 162
Bis(2-chloroethoxy)methane	100	86.66		ug/L		87	33 - 184
Bis(2-chloroethyl)ether	100	87.90		ug/L		88	12 - 158
bis (2-chloroisopropyl) ether	100	99.81		ug/L		100	36 - 166
Bis(2-ethylhexyl) phthalate	100	113.4		ug/L		113	8 - 158
Butyl benzyl phthalate	100	113.3		ug/L		113	1 - 152
Chrysene	100	108.0		ug/L		108	17 - 168
Dibenz(a,h)anthracene	100	98.05		ug/L		98	1 - 227
Diethyl phthalate	100	104.8		ug/L		105	1 - 120
Dimethyl phthalate	100	102.2		ug/L		102	1 - 120
Di-n-butyl phthalate	100	106.5		ug/L		107	1 - 120
Di-n-octyl phthalate	100	116.9		ug/L		117	4 - 146
Fluoranthene	100	104.3		ug/L		104	26 - 137
Fluorene	100	96.97		ug/L		97	59 - 121
Hexachlorobenzene	100	90.25		ug/L		90	1 - 152
Hexachloroethane	100	58.81		ug/L		59	40 - 120
Indeno[1,2,3-cd]pyrene	100	98.92		ug/L		99	1 - 171
Isophorone	100	101.8		ug/L		102	21 - 196
Naphthalene	100	84.65		ug/L		85	21 - 133
Nitrobenzene	100	92.45		ug/L		92	35 - 180
N-Nitrosodi-n-propylamine	100	95.89		ug/L		96	1 - 230
Pentachlorophenol	100	44.61		ug/L		45	14 - 176
Phenanthrene	100	101.0		ug/L		101	54 - 120
Phenol	100	47.30		ug/L		47	5 - 120
Pyrene	100	111.3		ug/L		111	52 - 120

Eurofins Calscience LLC

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-17933/2-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17933

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	98		27 - 159
2-Fluorobiphenyl (Surr)	85		33 - 120
2-Fluorophenol (Surr)	67		24 - 120
Nitrobenzene-d5 (Surr)	90		38 - 120
Phenol-d6 (Surr)	45		16 - 120
p-Terphenyl-d14 (Surr)	107		41 - 137

Lab Sample ID: LCSD 570-17933/3-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17933

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	100	74.73		ug/L		75	44 - 142	2	50
1,2-Dichlorobenzene	100	66.24		ug/L		66	35 - 100	3	30
1,3-Dichlorobenzene	100	63.86		ug/L		64	30 - 100	4	30
1,4-Dichlorobenzene	100	63.67		ug/L		64	30 - 100	1	30
2,4,6-Trichlorophenol	100	95.96		ug/L		96	37 - 144	2	58
2,4-Dichlorophenol	100	103.2		ug/L		103	39 - 135	8	50
2,4-Dimethylphenol	100	109.8		ug/L		110	32 - 120	4	58
2,4-Dinitrophenol	100	43.35	J	ug/L		43	1 - 191	8	132
2,4-Dinitrotoluene	100	108.9		ug/L		109	39 - 139	6	42
2,6-Dinitrotoluene	100	108.7		ug/L		109	50 - 158	4	48
2-Chloronaphthalene	100	84.96		ug/L		85	60 - 120	1	24
2-Chlorophenol	100	98.90		ug/L		99	23 - 143	6	61
2-Nitrophenol	100	100.2		ug/L		100	29 - 182	9	55
3,3'-Dichlorobenzidine	100	110.3		ug/L		110	1 - 262	3	108
4-Bromophenyl phenyl ether	100	88.84		ug/L		89	53 - 127	4	43
4-Chloro-3-methylphenol	100	108.0		ug/L		108	22 - 147	8	73
4-Chlorophenyl phenyl ether	100	86.49		ug/L		86	25 - 158	1	61
4-Nitrophenol	100	48.03		ug/L		48	1 - 132	3	131
Acenaphthene	100	94.96		ug/L		95	47 - 145	5	48
Acenaphthylene	100	109.5		ug/L		110	33 - 145	3	74
Anthracene	100	107.9		ug/L		108	27 - 133	6	66
Benzo[a]anthracene	100	112.3		ug/L		112	33 - 143	3	53
Benzo[a]pyrene	100	109.8		ug/L		110	17 - 163	1	72
Benzo[b]fluoranthene	100	103.6		ug/L		104	24 - 159	0	71
Benzo[g,h,i]perylene	100	107.4		ug/L		107	1 - 219	4	97
Benzo[k]fluoranthene	100	115.7		ug/L		116	11 - 162	4	63
Bis(2-chloroethoxy)methane	100	92.07		ug/L		92	33 - 184	6	54
Bis(2-chloroethyl)ether	100	90.39		ug/L		90	12 - 158	3	108
bis (2-chloroisopropyl) ether	100	104.7		ug/L		105	36 - 166	5	76
Bis(2-ethylhexyl) phthalate	100	114.2		ug/L		114	8 - 158	1	82
Butyl benzyl phthalate	100	120.2		ug/L		120	1 - 152	6	60
Chrysene	100	111.7		ug/L		112	17 - 168	3	87
Dibenz(a,h)anthracene	100	101.9		ug/L		102	1 - 227	4	126
Diethyl phthalate	100	107.8		ug/L		108	1 - 120	3	100
Dimethyl phthalate	100	104.7		ug/L		105	1 - 120	2	183
Di-n-butyl phthalate	100	109.9		ug/L		110	1 - 120	3	47

Eurofins Calscience LLC

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-17933/3-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17933

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Di-n-octyl phthalate	100	116.9		ug/L		117	4 - 146	0	69
Fluoranthene	100	105.8		ug/L		106	26 - 137	2	66
Fluorene	100	97.67		ug/L		98	59 - 121	1	38
Hexachlorobenzene	100	94.79		ug/L		95	1 - 152	5	55
Hexachloroethane	100	59.57		ug/L		60	40 - 120	1	52
Indeno[1,2,3-cd]pyrene	100	101.3		ug/L		101	1 - 171	2	99
Isophorone	100	110.2		ug/L		110	21 - 196	8	93
Naphthalene	100	89.28		ug/L		89	21 - 133	5	65
Nitrobenzene	100	101.3		ug/L		101	35 - 180	9	62
N-Nitrosodi-n-propylamine	100	101.8		ug/L		102	1 - 230	6	87
Pentachlorophenol	100	46.54		ug/L		47	14 - 176	4	86
Phenanthrene	100	103.2		ug/L		103	54 - 120	2	39
Phenol	100	50.42		ug/L		50	5 - 120	6	64
Pyrene	100	115.8		ug/L		116	52 - 120	4	49

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	99		27 - 159
2-Fluorobiphenyl (Surr)	86		33 - 120
2-Fluorophenol (Surr)	69		24 - 120
Nitrobenzene-d5 (Surr)	97		38 - 120
Phenol-d6 (Surr)	47		16 - 120
p-Terphenyl-d14 (Surr)	112		41 - 137

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-16606/1-A

Matrix: Water

Analysis Batch: 16677

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16606

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/03/19 09:00	09/03/19 11:22	1

Lab Sample ID: LCS 570-16606/2-A

Matrix: Water

Analysis Batch: 16677

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16606

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.2058		mg/L		103	80 - 120

Lab Sample ID: LCSD 570-16606/3-A

Matrix: Water

Analysis Batch: 16677

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16606

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.200	0.2077		mg/L		104	80 - 120	1	20

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method: SM 4500 CN E - Cyanide, Total (Continued)

Lab Sample ID: 570-6112-D-2-C MS

Matrix: Water

Analysis Batch: 16677

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16606

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		0.200	0.2010		mg/L		101	74 - 115

Lab Sample ID: 570-6112-D-2-D MSD

Matrix: Water

Analysis Batch: 16677

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16606

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.200	0.2002		mg/L		100	74 - 115	0	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

GC/MS Semi VOA

Prep Batch: 17933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6140-1	1908473-01F INF	Total/NA	Wastewater	625	
MB 570-17933/1-A	Method Blank	Total/NA	Water	625	
LCS 570-17933/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-17933/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 18147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6140-1	1908473-01F INF	Total/NA	Wastewater	625.1	17933
MB 570-17933/1-A	Method Blank	Total/NA	Water	625.1	17933
LCS 570-17933/2-A	Lab Control Sample	Total/NA	Water	625.1	17933
LCSD 570-17933/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	17933

General Chemistry

Prep Batch: 16606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6140-2	1908473-01H INF	Total/NA	Wastewater	SM 4500 CN C	
MB 570-16606/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-16606/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-16606/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6112-D-2-C MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-6112-D-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 16677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6140-2	1908473-01H INF	Total/NA	Wastewater	SM 4500 CN E	16606
MB 570-16606/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	16606
LCS 570-16606/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	16606
LCSD 570-16606/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	16606
570-6112-D-2-C MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	16606
570-6112-D-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	16606

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Client Sample ID: 1908473-01F INF

Date Collected: 08/27/19 14:00

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6140-1

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1024 mL	2 mL	17933	09/09/19 13:23	OAJ3	ECL 1
Total/NA	Analysis	625.1		1			18147	09/10/19 19:28	N8CZ	ECL 1
Instrument ID: GCMSSS										

Client Sample ID: 1908473-01H INF

Date Collected: 08/27/19 14:00

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6140-2

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16606	09/03/19 09:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	16677	09/03/19 11:19	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Method	Method Description	Protocol	Laboratory
625.1	Semivolatile Organic Compounds (GC/MS)	40CFR136A	ECL 1
SM 4500 CN E	Cyanide, Total	SM	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1908473

Job ID: 570-6140-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6140-1	1908473-01F INF	Wastewater	08/27/19 14:00	08/30/19 10:00	
570-6140-2	1908473-01H INF	Wastewater	08/27/19 14:00	08/30/19 10:00	

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6140



Sub-Contract Chain of Custody Record

Date Shipped: 8/28/2019
PO #: 1908473

Subcontractor: CalScience Environmental Labs
7440 Lincoln Way
Garden Grove, CA 92841
Attn: SAMPLE RECEIVING

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

Email: sub@northcoastlabs.com

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908473-01F INF	8/27/2019 02:00 pm 1 L amber glass	Waste Water			EPA 625 Super List with PAH's P.P.
1908473-01H INF	8/27/2019 02:00 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water

5458 226
34/3.6
526



570-6140 Chain of Custody

Date/Time

Date/Time

Relinquished by:

Received by:

Relinquished by:

Received by:

8/28/19 1420

8/30/19 1000

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.

* feared sha/ia 1000

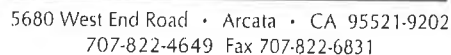
Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6140-1

Login Number: 6140**List Source: Eurofins Calscience****List Number: 1****Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



190847

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT



September 30, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908474
Invoice No.: 148851
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
----------	---------------------------

01A	EFF
01B	EFF
01C	EFF
01D	EFF
01E	EFF

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:

Roxanne Moore, Project Manager

Date: 03-Oct-2019
WorkOrder: 1908474

CASE NARRATIVE

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

EPA 624:

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recovery was above the upper acceptance limit for trichlorofluoromethane. The elevated recovery equates to a high bias. There were no detectable levels of the analyte in the sample; therefore, the data were accepted.

The laboratory control sample (LCS) recovery was below the lower acceptance limit for chloromethane. The response of the reporting limit standard was such that the analyte would have been detected even with the low recovery; therefore, the data were accepted.

Date: 02-Oct-2019

WorkOrder: 1908474

ANALYTICAL REPORT

Client Sample ID: EFF

Lab ID: 1908474-01A

Matrix: Waste Water

Test Name: Hardness

Reference: SM 2340B, 1997. Revs 2011

Received: 8/27/2019

Collected 8/27/2019 10:45

Analyst: RMS

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	500			1.0	N/A	mg/L CaCO ₃	1.0	8/30/2019	09/10/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	120,000			20	9.8	µg/L	1.0	8/30/2019	09/10/19 10:26
Magnesium	50,000			20	1.4	µg/L	1.0	8/30/2019	09/10/19 10:26

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Antimony	0.46	J		5.0	0.047	µg/L	1.0	8/30/2019	09/06/19 11:50
Arsenic	1.9	J		5.0	1.5	µg/L	1.0	8/30/2019	09/06/19 11:50
Beryllium	ND			1.0	0.057	µg/L	1.0	8/30/2019	09/06/19 11:50
Cadmium	ND			5.0	0.17	µg/L	1.0	8/30/2019	09/06/19 11:50
Chromium	1.3	J		5.0	0.21	µg/L	1.0	8/30/2019	09/06/19 11:50
Copper	2.2	J		5.0	0.72	µg/L	1.0	8/30/2019	09/06/19 11:50
Lead	0.20	J		5.0	0.082	µg/L	1.0	8/30/2019	09/06/19 11:50
Nickel	4.6	J		5.0	1.1	µg/L	1.0	8/30/2019	09/06/19 11:50
Selenium	ND			10	4	µg/L	1.0	8/30/2019	09/06/19 11:50
Silver	ND			5.0	0.73	µg/L	1.0	8/30/2019	09/06/19 11:50
Thallium	ND			5.0	0.026	µg/L	1.0	8/30/2019	09/06/19 11:50
Zinc	5.2	J		10	1.1	µg/L	1.0	8/30/2019	09/06/19 11:50

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	8/29/2019	08/30/19 10:55

Test Name: Trivalent chromium

Analyst: RMS

Reference: Calculation

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Trivalent Chromium	ND	J		10	N/A	µg/L	1.0		09/10/19 0:00

Client Sample ID: EFF

Lab ID: 1908474-01B

Matrix: Waste Water

Test Name: Hexavalent Chromium

Reference: SM 3500-CrB, 2009. Revs 2011

Received: 8/27/2019

Collected 8/27/2019 10:45

Analyst: JLM

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hexavalent Chromium	3.4	J		5.0	1.5	µg/L	1.0	8/28/2019	09/05/19 0:00

NORTH COAST LABORATORIES

5680 West End Road • Arcata, California 95521-9202 • 707-822-4649 • www.northcoastlabs.com

Date: 02-Oct-2019

WorkOrder: 1908474

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/27/2019

Lab ID: 1908474-01C

Matrix: Waste Water

Collected 8/27/2019 10:45

Test Name: Purgeables by GC/MS

Analyst: JWP

Reference: EPA 624.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Chloromethane	0.22	J		2.0	0.15	µg/L	1.0		09/06/19 16:04
Vinyl Chloride	ND			1.0	0.07	µg/L	1.0		09/06/19 16:04
Bromomethane	ND			2.0	0.24	µg/L	1.0		09/06/19 16:04
Chloroethane	ND			1.0	0.13	µg/L	1.0		09/06/19 16:04
Trichlorofluoromethane	ND			1.0	0.22	µg/L	1.0		09/06/19 16:04
1,1-Dichloroethene	ND			1.0	0.33	µg/L	1.0		09/06/19 16:04
Methylene chloride	ND			2.0	0.14	µg/L	1.0		09/06/19 16:04
trans-1,2-dichloroethene	ND			1.0	0.26	µg/L	1.0		09/06/19 16:04
1,1-Dichloroethane	ND			1.0	0.29	µg/L	1.0		09/06/19 16:04
Chloroform	ND			1.0	0.33	µg/L	1.0		09/06/19 16:04
Carbon tetrachloride	ND			1.0	0.44	µg/L	1.0		09/06/19 16:04
1,1,1-Trichloroethane	ND			1.0	0.31	µg/L	1.0		09/06/19 16:04
Benzene	ND			1.0	0.28	µg/L	1.0		09/06/19 16:04
1,2-Dichloroethane	ND			1.0	0.32	µg/L	1.0		09/06/19 16:04
Trichloroethene	ND			1.0	0.25	µg/L	1.0		09/06/19 16:04
1,2-Dichloropropane	ND			1.0	0.25	µg/L	1.0		09/06/19 16:04
Bromodichloromethane	ND			1.0	0.32	µg/L	1.0		09/06/19 16:04
cis-1,3-dichloropropene	ND			1.0	0.3	µg/L	1.0		09/06/19 16:04
Toluene	ND			1.0	0.16	µg/L	1.0		09/06/19 16:04
Tetrachloroethene	ND			1.0	0.23	µg/L	1.0		09/06/19 16:04
trans-1,3-dichloropropene	ND			1.0	0.17	µg/L	1.0		09/06/19 16:04
1,1,2-Trichloroethane	ND			1.0	0.21	µg/L	1.0		09/06/19 16:04
Dibromochloromethane	ND			1.0	0.24	µg/L	1.0		09/06/19 16:04
Chlorobenzene	ND			1.0	0.2	µg/L	1.0		09/06/19 16:04
Ethylbenzene	ND			1.0	0.2	µg/L	1.0		09/06/19 16:04
m,p-Xylene	ND			1.0	0.3	µg/L	1.0		09/06/19 16:04
o-Xylene	ND			1.0	0.15	µg/L	1.0		09/06/19 16:04
Bromoform	ND			1.0	0.32	µg/L	1.0		09/06/19 16:04
1,1,2,2-Tetrachloroethane	ND			1.0	0.16	µg/L	1.0		09/06/19 16:04
1,3-Dichlorobenzene	ND			1.0	0.18	µg/L	1.0		09/06/19 16:04
1,4-Dichlorobenzene	ND			1.0	0.23	µg/L	1.0		09/06/19 16:04
1,2-Dichlorobenzene	ND			1.0	0.19	µg/L	1.0		09/06/19 16:04
Surrogate: 1,2-Dichlorobenzene-d4	100			70-130	N/A	% Rec	1.0		09/06/19 16:04
Surrogate: 1,2-Dichloroethane-d4	112			72.1-128	N/A	% Rec	1.0		09/06/19 16:04
Surrogate: Dibromofluoromethane	107			80.1-124	N/A	% Rec	1.0		09/06/19 16:04
Surrogate: Toluene-d8	95.4			72.2-125	N/A	% Rec	1.0		09/06/19 16:04

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Date: 02-Oct-2019

WorkOrder: 1908474

ANALYTICAL REPORT

Client Sample ID: EFF

Lab ID: 1908474-01D

Matrix: Waste Water

Test Name: Acrolein/acrylonitrile by EPA 624

Reference: EPA 624

Received: 8/27/2019

Collected 8/27/2019 10:45

Analyst: JWP

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
2-Chloroethylvinyl ether	ND			5.0	0.33	µg/L	1.0		08/28/19 18:04
Acrolein	ND			2.0	0.71	µg/L	1.0		08/28/19 18:04
Acrylonitrile	ND			2.0	0.19	µg/L	1.0		08/28/19 18:04
Surrogate: Dibromofluoromethane	102			70-130	N/A	% Rec	1.0		08/28/19 18:04

Client Sample ID: EFF

Lab ID: 1908474-01E

Matrix: Waste Water

Test Name: Organochlorine Pesticides and PCBs

Reference: EPA 608

Received: 8/27/2019

Collected 8/27/2019 10:45

Analyst: WHB

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Endrin Ketone	ND			0.10	0.025	µg/L	1.0	8/30/2019	09/21/19 10:49
alpha-BHC	ND			0.10	0.027	µg/L	1.0	8/30/2019	09/21/19 10:49
beta-BHC	ND			0.10	0.023	µg/L	1.0	8/30/2019	09/21/19 10:49
Lindane	ND			0.10	0.024	µg/L	1.0	8/30/2019	09/21/19 10:49
delta-BHC	ND			0.10	0.043	µg/L	1.0	8/30/2019	09/21/19 10:49
Heptachlor	ND			0.10	0.024	µg/L	1.0	8/30/2019	09/21/19 10:49
Aldrin	ND			0.10	0.052	µg/L	1.0	8/30/2019	09/21/19 10:49
Heptachlor Epoxide	ND			0.10	0.022	µg/L	1.0	8/30/2019	09/21/19 10:49
Endosulfan I	ND			0.10	0.032	µg/L	1.0	8/30/2019	09/21/19 10:49
4,4'-DDE	ND			0.10	0.032	µg/L	1.0	8/30/2019	09/21/19 10:49
Dieldrin	ND			0.10	0.03	µg/L	1.0	8/30/2019	09/21/19 10:49
Endrin	ND			0.10	0.026	µg/L	1.0	8/30/2019	09/21/19 10:49
Endosulfan II	ND			0.10	0.072	µg/L	1.0	8/30/2019	09/21/19 10:49
4,4'-DDD	ND			0.10	0.027	µg/L	1.0	8/30/2019	09/21/19 10:49
Endrin Aldehyde	ND			0.10	0.09	µg/L	1.0	8/30/2019	09/21/19 10:49
Endosulfan Sulfate	ND			0.10	0.033	µg/L	1.0	8/30/2019	09/21/19 10:49
4,4'-DDT	ND			0.10	0.033	µg/L	1.0	8/30/2019	09/21/19 10:49
Methoxychlor	ND			0.10	0.032	µg/L	1.0	8/30/2019	09/21/19 10:49
Chlordane	ND			1.0	0.5	µg/L	1.0	8/30/2019	09/22/19 3:34
Toxaphene	ND			1.0	0.1	µg/L	1.0	8/30/2019	09/22/19 19:30
PCB Aroclor 1016	ND			0.50	0.1	µg/L	1.0	8/30/2019	09/24/19 1:48
PCB Aroclor 1221	ND			0.50	0.1	µg/L	1.0	8/30/2019	09/24/19 1:48
PCB Aroclor 1232	ND			0.50	0.1	µg/L	1.0	8/30/2019	09/24/19 1:48
PCB Aroclor 1242	ND			0.50	0.16	µg/L	1.0	8/30/2019	09/24/19 1:48
PCB Aroclor 1248	ND			0.50	0.1	µg/L	1.0	8/30/2019	09/24/19 1:48
PCB Aroclor 1254	ND			0.50	0.21	µg/L	1.0	8/30/2019	09/24/19 1:48
PCB Aroclor 1260	ND			0.50	0.2	µg/L	1.0	8/30/2019	09/24/19 1:48
Surrogate: DCB	79.2			42.6-109	N/A	% Rec	1.0	8/30/2019	09/21/19 10:49
Surrogate: TCmX	49.9			20-114	N/A	% Rec	1.0	8/30/2019	09/21/19 10:49

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North Coast Laboratories, Ltd.

Date: 10/2/2019

CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MB-37766	Batch ID:	37766	Test Code:	608	Units:	µg/L	Analysis Date	9/21/2019 5:47:47 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ORGC15_190920A					SeqNo:	1437369		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Endrin Ketone	ND	0.10									
alpha-BHC	ND	0.10									
beta-BHC	ND	0.10									
Lindane	ND	0.10									
delta-BHC	ND	0.10									
Heptachlor	ND	0.10									
Aldrin	ND	0.10									
Heptachlor Epoxide	ND	0.10									
Endosulfan I	ND	0.10									
4,4'-DDE	ND	0.10									
Dieldrin	ND	0.10									
Endrin	ND	0.10									
Endosulfan II	ND	0.10									
4,4'-DDD	ND	0.10									
Endrin Aldehyde	ND	0.10									
Endosulfan Sulfate	ND	0.10									
4,4'-DDT	ND	0.10									
Methoxychlor	ND	0.10									
Chlordane	ND	1.0									
Toxaphene	ND	1.0									
PCB Aroclor 1016	ND	0.50									
PCB Aroclor 1221	ND	0.50									
PCB Aroclor 1232	ND	0.50									
PCB Aroclor 1242	ND	0.50									
PCB Aroclor 1248	ND	0.50									
PCB Aroclor 1254	ND	0.50									
PCB Aroclor 1260	ND	0.50									
Surrogate: TCmX	0.117	0.10	0.500	0	23.4%	20	114	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT:

Work Order:

Project:

Scotia CSD
1908474
017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Surrogate: DCB	0.386	0.10	0.500	0	77.3%	43	109	0
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CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MB 090619	Batch ID:	R100720	Test Code:	624	Units:	µg/L	Analysis Date	9/6/2019 2:41:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS2_190906B	SeqNo:	1433641						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	0.3252	2.0									J
Vinyl Chloride	ND	1.0									
Bromomethane	ND	2.0									
Chloroethane	ND	1.0									
Trichlorofluoromethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
Methylene chloride	ND	2.0									
trans-1,2-dichloroethene	ND	1.0									
1,1-Dichloroethane	ND	1.0									
Chloroform	ND	1.0									
Carbon tetrachloride	ND	1.0									
1,1,1-Trichloroethane	ND	1.0									
Benzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
Trichloroethene	ND	1.0									
1,2-Dichloropropane	ND	1.0									
Bromodichloromethane	ND	1.0									
cis-1,3-dichloropropene	ND	1.0									
Toluene	ND	1.0									
Tetrachloroethene	ND	1.0									
trans-1,3-dichloropropene	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
Dibromochloromethane	ND	1.0									
Chlorobenzene	ND	1.0									
Ethylbenzene	ND	1.0									
m,p-Xylene	ND	1.0									
o-Xylene	ND	1.0									
Bromoform	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

1,3-Dichlorobenzene	ND	1.0							
1,4-Dichlorobenzene	ND	1.0							
1,2-Dichlorobenzene	ND	1.0							
Surrogate: Dibromofluoromethane	1.04	0.10	1.00	0	104%	80	124	0	
Surrogate: 1,2-Dichloroethane-d4	1.11	0.10	1.00	0	111%	72	128	0	
Surrogate: Toluene-d8	0.959	0.10	1.00	0	95.9%	72	125	0	
Surrogate: 1,2-Dichlorobenzene-d4	1.02	0.10	1.00	0	102%	70	130	0	

Sample ID	MB 082819	Batch ID:	R100602	Test Code:	A624W	Units:	µg/L	Analysis Date	8/28/2019 5:03:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS3_190828A	SeqNo:	1431751						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethylvinyl ether	ND	5.0									
Acrolein	ND	2.0									
Acrylonitrile	ND	2.0									
Surrogate: Dibromofluoromethane	1.03	0.10	1.00	0	103%	80	120	0			

Sample ID	MBLANK WL-0905	Batch ID:	R100679	Test Code:	CHR6CW	Units:	µg/L	Analysis Date	9/5/2019	Prep Date	9/5/2019	
Client ID:		Run ID:	WC_190905A					SeqNo:	1432988			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium		ND	5.0									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MB-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:33:08 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433401						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.0									
Arsenic	ND	5.0									
Beryllium	ND	1.0									
Cadmium	ND	5.0									
Chromium	ND	5.0									
Copper	ND	5.0									
Lead	ND	5.0									
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Thallium	ND	5.0									
Zinc	ND	10									

Sample ID	MB-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:22:15 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433161						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	12.25	100									J
Magnesium	6.361	100									J

Sample ID	MB-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/10/2019 10:19:10 AM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190910B	SeqNo:	1434068						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	100									
Magnesium	4.737	100									J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MB-37762	Batch ID: 37762	Test Code: MERCW	Units: µg/L	Analysis Date 8/30/2019 9:58:17 AM	Prep Date 8/29/2019						
Client ID:	Run ID: CVAA2_190830A	SeqNo: 1432126									
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 10/2/2019

CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37766	Batch ID:	37766	Test Code:	608	Units:	µg/L	Analysis Date	9/21/2019 6:38:03 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ORGC15_190920A	SeqNo:	1437370						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Endrin Ketone	0.3637	0.10	0.500	0	72.7%	44	119	0			
alpha-BHC	0.3692	0.10	0.500	0	73.8%	41	121	0			
beta-BHC	0.3907	0.10	0.500	0	78.1%	48	120	0			
Lindane	0.3778	0.10	0.500	0	75.6%	49	116	0			
delta-BHC	0.3466	0.10	0.500	0	69.3%	49	123	0			
Heptachlor	0.2617	0.10	0.500	0	52.3%	22	116	0			
Aldrin	0.1527	0.10	0.500	0	30.5%	20	116	0			
Heptachlor Epoxide	0.4005	0.10	0.500	0	80.1%	49	115	0			
Endosulfan I	0.3994	0.10	0.500	0	79.9%	48	120	0			
4,4'-DDE	0.4021	0.10	0.500	0	80.4%	20	127	0			
Dieldrin	0.3647	0.10	0.500	0	72.9%	47	121	0			
Endrin	0.4231	0.10	0.500	0	84.6%	40	166	0			
Endosulfan II	0.3907	0.10	0.500	0	78.1%	45	122	0			
4,4'-DDD	0.3721	0.10	0.500	0	74.4%	51	117	0			
Endrin Aldehyde	0.3200	0.10	0.500	0	64.0%	41	113	0			
Endosulfan Sulfate	0.3445	0.10	0.500	0	68.9%	51	118	0			
4,4'-DDT	0.4136	0.10	0.500	0	82.7%	47	123	0			
Methoxychlor	0.4200	0.10	0.500	0	84.0%	54	129	0			
Chlordane	4.980	1.0	5.00	0	99.6%	70	120	0			
Toxaphene	3.966	1.0	5.00	0	79.3%	41	126	0			
PCB Aroclor 1260	3.412	0.50	5.00	0	68.2%	8	127	0			
Surrogate: TCmX	0.128	0.10	0.500	0	25.5%	20	114	0			
Surrogate: DCB	0.382	0.10	0.500	0	76.5%	43	109	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-37766	Batch ID: 37766	Test Code: 608	Units: µg/L	Analysis Date	9/21/2019 7:28:19 AM			Prep Date	8/30/2019	
Client ID:		Run ID:	ORGC15_190920A			SeqNo:	1437371				
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Endrin Ketone	0.3774	0.10	0.500	0	75.5%	44	119	0.364	3.70%	30	
alpha-BHC	0.3814	0.10	0.500	0	76.3%	41	121	0.369	3.24%	30	
beta-BHC	0.4019	0.10	0.500	0	80.4%	48	120	0.391	2.83%	30	
Lindane	0.3973	0.10	0.500	0	79.5%	49	116	0.378	5.03%	30	
delta-BHC	0.3491	0.10	0.500	0	69.8%	49	123	0.347	0.711%	30	
Heptachlor	0.2770	0.10	0.500	0	55.4%	22	116	0.262	5.68%	30	
Aldrin	0.1567	0.10	0.500	0	31.3%	20	116	0.153	2.57%	30	
Heptachlor Epoxide	0.4203	0.10	0.500	0	84.1%	49	115	0.400	4.82%	30	
Endosulfan I	0.4196	0.10	0.500	0	83.9%	48	120	0.399	4.92%	30	
4,4' -DDE	0.4212	0.10	0.500	0	84.2%	20	127	0.402	4.64%	30	
Dieldrin	0.3903	0.10	0.500	0	78.1%	47	121	0.365	6.78%	30	
Endrin	0.4435	0.10	0.500	0	88.7%	40	166	0.423	4.72%	30	
Endosulfan II	0.3971	0.10	0.500	0	79.4%	45	122	0.391	1.64%	30	
4,4' -DDD	0.3941	0.10	0.500	0	78.8%	51	117	0.372	5.74%	30	
Endrin Aldehyde	0.3496	0.10	0.500	0	69.9%	41	113	0.320	8.84%	30	
Endosulfan Sulfate	0.3566	0.10	0.500	0	71.3%	51	118	0.344	3.46%	30	
4,4' -DDT	0.4347	0.10	0.500	0	86.9%	47	123	0.414	4.96%	30	
Methoxychlor	0.4452	0.10	0.500	0	89.0%	54	129	0.420	5.83%	30	
Chlordane	3.689	1.0	5.00	0	73.8%	70	120	4.98	29.8%	30	
Toxaphene	3.888	1.0	5.00	0	77.8%	41	126	3.97	1.98%	30	
PCB Aroclor 1260	3.834	0.50	5.00	0	76.7%	8	127	3.41	11.6%	30	
Surrogate: TCmX	0.144	0.10	0.500	0	28.8%	20	114	0.128	12.3%	30	
Surrogate: DCB	0.395	0.10	0.500	0	79.0%	43	109	0.382	3.28%	30	

Qualifiers: ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-19233	Batch ID:	R100720	Test Code:	624	Units:	µg/L	Analysis Date	9/6/2019 11:48:00 AM	Prep Date	
Client ID:		Run ID:	ORGCMS2_190906B					SeqNo:	1433639		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	13.15	2.0	20.0	0	65.8%	70	130	0			S
Vinyl Chloride	15.39	1.0	20.0	0	76.9%	70	130	0			
Bromomethane	22.30	2.0	20.0	0	111%	70	130	0			
Chloroethane	18.58	1.0	20.0	0	92.9%	70	130	0			
Trichlorofluoromethane	30.45	1.0	20.0	0	152%	70	130	0			S
1,1-Dichloroethene	21.73	1.0	20.0	0	109%	70	130	0			
Methylene chloride	20.07	2.0	20.0	0	100%	70	130	0			
trans-1,2-dichloroethene	21.51	1.0	20.0	0	108%	70	130	0			
1,1-Dichloroethane	21.75	1.0	20.0	0	109%	70	130	0			
Chloroform	21.26	1.0	20.0	0	106%	70	130	0			
Carbon tetrachloride	22.71	1.0	20.0	0	114%	70	130	0			
1,1,1-Trichloroethane	22.17	1.0	20.0	0	111%	70	130	0			
Benzene	21.18	1.0	20.0	0	106%	70	130	0			
1,2-Dichloroethane	21.42	1.0	20.0	0	107%	70	130	0			
Trichloroethene	20.69	1.0	20.0	0	103%	70	130	0			
1,2-Dichloropropane	20.69	1.0	20.0	0	103%	70	130	0			
Bromodichloromethane	22.32	1.0	20.0	0	112%	70	130	0			
cis-1,3-dichloropropene	22.18	1.0	20.0	0	111%	70	130	0			
Toluene	19.63	1.0	20.0	0	98.1%	70	130	0			
Tetrachloroethene	16.46	1.0	20.0	0	82.3%	70	130	0			
trans-1,3-dichloropropene	21.90	1.0	20.0	0	110%	70	130	0			
1,1,2-Trichloroethane	19.71	1.0	20.0	0	98.6%	70	130	0			
Dibromochloromethane	19.86	1.0	20.0	0	99.3%	70	130	0			
Chlorobenzene	18.68	1.0	20.0	0	93.4%	70	130	0			
Ethylbenzene	19.10	1.0	20.0	0	95.5%	70	130	0			
m,p-Xylene	38.41	1.0	40.0	0	96.0%	70	130	0			
o-Xylene	19.01	1.0	20.0	0	95.1%	70	130	0			
Bromoform	17.57	1.0	20.0	0	87.9%	70	130	0			
1,1,2,2-Tetrachloroethane	20.67	1.0	20.0	0	103%	70	130	0			

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CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

1,3-Dichlorobenzene	18.48	1.0	20.0	0	92.4%	70	130	0
1,4-Dichlorobenzene	18.41	1.0	20.0	0	92.1%	70	130	0
1,2-Dichlorobenzene	18.38	1.0	20.0	0	91.9%	70	130	0
Surrogate: Dibromofluoromethane	1.11	0.10	1.00	0	111%	80	124	0
Surrogate: 1,2-Dichloroethane-d4	1.13	0.10	1.00	0	113%	72	128	0
Surrogate: Toluene-d8	0.974	0.10	1.00	0	97.4%	72	125	0
Surrogate: 1,2-Dichlorobenzene-d4	1.00	0.10	1.00	0	100%	70	130	0

Qualifiers: ND - Not Detected at the Reporting Limit
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CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-19233	Batch ID:	R100720	Test Code:	624	Units:	µg/L	Analysis Date	9/6/2019 12:16:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS2_190906B	SeqNo:	1433640						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	14.45	2.0	20.0	0	72.3%	70	130	13.2	9.42%	30	
Vinyl Chloride	20.03	1.0	20.0	0	100%	70	130	15.4	26.2%	30	
Bromomethane	22.40	2.0	20.0	0	112%	70	130	22.3	0.473%	30	
Chloroethane	17.73	1.0	20.0	0	88.7%	70	130	18.6	4.67%	30	
Trichlorofluoromethane	28.55	1.0	20.0	0	143%	70	130	30.4	6.43%	30	S
1,1-Dichloroethene	19.72	1.0	20.0	0	98.6%	70	130	21.7	9.72%	30	
Methylene chloride	19.29	2.0	20.0	0	96.4%	70	130	20.1	3.99%	30	
trans-1,2-dichloroethene	20.42	1.0	20.0	0	102%	70	130	21.5	5.20%	30	
1,1-Dichloroethane	20.43	1.0	20.0	0	102%	70	130	21.8	6.24%	30	
Chloroform	20.28	1.0	20.0	0	101%	70	130	21.3	4.72%	30	
Carbon tetrachloride	21.27	1.0	20.0	0	106%	70	130	22.7	6.55%	30	
1,1,1-Trichloroethane	20.93	1.0	20.0	0	105%	70	130	22.2	5.72%	30	
Benzene	20.08	1.0	20.0	0	100%	70	130	21.2	5.32%	30	
1,2-Dichloroethane	21.04	1.0	20.0	0	105%	70	130	21.4	1.77%	30	
Trichloroethene	19.43	1.0	20.0	0	97.2%	70	130	20.7	6.28%	30	
1,2-Dichloropropane	20.08	1.0	20.0	0	100%	70	130	20.7	2.97%	30	
Bromodichloromethane	21.37	1.0	20.0	0	107%	70	130	22.3	4.33%	30	
cis-1,3-dichloropropene	21.79	1.0	20.0	0	109%	70	130	22.2	1.76%	30	
Toluene	18.44	1.0	20.0	0	92.2%	70	130	19.6	6.24%	30	
Tetrachloroethene	15.43	1.0	20.0	0	77.1%	70	130	16.5	6.49%	30	
trans-1,3-dichloropropene	21.06	1.0	20.0	0	105%	70	130	21.9	3.94%	30	
1,1,2-Trichloroethane	19.11	1.0	20.0	0	95.6%	70	130	19.7	3.11%	30	
Dibromochloromethane	19.43	1.0	20.0	0	97.1%	70	130	19.9	2.19%	30	
Chlorobenzene	17.80	1.0	20.0	0	89.0%	70	130	18.7	4.81%	30	
Ethylbenzene	18.42	1.0	20.0	0	92.1%	70	130	19.1	3.59%	30	
m,p-Xylene	36.38	1.0	40.0	0	91.0%	70	130	38.4	5.42%	30	
o-Xylene	18.14	1.0	20.0	0	90.7%	70	130	19.0	4.72%	30	
Bromoform	17.13	1.0	20.0	0	85.6%	70	130	17.6	2.58%	30	
1,1,2,2-Tetrachloroethane	20.55	1.0	20.0	0	103%	70	130	20.7	0.574%	30	

Qualifiers: ND - Not Detected at the Reporting Limit
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CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

1,3-Dichlorobenzene	17.71	1.0	20.0	0	88.6%	70	130	18.5	4.24%	30
1,4-Dichlorobenzene	17.97	1.0	20.0	0	89.9%	70	130	18.4	2.40%	30
1,2-Dichlorobenzene	18.11	1.0	20.0	0	90.6%	70	130	18.4	1.45%	30
Surrogate: Dibromofluoromethane	1.10	0.10	1.00	0	110%	80	124	1.11	1.03%	30
Surrogate: 1,2-Dichloroethane-d4	1.12	0.10	1.00	0	112%	72	128	1.13	0.928%	30
Surrogate: Toluene-d8	0.962	0.10	1.00	0	96.2%	72	125	0.974	1.20%	30
Surrogate: 1,2-Dichlorobenzene-d4	1.01	0.10	1.00	0	101%	70	130	1.00	0.745%	30

Sample ID	LCS-19224	Batch ID:	R100602	Test Code:	A624W	Units:	µg/L	Analysis Date	8/28/2019 3:39:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS3_190828A	SeqNo:	1431749						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethylvinyl ether	22.62	5.0	20.0	0	113%	70	130	0			
Acrolein	21.43	2.0	20.0	0	107%	39	155	0			
Acrylonitrile	23.21	2.0	20.0	0	116%	63	135	0			
Surrogate: Dibromofluoromethane	1.03	0.10	1.00	0	103%	70	130	0			

Sample ID	LCSD-19224	Batch ID:	R100602	Test Code:	A624W	Units:	µg/L	Analysis Date	8/28/2019 4:05:00 PM		Prep Date
Client ID:		Run ID:	ORGCMS3_190828A			SeqNo:	1431750				
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethylvinyl ether	19.57	5.0	20.0	0	97.9%	70	130	22.6	14.4%	30	
Acrolein	18.68	2.0	20.0	0	93.4%	39	155	21.4	13.7%	30	
Acrylonitrile	19.21	2.0	20.0	0	96.1%	63	135	23.2	18.9%	30	
Surrogate: Dibromofluoromethane	1.02	0.10	1.00	0	102%	70	130	1.03	0.976%	30	

Sample ID	LCS WL-09051901	Batch ID:	R100679	Test Code:	CHR6CW	Units:	µg/L	Analysis Date	9/5/2019	Prep Date	9/5/2019
Client ID:		Run ID:	WC_190905A					SeqNo:	1432989		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	26.03	5.0	25.0	0	104%	83	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-D WL-090519	Batch ID:	R100679	Test Code:	CHR6CW	Units:	µg/L	Analysis Date	9/5/2019	Prep Date	9/5/2019
Client ID:		Run ID:	WC_190905A	SeqNo:	1432990						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	26.19	5.0	25.0	0	105%	83	120	26.0	0.601%	20	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:37:14 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433402						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	503.3	25	500	0	101%	85	115	0			
Arsenic	508.5	25	500	0	102%	85	115	0			
Beryllium	480.2	5.0	500	0	96.0%	85	115	0			
Cadmium	499.1	25	500	0	99.8%	85	115	0			
Chromium	463.5	25	500	0	92.7%	85	115	0			
Copper	461.1	25	500	0	92.2%	85	115	0			
Lead	470.0	25	500	0	94.0%	85	115	0			
Nickel	490.2	25	500	0	98.0%	85	115	0			
Selenium	511.8	50	500	0	102%	85	115	0			
Silver	57.70	25	62.5	0	92.3%	85	115	0			
Thallium	466.5	25	500	0	93.3%	85	115	0			
Zinc	498.1	50	500	0	99.6%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
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 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-37764	Batch ID:	37764	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/6/2019 10:41:19 AM	Prep Date	8/30/2019
Client ID:		Run ID:	ICPMS2_190906A	SeqNo:	1433403						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	502.8	25	500	0	101%	85	115	503	0.107%	20	
Arsenic	498.1	25	500	0	99.6%	85	115	508	2.06%	20	
Beryllium	481.4	5.0	500	0	96.3%	85	115	480	0.250%	20	
Cadmium	499.7	25	500	0	99.9%	85	115	499	0.121%	20	
Chromium	463.4	25	500	0	92.7%	85	115	464	0.0119%	20	
Copper	458.8	25	500	0	91.8%	85	115	461	0.508%	20	
Lead	468.7	25	500	0	93.7%	85	115	470	0.289%	20	
Nickel	487.6	25	500	0	97.5%	85	115	490	0.526%	20	
Selenium	494.0	50	500	0	98.8%	85	115	512	3.53%	20	
Silver	58.56	25	62.5	0	93.7%	85	115	57.7	1.49%	20	
Thallium	468.0	25	500	0	93.6%	85	115	466	0.325%	20	
Zinc	494.4	50	500	0	98.9%	85	115	498	0.755%	20	

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:24:00 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433162						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	527.2	100	500	12.2	103%	85	115	0			
Magnesium	511.5	100	500	6.36	101%	85	115	0			

Sample ID	LCSD-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/5/2019 1:26:34 PM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190905A	SeqNo:	1433163						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	523.1	100	500	12.2	102%	85	115	527	0.787%	20	
Magnesium	510.6	100	500	6.36	101%	85	115	512	0.184%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
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CLIENT: Scotia CSD
Work Order: 1908474
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/10/2019 10:21:38 AM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190910B	SeqNo:	1434069						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	521.2	100	500	0	104%	85	115	0			
Magnesium	502.0	100	500	4.74	99.5%	85	115	0			

Sample ID	LCSD-37764	Batch ID:	37764	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/10/2019 10:24:13 AM	Prep Date	8/30/2019
Client ID:		Run ID:	INICP2_190910B	SeqNo:	1434070						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	519.5	100	500	0	104%	85	115	521	0.321%	20	
Magnesium	503.4	100	500	4.74	99.7%	85	115	502	0.268%	20	

Sample ID	LCS-37762	Batch ID:	37762	Test Code:	MERCW	Units:	µg/L	Analysis Date	8/30/2019 10:00:58 AM	Prep Date	8/29/2019
Client ID:		Run ID:	CVAA2_190830A	SeqNo:	1432127						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.909	1.0	5.00	0	98.2%	85	115	0			

Sample ID	LCSD-37762	Batch ID:	37762	Test Code:	MERCW	Units:	µg/L	Analysis Date	8/30/2019 10:02:58 AM	Prep Date	8/29/2019
Client ID:		Run ID:	CVAA2_190830A	SeqNo:	1432128						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.891	1.0	5.00	0	97.8%	85	115	4.91	0.353%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
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EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577
 Phone/Fax: (510) 895-3675 / (510) 895-3680
<http://www.EMSL.com> / sanleandrolab@emsl.com

EMSL Order ID: 091920359
 Customer ID: NORT99
 Customer PO: 1908474
 Project ID:

Attn: Humberto Faria
 North Coast Laboratories, LTD.
 5680 West End Road
 Arcata, CA 95521-9202

Phone: (707) 822-4649
 Fax: (707) 822-6831
 Received: 08/29/2019
 Analyzed: 09/11/2019

Proj: 1908474

Test Report: Determination of Asbestos Structures > 10µm in Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm²)	Area Analyzed (mm²)	ASBESTOS				
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits
					MFL (million fibers per liter)				
1908474-011	8/29/2019	3	1314	0.2520	None Detected	ND	1.70	<1.70	0.00 - 6.40
091920359-0001	10:30 AM								

Collection Date/Time: 08/27/2019 10:45 AM

Due to excessive particulate the analytical sensitivity of 0.2 MFL as required by the method was not reached.

Analyst(s)

Nonette Patron

(1)

Matthew Batongbacal
 or Other Approved Signatory

Any questions please contact Matthew Batongbacal.

Initial report from: 09/11/2019 17:09:33

Sample collection and containers provided by the client, acceptable bottle blank level is defined as ≤ 0.01 MFL > 10µm. ND=None Detected. This report may not be reproduced, except in full, without written permission by EMSL Analytical, Inc. This report relates only to those items tested. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA CA ELAP 1620, HI reciprocity, ID CA 01477, WA C884

September 9, 2019

FAL Project: 12627

Mr. Ron Canady
North Coast Laboratories LTD.
5680 West End Road
Arcata, CA 95521

Dear Mr. Canady,

The following results are associated with Frontier Analytical Laboratory project **12627**. This corresponds to your project/purchase order number **1908474**. One aqueous sample was received on 8/30/2019 in good condition. This sample was extracted and analyzed by EPA Method 1613 for 2,3,7,8-TCDD only. A turnaround time of fifteen business days was assigned to this project.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains our sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and a sample photo. The attached results are specifically for the sample referenced in this report only. These results meet all NELAC requirements and shall not be reproduced except in full. Frontier Analytical Laboratory's State of Oregon NELAP certificate number is **4041**. Our State of California ELAP certificate number is **2934**. This report has been emailed to you as a portable document format (PDF) file. A hardcopy will not be sent to you unless specifically requested.

If you have any questions regarding project **12627**, please contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,



Bradley B. Silverbush
Director of Operations



Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: 12627

Received on: 08/30/2019

Project Due: 09/24/2019 Storage: R-3

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
12627-001-SA	1	1908474	1908474-01G EFF	EPA 1613 TCDD	Aqueous	08/27/2019	10:45 am	08/26/2020

EPA Method 1613

TCDD



FAL ID: 12627-001-MB
Client ID: Method Blank
Matrix: Aqueous
Batch No: X5042

Date Extracted: 09-05-2019
Date Received: NA
Amount: 1.000 L

ICal: PCDDFAL4-3-20-19
GC Column: DB5MS
Units: pg/L

Acquired: 09-06-2019
WHO TEQ: NA

Compound	Conc	DL	Qual	MDL
2,3,7,8-TCDD	ND	0.583		0.447

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	83.1	31.0 - 137	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	79.0	42.0 - 164

A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B Analyte is present in Method Blank
C Chemical Interference
D Presence of Diphenyl Ethers
DNQ Analyte concentration is below calibration range
E Analyte concentration is above calibration range
F Analyte confirmation on secondary column
J Analyte concentration is below calibration range
M Maximum possible concentration
ND Analyte Not Detected at Detection Limit Level
NP Not Provided
P Pre-filtered through a Whatman 0.7um GF/F filter
S Sample acceptance criteria not met
X Matrix interferences
* Result taken from dilution or reinjection

Analyst: 

Date: 9/9/2019

Reviewed By: 

Date: 9/9/2019

000003 of 000008

EPA Method 1613 TCDD



FAL ID: 12627-001-OPR
Client ID: OPR
Matrix: Aqueous
Batch No: X5042

Date Extracted: 09-05-2019
Date Received: NA
Amount: 1.000 L

ICal: PCDDFAL4-3-20-19
GC Column: DB5MS
Units: ng/ml

Acquired: 09-06-2019
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	9.67	7.30 - 14.6
Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	82.4	25.0 - 141
Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	80.1	37.0 - 158

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- DNQ Analyte concentration is below calibration range
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected at Detection Limit Level
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- * Result taken from dilution or reinjection

Analyst: 

Date: 9/9/2019

Reviewed By: 

Date: 9/9/2019

EPA Method 1613 TCDD



FAL ID: 12627-001-SA
Client ID: 1908474-01G EFF
Matrix: Aqueous
Batch No: X5042

Date Extracted: 09-05-2019
Date Received: 08-30-2019
Amount: 1.037 L

ICal: PCDDFAL4-3-20-19
GC Column: DB5MS
Units: pg/L

Acquired: 09-07-2019
WHO TEQ: NA

Compound	Conc	DL	Qual	MDL
2,3,7,8-TCDD	ND	0.544		0.447

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	79.8	31.0 - 137	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	86.1	42.0 - 164

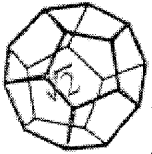
A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B Analyte is present in Method Blank
C Chemical Interference
D Presence of Diphenyl Ethers
DNQ Analyte concentration is below calibration range
E Analyte concentration is above calibration range
F Analyte confirmation on secondary column
J Analyte concentration is below calibration range
M Maximum possible concentration
ND Analyte Not Detected at Detection Limit Level
NP Not Provided
P Pre-filtered through a Whatman 0.7um GF/F filter
S Sample acceptance criteria not met
X Matrix interferences
* Result taken from dilution or reinjection

Analyst: 

Date: 9/9/2019

Reviewed By: 

Date: 9/9/2019



**NORTH COAST
LABORATORIES LTD.**

Sub-Contract Chain of Custody Record

Date Shipped: 8/28/2019
PO #: 1908474

Subcontractor: Frontier Analytical Laboratory
5172 Hillsdale Circle
El Dorado Hills, CA 95762

Attn: Sample Receiving

(916)934-0900

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

Email: sub@northcoastlabs.com

12627
000

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908474-01G EFF	8/27/2019 10:45 am 1 L amber glass	Waste Water			2,3,7,8-TCDD(Dioxin) by 1613

		Date/Time			Date/Time
Relinquished by:	<i>Ry</i>	8/29/19 1305	Received by:	<i>Kathy Spr</i>	8/30/19 910
Relinquished by:			Received by:		

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.



Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: **12627**

Client:	North Coast Laboratories LTD.
Client Project ID:	1908474
Date Received:	08/30/2019
Time Received:	09:10 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	1
Storage Location:	R-3

Method of Delivery:	Fed-Ex
Tracking Number:	494664439871
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Blue Ice/Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test aqueous sample for residual Chlorine	Yes
Sodium Thiosulfate Added	No
Adequate Sample Volume	Yes
Appropriate Sample Container	Yes
pH Range of Aqueous Sample	Between 4 and 9
Anomalies or additional comments:	



**NORTH COAST
LABORATORIES LTD.**

Subcontractor: Frontier Analytical Laboratory
5172 Hillsdale Circle
El Dorado Hills, CA 95762
Attn: Sample Receiving

(916)934-0900

Sub-Contract Chain of Custody Record

Date Shipped: 8/28/2019
PO #: 1908474

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

Email: sub@northcoastlabs.com

12627

OCC

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908474-01G	8/27/2019 10:45 am	Waste Water			2,3,7,8-TCDD(Dioxin)
EFF	1 L amber glass				

Relinquish
Relinquish
Special

Received
Received

Physical work; i

NCL ID: 1908474-01G
Sample ID: EFF
Collected: 8/27/2019 10:45:00 AM
Client: SCOCSD
Stored:
2378TCDDV
Bottle: 1 of 2

Frontier Analytical Laboratory
12627-001-SA
Client ID: 1908474-01G EFF
Storage: R-3 (01 of 02)

NCL ID: 1908474-01G
Sample ID: EFF
Collected: 8/27/2019 10:45:00 AM
Client: SCOCSD
Stored:
2378TCDDV
Bottle: 2 of 2

Frontier Analytical Laboratory
12627-001-SA
Client ID: 1908474-01G EFF
Storage: R-3 (02 of 02)

2019/08/30

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6143-1

Client Project/Site: 1908474

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/11/2019 3:42:11 PM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Job ID: 570-6143-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative 570-6143-1

Comments

No additional comments.

Receipt

The samples were received on 8/30/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.6° C and 5.8° C.

GC/MS Semi VOA

Method(s) 625.1: The following analyte(s) recovered outside control limits for the LCSD associated with preparation batch 570-16781 and analytical batch 570-16917: Pyridine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 625.1: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-17933 and analytical batch 570-18147 recovered outside control limits for the following analytes: N-Nitrosodiphenylamine. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 625.1: The following sample was re-prepared outside of preparation holding time due to surrogate failure in the first extraction: 570-6143-1.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

Method(s) SM 4500 CN E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-16959 and analytical batch 570-17226 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-17933. LCS/LCSD performed to meet QC requirements.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Client Sample ID: 1908474-01F EFF

Lab Sample ID: 570-6143-1

No Detections.

Client Sample ID: 1908474-01H EFF

Lab Sample ID: 570-6143-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0389		0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: 1908474-01F EFF

Date Collected: 08/27/19 10:45

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6143-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
1,2-Dichlorobenzene	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
1,2-Diphenylhydrazine	ND	H	9.6	2.0	ug/L		09/09/19 13:23	09/10/19 19:47	1
1,3-Dichlorobenzene	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
1,4-Dichlorobenzene	ND	H	9.6	1.6	ug/L		09/09/19 13:23	09/10/19 19:47	1
1-Methylnaphthalene	ND	H	9.6	1.3	ug/L		09/09/19 13:23	09/10/19 19:47	1
2,3-Dichloroaniline	ND	H	9.6	0.97	ug/L		09/09/19 13:23	09/10/19 19:47	1
2,4,5-Trichlorophenol	ND	H	9.6	1.8	ug/L		09/09/19 13:23	09/10/19 19:47	1
2,4,6-Trichlorophenol	ND	H	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
2,4-Dichlorophenol	ND	H	9.6	1.6	ug/L		09/09/19 13:23	09/10/19 19:47	1
2,4-Dimethylphenol	ND	H	9.6	0.82	ug/L		09/09/19 13:23	09/10/19 19:47	1
2,4-Dinitrophenol	ND	H	48	18	ug/L		09/09/19 13:23	09/10/19 19:47	1
2,4-Dinitrotoluene	ND	H	9.6	1.7	ug/L		09/09/19 13:23	09/10/19 19:47	1
2,6-Dinitrotoluene	ND	H	9.6	1.6	ug/L		09/09/19 13:23	09/10/19 19:47	1
2-Chloronaphthalene	ND	H	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
2-Chlorophenol	ND	H	9.6	1.6	ug/L		09/09/19 13:23	09/10/19 19:47	1
2-Methylnaphthalene	ND	H	9.6	1.2	ug/L		09/09/19 13:23	09/10/19 19:47	1
2-Methylphenol	ND	H	9.6	1.3	ug/L		09/09/19 13:23	09/10/19 19:47	1
2-Nitroaniline	ND	H	9.6	2.0	ug/L		09/09/19 13:23	09/10/19 19:47	1
2-Nitrophenol	ND	H	9.6	2.6	ug/L		09/09/19 13:23	09/10/19 19:47	1
3,3'-Dichlorobenzidine	ND	H	24	8.0	ug/L		09/09/19 13:23	09/10/19 19:47	1
3/4-Methylphenol	ND	H	9.6	2.7	ug/L		09/09/19 13:23	09/10/19 19:47	1
3-Nitroaniline	ND	H	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
4,6-Dinitro-2-methylphenol	ND	H	48	19	ug/L		09/09/19 13:23	09/10/19 19:47	1
4-Bromophenyl phenyl ether	ND	H	9.6	1.2	ug/L		09/09/19 13:23	09/10/19 19:47	1
4-Chloro-3-methylphenol	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
4-Chloroaniline	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
4-Chlorophenyl phenyl ether	ND	H	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
4-Nitroaniline	ND	H	9.6	0.95	ug/L		09/09/19 13:23	09/10/19 19:47	1
4-Nitrophenol	ND	H	9.6	1.1	ug/L		09/09/19 13:23	09/10/19 19:47	1
Acenaphthene	ND	H	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
Acenaphthylene	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
Acetophenone	ND	H	9.6	0.72	ug/L		09/09/19 13:23	09/10/19 19:47	1
Alpha-Terpineol	ND	H	9.6	0.95	ug/L		09/09/19 13:23	09/10/19 19:47	1
Aniline	ND	H	9.6	1.1	ug/L		09/09/19 13:23	09/10/19 19:47	1
Anthracene	ND	H	9.6	1.2	ug/L		09/09/19 13:23	09/10/19 19:47	1
Azobenzene	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
Benzidine	ND	H	48	27	ug/L		09/09/19 13:23	09/10/19 19:47	1
Benzo[a]anthracene	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
Benzo[a]pyrene	ND	H	9.6	2.0	ug/L		09/09/19 13:23	09/10/19 19:47	1
Benzo[b]fluoranthene	ND	H	9.6	1.9	ug/L		09/09/19 13:23	09/10/19 19:47	1
Benzo[g,h,i]perylene	ND	H	9.6	2.2	ug/L		09/09/19 13:23	09/10/19 19:47	1
Benzo[k]fluoranthene	ND	H	9.6	1.9	ug/L		09/09/19 13:23	09/10/19 19:47	1
Benzoic acid	ND	H	48	23	ug/L		09/09/19 13:23	09/10/19 19:47	1
Benzyl alcohol	ND	H	9.6	1.9	ug/L		09/09/19 13:23	09/10/19 19:47	1
Bis(2-chloroethoxy)methane	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
Bis(2-chloroethyl)ether	ND	H	24	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
bis (2-chloroisopropyl) ether	ND	H	9.6	1.9	ug/L		09/09/19 13:23	09/10/19 19:47	1
Bis(2-ethylhexyl) phthalate	ND	H	9.6	3.7	ug/L		09/09/19 13:23	09/10/19 19:47	1

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: 1908474-01F EFF

Date Collected: 08/27/19 10:45

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6143-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	ND	H	9.6	3.3	ug/L		09/09/19 13:23	09/10/19 19:47	1
Carbazole	ND	H	9.6	1.9	ug/L		09/09/19 13:23	09/10/19 19:47	1
Chrysene	ND	H	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
Dibenz(a,h)anthracene	ND	H	9.6	2.6	ug/L		09/09/19 13:23	09/10/19 19:47	1
Dibenzofuran	ND	H	9.6	1.2	ug/L		09/09/19 13:23	09/10/19 19:47	1
Diethyl phthalate	ND	H	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
Dimethyl phthalate	ND	H	9.6	1.1	ug/L		09/09/19 13:23	09/10/19 19:47	1
Di-n-butyl phthalate	ND	H	9.6	4.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
Di-n-octyl phthalate	ND	H	24	12	ug/L		09/09/19 13:23	09/10/19 19:47	1
Fluoranthene	ND	H	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
Fluorene	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
Hexachloro-1,3-butadiene	ND	H	9.6	2.0	ug/L		09/09/19 13:23	09/10/19 19:47	1
Hexachlorobenzene	ND	H	9.6	0.87	ug/L		09/09/19 13:23	09/10/19 19:47	1
Hexachlorocyclopentadiene	ND	H	24	11	ug/L		09/09/19 13:23	09/10/19 19:47	1
Hexachloroethane	ND	H	9.6	1.9	ug/L		09/09/19 13:23	09/10/19 19:47	1
Indeno[1,2,3-cd]pyrene	ND	H	9.6	2.3	ug/L		09/09/19 13:23	09/10/19 19:47	1
Isophorone	ND	H	9.6	1.6	ug/L		09/09/19 13:23	09/10/19 19:47	1
Naphthalene	ND	H	9.6	1.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
n-Decane	ND	H	9.6	1.2	ug/L		09/09/19 13:23	09/10/19 19:47	1
Nitrobenzene	ND	H	24	1.3	ug/L		09/09/19 13:23	09/10/19 19:47	1
N-Nitrosodimethylamine	ND	H	9.6	0.99	ug/L		09/09/19 13:23	09/10/19 19:47	1
N-Nitrosodi-n-propylamine	ND	H	9.6	1.9	ug/L		09/09/19 13:23	09/10/19 19:47	1
N-Nitrosodiphenylamine	ND	H *	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
n-Octadecane	ND	H	9.6	0.82	ug/L		09/09/19 13:23	09/10/19 19:47	1
Pentachlorophenol	ND	H	24	9.5	ug/L		09/09/19 13:23	09/10/19 19:47	1
Phenanthrene	ND	H	9.6	1.4	ug/L		09/09/19 13:23	09/10/19 19:47	1
Phenol	ND	H	9.6	0.54	ug/L		09/09/19 13:23	09/10/19 19:47	1
Pyrene	ND	H	9.6	1.6	ug/L		09/09/19 13:23	09/10/19 19:47	1
Pyridine	ND	H	9.6	0.69	ug/L		09/09/19 13:23	09/10/19 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	88		27 - 159	09/09/19 13:23	09/10/19 19:47	1
2-Fluorobiphenyl (Surr)	72		33 - 120	09/09/19 13:23	09/10/19 19:47	1
2-Fluorophenol (Surr)	53		24 - 120	09/09/19 13:23	09/10/19 19:47	1
Nitrobenzene-d5 (Surr)	84		38 - 120	09/09/19 13:23	09/10/19 19:47	1
Phenol-d6 (Surr)	36		16 - 120	09/09/19 13:23	09/10/19 19:47	1
p-Terphenyl-d14 (Surr)	89		41 - 137	09/09/19 13:23	09/10/19 19:47	1

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

General Chemistry

Client Sample ID: 1908474-01H EFF

Date Collected: 08/27/19 10:45

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6143-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0389		0.0200	0.00700	mg/L		09/04/19 13:00	09/05/19 11:05	1

Surrogate Summary

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Wastewater

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	TBP (27-159)	FBP (33-120)	2FP (24-120)	NBZ (38-120)	PHL6 (16-120)	TPHD14 (41-137)
570-6143-1	1908474-01F EFF	88	72	53	84	36	89

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl (Surr)

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHD14 = p-Terphenyl-d14 (Surr)

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	TBP (27-159)	FBP (33-120)	2FP (24-120)	NBZ (38-120)	PHL6 (16-120)	TPHD14 (41-137)
LCS 570-17933/2-A	Lab Control Sample	98	85	67	90	45	107
LCSD 570-17933/3-A	Lab Control Sample Dup	99	86	69	97	47	112
MB 570-17933/1-A	Method Blank	124	95	79	106	53	114

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl (Surr)

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHD14 = p-Terphenyl-d14 (Surr)

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-17933/1-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17933

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
1,2-Dichlorobenzene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
1,2-Diphenylhydrazine	ND		10	2.1	ug/L		09/09/19 13:23	09/10/19 15:15	1
1,3-Dichlorobenzene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
1,4-Dichlorobenzene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
1-Methylnaphthalene	ND		10	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,3-Dichloroaniline	ND		10	1.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4,5-Trichlorophenol	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4,6-Trichlorophenol	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4-Dichlorophenol	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4-Dimethylphenol	ND		10	0.85	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4-Dinitrophenol	ND		50	19	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,4-Dinitrotoluene	ND		10	1.8	ug/L		09/09/19 13:23	09/10/19 15:15	1
2,6-Dinitrotoluene	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Chloronaphthalene	ND		10	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Chlorophenol	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Methylnaphthalene	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Methylphenol	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Nitroaniline	ND		10	2.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
2-Nitrophenol	ND		10	2.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
3,3'-Dichlorobenzidine	ND		25	8.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
3/4-Methylphenol	ND		10	2.8	ug/L		09/09/19 13:23	09/10/19 15:15	1
3-Nitroaniline	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
4,6-Dinitro-2-methylphenol	ND		50	20	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Bromophenyl phenyl ether	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Chloro-3-methylphenol	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Chloroaniline	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Chlorophenyl phenyl ether	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Nitroaniline	ND		10	0.98	ug/L		09/09/19 13:23	09/10/19 15:15	1
4-Nitrophenol	ND		10	1.2	ug/L		09/09/19 13:23	09/10/19 15:15	1
Acenaphthene	ND		10	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
Acenaphthylene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Acetophenone	ND		10	0.75	ug/L		09/09/19 13:23	09/10/19 15:15	1
Alpha-Terpineol	ND		10	0.98	ug/L		09/09/19 13:23	09/10/19 15:15	1
Aniline	ND		10	1.2	ug/L		09/09/19 13:23	09/10/19 15:15	1
Anthracene	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
Azobenzene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzidine	ND		50	28	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[a]anthracene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[a]pyrene	ND		10	2.1	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[b]fluoranthene	ND		10	2.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[g,h,i]perylene	ND		10	2.2	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzo[k]fluoranthene	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzoic acid	ND		50	24	ug/L		09/09/19 13:23	09/10/19 15:15	1
Benzyl alcohol	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
Bis(2-chloroethoxy)methane	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
Bis(2-chloroethyl)ether	ND		25	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1

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QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-17933/1-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17933

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10	3.8	ug/L		09/09/19 13:23	09/10/19 15:15	1
Butyl benzyl phthalate	ND		10	3.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
Carbazole	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
Chrysene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
Dibenz(a,h)anthracene	ND		10	2.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
Dibenzofuran	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
Diethyl phthalate	ND		10	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
Dimethyl phthalate	ND		10	1.2	ug/L		09/09/19 13:23	09/10/19 15:15	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Di-n-octyl phthalate	ND		25	13	ug/L		09/09/19 13:23	09/10/19 15:15	1
Fluoranthene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
Fluorene	ND		10	1.6	ug/L		09/09/19 13:23	09/10/19 15:15	1
Hexachloro-1,3-butadiene	ND		10	2.1	ug/L		09/09/19 13:23	09/10/19 15:15	1
Hexachlorobenzene	ND		10	0.91	ug/L		09/09/19 13:23	09/10/19 15:15	1
Hexachlorocyclopentadiene	ND		25	11	ug/L		09/09/19 13:23	09/10/19 15:15	1
Hexachloroethane	ND		10	2.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
Indeno[1,2,3-cd]pyrene	ND		10	2.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
Isophorone	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
Naphthalene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
n-Decane	ND		10	1.3	ug/L		09/09/19 13:23	09/10/19 15:15	1
Nitrobenzene	ND		25	1.4	ug/L		09/09/19 13:23	09/10/19 15:15	1
N-Nitrosodimethylamine	ND		10	1.0	ug/L		09/09/19 13:23	09/10/19 15:15	1
N-Nitrosodi-n-propylamine	ND		10	1.9	ug/L		09/09/19 13:23	09/10/19 15:15	1
N-Nitrosodiphenylamine	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
n-Octadecane	ND		10	0.86	ug/L		09/09/19 13:23	09/10/19 15:15	1
Pentachlorophenol	ND		25	9.8	ug/L		09/09/19 13:23	09/10/19 15:15	1
Phenanthrene	ND		10	1.5	ug/L		09/09/19 13:23	09/10/19 15:15	1
Phenol	ND		10	0.56	ug/L		09/09/19 13:23	09/10/19 15:15	1
Pyrene	ND		10	1.7	ug/L		09/09/19 13:23	09/10/19 15:15	1
Pyridine	ND		10	0.72	ug/L		09/09/19 13:23	09/10/19 15:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	124		27 - 159	09/09/19 13:23	09/10/19 15:15	1
2-Fluorobiphenyl (Surr)	95		33 - 120	09/09/19 13:23	09/10/19 15:15	1
2-Fluorophenol (Surr)	79		24 - 120	09/09/19 13:23	09/10/19 15:15	1
Nitrobenzene-d5 (Surr)	106		38 - 120	09/09/19 13:23	09/10/19 15:15	1
Phenol-d6 (Surr)	53		16 - 120	09/09/19 13:23	09/10/19 15:15	1
p-Terphenyl-d14 (Surr)	114		41 - 137	09/09/19 13:23	09/10/19 15:15	1

Lab Sample ID: LCS 570-17933/2-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	100	73.27		ug/L		73	44 - 142
1,2-Dichlorobenzene	100	63.99		ug/L		64	35 - 100
1,3-Dichlorobenzene	100	61.21		ug/L		61	30 - 100
1,4-Dichlorobenzene	100	62.91		ug/L		63	30 - 100

Eurofins Calscience LLC

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-17933/2-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,6-Trichlorophenol	100	93.77		ug/L		94	37 - 144
2,4-Dichlorophenol	100	95.35		ug/L		95	39 - 135
2,4-Dimethylphenol	100	104.9		ug/L		105	32 - 120
2,4-Dinitrophenol	100	40.08	J	ug/L		40	1 - 191
2,4-Dinitrotoluene	100	102.8		ug/L		103	39 - 139
2,6-Dinitrotoluene	100	103.9		ug/L		104	50 - 158
2-Chloronaphthalene	100	84.18		ug/L		84	60 - 120
2-Chlorophenol	100	93.32		ug/L		93	23 - 143
2-Nitrophenol	100	91.63		ug/L		92	29 - 182
3,3'-Dichlorobenzidine	100	107.3		ug/L		107	1 - 262
4-Bromophenyl phenyl ether	100	85.52		ug/L		86	53 - 127
4-Chloro-3-methylphenol	100	99.81		ug/L		100	22 - 147
4-Chlorophenyl phenyl ether	100	85.29		ug/L		85	25 - 158
4-Nitrophenol	100	49.70		ug/L		50	1 - 132
Acenaphthene	100	89.94		ug/L		90	47 - 145
Acenaphthylene	100	106.5		ug/L		107	33 - 145
Anthracene	100	102.1		ug/L		102	27 - 133
Benzo[a]anthracene	100	109.3		ug/L		109	33 - 143
Benzo[a]pyrene	100	109.1		ug/L		109	17 - 163
Benzo[b]fluoranthene	100	103.4		ug/L		103	24 - 159
Benzo[g,h,i]perylene	100	103.5		ug/L		104	1 - 219
Benzo[k]fluoranthene	100	110.7		ug/L		111	11 - 162
Bis(2-chloroethoxy)methane	100	86.66		ug/L		87	33 - 184
Bis(2-chloroethyl)ether	100	87.90		ug/L		88	12 - 158
bis (2-chloroisopropyl) ether	100	99.81		ug/L		100	36 - 166
Bis(2-ethylhexyl) phthalate	100	113.4		ug/L		113	8 - 158
Butyl benzyl phthalate	100	113.3		ug/L		113	1 - 152
Chrysene	100	108.0		ug/L		108	17 - 168
Dibenz(a,h)anthracene	100	98.05		ug/L		98	1 - 227
Diethyl phthalate	100	104.8		ug/L		105	1 - 120
Dimethyl phthalate	100	102.2		ug/L		102	1 - 120
Di-n-butyl phthalate	100	106.5		ug/L		107	1 - 120
Di-n-octyl phthalate	100	116.9		ug/L		117	4 - 146
Fluoranthene	100	104.3		ug/L		104	26 - 137
Fluorene	100	96.97		ug/L		97	59 - 121
Hexachlorobenzene	100	90.25		ug/L		90	1 - 152
Hexachloroethane	100	58.81		ug/L		59	40 - 120
Indeno[1,2,3-cd]pyrene	100	98.92		ug/L		99	1 - 171
Isophorone	100	101.8		ug/L		102	21 - 196
Naphthalene	100	84.65		ug/L		85	21 - 133
Nitrobenzene	100	92.45		ug/L		92	35 - 180
N-Nitrosodi-n-propylamine	100	95.89		ug/L		96	1 - 230
Pentachlorophenol	100	44.61		ug/L		45	14 - 176
Phenanthrene	100	101.0		ug/L		101	54 - 120
Phenol	100	47.30		ug/L		47	5 - 120
Pyrene	100	111.3		ug/L		111	52 - 120

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QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-17933/2-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17933

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	98		27 - 159
2-Fluorobiphenyl (Surr)	85		33 - 120
2-Fluorophenol (Surr)	67		24 - 120
Nitrobenzene-d5 (Surr)	90		38 - 120
Phenol-d6 (Surr)	45		16 - 120
p-Terphenyl-d14 (Surr)	107		41 - 137

Lab Sample ID: LCSD 570-17933/3-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17933

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	100	74.73		ug/L		75	44 - 142	2	50
1,2-Dichlorobenzene	100	66.24		ug/L		66	35 - 100	3	30
1,3-Dichlorobenzene	100	63.86		ug/L		64	30 - 100	4	30
1,4-Dichlorobenzene	100	63.67		ug/L		64	30 - 100	1	30
2,4,6-Trichlorophenol	100	95.96		ug/L		96	37 - 144	2	58
2,4-Dichlorophenol	100	103.2		ug/L		103	39 - 135	8	50
2,4-Dimethylphenol	100	109.8		ug/L		110	32 - 120	4	58
2,4-Dinitrophenol	100	43.35	J	ug/L		43	1 - 191	8	132
2,4-Dinitrotoluene	100	108.9		ug/L		109	39 - 139	6	42
2,6-Dinitrotoluene	100	108.7		ug/L		109	50 - 158	4	48
2-Chloronaphthalene	100	84.96		ug/L		85	60 - 120	1	24
2-Chlorophenol	100	98.90		ug/L		99	23 - 143	6	61
2-Nitrophenol	100	100.2		ug/L		100	29 - 182	9	55
3,3'-Dichlorobenzidine	100	110.3		ug/L		110	1 - 262	3	108
4-Bromophenyl phenyl ether	100	88.84		ug/L		89	53 - 127	4	43
4-Chloro-3-methylphenol	100	108.0		ug/L		108	22 - 147	8	73
4-Chlorophenyl phenyl ether	100	86.49		ug/L		86	25 - 158	1	61
4-Nitrophenol	100	48.03		ug/L		48	1 - 132	3	131
Acenaphthene	100	94.96		ug/L		95	47 - 145	5	48
Acenaphthylene	100	109.5		ug/L		110	33 - 145	3	74
Anthracene	100	107.9		ug/L		108	27 - 133	6	66
Benzo[a]anthracene	100	112.3		ug/L		112	33 - 143	3	53
Benzo[a]pyrene	100	109.8		ug/L		110	17 - 163	1	72
Benzo[b]fluoranthene	100	103.6		ug/L		104	24 - 159	0	71
Benzo[g,h,i]perylene	100	107.4		ug/L		107	1 - 219	4	97
Benzo[k]fluoranthene	100	115.7		ug/L		116	11 - 162	4	63
Bis(2-chloroethoxy)methane	100	92.07		ug/L		92	33 - 184	6	54
Bis(2-chloroethyl)ether	100	90.39		ug/L		90	12 - 158	3	108
bis (2-chloroisopropyl) ether	100	104.7		ug/L		105	36 - 166	5	76
Bis(2-ethylhexyl) phthalate	100	114.2		ug/L		114	8 - 158	1	82
Butyl benzyl phthalate	100	120.2		ug/L		120	1 - 152	6	60
Chrysene	100	111.7		ug/L		112	17 - 168	3	87
Dibenz(a,h)anthracene	100	101.9		ug/L		102	1 - 227	4	126
Diethyl phthalate	100	107.8		ug/L		108	1 - 120	3	100
Dimethyl phthalate	100	104.7		ug/L		105	1 - 120	2	183
Di-n-butyl phthalate	100	109.9		ug/L		110	1 - 120	3	47

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QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-17933/3-A

Matrix: Water

Analysis Batch: 18147

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17933

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Di-n-octyl phthalate	100	116.9		ug/L		117	4 - 146	0	69
Fluoranthene	100	105.8		ug/L		106	26 - 137	2	66
Fluorene	100	97.67		ug/L		98	59 - 121	1	38
Hexachlorobenzene	100	94.79		ug/L		95	1 - 152	5	55
Hexachloroethane	100	59.57		ug/L		60	40 - 120	1	52
Indeno[1,2,3-cd]pyrene	100	101.3		ug/L		101	1 - 171	2	99
Isophorone	100	110.2		ug/L		110	21 - 196	8	93
Naphthalene	100	89.28		ug/L		89	21 - 133	5	65
Nitrobenzene	100	101.3		ug/L		101	35 - 180	9	62
N-Nitrosodi-n-propylamine	100	101.8		ug/L		102	1 - 230	6	87
Pentachlorophenol	100	46.54		ug/L		47	14 - 176	4	86
Phenanthrene	100	103.2		ug/L		103	54 - 120	2	39
Phenol	100	50.42		ug/L		50	5 - 120	6	64
Pyrene	100	115.8		ug/L		116	52 - 120	4	49

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	99		27 - 159
2-Fluorobiphenyl (Surr)	86		33 - 120
2-Fluorophenol (Surr)	69		24 - 120
Nitrobenzene-d5 (Surr)	97		38 - 120
Phenol-d6 (Surr)	47		16 - 120
p-Terphenyl-d14 (Surr)	112		41 - 137

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-16959/1-A

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16959

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/04/19 13:00	09/05/19 10:53	1

Lab Sample ID: LCS 570-16959/2-A

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16959

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.1816		mg/L		91	80 - 120

Lab Sample ID: LCSD 570-16959/3-A

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16959

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.200	0.1857		mg/L		93	80 - 120	2	20

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method: SM 4500 CN E - Cyanide, Total (Continued)

Lab Sample ID: 570-6344-A-3-A MS

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16959

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0564	F1	0.200	0.1904	F1	mg/L	—	67	74 - 115

Lab Sample ID: 570-6344-A-3-B MSD

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16959

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0564	F1	0.200	0.1915	F1	mg/L	—	68	74 - 115	1	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

GC/MS Semi VOA

Prep Batch: 17933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6143-1	1908474-01F EFF	Total/NA	Wastewater	625	
MB 570-17933/1-A	Method Blank	Total/NA	Water	625	
LCS 570-17933/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-17933/3-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 18147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6143-1	1908474-01F EFF	Total/NA	Wastewater	625.1	17933
MB 570-17933/1-A	Method Blank	Total/NA	Water	625.1	17933
LCS 570-17933/2-A	Lab Control Sample	Total/NA	Water	625.1	17933
LCSD 570-17933/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	17933

General Chemistry

Prep Batch: 16959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6143-2	1908474-01H EFF	Total/NA	Wastewater	SM 4500 CN C	
MB 570-16959/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-16959/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-16959/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6344-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-6344-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 17226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6143-2	1908474-01H EFF	Total/NA	Wastewater	SM 4500 CN E	16959
MB 570-16959/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	16959
LCS 570-16959/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	16959
LCSD 570-16959/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	16959
570-6344-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	16959
570-6344-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	16959

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Client Sample ID: 1908474-01F EFF

Date Collected: 08/27/19 10:45

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6143-1

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1039.4 mL	2 mL	17933	09/09/19 13:23	OAJ3	ECL 1
Total/NA	Analysis	625.1		1			18147	09/10/19 19:47	N8CZ	ECL 1
Instrument ID: GCMSSS										

Client Sample ID: 1908474-01H EFF

Date Collected: 08/27/19 10:45

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6143-2

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16959	09/04/19 13:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17226	09/05/19 11:05	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Method	Method Description	Protocol	Laboratory
625.1	Semivolatile Organic Compounds (GC/MS)	40CFR136A	ECL 1
SM 4500 CN E	Cyanide, Total	SM	ECL 1
625	Liquid-Liquid Extraction	40CFR136A	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1908474

Job ID: 570-6143-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6143-1	1908474-01F EFF	Wastewater	08/27/19 10:45	08/30/19 10:00	
570-6143-2	1908474-01H EFF	Wastewater	08/27/19 10:45	08/30/19 10:00	

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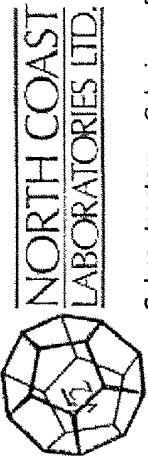
13

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6143

Sub-Contract Chain of Custody Record

Date Shipped: 8/28/2019
PO #: 1908474

Subcontractor: Calscience Environmental Labs
7440 Lincoln Way
Garden Grove, CA 92841
Attn: SAMPLE RECEIVING

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

714 895-5494

Email: sub@northcoastlabs.com



570-6143 Chain of Custody

NCL Sample #	Collection Date	Matrix	State Form System	Sampler	Analysis
Sample ID	Bottle		Source	Employer	Remarks
1908474-01F EFF	8/27/2019 10:45 am 1 L amber glass	Waste Water			EPA 625 Super List with PAH's P.P. Total Cyanide - Water
1908474-01H EFF	8/27/2019 10:45 am 500 mL brown HDPE with NaOH	Waste Water			

54/58 SLG
3.4/3.6 *
SLG

Date/Time

Date/Time

Relinquished by:

Received by:

Relinquished by:

Received by:

8/28/19 1420

8/30/19 1050

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.
* Performed 9/29/19 1000 @

Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6143-1

Login Number: 6143**List Number: 1****Creator: Ramos, Maribel****List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



September 13, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908497
Invoice No.: 148514
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	INF
01B	INF
01C	INF
01D	INF
01E	INF
01F	INF
02A	CCB
02B	CCB
02C	CCB
02D	CCB
02E	CCB
02F	CCB
03A	EFF
03B	EFF
03C	EFF
03D	EFF
03E	EFF
03F	EFF
04A	ERB
04B	ERB
04C	ERB
04D	ERB
04E	ERB
04F	ERB

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:



Roxanne Moore, Project Manager

Date: 13-Sep-2019
WorkOrder: 1908497

CASE NARRATIVE

Samples for pH, chlorine and dissolved oxygen analysis must be analyzed within 15 minutes of collection. Therefore, any samples requiring these analyses were analyzed past the official holding time.

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

BOD:

Sample ERB was reanalyzed past the hold time due to insufficient oxygen depletion during the initial analysis.

Date: 13-Sep-2019

WorkOrder: 1908497

ANALYTICAL REPORT

Client Sample ID: INF

Received: 8/28/2019

Lab ID: 1908497-01A

Matrix: Waste Water

Collected 8/28/2019 10:10

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	200			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	53,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 10:36
Magnesium	16,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 10:36

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	100			20	3	µg/L	1.0	9/5/2019	09/09/19 15:00
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:00
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:00
Chromium	1.5	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:00
Copper	20			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:00
Lead	0.74	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:00
Molybdenum	1.8	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:00
Nickel	3.9	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:00
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:00
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:00
Zinc	61			10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:00

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/6/2019	09/08/19 11:39

Client Sample ID: INF

Received: 8/28/2019

Lab ID: 1908497-01B

Matrix: Waste Water

Collected 8/28/2019 10:10

Test Name: Ammonia Nitrogen without distillation

Analyst: RMS

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	9.5			0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	24			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Date: 13-Sep-2019

WorkOrder: 1908497

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	24			1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus

Analyst: JLM

Reference: SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	5.1			0.20	0.074	mg/L	10	9/5/2019	09/06/19 0:00

Client Sample ID: INF

Received: 8/28/2019

Lab ID: 1908497-01C

Matrix: Waste Water

Collected 8/28/2019 10:10

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	1,300			2.0	2	mg/L	1.0		08/29/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	130			1.0	0.6	mg/L	1.0		09/03/19 0:00

Client Sample ID: INF

Received: 8/28/2019

Lab ID: 1908497-01D

Matrix: Waste Water

Collected 8/28/2019 10:10

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.50			0.10	0.1	mL/L/hour	1.0		08/29/19 0:00

Client Sample ID: INF

Received: 8/28/2019

Lab ID: 1908497-01E

Matrix: Waste Water

Collected 8/28/2019 10:10

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/28/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/28/19 20:40
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/28/19 20:40

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	1,500			10	5.3	mg/L	1.0		09/04/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

Date: 13-Sep-2019

WorkOrder: 1908497

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/28/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	66			0.25	0.25	NTU	5.0		08/30/19 0:00

Client Sample ID: INF

Received: 8/28/2019

Lab ID: 1908497-01F

Matrix: Waste Water

Collected 8/28/2019 10:10

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	10			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: CCB

Received: 8/28/2019

Lab ID: 1908497-02A

Matrix: Waste Water

Collected 8/28/2019 9:35

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	220			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	61,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 10:39
Magnesium	18,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 10:39

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	400			20	3	µg/L	1.0	9/5/2019	09/09/19 15:12
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:12
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:12
Chromium	0.76	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:12
Copper	27			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:12
Lead	1.3	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:12
Molybdenum	1.5	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:12
Nickel	4.9	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:12
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:12
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:12
Zinc	79			10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:12

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	0.15	J		1.0	0.072	µg/L	1.0	9/6/2019	09/08/19 11:42

Date: 13-Sep-2019

WorkOrder: 1908497

ANALYTICAL REPORT**Client Sample ID:** CCB**Received:** 8/28/2019**Lab ID:** 1908497-02B**Matrix:** Waste Water**Collected** 8/28/2019 9:35**Test Name:** Ammonia Nitrogen without distillation**Analyst:** RMS**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	7.7			0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	20			1.0	0.96	mg/L	1.0	9/10/2019	09/11/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	20			1.0	N/A	mg/L	1.0		09/12/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	4.9			0.20	0.074	mg/L	10	9/5/2019	09/06/19 0:00

Client Sample ID: CCB**Received:** 8/28/2019**Lab ID:** 1908497-02C**Matrix:** Waste Water**Collected** 8/28/2019 9:35**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	410			2.0	2	mg/L	1.0		08/29/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	92			1.0	0.6	mg/L	1.0		09/03/19 0:00

Client Sample ID: CCB**Received:** 8/28/2019**Lab ID:** 1908497-02D**Matrix:** Waste Water**Collected** 8/28/2019 9:35**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	1.0			0.10	0.1	mL/L/hour	1.0		08/29/19 0:00

Date: 13-Sep-2019

WorkOrder: 1908497

ANALYTICAL REPORT

Client Sample ID: CCB

Received: 8/28/2019

Lab ID: 1908497-02E

Matrix: Waste Water

Collected 8/28/2019 9:35

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/28/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/28/19 20:56
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/28/19 20:56

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	490			10	5.3	mg/L	1.0		09/04/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	1.2			0.10	0.1	mg/L	1.0		08/28/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	78			0.25	0.25	NTU	5.0		08/30/19 0:00

Client Sample ID: CCB

Received: 8/28/2019

Lab ID: 1908497-02F

Matrix: Waste Water

Collected 8/28/2019 9:35

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	8.6			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: EFF

Received: 8/28/2019

Lab ID: 1908497-03A

Matrix: Waste Water

Collected 8/28/2019 9:10

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	500			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	120,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 10:47
Magnesium	50,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 10:47

Date: 13-Sep-2019**WorkOrder:** 1908497**Test Name:** ICP-MS Metals**Reference:** EPA 200.8 Rev 5.4 (1994)**ANALYTICAL REPORT****Analyst:** ERK

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	170			20	3	µg/L	1.0	9/5/2019	09/09/19 15:16
Arsenic	2.8	J		5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:16
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:16
Chromium	0.82	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:16
Copper	2.6	J		5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:16
Lead	0.32	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:16
Molybdenum	6.7			5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:16
Nickel	4.8	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:16
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:16
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:16
Zinc	4.4	J		10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:16

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/6/2019	09/08/19 11:51

Client Sample ID: EFF**Received:** 8/28/2019**Lab ID:** 1908497-03B**Matrix:** Waste Water**Collected:** 8/28/2019 9:10**Test Name:** Ammonia Nitrogen without distillation**Analyst:** RMS**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	0.044	J		0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	2.6			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	2.6			1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	0.41			0.020	0.0074	mg/L	1.0	9/5/2019	09/06/19 0:00

Date: 13-Sep-2019

WorkOrder: 1908497

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/28/2019

Lab ID: 1908497-03C

Matrix: Waste Water

Collected 8/28/2019 9:10

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	8.8			2.0	2	mg/L	1.0		08/29/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	20			1.0	0.6	mg/L	1.0		09/03/19 0:00

Client Sample ID: EFF

Received: 8/28/2019

Lab ID: 1908497-03D

Matrix: Waste Water

Collected 8/28/2019 9:10

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.10			0.10	0.1	mL/L/hour	1.0		08/29/19 0:00

Client Sample ID: EFF

Received: 8/28/2019

Lab ID: 1908497-03E

Matrix: Waste Water

Collected 8/28/2019 9:10

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.21			0.10	0.1	mg/L	1.0		08/28/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/28/19 21:13
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/28/19 21:13

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	620			10	5.3	mg/L	1.0		09/04/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.21			0.10	0.1	mg/L	1.0		08/28/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	24			0.050	0.05	NTU	1.0		08/30/19 0:00

Date: 13-Sep-2019

WorkOrder: 1908497

ANALYTICAL REPORT**Client Sample ID:** EFF**Received:** 8/28/2019**Lab ID:** 1908497-03F**Matrix:** Waste Water**Collected** 8/28/2019 9:10**Test Name:** Hexane Extractable Oil and Grease**Analyst:** JAP**Reference:** EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.5	4	mg/L	0.91	9/5/2019	09/06/19 11:00

Client Sample ID: ERB**Received:** 8/28/2019**Lab ID:** 1908497-04A**Matrix:** Waste Water**Collected** 8/28/2019 8:00**Test Name:** Hardness**Analyst:** RMS**Reference:** SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	180			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals**Analyst:** ERK**Reference:** EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	46,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 10:50
Magnesium	16,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 10:50

Test Name: ICP-MS Metals**Analyst:** ERK**Reference:** EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	76			20	3	µg/L	1.0	9/5/2019	09/09/19 15:20
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:20
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:20
Chromium	0.58	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:20
Copper	18			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:20
Lead	0.29	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:20
Molybdenum	2.2	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:20
Nickel	2.1	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:20
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:20
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:20
Zinc	49			10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:20

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/6/2019	09/08/19 11:53

Client Sample ID: ERB**Received:** 8/28/2019**Lab ID:** 1908497-04B**Matrix:** Waste Water**Collected** 8/28/2019 8:00**Test Name:** Ammonia Nitrogen without distillation**Analyst:** RMS**Reference:** SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	2.0			0.10	0.017	mg/L	1.0		09/06/19 0:00

NORTH COAST LABORATORIES

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Date: 13-Sep-2019**WorkOrder:** 1908497**Test Name:** Nitrogen - Total Kjeldahl**Reference:** SM 4500-NH3 B,D 1997. Revs 2011**Analyst:** JLM

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	14			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	14			1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	5.1			0.20	0.074	mg/L	10	9/5/2019	09/06/19 0:00

Client Sample ID: ERB**Received:** 8/28/2019**Lab ID:** 1908497-04C**Matrix:** Waste Water**Collected:** 8/28/2019 8:00**Test Name:** Biochemical Oxygen Demand**Analyst:** AJJ**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	870			2.0	2	mg/L	1.0		09/04/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	72			1.0	0.6	mg/L	1.0		09/04/19 0:00

Client Sample ID: ERB**Received:** 8/28/2019**Lab ID:** 1908497-04D**Matrix:** Waste Water**Collected:** 8/28/2019 8:00**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.50			0.10	0.1	mL/L/hour	1.0		08/29/19 0:00

Client Sample ID: ERB**Received:** 8/28/2019**Lab ID:** 1908497-04E**Matrix:** Waste Water**Collected:** 8/28/2019 8:00**Test Name:** Free Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/28/19 0:00

Test Name: Nitrate and/or Nitrite**Analyst:** DAA**Reference:** EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/28/19 21:30
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/28/19 21:30

Date: 13-Sep-2019
WorkOrder: 1908497
Test Name: Total Dissolved Solids
Reference: SM 2540C, 1997. Revs 2011

ANALYTICAL REPORT

Analyst: AJJ

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	430			10	5.3	mg/L	1.0		09/04/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.10			0.10	0.1	mg/L	1.0		08/28/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	150			0.25	0.25	NTU	5.0		08/30/19 0:00

Client Sample ID: ERB

Received: 8/28/2019

Lab ID: 1908497-04F

Matrix: Waste Water

Collected: 8/28/2019 8:00

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.6	4.1	mg/L	0.93	9/5/2019	09/06/19 11:00

North Coast Laboratories, Ltd.

Date: 9/13/2019

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100704	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/6/2019 11:00:00 AM	Prep Date	9/5/2019	
Client ID:		Run ID:	WC_190905D					SeqNo:	1433470			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		ND	5.0									

Sample ID	MBLK	Batch ID:	R100706	Test Code:	AMMW	Units:	mg/L	Analysis Date	9/6/2019	Prep Date		
Client ID:		Run ID:	WC_190906C					SeqNo:	1433423			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		0.05200	0.10									J

Sample ID	MBLK 082819	Batch ID:	R100605	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/28/2019 6:10:23 PM	Prep Date		
Client ID:		Run ID:	INIC2_190828A					SeqNo:	1431781			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		ND	0.10									
Nitrite (as Nitrogen)		ND	0.10									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID **MB-37784** Batch ID: **37784** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/9/2019 2:23:20 PM** Prep Date **9/5/2019**
 Client ID: Run ID: **ICPMS2_190909A** SeqNo: **1433957**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.663	20									J
Arsenic	ND	5.0									
Cadmium	ND	5.0									
Chromium	ND	5.0									
Copper	ND	5.0									
Lead	ND	5.0									
Molybdenum	0.08300	5.0									J
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Zinc	ND	10									

Sample ID **MB-37784** Batch ID: **37784** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/9/2019 10:14:07 AM** Prep Date **9/5/2019**
 Client ID: Run ID: **INICP2_190909A** SeqNo: **1433860**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	13.12	100									J
Magnesium	3.606	100									J

Sample ID **MB-37790** Batch ID: **37790** Test Code: **MERCW** Units: **µg/L** Analysis Date **9/8/2019 11:22:12 AM** Prep Date **9/6/2019**
 Client ID: Run ID: **CVAA2_190908A** SeqNo: **1433619**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MBLK	Batch ID: R100675	Test Code: NFRW	Units: mg/L	Analysis Date 9/3/2019	Prep Date
Client ID:		Run ID: WC_190903D		SeqNo: 1432926	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Non-Filterable Residue(TSS)	ND	1.0			
Sample ID MBLK	Batch ID: R100723	Test Code: NFRW	Units: mg/L	Analysis Date 9/4/2019	Prep Date
Client ID:		Run ID: WC_190904C		SeqNo: 1433656	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Non-Filterable Residue(TSS)	ND	1.0			
Sample ID MBLANK	Batch ID: R100690	Test Code: NKJEW	Units: mg/L	Analysis Date 9/5/2019	Prep Date 9/4/2019
Client ID:		Run ID: WC_190905B		SeqNo: 1433126	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrogen- Total Kjeldahl	ND	1.0			
Sample ID MBLANK	Batch ID: R100818	Test Code: NKJEW	Units: mg/L	Analysis Date 9/11/2019	Prep Date 9/10/2019
Client ID:		Run ID: WC_190911C		SeqNo: 1434841	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrogen- Total Kjeldahl	ND	1.0			
Sample ID MBLANK WL-0905	Batch ID: R100699	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/6/2019	Prep Date 9/5/2019
Client ID:		Run ID: WC_190906A		SeqNo: 1433307	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Phosphate Phosphorus	ND	0.020			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MBLK	Batch ID: R100735	Test Code: TDS	Units: mg/L	Analysis Date 9/4/2019	Prep Date
Client ID:	Run ID: WC_190904H	SeqNo: 1433843			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec
Total Dissolved Solids	ND	10			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/13/2019

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	1908497-02AMS	Batch ID:	37790	Test Code:	MERCW	Units:	µg/L	Analysis Date	9/8/2019 11:49:00 AM	Prep Date	9/6/2019
Client ID:	CCB	Run ID:	CVAA2_190908A	SeqNo:	1433631						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.148	1.0	5.00	0.149	100%	70	130	0			

Sample ID	1908497-04B MS	Batch ID:	R100699	Test Code:	PO4TOW	Units:	mg/L	Analysis Date	9/6/2019	Prep Date	9/5/2019
Client ID:	ERB	Run ID:	WC_190906A	SeqNo:	1433323						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus	5.571	0.20	0.500	5.13	87.5%	85	115	0			

Sample ID	1908497-04B MSD	Batch ID:	R100699	Test Code:	PO4TOW	Units:	mg/L	Analysis Date	9/6/2019	Prep Date	9/5/2019
Client ID:	ERB	Run ID:	WC_190906A	SeqNo:	1433324						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus	5.702	0.20	0.500	5.13	114%	85	115	5.57	2.34%	10	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/13/2019

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS	Batch ID:	R100704	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/6/2019 11:00:00 AM	Prep Date	9/5/2019	
Client ID:		Run ID:	WC_190905D					SeqNo:	1433471			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		39.50	5.0	40.0	0	98.8%	80	107	0			

Sample ID	LCSD	Batch ID:	R100704	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/6/2019 11:00:00 AM	Prep Date	9/5/2019	
Client ID:		Run ID:	WC_190905D					SeqNo:	1433472			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		38.00	5.0	40.0	0	95.0%	80	107	39.5	3.87%	18	

Sample ID	LCS	Batch ID:	R100706	Test Code:	AMMW	Units:	mg/L	Analysis Date	9/6/2019	Prep Date		
Client ID:		Run ID:	WC_190906C					SeqNo:	1433424			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.26	0.10	10.0	0.0520	102%	85	115	0			

Sample ID	LCSD	Batch ID:	R100706	Test Code:	AMMW	Units:	mg/L	Analysis Date	9/6/2019	Prep Date	
Client ID:		Run ID:	WC_190906C	SeqNo:	1433425						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen	10.17	0.10	10.0	0.0520	101%	85	115	10.3	0.881%	20	

Sample ID	LCS WL-082819-1	Batch ID:	R100605	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/28/2019 6:27:01 PM	Prep Date	
Client ID:		Run ID:	INIC2_190828A	SeqNo:	1431782						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.035	0.10	5.00	0	101%	90	110	0			
Nitrite (as Nitrogen)	4.972	0.10	5.00	0	99.4%	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-D WL-082819-	Batch ID:	R100605	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/28/2019 6:43:40 PM	Prep Date	
Client ID:		Run ID:	INIC2_190828A	SeqNo:	1431783						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.056	0.10	5.00	0	101%	90	110	5.04	0.406%	10	
Nitrite (as Nitrogen)	4.964	0.10	5.00	0	99.3%	90	110	4.97	0.163%	10	

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/9/2019 2:27:26 PM	Prep Date	9/5/2019
Client ID:		Run ID:	ICPMS2_190909A	SeqNo:	1433958						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	493.4	100	500	9.66	96.7%	85	115	0			
Arsenic	518.1	25	500	0	104%	85	115	0			
Cadmium	522.5	25	500	0	104%	85	115	0			
Chromium	472.7	25	500	0	94.5%	85	115	0			
Copper	470.8	25	500	0	94.2%	85	115	0			
Lead	483.4	25	500	0	96.7%	85	115	0			
Molybdenum	506.0	25	500	0.0830	101%	85	115	0			
Nickel	487.6	25	500	0	97.5%	85	115	0			
Selenium	532.1	50	500	0	106%	85	115	0			
Silver	60.47	25	62.5	0	96.7%	85	115	0			
Zinc	507.5	50	500	0	101%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/9/2019 2:31:31 PM	Prep Date	9/5/2019
Client ID:		Run ID:	ICPMS2_190909A	SeqNo:	1433959						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519.4	100	500	9.66	102%	85	115	493	5.13%	20	
Arsenic	547.3	25	500	0	109%	85	115	518	5.49%	20	
Cadmium	541.6	25	500	0	108%	85	115	522	3.59%	20	
Chromium	505.8	25	500	0	101%	85	115	473	6.77%	20	
Copper	500.3	25	500	0	100%	85	115	471	6.07%	20	
Lead	499.7	25	500	0	99.9%	85	115	483	3.32%	20	
Molybdenum	538.7	25	500	0.0830	108%	85	115	506	6.27%	20	
Nickel	529.1	25	500	0	106%	85	115	488	8.17%	20	
Selenium	552.0	50	500	0	110%	85	115	532	3.68%	20	
Silver	64.16	25	62.5	0	103%	85	115	60.5	5.92%	20	
Zinc	524.8	50	500	0	105%	85	115	508	3.36%	20	

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/9/2019 10:16:05 AM	Prep Date	9/5/2019
Client ID:		Run ID:	INICP2_190909A	SeqNo:	1433861						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	517.1	100	500	13.1	101%	85	115	0			
Magnesium	499.6	100	500	3.61	99.2%	85	115	0			

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/9/2019 10:18:32 AM	Prep Date	9/5/2019
Client ID:		Run ID:	INICP2_190909A	SeqNo:	1433862						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	515.7	100	500	13.1	101%	85	115	517	0.276%	20	
Magnesium	502.0	100	500	3.61	99.7%	85	115	500	0.475%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37790	Batch ID: 37790	Test Code: MERCW	Units: µg/L		Analysis Date	9/8/2019 11:24:43 AM			Prep Date	9/6/2019	
Client ID:			Run ID: CVAA2_190908A			SeqNo:	1433620					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		5.069	1.0	5.00	0	101%	85	115	0			
Sample ID	LCSD-37790	Batch ID: 37790	Test Code: MERCW	Units: µg/L		Analysis Date	9/8/2019 11:26:43 AM			Prep Date	9/6/2019	
Client ID:			Run ID: CVAA2_190908A			SeqNo:	1433621					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		4.882	1.0	5.00	0	97.6%	85	115	5.07	3.75%	20	
Sample ID	BLKSPK	Batch ID: R100690	Test Code: NKJEW	Units: mg/L		Analysis Date	9/5/2019			Prep Date	9/4/2019	
Client ID:			Run ID: WC_190905B			SeqNo:	1433127					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		9.800	1.0	10.0	0	98.0%	85	115	0			
Sample ID	BLKSPK	Batch ID: R100690	Test Code: NKJEW	Units: mg/L		Analysis Date	9/5/2019			Prep Date	9/4/2019	
Client ID:			Run ID: WC_190905B			SeqNo:	1433128					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		9.924	1.0	10.0	0	99.2%	85	115	9.80	1.26%	20	
Sample ID	BLKSPK	Batch ID: R100818	Test Code: NKJEW	Units: mg/L		Analysis Date	9/11/2019			Prep Date	9/10/2019	
Client ID:			Run ID: WC_190911C			SeqNo:	1434842					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		10.38	1.0	10.0	0	104%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	BLKSPK	Batch ID: R100818	Test Code: NKJEW	Units: mg/L	Analysis Date 9/11/2019				Prep Date 9/10/2019			
Client ID:			Run ID: WC_190911C			SeqNo: 1434843						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		9.789	1.0	10.0	0	97.9%	85	115	10.4	5.86%	20	

Sample ID	LCS WL-09051905	Batch ID: R100699	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/6/2019				Prep Date 9/5/2019			
Client ID:			Run ID: WC_190906A			SeqNo: 1433308						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4983	0.020	0.500	0	99.7%	85	115	0			

Sample ID	LCSD WL-090519	Batch ID: R100699	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/6/2019				Prep Date 9/5/2019			
Client ID:			Run ID: WC_190906A			SeqNo: 1433309						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4892	0.020	0.500	0	97.8%	85	115	0.498	1.84%	10	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/13/2019

CLIENT: Scotia CSD
Work Order: 1908497
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

BOD Organic Standard

Sample ID	ORGANIC STAND	Batch ID: R100667	Test Code: BODW	Units: mg/L		Analysis Date	8/29/2019 10:00:00 AM	Prep Date				
Client ID:			Run ID: WC_190829G			SeqNo:	1432849					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand		208.3	2.0	200	0	104%	85	115	0			

Sample ID	ORGANIC STAND	Batch ID: R100760	Test Code: BODW	Units: mg/L		Analysis Date	9/4/2019 10:00:00 AM	Prep Date				
Client ID:			Run ID: WC_190904G			SeqNo:	1434098					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand		226.7	2.0	200	0	113%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6185-1
Client Project/Site: 1908497

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/6/2019 11:48:30 AM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

Job ID: 570-6185-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative 570-6185-1

Comments

No additional comments.

Receipt

The samples were received on 8/30/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7° C.

General Chemistry

Method(s) SM 4500 CN E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-16959 and analytical batch 570-17226 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

Client Sample ID: 1908497-01G / INF

Lab Sample ID: 570-6185-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0584		0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908497-02G / CCB

Lab Sample ID: 570-6185-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0754		0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908497-03G / EFF

Lab Sample ID: 570-6185-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0624		0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908497-04G / ERB

Lab Sample ID: 570-6185-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0403		0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

General Chemistry

Client Sample ID: 1908497-01G / INF

Date Collected: 08/28/19 10:10

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6185-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0584		0.0200	0.00700	mg/L	—	09/04/19 13:00	09/05/19 11:01	1

Client Sample ID: 1908497-02G / CCB

Date Collected: 08/28/19 09:35

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6185-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0754		0.0200	0.00700	mg/L	—	09/04/19 13:00	09/05/19 11:02	1

Client Sample ID: 1908497-03G / EFF

Date Collected: 08/28/19 09:10

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6185-3

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0624		0.0200	0.00700	mg/L	—	09/04/19 13:00	09/05/19 11:03	1

Client Sample ID: 1908497-04G / ERB

Date Collected: 08/28/19 08:00

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6185-4

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0403		0.0200	0.00700	mg/L	—	09/04/19 13:00	09/05/19 11:04	1

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-16959/1-A

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16959

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/04/19 13:00	09/05/19 10:53	1

Lab Sample ID: LCS 570-16959/2-A

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16959

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.1816		mg/L		91	80 - 120

Lab Sample ID: LCSD 570-16959/3-A

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16959

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cyanide, Total	0.200	0.1857		mg/L		93	80 - 120	2	20

Lab Sample ID: 570-6344-A-3-A MS

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16959

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0564	F1	0.200	0.1904	F1	mg/L		67	74 - 115

Lab Sample ID: 570-6344-A-3-B MSD

Matrix: Water

Analysis Batch: 17226

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16959

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cyanide, Total	0.0564	F1	0.200	0.1915	F1	mg/L		68	74 - 115	1	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

General Chemistry

Prep Batch: 16959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6185-1	1908497-01G / INF	Total/NA	Wastewater	SM 4500 CN C	
570-6185-2	1908497-02G / CCB	Total/NA	Wastewater	SM 4500 CN C	
570-6185-3	1908497-03G / EFF	Total/NA	Wastewater	SM 4500 CN C	
570-6185-4	1908497-04G / ERB	Total/NA	Wastewater	SM 4500 CN C	
MB 570-16959/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-16959/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-16959/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6344-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-6344-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 17226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6185-1	1908497-01G / INF	Total/NA	Wastewater	SM 4500 CN E	16959
570-6185-2	1908497-02G / CCB	Total/NA	Wastewater	SM 4500 CN E	16959
570-6185-3	1908497-03G / EFF	Total/NA	Wastewater	SM 4500 CN E	16959
570-6185-4	1908497-04G / ERB	Total/NA	Wastewater	SM 4500 CN E	16959
MB 570-16959/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	16959
LCS 570-16959/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	16959
LCSD 570-16959/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	16959
570-6344-A-3-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	16959
570-6344-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	16959

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

Client Sample ID: 1908497-01G / INF

Date Collected: 08/28/19 10:10

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6185-1

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16959	09/04/19 13:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17226	09/05/19 11:01	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908497-02G / CCB

Date Collected: 08/28/19 09:35

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6185-2

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16959	09/04/19 13:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17226	09/05/19 11:02	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908497-03G / EFF

Date Collected: 08/28/19 09:10

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6185-3

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16959	09/04/19 13:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17226	09/05/19 11:03	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908497-04G / ERB

Date Collected: 08/28/19 08:00

Date Received: 08/30/19 10:00

Lab Sample ID: 570-6185-4

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	16959	09/04/19 13:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17226	09/05/19 11:04	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

Method	Method Description	Protocol	Laboratory
SM 4500 CN E	Cyanide, Total	SM	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1908497

Job ID: 570-6185-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6185-1	1908497-01G / INF	Wastewater	08/28/19 10:10	08/30/19 10:00	
570-6185-2	1908497-02G / CCB	Wastewater	08/28/19 09:35	08/30/19 10:00	
570-6185-3	1908497-03G / EFF	Wastewater	08/28/19 09:10	08/30/19 10:00	
570-6185-4	1908497-04G / ERB	Wastewater	08/28/19 08:00	08/30/19 10:00	

Loc: 570
6185Date Shipped: 8/29/2019
PO #: 1908497

Sub-Contract Chain of Custody Record


**NORTH COAST
LABORATORIES LTD.**

Subcontractor: Calscience Environmental Labs
7440 Lincoln Way
Garden Grove, CA 92841
Attn: SAMPLE RECEIVING

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

Email: sub@northcoastlabs.com

714 895-5494

NCL Sample # Sample ID	Collection Date Bottle	Matrix	State Form System Source	Sampler Employer	Analysis Remarks
1908497-01G INF	8/28/2019 10:10 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908497-02G CCB	8/28/2019 09:35 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908497-03G DEFF	8/28/2019 09:10 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908497-04G WERR	8/28/2019 08:00 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water

Please report to the MDL



570-6185 Chain of Custody

Date/Time
1310

Date/Time



08/30/19 1000

Received by:

Received by:

Relinquished by:

Relinquished by:

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.

8.5/3.7 500

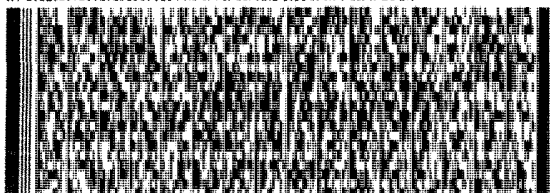
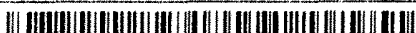
BILL SENDER

REF ID: A66110

REF:

NU:
PA:

DEPT 5



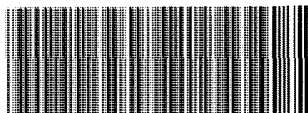
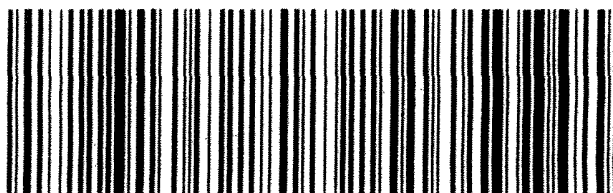
FedEx
Express



FRI - 30 AUG 10:30A
PRIORITY OVERNIGHT

92 APVA

92841
CA--US SNA



570-6185 Waybill

Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6185-1

Login Number: 6185**List Number: 1****Creator: Castro, Joy****List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Chain of Custody

Results & Invoice to: Scotia CSD

Address: 400 Church St.

Scotia, CA 95565

Phone: (707) 764-3030

Copies of Report to: Chuck Swanson, SHN

Sampler (Sign & Print):

PROJECT INFORMATION

Project Number: 017138.106

Project Name: Scotia Local Limits Study

Purchase Order Number: NA

[illegible]

LABORATORY NUMBER:

TAT: ☒ STD(2-3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR
RUSH SAMPLES.

REPORTING REQUIREMENTS:

☐ State Forms
☐ Geotracker ☐ SWAMP ☐ Other EDD:
☒ Final Report PDF ☐ FAX By: _____

CONTAINER CODES: 1— $\frac{1}{2}$ gal. pl; 2—250 ml pl;
3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG;
6—500 ml BG; 7—1 L BG; 8—40 ml VOA;
9—60 ml VOA; 10—125 ml VOA; 11—4 oz glass jar;
12—8 oz glass jar; 13—brass tube; 14—other
PRESERVATIVE CODES: a— HNO_3 ; b— HCl ; c— H_2SO_4 ;
d— $\text{Na}_2\text{S}_2\text{O}_5$; e— NaOH ; f— $\text{C}_2\text{H}_3\text{O}_2\text{Cl}$; g—other

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

*Metals: Al, As, Cd, Cr, Cu, Pb, Hg, Mo, Ni, Se, Ag, Zn, Hardness

SAMPLE DISPOSAL

☒ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Fed-Ex (Hand)

* **MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; WW = Waste Water; S = Soil; O = Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT



September 13, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908544
Invoice No.: 148525
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	INF
01B	INF
01C	INF
01D	INF
01E	INF
01F	INF
02A	CCB
02B	CCB
02C	CCB
02D	CCB
02E	CCB
02F	CCB
03A	EFF
03B	EFF
03C	EFF
03D	EFF
03E	EFF
03F	EFF
04A	FISH
04B	FISH
04C	FISH
04D	FISH
04E	FISH
04F	FISH
05A	HRC
05B	HRC
05C	HRC
05D	HRC
05E	HRC

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:



Roxanne Moore, Project Manager



September 13, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1908544
Invoice No.: 148525
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

05F	HRC
06A	HOB
06B	HOB
06C	HOB
06D	HOB
06E	HOB
06F	HOB
07A	SCL
07B	SCL
07C	SCL
07D	SCL
07E	SCL
07F	SCL

Approved for release by:

Roxanne Moore, Project Manager

Date: 13-Sep-2019
WorkOrder: 1908544

CASE NARRATIVE

Samples for pH, chlorine and dissolved oxygen analysis must be analyzed within 15 minutes of collection. Therefore, any samples requiring these analyses were analyzed past the official holding time.

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

BOD:

Sample HOB was reanalyzed past the hold time due to insufficient oxygen depletion during the initial analysis.

Mercury:

The laboratory control sample (LCS) recovery was above the acceptance limit. There were no detectable levels of analyte in the sample; therefore, the data were accepted. The high recovery also resulted in an excessively high RPD (relative percent recovery) with the laboratory control duplicate sample (LCSD).

EPA 1664:

The oil and grease recovery for the matrix spike (MS) was below the lower acceptance limit. The recovery was within acceptance limits in the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) indicating that the low recovery may be due to matrix effects.

Date: 13-Sep-2019

WorkOrder: 1908544

ANALYTICAL REPORT

Client Sample ID: INF

Received: 8/30/2019

Lab ID: 1908544-01A

Matrix: Waste Water

Collected 8/29/2019 12:05

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	210			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	57,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 10:59
Magnesium	16,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 10:59

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	86			20	3	µg/L	1.0	9/5/2019	09/09/19 15:24
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:24
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:24
Chromium	ND			5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:24
Copper	22			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:24
Lead	0.70	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:24
Molybdenum	2.8	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:24
Nickel	3.4	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:24
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:24
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:24
Zinc	80			10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:24

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/10/2019	09/11/19 10:35

Client Sample ID: INF

Received: 8/30/2019

Lab ID: 1908544-01B

Matrix: Waste Water

Collected 8/29/2019 12:05

Test Name: Ammonia Nitrogen without distillation

Analyst: RMS

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	13			0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	22			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Date: 13-Sep-2019**WorkOrder:** 1908544**ANALYTICAL REPORT**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	22			1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	4.9			0.20	0.074	mg/L	10	9/11/2019	09/12/19 0:00

Client Sample ID: INF**Received:** 8/30/2019**Lab ID:** 1908544-01C**Matrix:** Waste Water**Collected:** 8/29/2019 12:05**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	390			2.0	2	mg/L	1.0		08/30/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	52			1.0	0.6	mg/L	1.0		09/04/19 0:00

Client Sample ID: INF**Received:** 8/30/2019**Lab ID:** 1908544-01D**Matrix:** Waste Water**Collected:** 8/29/2019 12:05**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	ND			0.10	0.1	mL/L/hour	1.0		08/30/19 0:00

Client Sample ID: INF**Received:** 8/30/2019**Lab ID:** 1908544-01E**Matrix:** Waste Water**Collected:** 8/29/2019 12:05**Test Name:** Free Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Nitrate and/or Nitrite**Analyst:** DAA**Reference:** EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 19:48
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 19:48

Test Name: Total Dissolved Solids**Analyst:** AJJ**Reference:** SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	490	B		10	5.3	mg/L	1.0		09/05/19 0:00

Test Name: Total Residual Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

Date: 13-Sep-2019

WorkOrder: 1908544

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	38			0.50	0.5	NTU	10		08/30/19 0:00

Client Sample ID: INF

Received: 8/30/2019

Lab ID: 1908544-01F

Matrix: Waste Water

Collected 8/29/2019 12:05

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	12			4.5	4	mg/L	0.91	9/11/2019	09/12/19 11:00

Client Sample ID: CCB

Received: 8/30/2019

Lab ID: 1908544-02A

Matrix: Waste Water

Collected 8/29/2019 11:35

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	200			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	54,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 11:02
Magnesium	16,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 11:02

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	610			20	3	µg/L	1.0	9/5/2019	09/09/19 15:28
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:28
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:28
Chromium	0.41	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:28
Copper	21			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:28
Lead	0.97	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:28
Molybdenum	1.5	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:28
Nickel	4.1	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:28
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:28
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:28
Zinc	59			10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:28

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	0.074	J		1.0	0.072	µg/L	1.0	9/10/2019	09/11/19 10:37

NORTH COAST LABORATORIES

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Date: 13-Sep-2019

WorkOrder: 1908544

ANALYTICAL REPORT

Client Sample ID: CCB

Received: 8/30/2019

Lab ID: 1908544-02B

Matrix: Waste Water

Collected 8/29/2019 11:35

Test Name: Ammonia Nitrogen without distillation

Analyst: RMS

Reference: SM 4500-NH3 B,D 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Ammonia Nitrogen	8.4			0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH3 B,D 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Nitrogen- Total Kjeldahl	16			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Total Nitrogen	16			1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus

Analyst: JLM

Reference: SM 4500-PE, 1999. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Total Phosphate Phosphorus	4.0			0.10	0.037	mg/L	5.0	9/11/2019	09/12/19 0:00

Client Sample ID: CCB

Received: 8/30/2019

Lab ID: 1908544-02C

Matrix: Waste Water

Collected 8/29/2019 11:35

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Biochemical Oxygen Demand	190			2.0	2	mg/L	1.0		08/30/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Non-Filterable Residue(TSS)	64			1.0	0.6	mg/L	1.0		09/04/19 0:00

Client Sample ID: CCB

Received: 8/30/2019

Lab ID: 1908544-02D

Matrix: Waste Water

Collected 8/29/2019 11:35

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Settleable Solids	1.5			0.10	0.1	mL/L/hour	1.0		08/30/19 0:00

Date: 13-Sep-2019

WorkOrder: 1908544

ANALYTICAL REPORT

Client Sample ID: CCB

Received: 8/30/2019

Lab ID: 1908544-02E

Matrix: Waste Water

Collected 8/29/2019 11:35

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	0.030	J		0.10	0.02	mg/L	1.0		08/30/19 20:04
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 20:04

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	440	B		10	5.3	mg/L	1.0		09/05/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.93			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	63			0.25	0.25	NTU	5.0		08/30/19 0:00

Client Sample ID: CCB

Received: 8/30/2019

Lab ID: 1908544-02F

Matrix: Waste Water

Collected 8/29/2019 11:35

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	7.0			4.5	4	mg/L	0.91	9/11/2019	09/12/19 11:00

Client Sample ID: EFF

Received: 8/30/2019

Lab ID: 1908544-03A

Matrix: Waste Water

Collected 8/29/2019 11:10

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	510			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	120,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 11:05
Magnesium	51,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 11:05

Date: 13-Sep-2019**WorkOrder:** 1908544**Test Name:** ICP-MS Metals**Reference:** EPA 200.8 Rev 5.4 (1994)**ANALYTICAL REPORT****Analyst:** ERK

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	160			20	3	µg/L	1.0	9/5/2019	09/09/19 15:32
Arsenic	2.1	J		5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:32
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:32
Chromium	1.2	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:32
Copper	2.7	J		5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:32
Lead	0.30	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:32
Molybdenum	7.2			5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:32
Nickel	5.1			5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:32
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:32
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:32
Zinc	4.7	J		10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:32

Test Name: Mercury**Reference:** EPA 245.1 Rev 3.0 (1994)**Analyst:** ERK

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/10/2019	09/11/19 10:39

Client Sample ID: EFF**Lab ID:** 1908544-03B**Matrix:** Waste Water**Test Name:** Ammonia Nitrogen without distillation**Reference:** SM 4500-NH3 B,D 1997. Revs 2011**Received:** 8/30/2019**Collected:** 8/29/2019 11:10**Analyst:** RMS

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	0.048	J		0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Reference:** SM 4500-NH3 B,D 1997. Revs 2011**Analyst:** JLM

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	2.4			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen**Reference:** SM 4500-N, 1997. Revs 2011**Analyst:** RMS

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	2.4			1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus**Reference:** SM 4500-PE, 1999. Revs 2011**Analyst:** JLM

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	0.43			0.020	0.0074	mg/L	1.0	9/11/2019	09/12/19 0:00

Date: 13-Sep-2019

WorkOrder: 1908544

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/30/2019

Lab ID: 1908544-03C

Matrix: Waste Water

Collected 8/29/2019 11:10

Test Name: Biochemical Oxygen Demand

Analyst: RMS

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	7.8			2.0	2	mg/L	1.0		08/30/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	18			1.0	0.6	mg/L	1.0		09/04/19 0:00

Client Sample ID: EFF

Received: 8/30/2019

Lab ID: 1908544-03D

Matrix: Waste Water

Collected 8/29/2019 11:10

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	ND			0.10	0.1	mL/L/hour	1.0		08/30/19 0:00

Client Sample ID: EFF

Received: 8/30/2019

Lab ID: 1908544-03E

Matrix: Waste Water

Collected 8/29/2019 11:10

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.17			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 20:21
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 20:21

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	650	B		10	5.3	mg/L	1.0		09/05/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.20			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	26			0.050	0.05	NTU	1.0		08/30/19 0:00

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WorkOrder: 1908544

ANALYTICAL REPORT

Client Sample ID: EFF

Received: 8/30/2019

Lab ID: 1908544-03F

Matrix: Waste Water

Collected 8/29/2019 11:10

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.6	4.1	mg/L	0.92	9/11/2019	09/12/19 11:00

Client Sample ID: FISH

Received: 8/30/2019

Lab ID: 1908544-04A

Matrix: Waste Water

Collected 8/29/2019 15:30

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	190			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	53,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 11:08
Magnesium	15,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 11:08

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	250			20	3	µg/L	1.0	9/5/2019	09/09/19 15:37
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:37
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:37
Chromium	0.48	J		5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:37
Copper	34			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:37
Lead	6.2			5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:37
Molybdenum	0.77	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:37
Nickel	2.2	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:37
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:37
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:37
Zinc	30			10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:37

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/10/2019	09/11/19 10:41

Client Sample ID: FISH

Received: 8/30/2019

Lab ID: 1908544-04B

Matrix: Waste Water

Collected 8/29/2019 15:30

Test Name: Ammonia Nitrogen without distillation

Analyst: RMS

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	0.030	J		0.10	0.017	mg/L	1.0		09/06/19 0:00

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Date: 13-Sep-2019**WorkOrder:** 1908544**Test Name:** Nitrogen - Total Kjeldahl**Reference:** SM 4500-NH3 B,D 1997. Revs 2011**Analyst:** JLM

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	ND			1.0	0.96	mg/L	1.0	9/4/2019	09/05/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	0.57	J		1.0	N/A	mg/L	1.0		09/06/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	0.20			0.020	0.0074	mg/L	1.0	9/11/2019	09/12/19 0:00

Client Sample ID: FISH**Received:** 8/30/2019**Lab ID:** 1908544-04C**Matrix:** Waste Water**Collected:** 8/29/2019 15:30**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	ND			2.0	2	mg/L	1.0		08/30/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	2.6			1.0	0.6	mg/L	1.0		09/04/19 0:00

Client Sample ID: FISH**Received:** 8/30/2019**Lab ID:** 1908544-04D**Matrix:** Waste Water**Collected:** 8/29/2019 15:30**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.10			0.10	0.1	mL/L/hour	1.0		08/30/19 0:00

Client Sample ID: FISH**Received:** 8/30/2019**Lab ID:** 1908544-04E**Matrix:** Waste Water**Collected:** 8/29/2019 15:30**Test Name:** Free Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Nitrate and/or Nitrite**Analyst:** DAA**Reference:** EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	0.57			0.10	0.02	mg/L	1.0		08/30/19 20:37
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 20:37

Date: 13-Sep-2019
WorkOrder: 1908544
Test Name: Total Dissolved Solids
Reference: SM 2540C, 1997. Revs 2011

ANALYTICAL REPORT

Analyst: AJJ

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	200	B		10	5.3	mg/L	1.0		09/05/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	0.90			0.050	0.05	NTU	1.0		08/30/19 0:00

Client Sample ID: FISH

Received: 8/30/2019

Lab ID: 1908544-04F

Matrix: Waste Water

Collected: 8/29/2019 15:30

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.5	4	mg/L	0.91	9/11/2019	09/12/19 11:00

Client Sample ID: HRC

Received: 8/30/2019

Lab ID: 1908544-05A

Matrix: Waste Water

Collected: 8/29/2019 16:20

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	350			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	93,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 11:11
Magnesium	29,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 11:11

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	140			20	3	µg/L	1.0	9/5/2019	09/09/19 15:41
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:41
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:41
Chromium	ND			5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:41
Copper	54			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:41
Lead	0.41	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:41
Molybdenum	2.1	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:41
Nickel	4.9	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:41
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:41

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Silver	ND	5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:41
Zinc	25	10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:41

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/10/2019	09/11/19 10:45

Client Sample ID: HRC**Received:** 8/30/2019**Lab ID:** 1908544-05B**Matrix:** Waste Water**Collected:** 8/29/2019 16:20**Test Name:** Ammonia Nitrogen without distillation**Analyst:** RMS**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	5.2			0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	10			1.0	0.96	mg/L	1.0	9/10/2019	09/11/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	10			1.0	N/A	mg/L	1.0		09/12/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	1.4			0.040	0.015	mg/L	2.0	9/11/2019	09/12/19 0:00

Client Sample ID: HRC**Received:** 8/30/2019**Lab ID:** 1908544-05C**Matrix:** Waste Water**Collected:** 8/29/2019 16:20**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	35			2.0	2	mg/L	1.0		08/30/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	28			1.0	0.6	mg/L	1.0		09/04/19 0:00

Client Sample ID: HRC**Received:** 8/30/2019**Lab ID:** 1908544-05D**Matrix:** Waste Water**Collected:** 8/29/2019 16:20**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	0.20			0.10	0.1	mL/L/hour	1.0		08/30/19 0:00

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WorkOrder: 1908544

ANALYTICAL REPORT

Client Sample ID: HRC

Lab ID: 1908544-05E

Matrix: Waste Water

Test Name: Free Chlorine

Reference: SM 4500-CIG, 2000. Revs 2011

Received: 8/30/2019

Collected 8/29/2019 16:20

Analyst: JLM

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.30			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 20:54
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 20:54

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	500	B		10	5.3	mg/L	1.0		09/05/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.17			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	17			0.050	0.05	NTU	1.0		08/30/19 0:00

Client Sample ID: HRC

Lab ID: 1908544-05F

Matrix: Waste Water

Test Name: Hexane Extractable Oil and Grease

Reference: EPA 1664B

Received: 8/30/2019

Collected 8/29/2019 16:20

Analyst: JAP

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	42			4.5	4	mg/L	0.91	9/11/2019	09/12/19 11:00

Client Sample ID: HOB

Lab ID: 1908544-06A

Matrix: Waste Water

Test Name: Hardness

Reference: SM 2340B, 1997. Revs 2011

Received: 8/30/2019

Collected 8/29/2019 18:30

Analyst: RMS

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	240			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	67,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 11:15
Magnesium	19,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 11:15

NORTH COAST LABORATORIES

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Date: 13-Sep-2019**WorkOrder:** 1908544**Test Name:** ICP-MS Metals**Reference:** EPA 200.8 Rev 5.4 (1994)**ANALYTICAL REPORT****Analyst:** ERK

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	420			20	3	µg/L	1.0	9/5/2019	09/09/19 15:45
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:45
Cadmium	0.19	J		5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:45
Chromium	7.2			5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:45
Copper	1,100			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:45
Lead	7.6			5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:45
Molybdenum	1.4	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:45
Nickel	13			5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:45
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:45
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:45
Zinc	210			10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:45

Test Name: Mercury**Analyst:** ERK**Reference:** EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	0.075	J		1.0	0.072	µg/L	1.0	9/10/2019	09/11/19 10:52

Client Sample ID: HOB**Received:** 8/30/2019**Lab ID:** 1908544-06B**Matrix:** Waste Water**Collected:** 8/29/2019 18:30**Test Name:** Ammonia Nitrogen without distillation**Analyst:** RMS**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	3.4			0.10	0.017	mg/L	1.0		09/06/19 0:00

Test Name: Nitrogen - Total Kjeldahl**Analyst:** JLM**Reference:** SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	37			1.0	0.96	mg/L	1.0	9/10/2019	09/11/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	37			1.0	N/A	mg/L	1.0		09/12/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	5.7			0.20	0.074	mg/L	10	9/11/2019	09/12/19 0:00

Date: 13-Sep-2019

WorkOrder: 1908544

ANALYTICAL REPORT

Client Sample ID: HOB

Received: 8/30/2019

Lab ID: 1908544-06C

Matrix: Waste Water

Collected 8/29/2019 18:30

Test Name: Biochemical Oxygen Demand

Analyst: AJJ

Reference: SM 5210B, 2001. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Biochemical Oxygen Demand	1,700			2.0	2	mg/L	1.0		09/04/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Non-Filterable Residue(TSS)	1,500			1.0	0.6	mg/L	1.0		09/04/19 0:00

Client Sample ID: HOB

Received: 8/30/2019

Lab ID: 1908544-06D

Matrix: Waste Water

Collected 8/29/2019 18:30

Test Name: Settleable Solids

Analyst: JLM

Reference: SM 2540F, 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Settleable Solids	1.0			0.10	0.1	mL/L/hour	1.0		08/30/19 0:00

Client Sample ID: HOB

Received: 8/30/2019

Lab ID: 1908544-06E

Matrix: Waste Water

Collected 8/29/2019 18:30

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Nitrate (as Nitrogen)	0.064	J		0.10	0.02	mg/L	1.0		08/30/19 21:11
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 21:11

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Total Dissolved Solids	640	B		10	5.3	mg/L	1.0		09/05/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Free Chlorine	ND			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Turbidity

Analyst: JLM

Reference: EPA 180.1

Parameter	Result	Qual	Flag	Limit	MDL	Units	DF	Extracted	Analyzed
Turbidity	1,100			2.0	2	NTU	40		08/30/19 0:00

Date: 13-Sep-2019

WorkOrder: 1908544

ANALYTICAL REPORT

Client Sample ID: HOB

Received: 8/30/2019

Lab ID: 1908544-06F

Matrix: Waste Water

Collected 8/29/2019 18:30

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	91			4.5	4	mg/L	0.91	9/11/2019	09/12/19 11:00

Client Sample ID: SCL

Received: 8/30/2019

Lab ID: 1908544-07A

Matrix: Waste Water

Collected 8/29/2019 13:40

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	190			1.0	N/A	mg/L CaCO ₃	1.0	9/5/2019	09/09/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	51,000			100	9.8	µg/L	1.0	9/5/2019	09/09/19 11:23
Magnesium	15,000			100	1.4	µg/L	1.0	9/5/2019	09/09/19 11:23

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	23			20	3	µg/L	1.0	9/5/2019	09/09/19 15:49
Arsenic	ND			5.0	1.5	µg/L	1.0	9/5/2019	09/09/19 15:49
Cadmium	ND			5.0	0.17	µg/L	1.0	9/5/2019	09/09/19 15:49
Chromium	ND			5.0	0.21	µg/L	1.0	9/5/2019	09/09/19 15:49
Copper	190			5.0	0.72	µg/L	1.0	9/5/2019	09/09/19 15:49
Lead	0.21	J		5.0	0.082	µg/L	1.0	9/5/2019	09/09/19 15:49
Molybdenum	1.0	J		5.0	0.063	µg/L	1.0	9/5/2019	09/09/19 15:49
Nickel	2.8	J		5.0	1.1	µg/L	1.0	9/5/2019	09/09/19 15:49
Selenium	ND			10	4	µg/L	1.0	9/5/2019	09/09/19 15:49
Silver	ND			5.0	0.73	µg/L	1.0	9/5/2019	09/09/19 15:49
Zinc	38			10	1.1	µg/L	1.0	9/5/2019	09/09/19 15:49

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/10/2019	09/11/19 10:54

Client Sample ID: SCL

Received: 8/30/2019

Lab ID: 1908544-07B

Matrix: Waste Water

Collected 8/29/2019 13:40

Test Name: Ammonia Nitrogen without distillation

Analyst: RMS

Reference: SM 4500-NH3 B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	3.9			0.10	0.017	mg/L	1.0		09/13/19 0:00

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Date: 13-Sep-2019**WorkOrder:** 1908544**Test Name:** Nitrogen - Total Kjeldahl**Reference:** SM 4500-NH3 B,D 1997. Revs 2011**Analyst:** JLM

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	40			1.0	0.96	mg/L	1.0	9/10/2019	09/11/19 0:00

Test Name: Total Nitrogen**Analyst:** RMS**Reference:** SM 4500-N, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	40			1.0	N/A	mg/L	1.0		09/12/19 0:00

Test Name: Total Phosphate Phosphorus**Analyst:** JLM**Reference:** SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	2.4			0.10	0.037	mg/L	5.0	9/11/2019	09/12/19 0:00

Client Sample ID: SCL**Received:** 8/30/2019**Lab ID:** 1908544-07C**Matrix:** Waste Water**Collected:** 8/29/2019 13:40**Test Name:** Biochemical Oxygen Demand**Analyst:** RMS**Reference:** SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	33			2.0	2	mg/L	1.0		08/30/19 10:00

Test Name: Non-Filterable Residue (TSS)**Analyst:** JLM**Reference:** SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	20			1.0	0.6	mg/L	1.0		09/04/19 0:00

Client Sample ID: SCL**Received:** 8/30/2019**Lab ID:** 1908544-07D**Matrix:** Waste Water**Collected:** 8/29/2019 13:40**Test Name:** Settleable Solids**Analyst:** JLM**Reference:** SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	ND			0.10	0.1	mL/L/hour	1.0		08/30/19 0:00

Client Sample ID: SCL**Received:** 8/30/2019**Lab ID:** 1908544-07E**Matrix:** Waste Water**Collected:** 8/29/2019 13:40**Test Name:** Free Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Nitrate and/or Nitrite**Analyst:** DAA**Reference:** EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	0.13			0.10	0.02	mg/L	1.0		08/30/19 21:27
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		08/30/19 21:27

Date: 13-Sep-2019**WorkOrder:** 1908544**Test Name:** Total Dissolved Solids**Reference:** SM 2540C, 1997. Revs 2011**ANALYTICAL REPORT****Analyst:** AJJ

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	280	B		10	5.3	mg/L	1.0		09/05/19 0:00

Test Name: Total Residual Chlorine**Analyst:** JLM**Reference:** SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.13			0.10	0.1	mg/L	1.0		08/30/19 0:00

Test Name: Turbidity**Analyst:** JLM**Reference:** EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	6.8			0.050	0.05	NTU	1.0		08/30/19 0:00

Client Sample ID: SCL**Received:** 8/30/2019**Lab ID:** 1908544-07F**Matrix:** Waste Water**Collected:** 8/29/2019 13:40**Test Name:** Hexane Extractable Oil and Grease**Analyst:** JAP**Reference:** EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.5	4	mg/L	0.91	9/11/2019	09/12/19 11:00

North Coast Laboratories, Ltd.

Date: 9/13/2019

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100826	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/12/2019 11:00:00 AM	Prep Date	9/11/2019	
Client ID:		Run ID:	WC_190911D					SeqNo:	1435116			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		ND	5.0									

Sample ID	MBLK	Batch ID:	R100706	Test Code:	AMMW	Units:	mg/L	Analysis Date	9/6/2019	Prep Date		
Client ID:		Run ID:	WC_190906C					SeqNo:	1433423			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		0.05200	0.10									J

Sample ID	MBLK	Batch ID:	R100843	Test Code:	AMMW	Units:	mg/L	Analysis Date	9/13/2019	Prep Date		
Client ID:		Run ID:	WC_190913B					SeqNo:	1435196			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		0.04600	0.10									J

Sample ID	MBLK 083019	Batch ID:	R100632	Test Code:	ICNOW	Units:	mg/L	Analysis Date	8/30/2019 5:51:36 PM	Prep Date		
Client ID:		Run ID:	INIC2_190830B	SeqNo:	1432213							
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		ND	0.10									
Nitrite (as Nitrogen)		ND	0.10									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID **MB-37784** Batch ID: **37784** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/9/2019 2:23:20 PM** Prep Date **9/5/2019**
 Client ID: Run ID: **ICPMS2_190909A** SeqNo: **1433957**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.663	20									J
Arsenic	ND	5.0									
Cadmium	ND	5.0									
Chromium	ND	5.0									
Copper	ND	5.0									
Lead	ND	5.0									
Molybdenum	0.08300	5.0									J
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Zinc	ND	10									

Sample ID **MB-37784** Batch ID: **37784** Test Code: **ICPX** Units: **µg/L** Analysis Date **9/9/2019 10:14:07 AM** Prep Date **9/5/2019**
 Client ID: Run ID: **INICP2_190909A** SeqNo: **1433860**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	13.12	100									J
Magnesium	3.606	100									J

Sample ID **MB-37801** Batch ID: **37801** Test Code: **MERCW** Units: **µg/L** Analysis Date **9/11/2019 10:28:03 AM** Prep Date **9/10/2019**
 Client ID: Run ID: **CVAA2_190911A** SeqNo: **1434352**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	1.0									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100723	Test Code:	NFRW	Units:	mg/L	Analysis Date	9/4/2019	Prep Date	
Client ID:				Run ID:	WC_190904C			SeqNo:	1433656		
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Non-Filterable Residue(TSS)		ND		1.0							
Sample ID	MBLANK	Batch ID:	R100690	Test Code:	NKJEW	Units:	mg/L	Analysis Date	9/5/2019	Prep Date	9/4/2019
Client ID:				Run ID:	WC_190905B			SeqNo:	1433126		
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Nitrogen- Total Kjeldahl		ND		1.0							
Sample ID	MBLANK	Batch ID:	R100818	Test Code:	NKJEW	Units:	mg/L	Analysis Date	9/11/2019	Prep Date	9/10/2019
Client ID:				Run ID:	WC_190911C			SeqNo:	1434841		
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Nitrogen- Total Kjeldahl		ND		1.0							
Sample ID	MBLANK WL-0911	Batch ID:	R100809	Test Code:	PO4TOW	Units:	mg/L	Analysis Date	9/12/2019	Prep Date	9/11/2019
Client ID:				Run ID:	WC_190912B			SeqNo:	1434749		
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Total Phosphate Phosphorus		ND		0.020							
Sample ID	MBLK	Batch ID:	R100820	Test Code:	TDS	Units:	mg/L	Analysis Date	9/5/2019	Prep Date	
Client ID:				Run ID:	WC_190905G			SeqNo:	1434873		
Analyte		Result		Limit		SPK value		SPK Ref Val		% Rec	
Total Dissolved Solids		11.43		10							

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/13/2019

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	1908544-03FMS	Batch ID:	R100826	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/12/2019 11:00:00 AM	Prep Date	9/11/2019		
Client ID:	EFF			Run ID:	WC_190911D			SeqNo:	1435119				
Analyte		Result		Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		22.43		4.9	40.0	0	56.1%	80	107	0			S
Sample ID	1908544-04AMS	Batch ID:	37801	Test Code:	MERCW	Units:	µg/L	Analysis Date	9/11/2019 10:43:41 AM	Prep Date	9/10/2019		
Client ID:	FISH			Run ID:	CVAA2_190911A			SeqNo:	1434359				
Analyte		Result		Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		4.706		1.0	5.00	0	94.1%	70	130	0			
Sample ID	1908544-07B	Batch ID:	R100818	Test Code:	NKJEW	Units:	mg/L	Analysis Date	9/11/2019	Prep Date	9/10/2019		
Client ID:	SCL			Run ID:	WC_190911C			SeqNo:	1434849				
Analyte		Result		Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		48.74		1.0	10.0	39.6	91.7%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/13/2019

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID LCS	Batch ID: R100826	Test Code: 1664GOW	Units: mg/L	Analysis Date 9/12/2019 11:00:00 AM	Prep Date 9/11/2019
Client ID:	Run ID: WC_190911D	SeqNo: 1435117			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Oil and Grease	40.40	5.0	40.0	0	101% 80 107 0

Sample ID LCSD	Batch ID: R100826	Test Code: 1664GOW	Units: mg/L	Analysis Date 9/12/2019 11:00:00 AM	Prep Date 9/11/2019
Client ID:	Run ID: WC_190911D	SeqNo: 1435118			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Oil and Grease	39.70	5.0	40.0	0	99.2% 80 107 40.4 1.75% 18

Sample ID LCS	Batch ID: R100706	Test Code: AMMW	Units: mg/L	Analysis Date 9/6/2019	Prep Date
Client ID:	Run ID: WC_190906C	SeqNo: 1433424			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Ammonia Nitrogen	10.26	0.10	10.0	0.0520	102% 85 115 0

Sample ID LCSD	Batch ID: R100706	Test Code: AMMW	Units: mg/L	Analysis Date 9/6/2019	Prep Date
Client ID:	Run ID: WC_190906C	SeqNo: 1433425			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Ammonia Nitrogen	10.17	0.10	10.0	0.0520	101% 85 115 10.3 0.881% 20

Sample ID LCS	Batch ID: R100843	Test Code: AMMW	Units: mg/L	Analysis Date 9/13/2019	Prep Date
Client ID:	Run ID: WC_190913B	SeqNo: 1435197			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Ammonia Nitrogen	10.32	0.10	10.0	0.0460	103% 85 115 0

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD	Batch ID: R100843	Test Code: AMMW	Units: mg/L	Analysis Date	9/13/2019			Prep Date			
Client ID:			Run ID: WC_190913B		SeqNo:	1435198						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.42	0.10	10.0	0.0460	104%	85	115	10.3	0.964%	20	

Sample ID	LCS WL-083019-0	Batch ID: R100632	Test Code: ICNOW	Units: mg/L	Analysis Date	8/30/2019 6:08:14 PM			Prep Date			
Client ID:			Run ID: INIC2_190830B		SeqNo:	1432214						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		5.043	0.10	5.00	0	101%	90	110	0			
Nitrite (as Nitrogen)		4.933	0.10	5.00	0	98.7%	90	110	0			

Sample ID	LCSD WL-083019-	Batch ID: R100632	Test Code: ICNOW	Units: mg/L	Analysis Date	8/30/2019 6:24:52 PM			Prep Date			
Client ID:			Run ID: INIC2_190830B		SeqNo:	1432215						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)		4.972	0.10	5.00	0	99.4%	90	110	5.04	1.42%	10	
Nitrite (as Nitrogen)		4.878	0.10	5.00	0	97.6%	90	110	4.93	1.12%	10	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/9/2019 2:27:26 PM	Prep Date	9/5/2019
Client ID:		Run ID:	ICPMS2_190909A	SeqNo:	1433958						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	493.4	100	500	9.66	96.7%	85	115	0			
Arsenic	518.1	25	500	0	104%	85	115	0			
Cadmium	522.5	25	500	0	104%	85	115	0			
Chromium	472.7	25	500	0	94.5%	85	115	0			
Copper	470.8	25	500	0	94.2%	85	115	0			
Lead	483.4	25	500	0	96.7%	85	115	0			
Molybdenum	506.0	25	500	0.0830	101%	85	115	0			
Nickel	487.6	25	500	0	97.5%	85	115	0			
Selenium	532.1	50	500	0	106%	85	115	0			
Silver	60.47	25	62.5	0	96.7%	85	115	0			
Zinc	507.5	50	500	0	101%	85	115	0			

Sample ID	LCSD-37784	Batch ID:	37784	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/9/2019 2:31:31 PM	Prep Date	9/5/2019
Client ID:		Run ID:	ICPMS2_190909A	SeqNo:	1433959						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519.4	100	500	9.66	102%	85	115	493	5.13%	20	
Arsenic	547.3	25	500	0	109%	85	115	518	5.49%	20	
Cadmium	541.6	25	500	0	108%	85	115	522	3.59%	20	
Chromium	505.8	25	500	0	101%	85	115	473	6.77%	20	
Copper	500.3	25	500	0	100%	85	115	471	6.07%	20	
Lead	499.7	25	500	0	99.9%	85	115	483	3.32%	20	
Molybdenum	538.7	25	500	0.0830	108%	85	115	506	6.27%	20	
Nickel	529.1	25	500	0	106%	85	115	488	8.17%	20	
Selenium	552.0	50	500	0	110%	85	115	532	3.68%	20	
Silver	64.16	25	62.5	0	103%	85	115	60.5	5.92%	20	
Zinc	524.8	50	500	0	105%	85	115	508	3.36%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37784	Batch ID:	37784	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/9/2019 10:16:05 AM	Prep Date	9/5/2019
Client ID:		Run ID:	INICP2_190909A	SeqNo:	1433861						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	517.1	100	500	13.1	101%	85	115	0			
Magnesium	499.6	100	500	3.61	99.2%	85	115	0			
Sample ID	LCSD-37784	Batch ID:	37784	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/9/2019 10:18:32 AM	Prep Date	9/5/2019
Client ID:		Run ID:	INICP2_190909A	SeqNo:	1433862						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	515.7	100	500	13.1	101%	85	115	517	0.276%	20	
Magnesium	502.0	100	500	3.61	99.7%	85	115	500	0.475%	20	
Sample ID	LCS-37801	Batch ID:	37801	Test Code:	MERCW	Units:	µg/L	Analysis Date	9/11/2019 10:30:32 AM	Prep Date	9/10/2019
Client ID:		Run ID:	CVAA2_190911A	SeqNo:	1434353						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.936	1.0	5.00	0	119%	85	115	0			S
Sample ID	LCSD-37801	Batch ID:	37801	Test Code:	MERCW	Units:	µg/L	Analysis Date	9/11/2019 10:32:33 AM	Prep Date	9/10/2019
Client ID:		Run ID:	CVAA2_190911A	SeqNo:	1434354						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.525	1.0	5.00	0	90.5%	85	115	5.94	27.0%	20	R
Sample ID	BLKSPK	Batch ID:	R100690	Test Code:	NKJEW	Units:	mg/L	Analysis Date	9/5/2019	Prep Date	9/4/2019
Client ID:		Run ID:	WC_190905B	SeqNo:	1433127						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl	9.800	1.0	10.0	0	98.0%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	BLKSPK	Batch ID: R100690	Test Code: NKJEW	Units: mg/L	Analysis Date 9/5/2019				Prep Date 9/4/2019			
Client ID:			Run ID: WC_190905B	SeqNo: 1433128								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		9.924	1.0	10.0	0	99.2%	85	115	9.80	1.26%	20	

Sample ID	BLKSPK	Batch ID: R100818	Test Code: NKJEW	Units: mg/L	Analysis Date 9/11/2019				Prep Date 9/10/2019			
Client ID:			Run ID: WC_190911C	SeqNo: 1434842								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		10.38	1.0	10.0	0	104%	85	115	0			

Sample ID	BLKSPK	Batch ID: R100818	Test Code: NKJEW	Units: mg/L	Analysis Date 9/11/2019				Prep Date 9/10/2019			
Client ID:			Run ID: WC_190911C	SeqNo: 1434843								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		9.789	1.0	10.0	0	97.9%	85	115	10.4	5.86%	20	

Sample ID	LCS WL-09111901	Batch ID: R100809	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/12/2019				Prep Date 9/11/2019			
Client ID:			Run ID: WC_190912B	SeqNo: 1434750								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4959	0.020	0.500	0	99.2%	85	115	0			

Sample ID	LCSD WL-091119	Batch ID: R100809	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/12/2019				Prep Date 9/11/2019			
Client ID:			Run ID: WC_190912B	SeqNo: 1434751								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4880	0.020	0.500	0	97.6%	85	115	0.496	1.61%	10	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/13/2019

CLIENT: Scotia CSD
Work Order: 1908544
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

BOD Organic Standard

Sample ID	ORGANIC STAND	Batch ID: R100681	Test Code: BODW	Units: mg/L		Analysis Date	8/30/2019 10:00:00 AM	Prep Date				
Client ID:			Run ID: WC_190830K			SeqNo:	1433028					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand		216.7	2.0	200	0	108%	85	115	0			

Sample ID	ORGANIC STAND	Batch ID: R100760	Test Code: BODW	Units: mg/L		Analysis Date	9/4/2019 10:00:00 AM	Prep Date				
Client ID:			Run ID: WC_190904G			SeqNo:	1434098					
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand		226.7	2.0	200	0	113%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6260-1
Client Project/Site: 1908544

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/9/2019 8:38:08 AM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Job ID: 570-6260-1

Laboratory: Eurofins Calscience LLC

Narrative

ob Narrative
570-6260-1

Comments

No additional comments.

Receipt

The samples were received on 8/31/2019 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8° C.

Receipt Exceptions

The Field Sampler was not listed on the Chain of Custody.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method(s) SM 4500 CN E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 17506 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) SM 4500 CN E: The continuing calibration blank (CCB) for analytical batch 570-17506 contained total CN above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-16833. LCS/LCSD performed to meet QC requirements.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Client Sample ID: 1908544-01G INF

Lab Sample ID: 570-6260-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.116	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908544-02G CCB

Lab Sample ID: 570-6260-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.127	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908544-03G EFF

Lab Sample ID: 570-6260-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0716	F1 ^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908544-04G FISH

Lab Sample ID: 570-6260-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0441	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908544-05G HRC

Lab Sample ID: 570-6260-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0326	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908544-05H HRC

Lab Sample ID: 570-6260-6

No Detections.

Client Sample ID: 1908544-06G HOB

Lab Sample ID: 570-6260-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0441	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908544-07G SCL

Lab Sample ID: 570-6260-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0689	^	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: 1908544-05H HRC

Date Collected: 08/29/19 16:20

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-6

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		0.48	0.033	ug/L		09/04/19 08:30	09/04/19 18:09	1
Aroclor-1221	ND		0.48	0.18	ug/L		09/04/19 08:30	09/04/19 18:09	1
Aroclor-1232	ND		0.48	0.056	ug/L		09/04/19 08:30	09/04/19 18:09	1
Aroclor-1242	ND		0.48	0.044	ug/L		09/04/19 08:30	09/04/19 18:09	1
Aroclor-1248	ND		0.48	0.052	ug/L		09/04/19 08:30	09/04/19 18:09	1
Aroclor-1254	ND		0.48	0.086	ug/L		09/04/19 08:30	09/04/19 18:09	1
Aroclor-1260	ND		0.48	0.036	ug/L		09/04/19 08:30	09/04/19 18:09	1
Aroclor-1262	ND		0.48	0.029	ug/L		09/04/19 08:30	09/04/19 18:09	1
Aroclor-1268	ND		0.48	0.044	ug/L		09/04/19 08:30	09/04/19 18:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	75		50 - 135				09/04/19 08:30	09/04/19 18:09	1
Tetrachloro-m-xylene (Surr)	107		50 - 135				09/04/19 08:30	09/04/19 18:09	1

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

General Chemistry

Client Sample ID: 1908544-01G INF

Date Collected: 08/29/19 12:05

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.116	^	0.0200	0.00700	mg/L	-	09/05/19 14:47	09/06/19 10:13	1

Client Sample ID: 1908544-02G CCB

Date Collected: 08/29/19 11:35

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.127	^	0.0200	0.00700	mg/L	-	09/05/19 14:47	09/06/19 10:14	1

Client Sample ID: 1908544-03G EFF

Date Collected: 08/29/19 11:10

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-3

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0716	F1 ^	0.0200	0.00700	mg/L	-	09/05/19 14:47	09/06/19 10:12	1

Client Sample ID: 1908544-04G FISH

Date Collected: 08/29/19 15:30

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-4

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0441	^	0.0200	0.00700	mg/L	-	09/05/19 14:47	09/06/19 10:15	1

Client Sample ID: 1908544-05G HRC

Date Collected: 08/29/19 16:20

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-5

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0326	^	0.0200	0.00700	mg/L	-	09/05/19 14:47	09/06/19 10:16	1

Client Sample ID: 1908544-06G HOB

Date Collected: 08/29/19 18:30

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-7

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0441	^	0.0200	0.00700	mg/L	-	09/05/19 14:47	09/06/19 10:17	1

Client Sample ID: 1908544-07G SCL

Date Collected: 08/29/19 13:40

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-8

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0689	^	0.0200	0.00700	mg/L	-	09/05/19 14:47	09/06/19 10:18	1

Surrogate Summary

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Wastewater

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (50-135)	TCX2 (50-135)
570-6260-6	1908544-05H HRC	75	107

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene (Surr)

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (50-135)	TCX2 (50-135)
LCS 570-16833/2-A	Lab Control Sample	98	126
LCSD 570-16833/3-A	Lab Control Sample Dup	95	121
MB 570-16833/1-A	Method Blank	93	120

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene (Surr)

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 570-16833/1-A

Matrix: Water

Analysis Batch: 16870

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16833

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		0.50	0.035	ug/L		09/04/19 08:30	09/04/19 16:04	1
Aroclor-1221	ND		0.50	0.19	ug/L		09/04/19 08:30	09/04/19 16:04	1
Aroclor-1232	ND		0.50	0.058	ug/L		09/04/19 08:30	09/04/19 16:04	1
Aroclor-1242	ND		0.50	0.046	ug/L		09/04/19 08:30	09/04/19 16:04	1
Aroclor-1248	ND		0.50	0.054	ug/L		09/04/19 08:30	09/04/19 16:04	1
Aroclor-1254	ND		0.50	0.089	ug/L		09/04/19 08:30	09/04/19 16:04	1
Aroclor-1260	ND		0.50	0.037	ug/L		09/04/19 08:30	09/04/19 16:04	1
Aroclor-1262	ND		0.50	0.031	ug/L		09/04/19 08:30	09/04/19 16:04	1
Aroclor-1268	ND		0.50	0.046	ug/L		09/04/19 08:30	09/04/19 16:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	93		50 - 135	09/04/19 08:30	09/04/19 16:04	1
Tetrachloro-m-xylene (Surr)	120		50 - 135	09/04/19 08:30	09/04/19 16:04	1

Lab Sample ID: LCS 570-16833/2-A

Matrix: Water

Analysis Batch: 16870

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16833

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	1.00	1.241		ug/L		124	50 - 135
Aroclor-1260	1.00	0.8762		ug/L		88	50 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	98		50 - 135
Tetrachloro-m-xylene (Surr)	126		50 - 135

Lab Sample ID: LCSD 570-16833/3-A

Matrix: Water

Analysis Batch: 16870

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16833

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aroclor-1016	1.00	1.188		ug/L		119	50 - 135	4	25
Aroclor-1260	1.00	0.9390		ug/L		94	50 - 135	7	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	95		50 - 135
Tetrachloro-m-xylene (Surr)	121		50 - 135

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-17330/1-A

Matrix: Water

Analysis Batch: 17506

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 17330

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/05/19 14:47	09/06/19 10:07	1

Eurofins Calscience LLC

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Method: SM 4500 CN E - Cyanide, Total (Continued)

Lab Sample ID: LCS 570-17330/2-A

Matrix: Water

Analysis Batch: 17506

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 17330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.1883		mg/L		94	80 - 120

Lab Sample ID: LCSD 570-17330/3-A

Matrix: Water

Analysis Batch: 17506

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 17330

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.200	0.1890		mg/L		94	80 - 120	0	20

Lab Sample ID: 570-6260-3 MS

Matrix: Wastewater

Analysis Batch: 17506

Client Sample ID: 1908544-03G EFF

Prep Type: Total/NA

Prep Batch: 17330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0716	F1 ^	0.200	0.1913	F1	mg/L		60	74 - 115

Lab Sample ID: 570-6260-3 MSD

Matrix: Wastewater

Analysis Batch: 17506

Client Sample ID: 1908544-03G EFF

Prep Type: Total/NA

Prep Batch: 17330

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0716	F1 ^	0.200	0.1937	F1	mg/L		61	74 - 115	1	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

GC Semi VOA

Prep Batch: 16833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6260-6	1908544-05H HRC	Total/NA	Wastewater	3510C	
MB 570-16833/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-16833/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-16833/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 16870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6260-6	1908544-05H HRC	Total/NA	Wastewater	8082	16833
MB 570-16833/1-A	Method Blank	Total/NA	Water	8082	16833
LCS 570-16833/2-A	Lab Control Sample	Total/NA	Water	8082	16833
LCSD 570-16833/3-A	Lab Control Sample Dup	Total/NA	Water	8082	16833

General Chemistry

Prep Batch: 17330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6260-1	1908544-01G INF	Total/NA	Wastewater	SM 4500 CN C	
570-6260-2	1908544-02G CCB	Total/NA	Wastewater	SM 4500 CN C	
570-6260-3	1908544-03G EFF	Total/NA	Wastewater	SM 4500 CN C	
570-6260-4	1908544-04G FISH	Total/NA	Wastewater	SM 4500 CN C	
570-6260-5	1908544-05G HRC	Total/NA	Wastewater	SM 4500 CN C	
570-6260-7	1908544-06G HOB	Total/NA	Wastewater	SM 4500 CN C	
570-6260-8	1908544-07G SCL	Total/NA	Wastewater	SM 4500 CN C	
MB 570-17330/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-17330/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-17330/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6260-3 MS	1908544-03G EFF	Total/NA	Wastewater	SM 4500 CN C	
570-6260-3 MSD	1908544-03G EFF	Total/NA	Wastewater	SM 4500 CN C	

Analysis Batch: 17506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6260-1	1908544-01G INF	Total/NA	Wastewater	SM 4500 CN E	17330
570-6260-2	1908544-02G CCB	Total/NA	Wastewater	SM 4500 CN E	17330
570-6260-3	1908544-03G EFF	Total/NA	Wastewater	SM 4500 CN E	17330
570-6260-4	1908544-04G FISH	Total/NA	Wastewater	SM 4500 CN E	17330
570-6260-5	1908544-05G HRC	Total/NA	Wastewater	SM 4500 CN E	17330
570-6260-7	1908544-06G HOB	Total/NA	Wastewater	SM 4500 CN E	17330
570-6260-8	1908544-07G SCL	Total/NA	Wastewater	SM 4500 CN E	17330
MB 570-17330/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	17330
LCS 570-17330/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	17330
LCSD 570-17330/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	17330
570-6260-3 MS	1908544-03G EFF	Total/NA	Wastewater	SM 4500 CN E	17330
570-6260-3 MSD	1908544-03G EFF	Total/NA	Wastewater	SM 4500 CN E	17330

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Client Sample ID: 1908544-01G INF

Date Collected: 08/29/19 12:05

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-1

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	17330	09/05/19 14:47	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17506	09/06/19 10:13	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908544-02G CCB

Date Collected: 08/29/19 11:35

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-2

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	17330	09/05/19 14:47	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17506	09/06/19 10:14	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908544-03G EFF

Date Collected: 08/29/19 11:10

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-3

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	17330	09/05/19 14:47	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17506	09/06/19 10:12	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908544-04G FISH

Date Collected: 08/29/19 15:30

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-4

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	17330	09/05/19 14:47	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17506	09/06/19 10:15	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908544-05G HRC

Date Collected: 08/29/19 16:20

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-5

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	17330	09/05/19 14:47	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17506	09/06/19 10:16	J8H7	ECL 1
Instrument ID: UV9										

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Client Sample ID: 1908544-05H HRC

Date Collected: 08/29/19 16:20

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-6

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			1037.3 mL	5 mL	16833	09/04/19 08:30	OAJ3	ECL 1
Total/NA	Analysis	8082		1			16870	09/04/19 18:09	UHHN	ECL 1
Instrument ID: GC66										

Client Sample ID: 1908544-06G HOB

Date Collected: 08/29/19 18:30

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-7

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	17330	09/05/19 14:47	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17506	09/06/19 10:17	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908544-07G SCL

Date Collected: 08/29/19 13:40

Date Received: 08/31/19 11:30

Lab Sample ID: 570-6260-8

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	17330	09/05/19 14:47	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	17506	09/06/19 10:18	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Method	Method Description	Protocol	Laboratory
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	ECL 1
SM 4500 CN E	Cyanide, Total	SM	ECL 1
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1908544

Job ID: 570-6260-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6260-1	1908544-01G INF	Wastewater	08/29/19 12:05	08/31/19 11:30	
570-6260-2	1908544-02G CCB	Wastewater	08/29/19 11:35	08/31/19 11:30	
570-6260-3	1908544-03G EFF	Wastewater	08/29/19 11:10	08/31/19 11:30	
570-6260-4	1908544-04G FISH	Wastewater	08/29/19 15:30	08/31/19 11:30	
570-6260-5	1908544-05G HRC	Wastewater	08/29/19 16:20	08/31/19 11:30	
570-6260-6	1908544-05H HRC	Wastewater	08/29/19 16:20	08/31/19 11:30	
570-6260-7	1908544-06G HOB	Wastewater	08/29/19 18:30	08/31/19 11:30	
570-6260-8	1908544-07G SCL	Wastewater	08/29/19 13:40	08/31/19 11:30	

6260



Sub-Contract Chain of Custody Record

Date Shipped: 8/30/2019
PO #: 1908544

Subcontractor: Calscience Environmental Labs
7440 Lincoln Way
Garden Grove, CA 92841
Attn: SAMPLE RECEIVING

Send Results to: North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

714 895-5494

Email: sub@northcoastlabs.com



570-6260 Chain of Custody

NCL Sample # Sample ID	Collection Date Bottle	Matrix	State Form System Source	Sampler Employer	Analysis Remarks
1908544-01G INF	8/29/2019 12:05 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908544-02G CCB	8/29/2019 11:35 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908544-03G TEFF	8/29/2019 11:10 am 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908544-04G FISH	8/29/2019 03:30 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908544-05G HRC	8/29/2019 04:20 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908544-05H HRC	8/29/2019 04:20 pm 1 L amber glass	Waste Water			EPA 8082
1908544-06G HOB	8/29/2019 06:30 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1908544-07G SCL	8/29/2019 01:40 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water

Report to the MDL

Date/Time

Date/Time

Relinquished by:

Received by:

Relinquished by:

Received by:

8/30/19 1330

Chadwick ec

8/31/19 11:30

Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.

9/9/2019

(Seal)

1
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15

570-6260 Waybill

SHIP DATE: 30AUG19
ACTWGT: 52.00 LB MAN
CAD: 0311778/CAFE3211

ARCATA, CA 955219202
UNITED STATES US

BILL SENDER

TO **SAMPLE RECEIVING**
CALSCIENCE ENVIRONMENTAL LABS
7440 LINCOLN WAY

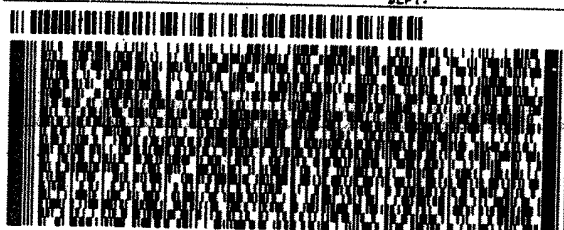
GARDEN GROVE CA 92841

(530) 244-5227

REF:

INL:
PO:

DEPT:



FedEx
Express



1

TRK# 4946 6443 9919
0201

SATURDAY 12:00P
PRIORITY OVERNIGHT

WO APVA

92841

CA-US SNA

Part # 156148-434 HIT EXP 06/18 3:



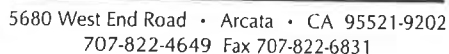
Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6260-1

Login Number: 6260**List Source: Eurofins Calscience****List Number: 1****Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Chain of Custody

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT



September 16, 2019

Scotia CSD
PO Box 104
Scotia, CA 95565

Attn: Leslie Marshall

Order No.: 1909055
Invoice No.: 148550
PO No.:
ELAP No.1247-Expires July 2020

RE: 017138.106 Scotia Local Limits Study

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	MILL
01B	MILL
01C	MILL
01D	MILL
01E	MILL
01G	MILL
01H	MILL
02A	COGEN
02B	COGEN
02C	COGEN
02D	COGEN
02E	COGEN
02G	COGEN
02H	COGEN
02I	COGEN
03A	HRC
03B	HRC

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

Flag = Explanation in Case Narrative

All solid results are expressed on a wet-weight basis unless otherwise noted.

Approved for release by:



Roxanne Moore, Project Manager

Date: 16-Sep-2019
WorkOrder: 1909055

CASE NARRATIVE

Samples for pH, chlorine and dissolved oxygen analysis must be analyzed within 15 minutes of collection. Therefore, any samples requiring these analyses were analyzed past the official holding time.

J Flags:

Test results that fall below the reporting limit and above the method detection limit are considered approximate values.

D7: The sample does not have the typical pattern of fresh diesel. The material is the lighter portion of the material in the motor oil range.

Date: 16-Sep-2019

WorkOrder: 1909055

ANALYTICAL REPORT

Client Sample ID: MILL

Received: 9/4/2019

Lab ID: 1909055-01A

Matrix: Waste Water

Collected 9/4/2019 13:30

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	220			1.0	N/A	mg/L CaCO ₃	1.0	9/10/2019	09/12/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	59,000			100	9.8	µg/L	1.0	9/10/2019	09/12/19 10:18
Magnesium	18,000			100	1.4	µg/L	1.0	9/10/2019	09/12/19 10:18

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	160			20	3	µg/L	1.0	9/10/2019	09/11/19 13:04
Arsenic	ND			5.0	1.5	µg/L	1.0	9/10/2019	09/11/19 13:04
Cadmium	0.17	J		5.0	0.17	µg/L	1.0	9/10/2019	09/11/19 13:04
Chromium	0.98	J		5.0	0.21	µg/L	1.0	9/10/2019	09/11/19 13:04
Copper	70			5.0	0.72	µg/L	1.0	9/10/2019	09/11/19 13:04
Lead	0.69	J		5.0	0.082	µg/L	1.0	9/10/2019	09/11/19 13:04
Molybdenum	1.6	J		5.0	0.063	µg/L	1.0	9/10/2019	09/11/19 13:04
Nickel	4.1	J		5.0	1.1	µg/L	1.0	9/10/2019	09/11/19 13:04
Selenium	ND			10	4	µg/L	1.0	9/10/2019	09/11/19 13:04
Silver	ND			5.0	0.73	µg/L	1.0	9/10/2019	09/11/19 13:04
Zinc	70			10	1.1	µg/L	1.0	9/10/2019	09/11/19 13:04

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/6/2019	09/08/19 11:55

Client Sample ID: MILL

Received: 9/4/2019

Lab ID: 1909055-01B

Matrix: Waste Water

Collected 9/4/2019 13:30

Test Name: Ammonia Nitrogen without distillation

Analyst: RMS

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	83			0.10	0.017	mg/L	1.0		09/13/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	84			1.0	0.96	mg/L	1.0	9/12/2019	09/16/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Date: 16-Sep-2019

WorkOrder: 1909055

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	84			1.0	N/A	mg/L	1.0		09/16/19 0:00

Test Name: Total Phosphate Phosphorus

Analyst: JLM

Reference: SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	9.6			0.20	0.074	mg/L	10	9/11/2019	09/12/19 0:00

Client Sample ID: MILL

Received: 9/4/2019

Lab ID: 1909055-01C

Matrix: Waste Water

Collected 9/4/2019 13:30

Test Name: Biochemical Oxygen Demand

Analyst: AJJ

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	170			2.0	2	mg/L	1.0		09/06/19 10:00

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	ND			0.10	0.1	mg/L	1.0		09/04/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	0.081	J		0.10	0.02	mg/L	1.0		09/04/19 19:12
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		09/04/19 19:12

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	94			1.0	0.6	mg/L	1.0		09/10/19 0:00

Test Name: Total Dissolved Solids

Analyst: AJJ

Reference: SM 2540C, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	430			10	5.3	mg/L	1.0		09/10/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	ND			0.10	0.1	mg/L	1.0		09/04/19 0:00

Test Name: Turbidity

Analyst: RMS

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	76			0.25	0.25	NTU	5.0		09/05/19 0:00

Date: 16-Sep-2019

WorkOrder: 1909055

ANALYTICAL REPORT

Client Sample ID: MILL

Received: 9/4/2019

Lab ID: 1909055-01D

Matrix: Waste Water

Collected 9/4/2019 13:30

Test Name: Settleable Solids

Analyst: RMS

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	ND			0.10	0.1	mL/L/hour	1.0		09/06/19 0:00

Client Sample ID: MILL

Received: 9/4/2019

Lab ID: 1909055-01E

Matrix: Waste Water

Collected 9/4/2019 13:30

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	15			4.6	4	mg/L	0.91	9/11/2019	09/12/19 11:00

Client Sample ID: MILL

Received: 9/4/2019

Lab ID: 1909055-01G

Matrix: Waste Water

Collected 9/4/2019 13:30

Test Name: EPA 8260B

Analyst: JWP

Reference: EPA 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Methyl tert-butyl ether (MTBE)	ND			0.50	0.11	µg/L	1.0		09/05/19 16:37
Benzene	ND			0.50	0.13	µg/L	1.0		09/05/19 16:37
Toluene	9.2			0.50	0.14	µg/L	1.0		09/05/19 16:37
Ethylbenzene	ND			0.50	0.11	µg/L	1.0		09/05/19 16:37
m,p-Xylene	ND			0.50	0.3	µg/L	1.0		09/05/19 16:37
o-Xylene	ND			0.50	0.15	µg/L	1.0		09/05/19 16:37
Surrogate: 1,2-Dichloroethane-d4	113			72.1-128	0.1	% Rec	1.0		09/05/19 16:37
Surrogate: Dibromofluoromethane	108			80.1-124	0.1	% Rec	1.0		09/05/19 16:37
Surrogate: Toluene-d8	96.7			72.2-125	0.1	% Rec	1.0		09/05/19 16:37

Test Name: TPH as Gasoline

Analyst: JWP

Reference: LUFT/EPA 8260B Modified

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Gasoline	44	J		50	18	µg/L	1.0		09/05/19 16:37

Client Sample ID: MILL

Received: 9/4/2019

Lab ID: 1909055-01H

Matrix: Waste Water

Collected 9/4/2019 13:30

Test Name: TPH passed through Silica Gel Column

Analyst: MRB

Reference: EPA 3511/3630/8015B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Diesel (C12-C22)	130			50	30	µg/L	1.0	9/10/2019	09/12/19 18:36
TPHC Motor Oil	610			170	65	µg/L	1.0	9/10/2019	09/12/19 18:36

Date: 16-Sep-2019

WorkOrder: 1909055

ANALYTICAL REPORT

Client Sample ID: COGEN

Received: 9/4/2019

Lab ID: 1909055-02A

Matrix: Waste Water

Collected 9/4/2019 14:30

Test Name: Hardness

Analyst: RMS

Reference: SM 2340B, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Hardness	620			1.0	N/A	mg/L CaCO ₃	1.0	9/10/2019	09/12/19 0:00

Test Name: ICAP Metals

Analyst: ERK

Reference: EPA 200.7 Rev 4.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Calcium	160,000			100	9.8	µg/L	1.0	9/10/2019	09/12/19 10:21
Magnesium	52,000			100	1.4	µg/L	1.0	9/10/2019	09/12/19 10:21

Test Name: ICP-MS Metals

Analyst: ERK

Reference: EPA 200.8 Rev 5.4 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Aluminum	110			20	3	µg/L	1.0	9/10/2019	09/11/19 13:08
Arsenic	2.1	J		5.0	1.5	µg/L	1.0	9/10/2019	09/11/19 13:08
Cadmium	ND			5.0	0.17	µg/L	1.0	9/10/2019	09/11/19 13:08
Chromium	ND			5.0	0.21	µg/L	1.0	9/10/2019	09/11/19 13:08
Copper	23			5.0	0.72	µg/L	1.0	9/10/2019	09/11/19 13:08
Lead	0.33	J		5.0	0.082	µg/L	1.0	9/10/2019	09/11/19 13:08
Molybdenum	2.8	J		5.0	0.063	µg/L	1.0	9/10/2019	09/11/19 13:08
Nickel	4.9	J		5.0	1.1	µg/L	1.0	9/10/2019	09/11/19 13:08
Selenium	ND			10	4	µg/L	1.0	9/10/2019	09/11/19 13:08
Silver	ND			5.0	0.73	µg/L	1.0	9/10/2019	09/11/19 13:08
Zinc	16			10	1.1	µg/L	1.0	9/10/2019	09/11/19 13:08

Test Name: Mercury

Analyst: ERK

Reference: EPA 245.1 Rev 3.0 (1994)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Mercury	ND			1.0	0.072	µg/L	1.0	9/6/2019	09/08/19 11:57

Client Sample ID: COGEN

Received: 9/4/2019

Lab ID: 1909055-02B

Matrix: Waste Water

Collected 9/4/2019 14:30

Test Name: Ammonia Nitrogen without distillation

Analyst: RMS

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Ammonia Nitrogen	0.38			0.10	0.017	mg/L	1.0		09/13/19 0:00

Test Name: Nitrogen - Total Kjeldahl

Analyst: JLM

Reference: SM 4500-NH₃ B,D 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrogen- Total Kjeldahl	1.2			1.0	0.96	mg/L	1.0	9/12/2019	09/16/19 0:00

Test Name: Total Nitrogen

Analyst: RMS

Reference: SM 4500-N, 1997. Revs 2011

Date: 16-Sep-2019

WorkOrder: 1909055

ANALYTICAL REPORT

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Nitrogen	1.4			1.0	N/A	mg/L	1.0		09/16/19 0:00

Test Name: Total Phosphate Phosphorus

Analyst: JLM

Reference: SM 4500-PE, 1999. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Phosphate Phosphorus	0.91			0.040	0.015	mg/L	2.0	9/11/2019	09/12/19 0:00

Client Sample ID: COGEN

Received: 9/4/2019

Lab ID: 1909055-02C

Matrix: Waste Water

Collected 9/4/2019 14:30

Test Name: Biochemical Oxygen Demand

Analyst: AJJ

Reference: SM 5210B, 2001. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Biochemical Oxygen Demand	5.0			2.0	2	mg/L	1.0		09/06/19 10:00

Test Name: Non-Filterable Residue (TSS)

Analyst: JLM

Reference: SM 2540D, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Non-Filterable Residue(TSS)	6.0			1.0	0.6	mg/L	1.0		09/10/19 0:00

Client Sample ID: COGEN

Received: 9/4/2019

Lab ID: 1909055-02D

Matrix: Waste Water

Collected 9/4/2019 14:30

Test Name: Settleable Solids

Analyst: RMS

Reference: SM 2540F, 1997. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Settleable Solids	ND			0.10	0.1	mL/L/hour	1.0		09/06/19 0:00

Client Sample ID: COGEN

Received: 9/4/2019

Lab ID: 1909055-02E

Matrix: Waste Water

Collected 9/4/2019 14:30

Test Name: Hexane Extractable Oil and Grease

Analyst: JAP

Reference: EPA 1664B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Oil and Grease	ND			4.5	4	mg/L	0.91	9/11/2019	09/12/19 11:00

Client Sample ID: COGEN

Received: 9/4/2019

Lab ID: 1909055-02G

Matrix: Waste Water

Collected 9/4/2019 14:30

Test Name: Free Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Free Chlorine	0.11			0.10	0.1	mg/L	1.0		09/04/19 0:00

Test Name: Nitrate and/or Nitrite

Analyst: DAA

Reference: EPA 300.0 Rev 2.1 (1993)

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Nitrate (as Nitrogen)	0.20			0.10	0.02	mg/L	1.0		09/04/19 19:29
Nitrite (as Nitrogen)	ND			0.10	0.02	mg/L	1.0		09/04/19 19:29

NORTH COAST LABORATORIES

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Date: 16-Sep-2019
WorkOrder: 1909055
Test Name: Total Dissolved Solids
Reference: SM 2540C, 1997. Revs 2011

ANALYTICAL REPORT

Analyst: AJJ

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Total Dissolved Solids	740			10	5.3	mg/L	1.0		09/10/19 0:00

Test Name: Total Residual Chlorine

Analyst: JLM

Reference: SM 4500-CIG, 2000. Revs 2011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Residual Chlorine	0.22			0.10	0.1	mg/L	1.0		09/04/19 0:00

Test Name: Turbidity

Analyst: RMS

Reference: EPA 180.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Turbidity	4.5			0.050	0.05	NTU	1.0		09/05/19 0:00

Client Sample ID: COGEN

Received: 9/4/2019

Lab ID: 1909055-02H

Matrix: Waste Water

Collected: 9/4/2019 14:30

Test Name: EPA 8260B

Analyst: JWP

Reference: EPA 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Methyl tert-butyl ether (MTBE)	ND			0.50	0.11	µg/L	1.0		09/05/19 17:08
Benzene	ND			0.50	0.13	µg/L	1.0		09/05/19 17:08
Toluene	ND			0.50	0.14	µg/L	1.0		09/05/19 17:08
Ethylbenzene	ND			0.50	0.11	µg/L	1.0		09/05/19 17:08
m,p-Xylene	ND			0.50	0.3	µg/L	1.0		09/05/19 17:08
o-Xylene	ND			0.50	0.15	µg/L	1.0		09/05/19 17:08
Surrogate: 1,2-Dichloroethane-d4	112			72.1-128	0.1	% Rec	1.0		09/05/19 17:08
Surrogate: Dibromofluoromethane	108			80.1-124	0.1	% Rec	1.0		09/05/19 17:08
Surrogate: Toluene-d8	95.9			72.2-125	0.1	% Rec	1.0		09/05/19 17:08

Test Name: TPH as Gasoline

Analyst: JWP

Reference: LUFT/EPA 8260B Modified

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
TPHC Gasoline	ND			50	18	µg/L	1.0		09/05/19 17:08

Client Sample ID: COGEN

Received: 9/4/2019

Lab ID: 1909055-02I

Matrix: Waste Water

Collected: 9/4/2019 14:30

Test Name: TPH passed through Silica Gel Column

Analyst: MRB

Reference: EPA 3511/3630/8015B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
<i>TPHC Diesel (C12-C22)</i>	32	J		50	30	µg/L	1.0	9/10/2019	09/12/19 19:06
<i>TPHC Motor Oil</i>	300			170	65	µg/L	1.0	9/10/2019	09/12/19 19:06

Date: 16-Sep-2019

WorkOrder: 1909055

ANALYTICAL REPORT

Client Sample ID: HRC

Received: 9/4/2019

Lab ID: 1909055-03A

Matrix: Waste Water

Collected 9/4/2019 14:30

Test Name: EPA 8260B

Analyst: JWP

Reference: EPA 8260B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
Methyl tert-butyl ether (MTBE)	ND			0.50	0.11	µg/L	1.0		09/05/19 17:39
Benzene	ND			0.50	0.13	µg/L	1.0		09/05/19 17:39
Toluene	ND			0.50	0.14	µg/L	1.0		09/05/19 17:39
Ethylbenzene	ND			0.50	0.11	µg/L	1.0		09/05/19 17:39
m,p-Xylene	ND			0.50	0.3	µg/L	1.0		09/05/19 17:39
o-Xylene	ND			0.50	0.15	µg/L	1.0		09/05/19 17:39
Surrogate: 1,2-Dichloroethane-d4	111			72.1-128	0.1	% Rec	1.0		09/05/19 17:39
Surrogate: Dibromofluoromethane	108			80.1-124	0.1	% Rec	1.0		09/05/19 17:39
Surrogate: Toluene-d8	95.4			72.2-125	0.1	% Rec	1.0		09/05/19 17:39

Test Name: TPH as Gasoline

Analyst: JWP

Reference: LUFT/EPA 8260B Modified

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
<i>TPHC Gasoline</i>	24	J		50	18	µg/L	1.0		09/05/19 17:39

Client Sample ID: HRC

Received: 9/4/2019

Lab ID: 1909055-03B

Matrix: Waste Water

Collected 9/4/2019 14:30

Test Name: TPH as Diesel/Motor Oil

Analyst: MRB

Reference: LUFT/EPA 3511/EPA 8015B

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>Flag</u>	<u>Limit</u>	<u>MDL</u>	<u>Units</u>	<u>DF</u>	<u>Extracted</u>	<u>Analyzed</u>
<i>TPHC Diesel (C12-C22)</i>	1,300		D7	50	11	µg/L	1.0	9/10/2019	09/11/19 19:07
<i>TPHC Motor Oil</i>	24,000			3,400	200	µg/L	20	9/10/2019	09/11/19 18:38

North Coast Laboratories, Ltd.

Date: 9/16/2019

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID:	R100826	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/12/2019 11:00:00 AM	Prep Date	9/11/2019	
Client ID:		Run ID:	WC_190911D					SeqNo:	1435116			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		ND	5.0									

Sample ID	MB 090519	Batch ID:	R100698	Test Code:	8260EW	Units:	µg/L	Analysis Date	9/5/2019 2:44:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS2_190905B					SeqNo:	1433297		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.50									
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
m,p-Xylene	ND	0.50									
o-Xylene	ND	0.50									
Surrogate: Dibromofluoromethane	1.03	0.10	1.00	0	103%	80	124	0			
Surrogate: 1,2-Dichloroethane-d4	1.13	0.10	1.00	0	113%	72	128	0			
Surrogate: Toluene-d8	0.966	0.10	1.00	0	96.6%	72	125	0			

Sample ID	MBLK	Batch ID:	R100843	Test Code:	AMMW	Units:	mg/L	Analysis Date	9/13/2019	Prep Date		
Client ID:		Run ID:	WC_190913B					SeqNo:	1435196			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		0.04600	0.10									J

Sample ID	MB 090519	Batch ID:	R100697	Test Code:	GASW-MS	Units:	µg/L	Analysis Date	9/5/2019 2:44:00 PM	Prep Date		
Client ID:		Run ID:	ORGCMS2_190905A	SeqNo:	1433286							
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline		ND	50									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK 090419	Batch ID:	R100685	Test Code:	ICNOW	Units:	mg/L	Analysis Date	9/4/2019 11:14:06 AM	Prep Date	
Client ID:		Run ID:	INIC2_190904B	SeqNo:	1433053						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	ND	0.10									
Nitrite (as Nitrogen)	ND	0.10									

Sample ID	MB-37803	Batch ID:	37803	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/11/2019 12:52:10 PM	Prep Date	9/10/2019
Client ID:		Run ID:	ICPMS2_190911B	SeqNo:	1434408						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11.16	20									J
Arsenic	ND	5.0									
Cadmium	ND	5.0									
Chromium	0.8590	5.0									J
Copper	ND	5.0									
Lead	ND	5.0									
Molybdenum	ND	5.0									
Nickel	ND	5.0									
Selenium	ND	10									
Silver	ND	5.0									
Zinc	2.218	10									J

Sample ID	MB-37803	Batch ID:	37803	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/12/2019 11:54:05 AM	Prep Date	9/10/2019
Client ID:		Run ID:	INICP2_190912A	SeqNo:	1434812						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.27	100									J
Magnesium	ND	100									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MB-37790	Batch ID: 37790	Test Code: MERCW	Units: µg/L	Analysis Date 9/8/2019 11:22:12 AM	Prep Date 9/6/2019
Client ID:		Run ID: CVAA2_190908A		SeqNo: 1433619	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	1.0			
Sample ID MBLK	Batch ID: R100823	Test Code: NFRW	Units: mg/L	Analysis Date 9/10/2019	Prep Date
Client ID:		Run ID: WC_190910H		SeqNo: 1434910	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Non-Filterable Residue(TSS)	ND	1.0			
Sample ID MBLANK	Batch ID: R100853	Test Code: NKJEW	Units: mg/L	Analysis Date 9/16/2019	Prep Date 9/12/2019
Client ID:		Run ID: WC_190916A		SeqNo: 1435333	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrogen- Total Kjeldahl	ND	1.0			
Sample ID MBLANK WL-0911	Batch ID: R100809	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/12/2019	Prep Date 9/11/2019
Client ID:		Run ID: WC_190912B		SeqNo: 1434749	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Phosphate Phosphorus	ND	0.020			
Sample ID MB-37805	Batch ID: 37805	Test Code: SGTPDMW	Units: µg/L	Analysis Date 9/12/2019 5:05:29 PM	Prep Date 9/10/2019
Client ID:		Run ID: ORGC14_190912A		SeqNo: 1435021	
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
TPHC Diesel (C12-C22)	ND	50			
TPHC Motor Oil	ND	170			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Method Blank

Sample ID MBLK	Batch ID: R100840	Test Code: TDS	Units: mg/L	Analysis Date 9/10/2019	Prep Date
Client ID:	Run ID: WC_190910G	SeqNo: 1435175			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids	ND	10			

Sample ID MB-37804	Batch ID: 37804	Test Code: TPHDMW	Units: µg/L	Analysis Date 9/11/2019 3:08:13 PM	Prep Date 9/10/2019
Client ID:	Run ID: ORGC14_190910B	SeqNo: 1434546			
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
TPHC Diesel (C12-C22)	ND	50			
TPHC Motor Oil	10.11	170			J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/16/2019

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	1909055-03AMS	Batch ID:	R100698	Test Code:	8260EW	Units:	µg/L	Analysis Date	9/5/2019 6:10:00 PM	Prep Date	
Client ID:	HRC	Run ID:	ORGCMS2_190905B	SeqNo:	1433304						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	20.07	0.50	20.0	0	100%	69	133	0			
Benzene	20.64	0.50	20.0	0	103%	72	122	0			
Toluene	19.03	0.50	20.0	0	95.1%	76	120	0			
Ethylbenzene	18.06	0.50	20.0	0	90.3%	74	124	0			
m,p-Xylene	36.09	0.50	40.0	0	90.2%	77	121	0			
o-Xylene	17.85	0.50	20.0	0	89.2%	71	122	0			
Surrogate: Dibromofluoromethane	1.09	0.10	1.00	0	109%	80	124	0			
Surrogate: 1,2-Dichloroethane-d4	1.13	0.10	1.00	0	113%	72	128	0			
Surrogate: Toluene-d8	0.967	0.10	1.00	0	96.7%	72	125	0			

Sample ID	1909055-02AMS	Batch ID:	37803	Test Code:	ICPMSW	Units:	µg/L	Analysis Date	9/11/2019 1:12:38 PM	Prep Date	9/10/2019
Client ID:	COGEN	Run ID:	ICPMS2_190911B	SeqNo:	1434413						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	619.2	100	500	110	102%	70	130	0			
Arsenic	559.2	25	500	2.06	111%	70	130	0			
Cadmium	536.2	25	500	0	107%	70	130	0			
Chromium	469.0	25	500	0	93.8%	70	130	0			
Copper	506.5	25	500	22.6	96.8%	70	130	0			
Lead	503.7	25	500	0.332	101%	70	130	0			
Molybdenum	518.7	25	500	2.82	103%	70	130	0			
Nickel	481.0	25	500	4.86	95.2%	70	130	0			
Selenium	557.1	50	500	0	111%	70	130	0			
Silver	61.23	25	62.5	0	98.0%	70	130	0			
Zinc	540.8	50	500	16.3	105%	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/16/2019

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS	Batch ID:	R100826	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/12/2019 11:00:00 AM	Prep Date	9/11/2019	
Client ID:		Run ID:	WC_190911D	SeqNo:	1435117							
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		40.40	5.0	40.0	0	101%	80	107	0			

Sample ID	LCSD	Batch ID:	R100826	Test Code:	1664GOW	Units:	mg/L	Analysis Date	9/12/2019 11:00:00 AM	Prep Date	9/11/2019	
Client ID:		Run ID:	WC_190911D	SeqNo:	1435118							
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Oil and Grease		39.70	5.0	40.0	0	99.2%	80	107	40.4	1.75%	18	

Sample ID	LCS-19231	Batch ID:	R100698	Test Code:	8260EW	Units:	µg/L	Analysis Date	9/5/2019 11:48:00 AM	Prep Date	
Client ID:		Run ID:	ORGCMS2_190905B					SeqNo:	1433295		
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	20.20	0.50	20.0	0	101%	69	133	0			
Benzene	20.45	0.50	20.0	0	102%	72	122	0			
Toluene	19.09	0.50	20.0	0	95.4%	76	120	0			
Ethylbenzene	19.38	0.50	20.0	0	96.9%	74	124	0			
m,p-Xylene	38.49	0.50	40.0	0	96.2%	77	121	0			
o-Xylene	19.02	0.50	20.0	0	95.1%	71	122	0			
Surrogate: Dibromofluoromethane	1.11	0.10	1.00	0	111%	80	124	0			
Surrogate: 1,2-Dichloroethane-d4	1.09	0.10	1.00	0	109%	72	128	0			
Surrogate: Toluene-d8	0.974	0.10	1.00	0	97.4%	72	125	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS	Batch ID: R100843	Test Code: AMMW	Units: mg/L	Analysis Date	9/13/2019			Prep Date			
Client ID:			Run ID: WC_190913B		SeqNo:	1435197						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.32	0.10	10.0	0.0460	103%	85	115	0			
Sample ID	LCS	Batch ID: R100843	Test Code: AMMW	Units: mg/L	Analysis Date	9/13/2019			Prep Date			
Client ID:			Run ID: WC_190913B		SeqNo:	1435198						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia Nitrogen		10.42	0.10	10.0	0.0460	104%	85	115	10.3	0.964%	20	
Sample ID	LCS-19232	Batch ID: R100697	Test Code: GASW-MS	Units: µg/L	Analysis Date	9/5/2019 12:48:00 PM			Prep Date			
Client ID:			Run ID: ORGCMS2_190905A		SeqNo:	1433284						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline		992.7	50	1,000	0	99.3%	74	125	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-19232	Batch ID:	R100697	Test Code:	GASW-MS	Units:	µg/L	Analysis Date	9/5/2019 1:18:00 PM	Prep Date	
Client ID:		Run ID:	ORGCMS2_190905A	SeqNo:	1433285						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	956.5	50	1,000	0	95.6%	74	125	993	3.72%	20	

Sample ID	LCS WL-090419-0	Batch ID:	R100685	Test Code:	ICNOW	Units:	mg/L	Analysis Date	9/4/2019 11:30:44 AM	Prep Date	
Client ID:		Run ID:	INIC2_190904B	SeqNo:	1433054						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.052	0.10	5.00	0	101%	90	110	0			
Nitrite (as Nitrogen)	5.041	0.10	5.00	0	101%	90	110	0			

Sample ID	LCSD WL-090419-	Batch ID:	R100685	Test Code:	ICNOW	Units:	mg/L	Analysis Date	9/4/2019 11:47:22 AM	Prep Date	
Client ID:		Run ID:	INIC2_190904B	SeqNo:	1433055						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as Nitrogen)	5.059	0.10	5.00	0	101%	90	110	5.05	0.153%	10	
Nitrite (as Nitrogen)	5.035	0.10	5.00	0	101%	90	110	5.04	0.110%	10	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID **LCS-37803** Batch ID: **37803** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/11/2019 12:56:16 PM** Prep Date **9/10/2019**
 Client ID: Run ID: **ICPMS2_190911B** SeqNo: **1434409**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	504.5	100	500	11.2	98.7%	85	115	0			
Arsenic	537.2	25	500	0	107%	85	115	0			
Cadmium	514.9	25	500	0	103%	85	115	0			
Chromium	487.1	25	500	0.859	97.3%	85	115	0			
Copper	480.9	25	500	0	96.2%	85	115	0			
Lead	498.3	25	500	0	99.7%	85	115	0			
Molybdenum	488.5	25	500	0	97.7%	85	115	0			
Nickel	490.1	25	500	0	98.0%	85	115	0			
Selenium	529.8	50	500	0	106%	85	115	0			
Silver	56.99	25	62.5	0	91.2%	85	115	0			
Zinc	510.3	50	500	2.22	102%	85	115	0			

Sample ID **LCSD-37803** Batch ID: **37803** Test Code: **ICPMSW** Units: **µg/L** Analysis Date **9/11/2019 1:00:22 PM** Prep Date **9/10/2019**
 Client ID: Run ID: **ICPMS2_190911B** SeqNo: **1434410**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	518.9	100	500	11.2	102%	85	115	504	2.83%	20	
Arsenic	550.2	25	500	0	110%	85	115	537	2.39%	20	
Cadmium	536.5	25	500	0	107%	85	115	515	4.11%	20	
Chromium	497.9	25	500	0.859	99.4%	85	115	487	2.18%	20	
Copper	491.4	25	500	0	98.3%	85	115	481	2.16%	20	
Lead	513.6	25	500	0	103%	85	115	498	3.02%	20	
Molybdenum	509.2	25	500	0	102%	85	115	488	4.16%	20	
Nickel	505.3	25	500	0	101%	85	115	490	3.06%	20	
Selenium	556.1	50	500	0	111%	85	115	530	4.84%	20	
Silver	60.85	25	62.5	0	97.4%	85	115	57.0	6.55%	20	
Zinc	525.8	50	500	2.22	105%	85	115	510	3.00%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37803	Batch ID:	37803	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/12/2019 10:03:08 AM	Prep Date	9/10/2019
Client ID:		Run ID:	INICP2_190912A	SeqNo:	1434798						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	508.0	100	500	24.3	96.7%	85	115	0			
Magnesium	499.0	100	500	0	99.8%	85	115	0			
Sample ID	LCSD-37803	Batch ID:	37803	Test Code:	ICPX	Units:	µg/L	Analysis Date	9/12/2019 10:05:44 AM	Prep Date	9/10/2019
Client ID:		Run ID:	INICP2_190912A	SeqNo:	1434799						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	505.0	100	500	24.3	96.1%	85	115	508	0.601%	20	
Magnesium	499.9	100	500	0	100%	85	115	499	0.180%	20	
Sample ID	LCS-37790	Batch ID:	37790	Test Code:	MERCW	Units:	µg/L	Analysis Date	9/8/2019 11:24:43 AM	Prep Date	9/6/2019
Client ID:		Run ID:	CVAA2_190908A	SeqNo:	1433620						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.069	1.0	5.00	0	101%	85	115	0			
Sample ID	LCSD-37790	Batch ID:	37790	Test Code:	MERCW	Units:	µg/L	Analysis Date	9/8/2019 11:26:43 AM	Prep Date	9/6/2019
Client ID:		Run ID:	CVAA2_190908A	SeqNo:	1433621						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.882	1.0	5.00	0	97.6%	85	115	5.07	3.75%	20	
Sample ID	BLKSPK	Batch ID:	R100853	Test Code:	NKJEW	Units:	mg/L	Analysis Date	9/16/2019	Prep Date	9/12/2019
Client ID:		Run ID:	WC_190916A	SeqNo:	1435334						
Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl	10.01	1.0	10.0	0	100%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	BLKSPK	Batch ID: R100853	Test Code: NKJEW	Units: mg/L	Analysis Date 9/16/2019				Prep Date 9/12/2019			
Client ID:			Run ID: WC_190916A	SeqNo: 1435335								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen- Total Kjeldahl		9.906	1.0	10.0	0	99.1%	85	115	10.0	1.04%	20	
Sample ID	LCS WL-09111901	Batch ID: R100809	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/12/2019				Prep Date 9/11/2019			
Client ID:			Run ID: WC_190912B	SeqNo: 1434750								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4959	0.020	0.500	0	99.2%	85	115	0			
Sample ID	LCSD WL-091119	Batch ID: R100809	Test Code: PO4TOW	Units: mg/L	Analysis Date 9/12/2019				Prep Date 9/11/2019			
Client ID:			Run ID: WC_190912B	SeqNo: 1434751								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Phosphate Phosphorus		0.4880	0.020	0.500	0	97.6%	85	115	0.496	1.61%	10	
Sample ID	LCS-37805	Batch ID: 37805	Test Code: SGTPDMW	Units: µg/L	Analysis Date 9/12/2019 5:35:50 PM				Prep Date 9/10/2019			
Client ID:			Run ID: ORGC14_190912A	SeqNo: 1435022								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel (C12-C22)		440.1	50	500	0	88.0%	69	112	0			
TPHC Motor Oil		1,031	170	1,000	0	103%	79	127	0			
Sample ID	LCSD-37805	Batch ID: 37805	Test Code: SGTPDMW	Units: µg/L	Analysis Date 9/12/2019 6:06:02 PM				Prep Date 9/10/2019			
Client ID:			Run ID: ORGC14_190912A	SeqNo: 1435023								
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel (C12-C22)		475.7	50	500	0	95.1%	69	112	440	7.75%	30	
TPHC Motor Oil		1,010	170	1,000	0	101%	79	127	1,030	2.05%	30	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID	LCS-37804	Batch ID:	37804	Test Code:	TPHDMW	Units:	µg/L	Analysis Date	9/11/2019 3:38:16 PM	Prep Date	9/10/2019	
Client ID:		Run ID:	ORGC14_190910B					SeqNo:	1434547			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel (C12-C22)		469.9	50	500	0	94.0%	73	126	0			
TPHC Motor Oil		969.9	170	1,000	0	97.0%	75	131	0			

Sample ID	LCSD-37804	Batch ID:	37804	Test Code:	TPHDMW	Units:	µg/L	Analysis Date	9/11/2019 4:08:18 PM	Prep Date	9/10/2019	
Client ID:		Run ID:	ORGC14_190910B					SeqNo:	1434548			
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Diesel (C12-C22)		524.8	50	500	0	105%	73	126	470	11.0%	30	
TPHC Motor Oil		983.3	170	1,000	0	98.3%	75	131	970	1.37%	30	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 9/16/2019

CLIENT: Scotia CSD
Work Order: 1909055
Project: 017138.106 Scotia Local Limits Study

QC SUMMARY REPORT

BOD Organic Standard

Sample ID	ORGANIC STAND	Batch ID: R100806	Test Code: BODW	Units: mg/L	Analysis Date 9/6/2019 10:00:00 AM				Prep Date			
Client ID:			Run ID: WC_190906F			SeqNo: 1434726						
Analyte		Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand		220.0	2.0	200	0	110%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

ANALYTICAL REPORT

Eurofins Calscience LLC
7440 Lincoln Way
Garden Grove, CA 92841
Tel: (714)895-5494

Laboratory Job ID: 570-6692-1
Client Project/Site: 1909055
Revision: 1

For:

North Coast Laboratories LTD
5680 West End Road
Arcata, California 95521

Attn: Ronald Canady



Authorized for release by:
9/17/2019 12:10:42 PM

Lori Thompson, Project Manager I
(714)895-5494
lorithompson@eurofinsus.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

Job ID: 570-6692-1

Laboratory: Eurofins Calscience LLC

Narrative

Job Narrative 570-6692-1

Comments

No additional comments.

Receipt

The samples were received on 9/6/2019 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2° C.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Detection Summary

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

Client Sample ID: 1908055-01F MILL

Lab Sample ID: 570-6692-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0133	J	0.0200	0.00700	mg/L	1		SM 4500 CN E	Total/NA

Client Sample ID: 1908055-02F COGEN

Lab Sample ID: 570-6692-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

Client Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

General Chemistry

Client Sample ID: 1908055-01F MILL

Date Collected: 09/04/19 13:30

Date Received: 09/06/19 09:35

Lab Sample ID: 570-6692-1

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0133	J	0.0200	0.00700	mg/L	—	09/10/19 08:00	09/10/19 13:15	1

Client Sample ID: 1908055-02F COGEN

Date Collected: 09/04/19 14:30

Date Received: 09/06/19 09:35

Lab Sample ID: 570-6692-2

Matrix: Wastewater

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L	—	09/10/19 08:00	09/10/19 13:16	1

QC Sample Results

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 570-18150/1-A
Matrix: Water
Analysis Batch: 18160

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 18150

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0200	0.00700	mg/L		09/10/19 08:00	09/10/19 13:06	1

Lab Sample ID: LCS 570-18150/2-A
Matrix: Water
Analysis Batch: 18160

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 18150

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.200	0.1891		mg/L		95	80 - 120

Lab Sample ID: LCSD 570-18150/3-A
Matrix: Water
Analysis Batch: 18160

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 18150

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.200	0.1899		mg/L		95	80 - 120	0	20

Lab Sample ID: 570-6809-T-1-A MS
Matrix: Water
Analysis Batch: 18160

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 18150

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0144	J	0.200	0.1911		mg/L		88	74 - 115

Lab Sample ID: 570-6809-T-1-B MSD
Matrix: Water
Analysis Batch: 18160

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 18150

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0144	J	0.200	0.1901		mg/L		88	74 - 115	0	20

QC Association Summary

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

General Chemistry

Prep Batch: 18150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6692-1	1908055-01F MILL	Total/NA	Wastewater	SM 4500 CN C	
570-6692-2	1908055-02F COGEN	Total/NA	Wastewater	SM 4500 CN C	
MB 570-18150/1-A	Method Blank	Total/NA	Water	SM 4500 CN C	
LCS 570-18150/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN C	
LCSD 570-18150/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN C	
570-6809-T-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN C	
570-6809-T-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN C	

Analysis Batch: 18160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-6692-1	1908055-01F MILL	Total/NA	Wastewater	SM 4500 CN E	18150
570-6692-2	1908055-02F COGEN	Total/NA	Wastewater	SM 4500 CN E	18150
MB 570-18150/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	18150
LCS 570-18150/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	18150
LCSD 570-18150/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	18150
570-6809-T-1-A MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	18150
570-6809-T-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	18150

Lab Chronicle

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

Client Sample ID: 1908055-01F MILL

Date Collected: 09/04/19 13:30

Date Received: 09/06/19 09:35

Lab Sample ID: 570-6692-1

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	18150	09/10/19 08:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	18160	09/10/19 13:15	J8H7	ECL 1
Instrument ID: UV9										

Client Sample ID: 1908055-02F COGEN

Date Collected: 09/04/19 14:30

Date Received: 09/06/19 09:35

Lab Sample ID: 570-6692-2

Matrix: Wastewater

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SM 4500 CN C			50 mL	50 mL	18150	09/10/19 08:00	J8H7	ECL 1
Total/NA	Analysis	SM 4500 CN E		1	50 mL	50 mL	18160	09/10/19 13:16	J8H7	ECL 1
Instrument ID: UV9										

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Accreditation/Certification Summary

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State Program	AZ0781	03-13-20
California	SCAQMD LAP	N/A	11-30-19
California	State Program	2944	09-30-19
Guam	State Program	19-004R	10-31-19
Hawaii	State Program	N/A	01-29-20
Oregon	NELAP Primary AB	CA300001	01-20-20
Washington	State Program	C916	10-11-19

Method Summary

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

Method	Method Description	Protocol	Laboratory
SM 4500 CN E	Cyanide, Total	SM	ECL 1
SM 4500 CN C	Cyanide, Distillation	SM	ECL 1

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Sample Summary

Client: North Coast Laboratories LTD
Project/Site: 1909055

Job ID: 570-6692-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-6692-1	1908055-01F MILL	Wastewater	09/04/19 13:30	09/06/19 09:35	
570-6692-2	1908055-02F COGEN	Wastewater	09/04/19 14:30	09/06/19 09:35	

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**NORTH COAST
LABORATORIES LTD.**

Sub-Contract Chain of Custody Record

Subcontractor: Calscience Environmental Labs
7440 Lincoln Way
Garden Grove, CA 92841
Attn: SAMPLE RECEIVING

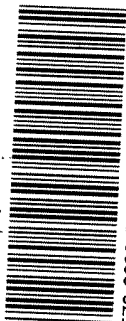
714 895-5494

Send Results to:

North Coast Labs
5680 West End Road
Arcata, CA 95521
(707) 822-4649

Email: sub@northcoastlabs.com

Date Shipped: 9/5/2019
PO #: 1909055



570-6692 Chain of Custody

NCL Sample # Sample ID	Collection Date Bottle	Matrix	State Form System Source	Sampler Employer	Analysis Remarks
1909055-01F MILL	9/04/2019 01:30 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water
1909055-02F COGEN	9/04/2019 02:30 pm 500 mL brown HDPE with NaOH	Waste Water			Total Cyanide - Water

Report to the MCL

Relinquished by:	<i>[Signature]</i>	Date/Time	9/5/19 1300
Relinquished by:		Date/Time	9/16/19 0935

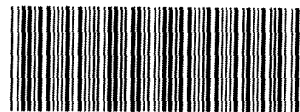
Special Instructions: Please include NCL Sample #, Sample ID, and QC data on all analytical work; include PO # on invoice.

(Fisher)

40/4-2 JCE

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570-6692 Waybill



570-6692 Waybill

ORIGIN ID:EKAA
 SHIPPING/RECEIVING
 NORTH COAST LABORATORIES
 5680 WEST END RD

ARCATA, CA 955219202
 UNITED STATES US

BILL SENT

TO **SAMPLE RECEIVING**
CALSCIENCE ENVIRONMENTAL LABS
7440 LINCOLN WAY

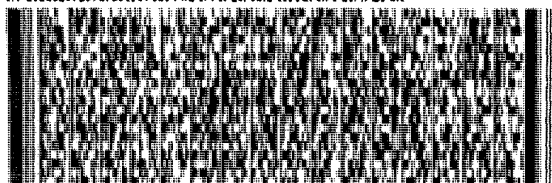
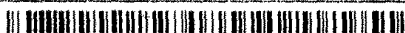
GARDEN GROVE CA 92841

(530) 244-6227

REF:

INVT:

DEPT:



FedEx
 Express

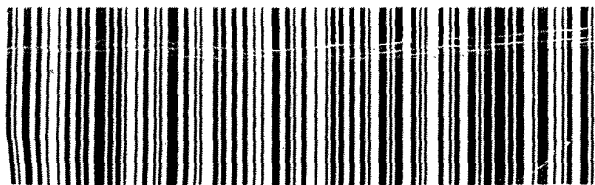


TRK# 4946 6443 9952
 0201

FRI - 06 SEP 3:00P
STANDARD OVERNIGHT

92 APVA

92841
 CA-US SNA



Login Sample Receipt Checklist

Client: North Coast Laboratories LTD

Job Number: 570-6692-1

Login Number: 6692**List Source: Eurofins Calscience****List Number: 1****Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Chain of Custody

1909055

LABORATORY NUMBER:

Attention: Leslie Marshall

Results & Invoice to: Scotia CSD

Address: 400 Church St.

Scotia, CA 95565

Phone: (707) 764-3030

Copies of Report to: Chuck Swanson, SHN

Sampler (Sign & Print):

PROJECT INFORMATION

Project Number: 017138.106

Project Name: Scotia Local Limits Study

Purchase Order Number: NA[illegible][illegible]

TAT: ☒ STD(2-3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR
RUSH SAMPLES.

REPORTING REQUIREMENTS:

☐ State Forms
☐ Geotracker ☐ SWAMP ☐ Other EDD;
☒ Final Report PDF ☐ FAX By:

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl;
3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG;
6—500 ml BG; 7—1 L BG; 8—40 ml VOA;
9—60 ml VOA; 10—125 ml VOA; 11—4 oz glass jar;
12—8 oz glass jar; 13—brass tube; 14—other
PRESERVATIVE CODES: a—HNO₃; b—HCl; c—H₂SO₄;
d—Na₂S₂O₅; e—NaOH; f—C₂H₃O₂Cl; g—other

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

8260 List 4
D/MO w/SGC for Miller & Cogen

metals = Al, As, Cd, Cr, Cu, Pb, Hg, Mo
Ni, Se, Ag, Zn hazardous

4.4°C, 4.8°C

SAMPLE DISPOSAL

☒ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA

SHIPPED VIA: UPS Fed-Ex Hand

***MATRIX:** DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; WW = Waste Water; S = Soil; O = Other.

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

Local Limits Determination Spreadsheet

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TABLE 1

Local Limits Determination Based on NPDES Daily Effluent Limits (WET)

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rpotw)	NPDES Daily Limit (mg/l) (Ccrit)	Domestic and Commercial		Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
					Conc. (mg/l) (Cdom)	Flow (MGD) (Qdom)					
Aluminum	0.033	0.138	40.3%	NA	0	0.045	-	0	-	-	20%
Ammonia Nitrogen	0.033	0.138	99.7%	NA	0	0.045	-	0	-	-	20%
Arsenic	0.033	0.138	NC	NA	0	0.045	-	0	-	-	20%
Biochemical Oxygen Demand	0.033	0.138	94.7%	60	200	0.045	1,308	75.3	971	3,486	20%
Cadmium	0.033	0.138	68.0%	NA	0	0.045	-	0	-	-	20%
Chromium	0.033	0.138	55.0%	NA	0	0.045	-	0	-	-	20%
Copper	0.033	0.138	91.8%	NA	0	0.045	-	0	-	-	20%
Cyanide	0.033	0.138	15.8%	NA	0	0.045	-	0	-	-	20%
Lead	0.033	0.138	55.0%	NA	0	0.045	-	0	-	-	20%
Mercury	0.033	0.138	50.0%	NA	0	0.045	-	0	-	-	20%
Molybdenum	0.033	0.138	0.0%	NA	0	0.045	-	0	-	-	20%
Nickel	0.033	0.138	0.0%	NA	0	0.045	-	0	-	-	20%
Non-Filterable Residue (TSS)	0.033	0.138	98.1%	60	195	0.045	3,600	73.4	2,807	10,073	20%
Oil and Grease	0.033	0.138	86.4%	NA	0	0.045	-	0	-	-	20%
Selenium	0.033	0.138	NC	NA	0	0.045	-	0	-	-	20%
Silver	0.033	0.138	66.0%	NA	0	0.045	-	0	-	-	20%
Zinc	0.033	0.138	94.5%	NA	0	0.045	-	0	-	-	20%

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Rpotw) Removal efficiency across POTW as percent.

(Ccrit) NPDES daily maximum permit limit for a particular pollutant in mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $8.34 * Ccrit * Qpotw$

1 - Rpotw

TABLE 2

Local Limits Determination Based on NPDES Monthly Effluent Limits (WET)

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rpotw)	NPDES Monthly Limit (mg/l) (Ccrit)	Domestic and Commercial		Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
					Conc. (mg/l) (Cdom)	Flow (MGD) (Qdom)					
Aluminum	0.033	0.138	40.3%	NA	0	0.045	-	0	-	-	20%
Ammonia Nitrogen	0.033	0.138	99.7%	NA	0	0.045	-	0	-	-	20%
Arsenic	0.033	0.138	NC	NA	0	0.045	-	0	-	-	20%
Biochemical Oxygen Demand	0.033	0.138	94.7%	30	200	0.045	654	75.3	448	1,608	20%
Cadmium	0.033	0.138	68.0%	NA	0	0.045	-	0	-	-	20%
Chromium	0.033	0.138	55.0%	NA	0	0.045	-	0	-	-	20%
Copper	0.033	0.138	91.8%	NA	0	0.045	-	0	-	-	20%
Cyanide	0.033	0.138	15.8%	NA	0	0.045	-	0	-	-	20%
Lead	0.033	0.138	55.0%	NA	0	0.045	-	0	-	-	20%
Mercury	0.033	0.138	50.0%	NA	0	0.045	-	0	-	-	20%
Molybdenum	0.033	0.138	0.0%	NA	0	0.045	-	0	-	-	20%
Nickel	0.033	0.138	0.0%	NA	0	0.045	-	0	-	-	20%
Non-Filterable Residue (TSS)	0.033	0.138	98.1%	30	195	0.045	1,800	73.4	1,367	4,905	20%
Oil and Grease	0.033	0.138	86.4%	NA	0	0.045	-	0	-	-	20%
Selenium	0.033	0.138	NC	NA	0	0.045	-	0	-	-	20%
Silver	0.033	0.138	66.0%	NA	0	0.045	-	0	-	-	20%
Zinc	0.033	0.138	94.5%	NA	0	0.045	-	0	-	-	20%

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Rpotw) Removal efficiency across POTW as percent.

(Ccrit) NPDES monthly maximum permit limit for a particular pollutant in mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $8.34 * Ccrit * Qpotw$

1 - Rpotw

TABLE 3

Local Limits Determination Based on Trickling Filter Inhibition Level (WET)

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		Safety Factor (%) (SF)
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rprim)	Trickling Filter Inhibition Level (mg/l) (Ccrit)	Domestic and Commercial		Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	
					Conc. (mg/l) (Cdom)	Flow (MGD) (Qdom)					
Aluminum	0.033	0.138	NA	NA	0	0.045	-	0	-	-	20%
Ammonia Nitrogen	0.033	0.138	NA	NA	0	0.045	-	0	-	-	20%
Arsenic	0.033	0.138	NC	NA	0	0.045	-	0	-	-	20%
Biochemical Oxygen Demand	0.033	0.138	40%	NA	200	0.045	-	75	-	-	20%
Cadmium	0.033	0.138	15%	NA	0	0.045	-	0	-	-	20%
Chromium	0.033	0.138	27%	3.500	0	0.045	5.5	0	4.4	15.9	20%
Copper	0.033	0.138	22%	NA	0	0.045	-	0	-	-	20%
Cyanide	0.033	0.138	27%	30.000	0	0.045	47.4	0	37.9	136	20%
Lead	0.033	0.138	57%	NA	0	0.045	-	0	-	-	20%
Mercury	0.033	0.138	10%	NA	0	0.045	-	0	-	-	20%
Molybdenum	0.033	0.138	NA	NA	0	0.045	-	0	-	-	20%
Nickel	0.033	0.138	14%	NA	0	0.045	-	0	-	-	20%
Non-Filterable Residue (TSS)	0.033	0.138	70%	NA	195	0.045	-	73	-	-	20%
Oil and Grease	0.033	0.138	NA	NA	0	0.045	-	0	-	-	20%
Selenium	0.033	0.138	NA	NA	0	0.045	-	0	-	-	20%
Silver	0.033	0.138	20%	NA	0	0.045	-	0	-	-	20%
Zinc	0.033	0.138	27%	1.103	0	0.045	1.74	0	1.39	5.00	20%

2021 Update

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Rprim) Removal efficiency across across primary treatment as percent.

(Ccrit) Activated sludge threshold inhibition level, mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $8.34 * Ccrit * Qpotw$

1 - Rprim

TABLE 4

Local Limits Determination Based on Chronic Water Quality Standards (WET)

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE								MAXIMUM LOADING		INDUSTRIAL		Safety Factor (%) (SF)
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Upstream Flow (MGD) (Qstr)	Upstream Conc. (mg/l) (Cstr)	Removal Efficiency (%) (Rpotw)	Chronic WQS (mg/l) (Ccrit)	Domestic and Commercial		Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	
							Conc. (mg/l) (Cdom)	Flow (MGD) (Qdom)					
Aluminum	0.033	0.138	1.38	0.021	40.3%	0.087	0	0.045	1.4	0	1.2	4.1	20%
Ammonia Nitrogen	0.033	0.138	1.38	0.1	99.7%	1.3	0	0.045	5,085	0	4,068	14,600	20%
Arsenic	0.033	0.138	1.38	0.0015	NC	0.15	0	0.045	1.9	0	1.5	5.4	20%
Biochemical Oxygen Demand	0.033	0.138	1.38	NA	94.7%	NA	200	0.045	-	75	-	-	20%
Cadmium	0.033	0.138	1.38	NA	68.0%	0.0022	0	0.045	0.087	0	0.070	0.25	20%
Chromium	0.033	0.138	1.38	0.0037	55.0%	0.085	0	0.045	2.3	0	1.8	6.6	20%
Copper	0.033	0.138	1.38	0.0016	91.8%	0.0090	0	0.045	1.2	0	0.93	3.3	20%
Cyanide	0.033	0.138	1.38	NA	15.8%	0.0052	0	0.045	0.078	0	0.063	0.23	20%
Lead	0.033	0.138	1.38	0.0021	55.0%	0.0025	0	0.045	0.017	0	0.013	0.05	20%
Mercury	0.033	0.138	1.38	0.0002	50.0%	0.00077	0	0.045	0.015	0	0.0119	0.043	20%
Molybdenum	0.033	0.138	1.38	NA	0.0%	NA	0	0.045	-	0	-	-	20%
Nickel	0.033	0.138	1.38	0.0013	0.0%	0.052	0	0.045	0.64	0	0.52	1.9	20%
Non-Filterable Residue (TSS)	0.033	0.138	1.38	NA	98.1%	NA	195	0.045	-	73	-	-	20%
Oil and Grease	0.033	0.138	1.38	NA	86.4%	NA	0	0.045	-	0	-	-	20%
Selenium	0.033	0.138	1.38	NA	NC	0.00461	0	0.045	0.058	0	0.047	0.17	20%
Silver	0.033	0.138	1.38	NA	66.0%	0.0019	0	0.045	0.071	0	0.057	0.20	20%
Zinc	0.033	0.138	1.38	0.0135	94.5%	0.12	0	0.045	24.7	0	19.8	70.9	20%

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Qstr) Receiving stream (upstream) 7Q10 flow in MGD.

(Cstr) Receiving stream background level in mg/l.

(Rpotw) Removal efficiency across POTW as percent.

(Ccrit) State chronic water quality standard for a particular pollutant in mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $8.34 * (Ccrit * (Qstr + Qpotw) - (Cstr * Qstr))$

1 - Rpotw

TABLE 5

Local Limits Determination Based on Acute Water Quality Standards (WET)

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE								MAXIMUM LOADING		INDUSTRIAL		Safety Factor (%) (SF)
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Upstream Flow (MGD) (Qstr)	Upstream Conc. (mg/l) (Cstr)	Removal Efficiency (%) (Rpotw)	Acute WQS (mg/l) (Ccrit)	Domestic and Commercial		Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	
							Conc. (mg/l) (Cdom)	Flow (MGD) (Qdom)					
Aluminum	0.033	0.138	1.38	0.021	40.3%	0.75	0	0.045	15.5	0	12.4	44.6	20%
Ammonia Nitrogen	0.033	0.138	1.38	0.1	99.7%	5.6	0	0.045	23,534	0	18,827	67,567	20%
Arsenic	0.033	0.138	1.38	0.0015	NC	0.34	0	0.045	4.3	0	3.4	12.3	20%
Biochemical Oxygen Demand	0.033	0.138	1.38	NA	94.7%	NA	200	0.045	-	75	-	-	20%
Cadmium	0.033	0.138	1.38	NA	68.0%	0.0043	0	0.045	0.17	0	0.14	0.49	20%
Chromium	0.033	0.138	1.38	0.0037	55.0%	0.586	0	0.045	16.4	0	13.1	47.2	20%
Copper	0.033	0.138	1.38	0.0016	91.8%	0.013	0	0.045	1.8	0	1.4	5.1	20%
Cyanide	0.033	0.138	1.38	NA	15.8%	0.022	0	0.045	0.33	0	0.27	1.0	20%
Lead	0.033	0.138	1.38	0.0021	55.0%	0.065	0	0.045	1.8	0	1.4	5.1	20%
Mercury	0.033	0.138	1.38	0.00020	50.0%	0.0014	0	0.045	0.031	0	0.025	0.089	20%
Molybdenum	0.033	0.138	1.38	NA	0.0%	NA	0	0.045	-	0	-	-	20%
Nickel	0.033	0.138	1.38	0.0013	0.0%	0.47	0	0.045	5.9	0	4.8	17.1	20%
Non-Filterable Residue (TSS)	0.033	0.138	1.38	NA	98.1%	NA	195	0.045	-	73	-	-	20%
Oil and Grease	0.033	0.138	1.38	NA	86.4%	NA	0	0.045	-	0	-	-	20%
Selenium	0.033	0.138	1.38	NA	NC	0.012	0	0.045	0.15	0	0.12	0.43	20%
Silver	0.033	0.138	1.38	NA	66.0%	0.0034	0	0.045	0.13	0	0.10	0.36	20%
Zinc	0.033	0.138	1.38	0.014	94.5%	0.12	0	0.045	24.7	0	19.8	70.9	20%

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Qstr) Receiving stream (upstream) 1Q10 flow in MGD.

(Cstr) Receiving stream background level in mg/l.

(Rpotw) Removal efficiency across POTW as percent.

(Ccrit) State acute water quality standard for a particular pollutant in mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $8.34 * (Ccrit * (Qstr + Qpotw) - (Cstr * Qstr))$

1 - Rpotw

TABLE 6

Local Limits Determination Based on Tricking Filter Organic Loading Capacity (WET) -2021 Update

Pollutant	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		
	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rprim)	Tricking Filter Loading Capacity (lbs/day) (Lcrit)	Domestic and Commercial		Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
					Conc. (mg/l) (Cdom)	Flow (MGD) (Qdom)					
Aluminum	0.033	0.138	NA	NA	0	0.045	-	0	-	-	20%
Ammonia Nitrogen	0.033	0.138	NA	33.6	41	0.045	33.6	15.4	11.5	41	20%
Arsenic	0.033	0.138	NC	NA	0	0.045	-	0	-	-	20%
Biochemical Oxygen Demand	0.033	0.138	40%	130	200	0.045	217	75.3	98.1	352	20%
Cadmium	0.033	0.138	15%	NA	0	0.045	-	0	-	-	20%
Chromium	0.033	0.138	27%	NA	0	0.045	-	0	-	-	20%
Copper	0.033	0.138	22%	NA	0	0.045	-	0	-	-	20%
Cyanide	0.033	0.138	27%	NA	0	0.045	-	0	-	-	20%
Lead	0.033	0.138	57%	NA	0	0.045	-	0	-	-	20%
Mercury	0.033	0.138	10%	NA	0	0.045	-	0	-	-	20%
Molybdenum	0.033	0.138	NA	NA	0	0.045	-	0	-	-	20%
Nickel	0.033	0.138	14%	NA	0	0.045	-	0	-	-	20%
Non-Filterable Residue (TSS)	0.033	0.138	70%	53.6	195	0.045	179	73	69.6	250	20%
Oil and Grease	0.033	0.138	NA	NA	0	0.045	-	0	-	-	20%
Selenium	0.033	0.138	NA	NA	0	0.045	-	0	-	-	20%
Silver	0.033	0.138	20%	NA	0	0.045	-	0	-	-	20%
Zinc	0.033	0.138	27%	NA	0	0.045	-	0	-	-	20%

2021 Update

2021 Update

2021 Update

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Rprim) Removal efficiency across across primary treatment as percent.

(Ccrit) Activated sludge threshold inhibition level, mg/l.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

Lhw = $\frac{Lcrit}{1 - Rprim}$

1 - Rprim

Eureka, CA | Arcata, CA | Redding, CA | Willits, CA | Fort Bragg, CA | Coos Bay, OR | Klamath Falls, OR

