2023 CAM-M ANNUAL NUNAVUT WATER BOARD REPORT

FOR THE

NORTH WARNING SYSTEM

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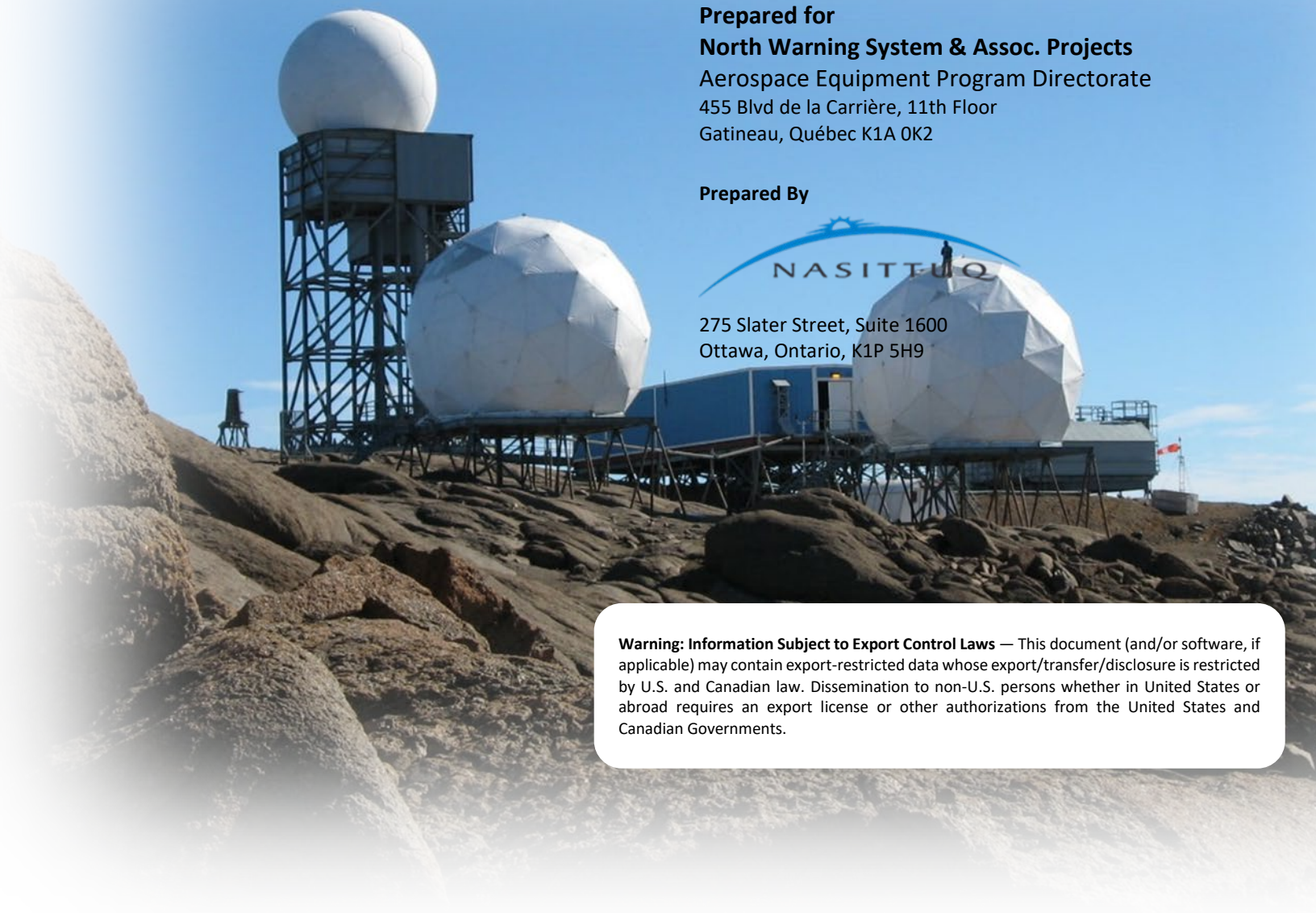

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Sivunniutit Uqausingit

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EXECUTIVE SUMMARY IN ENGLISH FOLLOWS

UKAUTAIT NAITUUKHIMAYUT – CAM-M

Una 2023 Ukiumi Uniudjutit hapkununga Nunavunmi Imaliqiyiit Katimayiit (NWB) upalungaiyaqtauhimayut hapkunanga Nasittuq hapkunanga Nunaqyuami Angujaktiit (DND) piyaangini pidjutigiyaangini piyakhat Ilangani B "General Qanuriniit", titiraqhimayuq 1 haffumani laisini 8BC-CAM1929. Una uniudjut pidjutiqaqtuq 01 Ubluqtuhivia hamunga 31 Ubluiqtirvia 2023.

Nasittuq Auladjutinut Munaridjutikhanullu (O&M) Kaantraaktit Ukiuqtaqtumut Amirnaqtunik (NWS), ilauyut CAM-M, ilauyut (manned) NWS radar nayugaa talvani Iqaluktuuttiaq, Nunavut.

Imaq atuqnia CAM-M 2023-mi 1306.0 m^3, ataani ukiuq tamaat kikliqaqniga 3650 m^3. Kiklinga imaq pihimayuq atauhiqmi ublumi ittuq 11.12 m^3, ittuq ataani ubluq tamaat kikliqarninnga 300 m^3.

Anaqtaqviit caM-M havaktauhimayut hapkunanga tertiary iqakut imakkut mamitiiviit auladjutait. Ilangit havautituqtauffaaqhimayut atuqtauffaarniaqtun talvani nayugaani quiyaqturvingmi/anarvingmilu imarmik. Kuvihimayuq imaqmik. Uuktuutit mamihaqtaunikkut naunaiyaqtauhimayut tuyuqtauyut ihivriuqhivingmi naunaiyautit attautit tatqiqhiutit uvani 2023mi.

Hivuranaqtut iqakut, ilautitlugit iqakut uqhuqyuaq, talvanga CAM-M tuyuutauhimayut angiqtauhimayunik hivuuranaqtut iqakut iqakuuqvik hilataani Nunavut piyariaqaqat laisiqaqvikmin. Qayangnaqtut iqakut tuyuqtauyut hapkunanga CAM-M uvani 2023mi piqaqtut **99nik qataqyuit aalakiit hivuuganaqtut iqakut** (iqakut iqakut, iqakut uqhuqyuat halumaqhitit taimaalu.) uvalu **pingahut iqakut baatuliit.**

Iqakuqangitut iqakut igitauyut nunamingni iqakuuqvikni haffumuuna katulaakkut hapkununga Haamlatkunun Ikaluktutiami. Nasittuq titiraqaqtuq angirunmik nunamingnit pidjutikhainnik iqqakunik.

Anitinnagu, imaq piqaqtuq paunganik urhuryuaqarvinga (CDL-3) ihivriuqtauyuq aturhuni imarmit pauwaqtuutiyuq uuktuutinga strips. Tamna ihivriudjutikhaq kibluqhimayut naunaiyagiikhimayut imarnik talvuuna auladjutikhangit kiklivikhangit titiraqhimayut imarnik laisikharnik, Ilangani Dmi. Tutqikhainiaqtun piksangitlu ilitagidjutikharnik ihivriudjutikharnik stripsnik taima ihivriuqtauhuigumik tautuminaqtun talvani **Annex Dmi**

Malruuk kuviyuq avatimut piyuq CAM-M 2023mi.

- 31-Jul-2023, Kuvijuq # 2023-325: in'ngaqtuq atajuq akhaluutirjuanik kuvijuq. Hulaqutiyuq uyaraliaq unguvaqtauyuq uvalu puuqmik igitauluni. Atadjutit ihuaqhaqtauhimayut uvalu maqidjutit nutqaqtitauyut.
- 30-Aug-2023, Kuvijuq # 2023-370: in'ngaqtuq atajuq turhuami kuvijuq. Hulaqihimayut nuna unguvaqtauyut uvalu puuqhimayut ahini igitaungitut. Atadjutit ihuaqhaqtauhimayut uvalu maqidjutit nutqaqtitauyut.

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EXECUTIVE SUMMARY IN ENGLISH FOLLOWS

CAM-M ᐊᐅᓚᑦᑎᔾᓂᙱᖅᑐᑦ ᓇᐃᓈᖅᓯᕙᑦ

ᑖᓐᓇ 2023–ᒥ ᐊᕐᕌᒍᓕᒫᖅᓯᐅᑦ ᐅᓂᒃᑳᖅ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ (NWB) ᐱᕙᖕᔭᖅᑕᐅᓚᐅᖅᐳᖅ ᓇᓯᑦᑐᕐᒧᑦ ᑲᓇᑕᒥ ᐅᓇᑕᖅᑐᒃᓴᓕᕆᔾᒃᑯᓐᓄᑦ ᓈᒻᒪᒃᓯᓕᖅᑕᐅᓇᓱᒃᓱᑎᒃ ᐱᔭᐅᕆᐊᓕᓐᓄᑦ ᐃᓚᖓᑦ B "ᑭᓱᐃᓐᓇᑦ ᒪᓕᒋᐊᓖᑦ", ᑎᑎᕋᖅᓯᒪᕙᑦ ᐊᕕᖓᓂᖓ 1 ᐱᕙᓐᓇᐅᑎᖓ 8BC-CAM1929. ᑖᓐᓇ ᐅᓂᒃᑳᖅ ᐃᓗᓕᖃᖅᑐᖅ 01 ᔭᓄᐊᕆᒥᑦ 31 ᑎᓯᐱᕆ 2023-ᒧᑦ.

ᓇᓯᑦᑐᖅ ᐊᐅᓚᔾᔪᑎᖏᑦ ᐋᖅᑭᐅᒪᔾᔪᑎᖏᓪᓗ (O&M) ᐊᖏᖃᑎᒌᒍᑎᒃᑯᑦ ᐃᖅᑲᓇᐃᔮᖅᑖᑎᑕᖅ ᐅᐊᖓᓇᖓᓂᑦ ᐅᓗᕆᐊᓇᖅᑐᓂᒃ ᖃᐅᔨᓴᐅᑏᑦ (NWS), ᐃᓚᐅᓪᓗᑎᒃ CAM-M, ᐅᐸᓚᐅᖅᑐᑦ (ᐃᓄᒃᑕᐅᓯᒪᕙᑦ) ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᖃᐅᔨᓴᕐᕕᖓ ᐃᖃᓗᒃᑑᑦᓯᐊᖅ, ᓄᓇᕗᒻᒥ.

ᐃᒪᖅᑐᕐᓂᖅ CAM-M-ᒧᑦ 2023-ᒥᑦ 1306.0 m^3-ᖑᓚᐅᖅᐳᖅ, ᑐᙵᓂᑦ ᐊᕐᕌᒍᑕᒫᒥᑦ 3650 ᒦᑕᑦ. ᐊᖏᓛᖓ ᐃᒪᖅ ᐊᒨᔭᐅᕙᖅ ᐅᓪᓗᕐᒧᑦ ᐊᑕᐅᓯᕐᒧᑦ 11.12 ᒦᑕᑦ, ᑐᙵᓃᕐᓗᓂ ᖃᐅᑕᒫᑦ ᐃᓱᖃᕐᕕᖓᓂ 300 m^3.

ᑭᓈᓗᒃ CAM-M-ᒥᑦ ᐱᓕᕆᐊᖑᖃᑦᑕᖅᑐᖅ ᐃᒪᓕᕆᔾᔪᑎᒧᑦ. ᐃᓚᖏᑦ ᓴᓗᒪᖅᓴᖅᓯᒪᕙᑦ ᑯᕕᑎᑕᐅᒃᑲᓐᓂᖃᑦᑕᖅᑐᑦ ᐃᑎᕈᐃᑦ/ᕐᑯᕐᕕᐅᑉ ᑯᕕᕚᖓ. ᑯᕕᑎᑕᐅᓯᒪᔪᖅ ᐃᒪᐅᑉ ᖃᓄᐃᓐᓂᖓ ᐃᒪᑦᑎᐊᕙᐅᔪᖅ. ᐆᒃᑐᕋᐅᑎᒥᒃ ᑯᕕᔪᖅ ᐊᐅᓪᓚᖅᑎᑕᐅᓚᐅᖅᑐᖅ ᖃᐅᔨᓴᐃᕝᕕᖓᒥᑦ ᖃᐅᔨᓴᐃᓂᕐᒧᑦ ᑕᖅᑭᑖᒫᑦ 2023-ᒥᑦ.

ᕐᑯᐊᖅᑲᕐᓇᖅᑐᑦ ᐊᑐᓚᒃᓴᐅᕙᓐᓂᖅᑐᑦ, ᐃᓚᒋᔭᐅᓪᓗᑎᒃ ᐊᑐᓚᒃᓴᐅᕙᓐᓂᖅᑐᑦ ᐅᖅᓱᖅᑎᑭᑏᑦ, CAM-M–ᒥᑦ ᓇᒃᓯᐅᔾᔭᐅᓚᐅᖅᐳᑦ ᐊᖏᖅᑕᐅᓯᒪᕙᒧᑦ ᕐᑯᐊᖅᑲᕐᓇᖅᑐᓄᑦ ᐊᑐᓚᒃᓴᐅᕙᓐᓂᖅᑐᓄᑦ ᐃᓂᕆᔭᐅᕙᒧᑦ ᓄᓇᕗᑦ ᓯᓚᑖᓂ ᑕᐃᒪᐃᑦᑕᕆᐊᖃᖅᑎᑕᐅᓂᕐᒥᓄᑦ ᓚᐃᓴᒥᑦ. ᕐᑯᐊᖅᑲᕐᓇᖅᑐᑦ ᐊᑐᓚᒃᓴᐅᕙᓐᓂᖅᑐᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᓚᐅᖅᑐᑦ CAM-M–ᒥᑦ 2023–ᒥ **99–ᖑᓚᐅᖅᐳᑦ ᖃᑦᑕᐅᔭᕐᕙᐊᑦ ᐊᔾᔨᒌᙱᑦᑐᓄᑦ ᕐᑯᐊᖅᑲᕐᓇᖅᑐᓄᑦ ᐊᑐᓚᒃᓴᐅᕙᓐᓂᖅᑐᓄᑦ** (ᐅᖅᓱᖅᑎᑭᑎᕕᓃᑦ, ᐊᑐᖅᓯᒪᕙᓄᑦ ᐅᖅᓱᐅᓗᖕᒧᑦ ᓱᑭᔾᔭᐃᒃᑯᑎᑦ ᐊᓯᖏᓪᓗ) ᐱᖓᓱᓪᓗ **ᐹᑖᓪᖏᑦ.**

ᕐᑯᐊᖅᑲᕐᓇᙱᑦᑐᑦ ᓄᓇᓕᖕᓂ ᐊᒃᑕᑯᐃᑦ ᐃᒋᑕᐅᓚᐅᖅᑐᑦ ᓄᓇᓕᖕᒥ ᐊᒃᑕᑯᓂᑦ ᐊᖏᖃᑎᒌᒍᑎᒃᑯᑦ Hᐋᒻᒪᓚᒃᑯᓐᓄᑦ ᐃᖃᓗᒃᑑᑦᓯᐊᒥ. ᓇᓯᑦᑐᖅ ᑎᑎᕋᖅᓯᒪᕗᖅ ᐱᕙᓐᓇᖅᑎᑦᑎᓂᕐᒥᒃ ᓄᓇᓕᖕᓂ ᐊᒃᑕᑯᓂᒃ ᐱᑎᑕᐅᓂᐊᖅᑎᓪᓗᒋᑦ.

ᑯᕕᑎᑕᐅᓂᐊᕌᖅᑎᓪᓗᒍ, ᐃᒪᖅ ᐊᕙᓗᐊᕈᑕᕐᒋᓚᐅᖅᑐᖅ ᐅᖅᓱᖃᐅᑎᖃᕐᕕᖓᓂᑦ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᖅ ᐊᑐᕐᓱᑎᒃ ᐅᖅᓱᐊᓗᒃᓴᓂᑦ ᖃᐅᔨᓴᕈᑎᓂᑦ. ᖃᐅᔨᓴᐅᑏᑦ ᓇᓗᓇᐃᖅᓯᓚᐅᖅᑐᑦ ᐃᒥᖅ ᑯᕕᑎᑕᐅᕙᓂᑦ ᐃᒪᖃᖅᑎᑦᑎᓂᕐᒧᑦ ᑭᓪᓕᖅᑎᑕᐅᕙᓂᑦ ᑎᑎᕋᖅᓯᒪᕙᑦ ᐃᒥᕐᒧᑦ ᓚᐃᓴᓯᒥᑦ, ᐃᓚᖓ D.

ᒪᕐᑮᒃ ᑯᕕᓚᐅᖅᑑᒃ ᐊᕙᑎᒧᑦ CAM-M–ᒥᑦ 2023–ᒥᑦ.

- 31-ᕙᓚᐃ-2023, ᑯᕕᕙᖅ # 2023-325: ᑯᕕᕙᖅ ᐅᕐᑯᒪᐃᑦᑐᓄᑦ ᓄᓇᓯᐅᑎᓄᑦ ᑯᕕᑦᑎᓚᐅᖅᑐᖅ ᐃᒪᖕᒥᑦ. ᑐᐊᐸᒃ ᐲᔭᖅᑕᐅᓚᐅᖅᐳᖅ ᐴᖅᑳᖅᑕᐅᓗᓂᓗ ᐃᒋᐅᖅᑳᖅᑕᐅᓂᐊᕐᓗᓂ. ᐊᑦᑕᑕᖅᑎᑕᐅᓂᖓ ᐋᖅᑭᒃᑕᐅᓚᐅᖅᐳᖅ ᑯᑐᒃᓱᓂᓗ ᓄᖅᑲᖅᑎᑕᐅᓗᓂ.
- 30-ᐋᒡᒎᑦ-2023, ᑯᕕᕙᖅ # 2023-370: ᑯᑐᒃᑐᖅ ᓱᓗᓕᖕᒥᑦ ᑯᕕᓚᐅᖅᑐᖅ. ᐊᒃᑐᖅᑕᐅᓯᒪᕙᖅ ᐃᕝᕙ ᐲᖅᑕᐅᓚᐅᖅᐳᖅ ᐴᖅᑳᖅᑕᐅᓗᓂᓗ ᐃᓂᐅᙱᑦᑐᒧᑦ ᐃᒋᑕᒃᓴᐅᓕᖅᓱᓂ. ᐊᑦᑕᑕᖅᑎᑕᐅᓂᖓ ᐋᖅᑭᒃᑕᐅᓚᐅᖅᐳᖅ ᑯᑐᒃᓱᓂᓗ ᓄᖅᑲᖅᑎᑕᐅᓗᓂ.

EXECUTIVE SUMMARY

This 2023 Annual Report for the Nunavut Water Board (NWB) has been prepared by Nasittuq for the Department of National Defence (DND) in order to meet the requirements of Part B "General Conditions", paragraph 1 of its licence 8BC-CAM1929. This report covers 01 January to 31 December 2023.

Nasittuq is the Operations and Maintenance (O&M) Contractor for the North Warning System (NWS), including CAM-M, the attended (manned) NWS radar site located at Cambridge Bay, Nunavut.

The water usage for CAM-M in 2023 was 1306.0 m^3, below the annual limit of 3650 m^3. The maximum water drawn per day was 11.12 m^3, which is below the daily limit of 300 m^3.

Sewage at CAM-M is processed by the tertiary wastewater treatment system. Some of the treated effluent is recycled as on-site urinal/toilet flush water. The discharged treated effluent is of potable water quality. A sample of the treated effluent was sent for laboratory analysis each month in 2023.

Hazardous waste, including waste oil, from CAM-M were sent to an approved hazardous waste disposal facility outside of Nunavut as required by the licence. The hazardous waste shipped from CAM-M in 2023 consisted of **99 drums of various hazardous waste** (waste oil, waste oil filters etc.) and **five crates of waste batteries.**

Non-hazardous domestic solid waste was disposed of at the local landfill through a contract with the Hamlet of Cambridge Bay. Nasittuq has documented authorization from the community for receiving the waste.

Prior to discharge, water contained in the berms of the fuel storage facilities (CDL-3) was assessed using hydrocarbon test strips. The test strips confirmed the water was within the effluent quality limits listed in the water licence, Part D. The coordinates and the photo log of the test strips after analysis are shown in **Annex D**

Two spills to the environment occurred at CAM-M in 2023.

- 31-Jul-2023, Spill # 2023-325: A leaking connection on heavy equipment caused a spill of hydraulic fluid. Impacted gravel was removed and containerized for off-site disposal. The connection was repaired and the leak was stopped.
- 30-Aug-2023, Spill # 2023-370: A leaking connection on the pipeline caused a spill. Impacted soil was removed and containerized for off-site disposal. The connection was repaired and the leak was stopped.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

This 2023 Annual Report for the Nunavut Water Board (NWB) has been prepared by Nasittuq for the Department of National Defence (DND) in order to meet the requirements of Part B "General Conditions", paragraph 1 of its licence 8BC-CAM1929 issued 01 September 2019. This report covers 01 January to 31 December 2022.

Nasittuq is the Operations and Maintenance (O&M) Contractor for the North Warning System (NWS), including CAM-M.

CAM-M is the attended (manned) NWS radar site located at Cambridge Bay, Nunavut.

1.1 Report Details

Licensee:	Department of National Defence, Government of Canada
Licence:	8BC-CAM1929 – Type "B"
Location:	CAM-M North Warning System Site, Cambridge Bay, Kitikmeot Region, Nunavut
Report Prepared by:	Alaina Leslie and reviewed by Don Beattie Nasittuq Corporation, 26-Mar-2024
Time period covered:	01 January to 31 December 2023

2.0 WATER USE

The water usage for CAM-M in 2023 was **1306.0 m³**, below the annual limit of 3650 m³. The maximum water drawn per day was **11.12 m³**, which is below the daily limit of 300 m³.

See Table 2-1 for the volume of water drawn at CAM-M each month in 2023.

Table 2-1: Monthly Raw Water Usage at CAM-M in 2023

Month	Raw water usage (m³)
January	98.6
February	86.9
March	116.6
April	111.5
May	95.8
June	99.9
July	99.8
August	93.8
September	119.8
October	117.3
November	133.3
December	132.7
TOTAL	**1306.0**

3.0 TREATED SEWAGE DISCHARGE

At CAM-M, the sewage and grey water were both processed through a Cycle-let® advanced tertiary wastewater treatment system. Some of the treated water is recycled as urinal/toilet flush water; the remainder is discharged at the designated outfall and is of potable water quality. See Table 3-1 for the volume of sewage and grey water treated by the Cycle-let® system. See **Section 6.0 – Monitoring Program** for details on sewage effluent monitoring.

The location and coordinates of treated sewage effluent outfall location (CDL-2) is contained in **Annex B.** Sewage sample analytical results and certificates of analysis are contained in **Annex C.**

Table 3-1: Monthly and Annual Volume of Sewage and Grey Water Treated at CAM-M in 2023

Month	Volume of sewage and greywater treated then discharged or recycled (m^3)
January	98.6
February	86.9
March	116.6
April	111.5
May	95.8
June	99.9
July	99.8
August	93.8
September	119.8
October	117.3
November	133.3
December	132.7
TOTAL	**1306.0**

4.0 HAZARDOUS WASTE AND WASTE OIL DISPOSAL

Hazardous waste, including waste oil, from CAM-M were sent to an approved hazardous waste disposal facility outside of Nunavut as required by the licence. The hazardous waste was shipped to KBL Environmental.

See Table 3-1 for the list of items sent for disposal.

See Annex A for the shipping documents including the completed movement documents for waste regulated under the Transportation of Dangerous Goods Regulations (TDGR) and non-regulated waste.

The hazardous waste shipped from CAM-M in 2023 consisted of **99 drums of various hazardous waste** (waste oil, waste oil filters etc.) and **five crates of waste batteries.**

Table 4-1: Hazardous Waste and Waste Oil Sent for Disposal from CAM-M in 2023

TDG shipping name	Description	Manifest # (TCN)	Movement Document	Quantity
Waste Batteries, Wet, Filled With Acid	Waste batteries, wet, filled with acid	46872, 46874, 46869, 46870	Movement Document IU00999-1	3.5 Crates

TDG shipping name	Description	Manifest # (TCN)	Movement Document	Quantity
Waste Batteries, Wet, non-spillable	Waste Batteries, Wet, non-spillable	46870	Movement Document IU00999-1	½ Crate
Waste – batteries, wet, filled with alkali	Waste – batteries, wet, filled with alkali	46875	Movement Document IU00999-1	1 Crate
WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc oxide, chlorinated paraffin C14-C17 mixture), RESIDUE – LAST CONTAINED	Waste Roof Sealant	46829	Movement Document IU00999-1	1 Drums
Waste Aerosols, flammable	Waste aerosols, flammable	46742	Movement Document IU00999-1	1 Drums
WASTE CALCIUM HYPOCHLORITE, HYDRATED, with not less than 5.5% but not more than 16% water;	Waste calcium hypochlorite	46828	Movement Document IU00999-1	1 Drums
Waste Fuel, Aviation, Turbine Engine	WASTE – FUEL JET-A1	46701	Movement Document IU00999-1	1 Drums
Waste Fuel, Aviation, Turbine Engine Mixture	WASTE - TANK BOTTOM WATER/ TANK CLEANING EFFLUENT (DRUM)	46743	Movement Document IU00999-1	1 Drums
Waste Fuel, Aviation, Turbine Engine Mixture	WASTE - FUEL AND WATER MIXTURE (DRUM)	46824, 46701	Movement Document IU00999-1	7 Drums
Waste Paint Related Material	WASTE - PAINT RELATED MATERIAL FLAMMABLE	46832, 46741, 46834	Movement Document IU00999-1	7 Drums
Waste Solids Containing Flammable Liquid, N.O.S. (Fuel, Aviation, Turbine Engine)	WASTE - FUEL FILTERS (DRUM)	46700, 46820, 46700	Movement Document IU00999-1	3 Drums
Waste Solids Containing Flammable Liquid, N.O.S. (Fuel, Aviation, Turbine Engine)	WASTE - FUEL CONTAMINATED RAGS (DRUM)	46820	Movement Document IU00999-1	1 Drums
Not Regulated	WASTE - OILY RAGS	46823, 46821, 46702, 46704, 46709, 46711	Movement Document IU00999-1	10 Drums
Not Regulated	Waste activated carbon	46826, 46712, 46736, 46830, 46831	Movement Document IU00999-1	18 Drums
Not Regulated	Waste oil filters	46822, 46697, 46708, 46710	Movement Document IU00999-1	8 Drums
Not Regulated	Waste oil	46748, 46825, 46827, 46730, 46720, 46703, 46705, 46706, 46707, 46736	Movement Document IU00999-1	37 Drums
Not Regulated	Waste glycol contaminated rags	46821	Movement Document IU00999-1	1 Drums

TDG shipping name	Description	Manifest # (TCN)	Movement Document	Quantity
Not Regulated	Waste – Silica blast material with hydrocarbon odour	46711	Movement Document IU00999-1	1 Drums
Not Regulated	Waste wood preservative	46736	Movement Document IU00999-1	1 Drums

5.0 NON-HAZARDOUS SOLID WASTE DISPOSAL

Non-hazardous domestic solid waste was disposed of at the local landfill through a contract with the Municipality of Cambridge Bay. Nasittuq has documented authorization from the community for receiving the waste. See Table 5-1, below, for the quantity of non-hazardous waste generated.

Table 5-1: Non-hazardous Domestic Solid Waste Sent for Disposal from CAM-M in 2023

Month	Waste Generated (kg)
January	1250
February	1276
March	1218
April	1419
May	1319
June	1183
July	1342
August	1381
September	1311
October	1295
November	970
December	1319
TOTAL	**15,283**

6.0 MONITORING PROGRAM

In 2023, a monitoring program was implemented at CAM-M as required by the water licence. The monitoring program included the following:

1. Volume of raw water drawn from the water Supply Lake (CDL-1). The information from this monitoring is shown in **Section 2.0 Water Use**.
2. Quality of sewage discharged from the final discharge point of the sewage treatment facility (CDL-2). The location of the sewage effluent outfall is shown in **Annex B,** including coordinates. The treated sewage was sampled monthly. The results of the analyses are shown in **Annex C**.
3. Prior to discharge, water contained in the berms of the fuel storage facilities (CDL-3) was assessed using hydrocarbon test strips. The test strips confirmed the water was within the effluent quality limits listed in the water licence, Part D. The coordinates and the photo log of the test strips after analysis are shown in **Annex D**

4. No landfarm has been built on-site, therefore, no samples were required at the final discharge point from the landfarm (CDL-4).

7.0 SPILLS (UNAUTHORIZED DISCHARGES)

Two spills to the environment occurred at CAM-M in 2023. Table 7-1, below, describes the spill (unauthorized discharge) details.

The Spill Contingency Plan was successfully implemented.

Table 6-1: Unauthorized Discharges at CAM-M in 2023

Date, NT-NU Spill #	Product	Quantity	Cause and follow-up action	On-site location
31-Jul-2023, Spill # 2023-325	Hydraulic fluid	20 L	A leaking connection on heavy equipment caused a spill of hydraulic fluid. Impacted gravel was removed and containerized for off-site disposal. The connection was repaired and the leak was stopped.	Outside Hangar (69° 06’ 09” N, 105°07’ 26” W)
30-Aug-2023, Spill # 2023-370	Jet-A1	40 L	A leaking connection on the pipeline caused a spill. Impacted soil was removed and containerized for off-site disposal. The connection was repaired and the leak was stopped.	Expansion Loop (180 m from Beach Tanks) (69° 06' 16" N, 105° 05' 57" W)

8.0 REVISIONS TO THE SPILL CONTINGENCY PLAN

The Spill Contingency Plan was updated on **12-Jun-2023**. An updated copy of the Spill Contingency Plan has been submitted to the NWB with this annual report.

9.0 PROGRESSIVE RECLAMATION WORK UNDERTAKEN

No reclamation work was undertaken.

10.0 ACRONYMS

Table 10-1: Acronyms

Acronym	Definition
CWS for PHC	Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil
CCME	Canadian Council of Ministers of the Environment
m^3	Cubic metre
n.o.s.	Not Otherwise Specified
NWB	Nunavut Water Board
NWS	North Warning System
O&M	Operations and Maintenance
PHC	Petroleum Hydrocarbons
PID	Photo Ionizing Detector

Acronym	Definition
POL	Petroleum, Oil & Lubricant
SQG	Soil Quality Guidelines
TDGR	Transportation of Dangerous Goods Regulations

ANNEX A. HAZARDOUS WASTE AND WASTE OIL DISPOSAL

The 2023 Movement Document for TDG Regulated waste and non-TDG Regulated waste (as previously described in Table 4-1) are included in the following pages.

The following documents are enclosed:

1. Movement Document IU00999-1

MOVEMENT DOCUMENT / MANIFEST
DOCUMENT DE MOUVEMENT / MANIFESTE

Movement Document / Manifest Reference No.
N° de référence du document de mouvement / manifeste

A Generator / consignor name / Nom de producteur / expéditeur 1
Nasittuq
Unique Identification Number / Numéro d'identification unique: NUG100003
Mailing addr. / Adr. postale: 22 Wing, Bldg 109 — City / Ville: Hornell Heights — Prov.: ON — Country / Pays: CAN — Postal code / Code postal: P0H 1P0
E-mail / Courrier électronique
Tel. No. / N° de tél: (705)494-2011 ext.3400
Shipping facility company name / Nom de l'entreprise du installation de l'envoi: NWS LSS CAM-M — Unique Identification Number / Numéro d'identification unique 40
Shipping facility addr. / Adr. du lieu de installation de l'envoi: Cambridge bay, NU — City / Ville: NU — Country / Pays: CAN — Postal code / Code postal: X0B 0C0
E-mail / Courrier électronique
Tel. No. / N° de tél

Intended receiver / consignee name / Nom de réceptionnaire / destinataire prévu 2
KEL Environmental Ltd
Unique Identification Number / Numéro d'identification unique
Mailing addr. / Adr. postale: Box 1895, 17 Cameron Road — City / Ville: Yellowknife — Prov.: NT — Country / Pays: CAN — Postal code / Code postal: X1A 2P4
E-mail / Courrier électronique
Tel. No. / N° de tél

Receiving facility company name / Nom de l'entreprise du installation de réception: KBL Environmental LTD — Unique Identification Number / Numéro d'identification unique 41: NTR000123
Receiving facility addr. / Adr. du installation de réception: 17 Cameron Road — City / Ville: Yellowknife — Prov.: NT — Country / Pays: Can — Postal code / Code postal
E-mail / Courrier électronique
Tel. No. / N° de tél

B Carrier name / Nom de transporteur 23
NEAS
Unique Identification Number / Numéro d'identification unique
Mailing addr. / Adr. postale: 2100 Pierre Dupuy, Unité 3, Suite 2300 — City / Ville: Montreal — Prov.: QC — Country / Pays: CA — Postal code / Code postal: H3C 3R5
E-mail / Courrier électronique
Tel. No. / N° de tél

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1e remorque - wagon		
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée		Port of exit / Point de sortie	25
Date		Date	

Carrier Certification: *I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.* 26
Attestation du transporteur : *J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au réceptionnaire/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.*
Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie): Jeremy McDougall — Tel. No. / N° de tél
Year / Année: 23 — Month / Mois: 09 — Day / Jour: 14 — Signature

Reference Nos. of other movement documents/manifests used / N° de référence des autres documents de mouvement/manifestes utilisés 27

Receiver/consignee information same as in Part A / Les renseignements du réceptionnaire/destinataire sont les mêmes qu'à la Partie A
☐ Yes / Oui ☐ No, complete the box below / Non, remplir la case ci-dessous

C Receiver/consignee name / Nom de réceptionnaire/destinataire 28
UTR123
Unique Identification Number / Numéro d'identification unique
Receiving facility addr. / Adr. du installation de réception: 17 Cameron Rd — City / Ville: Yellowknife — Prov.: NT — Country / Pays: — Postal code / Code postal: X1A 2P4
E-mail / Courrier électronique
Tel. No. / N° de tél

Delivery date / Date de livraison 29
Year / Année: 23 — Month / Mois: 10 — Day / Jour: 11 — Time / Heure: ☐ A.M. ☐ P.M.

If handling code "Other" (specify) / Si code de manutention « autre » (spécifier) 36

Prov. code / Code prov. 3	UN No. / N° NU 6	Shipping name / Appellation réglementaire 4	Class / Classe Sub. Class(es) / Classe(s) sub. 5	Packing/category / Gr. d'emballage/ catégorie 7	Toxic by inhalation / Toxique par inhalation 30	Quantity shipped / Quantité expédiée	Units / L or / ou Kg / Unités 8	(Packaging/Contenant) No. / N° 9	Codes Int.-ext. 9	Phys. state / État phys. 10
(i)	UN1950	WASTE AEROSOLS, flammable	2	N/A		70	KG	1	01	S
(ii)	UN3175	WASTE SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (fuel, aviation, turbine engine)	4	II		408	KG	4	01	S
(iii)	UN2880	WASTE CALCIUM HYPOCHLORITE, HYDRATED, with not less than 5.5% but not more than 16% water	5	II		45	KG	1	01	S
(iv)	UN2800	WASTE BATTERIES, WET, NON-SPILLABLE, electric storage	8	N/A		150	KG	1	07	S

Quantity received / Quantité reçue	Units / L or / ou Kg / Unités 31	Comments / Commentaires 32	Handling Code / Code de manutention 33	Shipment / Envoi Accepted / Accepté 34	Refused / Refusé	Decont. Pack. / Conl.	Decont. Veh. / Véh.
101	Kg			✓			
411	Kg			✓			
79	Kg			✓			
873	Kg			✓			

Permit No. / N° de permis 11	Permit Line No. / N° de ligne de la permis	Shipment / Envoi 12	Of / De	D or R code / Code D ou R 13	C code / Code C 14	Basel Annex VIII or OECD Code / Annexe VIII de Bâle ou Code OCDE 15	H code / Code H 16	Y code / Code Y 17	National code in country of / Code national du pays d' Export / Exportation 18	Import / Importation	Customs codes / Codes de douanes 19
(i)											
(ii)											
(iii)											
(iv)	CANUTEC 1-888-CAN-UTEC (226-8832) or 613-996-6666										

Generator/consignor certification: *I certify that the information contained in Part A is correct and complete. I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.*
Attestation du producteur/expéditeur: *J'atteste que tous les renseignements à la partie A sont exacts et complets. Je déclare que le contenu de ce chargement est décrit ci-dessus de façon complète et exacte par la désignation officielle de transport et qu'il est convenablement classé, emballé, marqué, étiqueté, muni de placards-étiquettes et à tous égards bien conditionné pour être transporté conformément aux réglementations internationales et nationales applicables.*
Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél 20
Signature

Receiver/consignee certification: *I certify that the information contained in Part C is correct and complete.*
Attestation du réceptionnaire/destinataire : *J'atteste que tous les renseignements à la partie C sont exacts et complets.*
Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) 37: 867 873 5063
Signature: Trampsey — Tel. No. / N° de tél

TDGR additional info / Info additionnelle RTMD 38

Special handling / Manutention spéciale 22: ☐ Attached / Ci-joint: ☐ As follows / Ci-contre:
24-Hour Number / Numéro 24 heures 39

Date shipped / Date d'expédition: Year / Année — Month / Mois — Day / Jour
Time / Heure 21: ☐ A.M. ☐ P.M.
Scheduled arrival date / Date d'arrivée prévue: Year / Année — Month / Mois — Day / Jour

ECCC XBR v1.0 (2020/03)

Additional carriers and waste lines on reverse / Transporteurs et lignes de déchets additionnels au verso Copy / Copie __ / Colour / Couleur _____

Copy 1

Movement Document / Manifest Reference No.
N° de référence du document de mouvement / manifeste

B Carrier name / Nom de transporteur	Unique Identification Number / Numéro d'identification unique	23
Mailing addr. / Adr. postale	City / Ville · Prov. · Country / Pays · Postal code / Code postal	
E-mail / Courrier électronique	Tel. No. / N° de tél	

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1er remorque - wagon		
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée		Port of exit / Point de sortie	25
Date		Date	

26 **Carrier Certification:** *I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.*
Attestation du transporteur : *J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au réceptionnaire/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.*

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél

Year / Année	Month / Mois	Day / Jour	Signature

B Carrier name / Nom de transporteur — Unique Identification Number / Numéro d'identification unique — 23
Mailing addr. / Adr. postale — City / Ville · Prov. · Country / Pays · Postal code / Code postal
E-mail / Courrier électronique — Tel. No. / N° de tél
Vehicle / Véhicule — Registration No. / N° d'immatriculation — Prov. 24
Trailer - Rail car No. 1 / 1er remorque - wagon
Trailer - Rail car No. 2 / 2e remorque - wagon
Port of entry / Point d'entrée — Port of exit / Point de sortie — 25
Date — Date
26 Carrier Certification: I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.
Attestation du transporteur : J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au réceptionnaire/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.
Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél
Year / Année — Month / Mois — Day / Jour — Signature

B Carrier name / Nom de transporteur — Unique Identification Number / Numéro d'identification unique — 23
Mailing addr. / Adr. postale — City / Ville · Prov. · Country / Pays · Postal code / Code postal
E-mail / Courrier électronique — Tel. No. / N° de tél
Vehicle / Véhicule — Registration No. / N° d'immatriculation — Prov. 24
Trailer - Rail car No. 1 / 1er remorque - wagon
Trailer - Rail car No. 2 / 2e remorque - wagon
Port of entry / Point d'entrée — Port of exit / Point de sortie — 25
Date — Date
26 Carrier Certification: I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.
Attestation du transporteur : J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au réceptionnaire/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.
Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél
Year / Année — Month / Mois — Day / Jour — Signature

Additional waste lines information / Lignes d'informations supplémentaires de déchet

A

	3 Prov. code / Code prov.	6 UN No. / N° NU	4 Shipping name / Appellation réglementaire	5 Class / Classe Sub. Classe(s) / Classe(s) sub.	7 Packing group / Gr. d'emballage / catégorie	30 Toxic by inhalation / Toxique par inhalation	8 Quantity shipped / Quantité expédiée	8 Units / L or / ou Kg / Unités	9 Packaging / Contenant No. / N°	9 Codes int.-ext.	10 Phys. state / État phys.
(v)		UN2794	WASTE BATTERIES, WET, FILLED WITH ACID, electric storage	8	N/R		3967	KG	3	07	S
(vi)		UN2795	WASTE BATTERIES, WET, FILLED WITH ALKALI, electric storage	8	N/R		84	KG	1	07	S
(vii)		UN1863	WASTE FUEL, AVIATION, TURBINE ENGINE **	3	III		1385	L	9	01	L
(viii)		UN1263	WASTE PAINT RELATED MATERIAL	3	III		200	L	7	01	L

	11 Permit No. / N° de permis	11 Permit Line No. / N° de ligne de la permis	12 Shipment / Envoi	12 Of / De	13 D or R code / Code D ou R	14 C code / Code C	15 Basel Annex VIII or OECD Code / Annexe VIII de Bâle ou Code OCDE	16 H code / Code H	17 Y code / Code Y	18 National code in country of / Code national du pays d' Export / Exportation	18 Import / Importation	19 Customs codes / Codes de douanes
(v)	** FLASH POINT 38 °C											
(vi)												
(vii)												
(viii)												

C

31 Quantity received / Quantité reçue	31 Units / L or / ou Kg / Unités	32 Comments / Commentaires	33 Handling Code / Code de manutention	34 Shipment / Envoi Accepted / Accepté	34 Refused / Refusé	35 Decont. Pack. / Conf.	35 Veh. / Véh.

Copy_____ Page 2/4

Movement Document / Manifest Reference No.
N° de référence du document de mouvement / manifeste

B Carrier name / Nom de transporteur — Unique Identification Number / Numéro d'identification unique — 23

Mailing addr. / Adr. postale — City / Ville — Prov. — Country / Pays — Postal code / Code postal

E-mail / Courrier électronique — Tel. No. / N° de tél

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1re remorque - wagon		
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée — Port of exit / Point de sortie — 25

Date — Date

Carrier Certification: I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.
Attestation du transporteur : J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au récepteur/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets. — 26

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél

Year / Année — Month / Mois — Day / Jour — Signature

B Carrier name / Nom de transporteur — Unique Identification Number / Numéro d'identification unique — 23

Mailing addr. / Adr. postale — City / Ville — Prov. — Country / Pays — Postal code / Code postal

E-mail / Courrier électronique — Tel. No. / N° de tél

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1re remorque - wagon		
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée — Port of exit / Point de sortie — 25

Date — Date

Carrier Certification: I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.
Attestation du transporteur : J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au récepteur/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets. — 26

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél

Year / Année — Month / Mois — Day / Jour — Signature

B Carrier name / Nom de transporteur — Unique Identification Number / Numéro d'identification unique — 23

Mailing addr. / Adr. postale — City / Ville — Prov. — Country / Pays — Postal code / Code postal

E-mail / Courrier électronique — Tel. No. / N° de tél

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1re remorque - wagon		
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée — Port of exit / Point de sortie — 25

Date — Date

Carrier Certification: I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.
Attestation du transporteur : J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au récepteur/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets. — 26

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél

Year / Année — Month / Mois — Day / Jour — Signature

Additional waste lines information / Lignes d'informations supplémentaires de déchet

A

	Prov. code / Code prov. 3	UN No. / N° NU 6	Shipping name / Appellation réglementaire 4	Class / Classe Sub. Classe(s) / Classe(s) sub. 5	Packing/category / Gr. d'emballage/ catégorie 7	Toxic by inhalation / Toxique par inhalation 30	Quantity shipped / Qu'elle expédiée	Units / L or / ou Kg Unités 8	Packaging/Conteneurs No. / N° 9	Codes (if any) / Codes (s'il y a lieu)	Phys. state / Etat phys. 10
(v)		UN3082	WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID	9	III		15	L	1	01	L
(vi)			WASTE - ACTIVATED CARBON FILTER - NR				3408	KG	18	01	S
(vii)			WASTE - OIL FILTERS - NR				671	KG	8	01	S
(viii)			WASTE OILY RAGS - NR				846	KG	10	01	S

	Permit No. / N° de permis 11	Permit Line No. / N° de ligne de la permis	Shipment / Envoi 12	DT / DI	D or R code / Code D ou R 13	C code / Code C 14	Basel Annex VIII or OECD Code / Annexe VIII de Bâle ou Code OCDE 15	H code / Code H 16	Y code / Code Y 17	National code in country of / Code national du pays d' Export / Exportation 18	Import / Importation	Customs codes / Codes de douanes 19
(v)												
(vi)												
(vii)												
(viii)												

CANUTEC 1-888-CAN-UTEC (226-8832) or 613-996-6666

C

Quantity received / Quantité reçue	Units / L or / ou Kg Unités 31	Comments / Commentaires 32	Handling Code / Code de manutention 33	Shipment / Envoi 34 Accepted / Accepté	Refused / Refusé	Decont. 35 Pack. Cont.	Veh. Veh.
50	L			✓			
3691	KG			✓			
632	KG			✓			
910	KG			✓			

Copy_____ Page 3/4

Movement Document / Manifest Reference No.
N° de référence du document de mouvement / manifeste

B Carrier name / Nom de transporteur — Unique Identification Number / Numéro d'identification unique — 23

Mailing addr. / Adr. postale — City / Ville — Prov. — Country / Pays — Postal code / Code postal

E-mail / Courrier électronique — Tel. No. / N° de tél

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1e remorque - wagon		
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée		Port of exit / Point de sortie	25
Date		Date	

Carrier Certification: *I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.* 26
Attestation du transporteur : *J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au réceptionnaire/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.*

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél

Year / Année — Month / Mois — Day / Jour — Signature

B Carrier name / Nom de transporteur — Unique Identification Number / Numéro d'identification unique — 23

Mailing addr. / Adr. postale — City / Ville — Prov. — Country / Pays — Postal code / Code postal

E-mail / Courrier électronique — Tel. No. / N° de tél

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1e remorque - wagon		
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée		Port of exit / Point de sortie	25
Date		Date	

Carrier Certification: *I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.* 26
Attestation du transporteur : *J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au réceptionnaire/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.*

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél

Year / Année — Month / Mois — Day / Jour — Signature

B Carrier name / Nom de transporteur — Unique Identification Number / Numéro d'identification unique — 23

Mailing addr. / Adr. postale — City / Ville — Prov. — Country / Pays — Postal code / Code postal

E-mail / Courrier électronique — Tel. No. / N° de tél

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1e remorque - wagon		
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée		Port of exit / Point de sortie	25
Date		Date	

Carrier Certification: *I certify that I have received waste or recyclable material from the generator/consignor for delivery to the receiver/consignee as set out in Part A and that the information contained in Part B is complete and correct.* 26
Attestation du transporteur : *J'atteste avoir reçu les déchets ou matières recyclables du producteur/expéditeur en vue de leur livraison au réceptionnaire/destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.*

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Tel. No. / N° de tél

Year / Année — Month / Mois — Day / Jour — Signature

Additional waste lines information / Lignes d'informations supplémentaires de déchet

A

	Prov. code / Code prov 3	UN No. / N° NU 6	Shipping name / Appellation réglementaire 4	Class / Classe 5	Packing category / Gr. d'emballage / catégorie 7	Toxic by inhalation / Toxique par inhalation 30	Quantity shipped / Quantité expédiée 8	Units / Unités	Packaging / Contenant 9 No. / N°	Packaging / Contenant 9 Codes int. ext.	Phys. state / État phys. 10
(v)			WASTE - GLYCOL CONTAMINATED RAGS - NR				193	KG	1	01	S
(vi)			Waste – Silica material - NR				123	KG	1	01	S
(vii)			WASTE OIL - NR				6701	L	37	01	L
(viii)			WASTE WOOD PRESERVATIVE - LIQUID - NR				10	L	1	01	L

	Permit No. / N° de permis 11	Permit Line No. / N° de ligne de la permis 11	Shipment / Envoi 12	Of / De 12	D or R code / Code D ou R 13	C code / Code C 14	Basel Annex VIII or OECD Code / Annexe VIII de Bâle ou Code OCDE 15	H code / Code H 16	Y code / Code Y 17	National code in country of / Code national du pays d' 18 Export / Exportation	Import / Importation	Customs codes / Codes de douanes 19
(v)												
(vi)												
(vii)												
(viii)												

CANUTEC 1-888-CAN-UTEC (226-8832) or 613-996-6666

C

Quantity received / Quantité reçue	Units / Unités 31	Comments / Commentaires 32	Handling Code / Code de manutention 33	Shipment / Envoi 34 Accepted / Accepté	Shipment / Envoi 34 Refused / Refusé	Decont. 35 Pack. / Cont.	Decont. 35 Veh. / Véh.
172	Kg			✓			
147	Kg			✓			
7400	L			✓			
75	L			✓			

copy_____ Page 4/4

ANNEX B. TREATED SEWAGE EFFLUENT OUTFALL (CDL-2) LOCATION WITH COORDINATES

Figure 1: Coordinates of sewage treatment outfall: 69°07'03.2"N, 105°07'11.3"W

ANNEX C. ANALYSIS OF TREATED SEWAGE EFFLUENT

Table C-1: Summary of Analysis of Treated Sewage Effluent at CAM-M in 2023

Sample Date	Parameter				
	pH	Oil and Grease (Present - P / Absent - A)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Faecal Coliforms[1]
Maximum Concentration	6.0 to 9.0 (pH units)	No visible sheen	120 mg/L	180 mg/L	10,000 CFU/100 mL
9-Jan-23	7.68	A	<3.0	7.8	17.00
14-Feb-23	7.06	A	<3.0	8.4	13.67
6-Mar-23	7.14	A	<2.0	9.0	<1
10-Apr-23	7.15	A	<2.0	14.6	13.67
4-May-23	7.02	A	<2.0	13.2	<1
6-Jun-23	7.45	A	<2.0	11.4	3.33
3-Jul-23	7.52	A	<2.0	11.8	1.33
1-Aug-23	5.92	A	<2.0	6.8	<1
6-Sep-23	7.35	A	<2.0	3.8	1.50
3-Oct-23	7.17	A	<2.0	4.6	5.00
31-Oct-23*	7.78	A	-	7.0	18.00
5-Dec-23	7.20	A	2.1	7.6	1.00

**Sample for November mistakenly taken a day early. BOD not reported for this sample due to bottle missing from sampling kit.*

The following documents are enclosed:

1. ALS Certificate of Analysis Jan-23
2. ALS Certificate of Analysis Feb-23
3. ALS Certificate of Analysis Mar-23
4. ALS Certificate of Analysis Apr-23
5. ALS Certificate of Analysis May-23
6. ALS Certificate of Analysis Jun-23
7. ALS Certificate of Analysis Jul-23
8. ALS Certificate of Analysis Aug-23
9. ALS Certificate of Analysis Sep-23
10. ALS Certificate of Analysis Oct-23
11. ALS Certificate of Analysis Nov-23
12. ALS Certificate of Analysis Dec-23

[1] This column contains the average of the Cycle-let 1A, Cycle-let 1B, and Cycle-let 1C.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2300313**	Page	: 1 of 4
Amendment	: **1**		
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Dana Brown
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 7804136472
Project	: NWS Sewage	Date Samples Received	: 13-Jan-2023 13:26
PO	: ----	Date Analysis Commenced	: 14-Jan-2023
C-O-C number	: ----	Issue Date	: 23-Jan-2023 12:00
Sampler	: RR		
Site	: ----		
Quote number	: Q89801		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Alex Drake	Lab Analyst	Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Microbiology, Calgary, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Muzammil Ali	Lab Analyst	Inorganics, Edmonton, Alberta
Stephanie Korol	Laboratory Assistant	Organics, Calgary, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
CFU/100mL	
mg/L	milligrams per litre
pH units	

>: greater than.
<: less than.
Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Workorder Comments

Amendment (23/01/2023): This report has been amended to add threshold limits as requested by client. All analysis results are as per the previous report.

Qualifiers

Qualifier	Description
BODL	Limit of Reporting for BOD was increased to account for the largest volume of sample tested.

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID	____ML-Main__ _Cycle-let Gen Chem and O&G	____ML-Main_ __Cycle-let Fecal A	____ML-Main_ __Cycle-let Fecal B	____ML-Main_ __Cycle-let Fecal C	----	----	----
			Sampling date/time	09-Jan-2023 13:25	09-Jan-2023 13:25	09-Jan-2023 13:25	09-Jan-2023 13:25	----	----	----
			Sub-Matrix	Water	Water	Water	Water	----	----	----
			EO2300313-001	EO2300313-002	EO2300313-003	EO2300313-004	--------	--------	--------	
Physical Tests										
pH	----	pH units	7.68	----	----	----	----	----	----	
Solids, total suspended [TSS]	----	mg/L	7.8	----	----	----	----	----	----	
Microbiological Tests										
Coliforms, thermotolerant [fecal]	----	CFU/100mL	----	17	18	16	----	----	----	
Aggregate Organics										
Biochemical oxygen demand [BOD]	----	mg/L	<3.0 BODL	----	----	----	----	----	----	
Oil & grease (gravimetric)	----	mg/L	<5.0	----	----	----	----	----	----	
Oil & grease, animal/vegetable (gravimetric)	----	mg/L	<5.0	----	----	----	----	----	----	
Oil & grease, mineral (gravimetric)	----	mg/L	<5.0	----	----	----	----	----	----	

Please refer to the General Comments section for an explanation of any qualifiers detected.

Summary of Guideline Limits

Analyte	*CAS Number*	*Unit*	**NWS Sewage Limits**						
Physical Tests									
pH	----	pH units	**6 - 9 pH units**						
Solids, total suspended [TSS]	----	mg/L	**180 mg/L**						
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	CFU/100mL	**10000 CFU/100mL**						
Aggregate Organics									
Biochemical oxygen demand [BOD]	----	mg/L	**120 mg/L**						
Oil & grease (gravimetric)	----	mg/L							
Oil & grease, animal/vegetable (gravimetric)	----	mg/L							
Oil & grease, mineral (gravimetric)	----	mg/L							

Please refer to the General Comments section for an explanation of any qualifiers detected.

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QUALITY CONTROL REPORT

Work Order	: **EO2300313**	Page	: 1 of 4
Amendment	: **1**		
Client	: NASITTUQ CORPORATION	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Dana Brown
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: 7804136472
Project	: NWS Sewage	Date Samples Received	: 13-Jan-2023 13:26
PO	: ----	Date Analysis Commenced	: 14-Jan-2023
C-O-C number	: ----	Issue Date	: 23-Jan-2023 12:03
Sampler	: RR 613 223 0629		
Site	: ----		
Quote number	: Q89801		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Alex Drake	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Calgary Microbiology, Calgary, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Muzammil Ali	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Stephanie Korol	Laboratory Assistant	Calgary Organics, Calgary, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 803085)											
EO2300312-002	Anonymous	pH	----	E108	0.10	pH units	8.07	8.07	0.00%	3%	----
Physical Tests (QC Lot: 807375)											
EO2300307-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 803293)											
EO2300316-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 803033)											
FC2300162-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	166	165	0.8%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 807375)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 803293)						
Coliforms, thermotolerant [fecal]	----	E012.FC	1	CFU/100mL	<1	----
Aggregate Organics (QCLot: 803033)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 803217)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 803218)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 803085)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Physical Tests (QCLot: 807375)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	103	85.0	115	----
Aggregate Organics (QCLot: 803033)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	107	85.0	115	----
Aggregate Organics (QCLot: 803217)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	73.8	70.0	130	----
Aggregate Organics (QCLot: 803218)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	70.6	70.0	130	----

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2300313**	Page	: 1 of 6
Amendment	: **1**		
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Dana Brown
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 7804136472
Project	: NWS Sewage	Date Samples Received	: 13-Jan-2023 13:26
PO	: ----	Issue Date	: 23-Jan-2023 12:00
C-O-C number	: ----		
Sampler	: RR		
Site	: ----		
Quote number	: Q89801		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] ____ML-Main___Cycle-let Gen Chem and O&G	E550	09-Jan-2023	----	----	----		14-Jan-2023	3 days	5 days	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ____ML-Main___Cycle-let Gen Chem and O&G	E567SG	09-Jan-2023	15-Jan-2023	28 days	6 days	✓	15-Jan-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ____ML-Main___Cycle-let Gen Chem and O&G	E567	09-Jan-2023	15-Jan-2023	28 days	6 days	✓	15-Jan-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) ____ML-Main___Cycle-let Fecal A	E012.FC	09-Jan-2023	----	----	----		14-Jan-2023	30 hrs	115 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) ____ML-Main___Cycle-let Fecal B	E012.FC	09-Jan-2023	----	----	----		14-Jan-2023	30 hrs	115 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (MF-mFC)										
Sterile HDPE (Sodium thiosulphate) ____ML-Main___Cycle-let Fecal C	E012.FC	09-Jan-2023	----	----	----		14-Jan-2023	30 hrs	115 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ____ML-Main___Cycle-let Gen Chem and O&G	E108	09-Jan-2023	14-Jan-2023	----	----		14-Jan-2023	0.25 hrs	0.26 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry										
HDPE										
____ML-Main___Cycle-let Gen Chem and O&G	E160	09-Jan-2023	----	----	----		20-Jan-2023	7 days	11 days	× EHT

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	803033	1	14	7.1	5.0	✓
pH by Meter	E108	803085	1	16	6.2	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	803293	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	807375	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	803033	1	14	7.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	803218	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	803217	1	14	7.1	5.0	✓
pH by Meter	E108	803085	1	16	6.2	5.0	✓
TSS by Gravimetry	E160	807375	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	803033	1	14	7.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	803218	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	803217	1	14	7.1	5.0	✓
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC	803293	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	807375	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (MF-mFC)	E012.FC Calgary - Environmental	Water	APHA 9222 D (mod)	Following filtration (0.45 µm), and incubation at 44.5 ±0.2°C for 22-26 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and confirmed.
pH by Meter	E108 Edmonton - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 Edmonton - Environmental	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 Edmonton - Environmental	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG Calgary - Environmental	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Number: 14 -

Page ____ of ____

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Phone:	613-223-0629	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
		Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	

Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax labresults@nasittuq.com
Contact:		Email 2 accounting@nasittuq.com

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q89840	Approver ID:	Cost Center:
Job #:	NWS Sewage	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): EO2300313 | **ALS Contact:** E. Dobbin | **Sampler:** * R.Ripley

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Containers
	ML-Main - Cycle-let Gen Chem and O&G	*9-Jan-23	13:25	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	*9-Jan-23	13:25	Effluent			R	1
	ML-Main - Cycle-let Faecal B	*9-Jan-23	13:25	Effluent			R	1
	ML-Main - Cycle-let Faecal C	*9-Jan-23	13:25	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2300313
Telephone : +1 780 413 5227

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

SA...

Frozen ☐ No ☐

Ice packs Yes ☑ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
4.2					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: *	Date:	Time:	Received by:	Date: 13 JAN 23	Time: 1:32	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0328e v09 Front/04 January 2014

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

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2301560**	Page	: 1 of 3
Amendment	: **1**		
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage CAM-M	Date Samples Received	: 23-Feb-2023 12:00
PO	: ----	Date Analysis Commenced	: 23-Feb-2023
C-O-C number	: ----	Issue Date	: 02-Mar-2023 08:40
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Muzammil Ali	Lab Analyst	Inorganics, Edmonton, Alberta
Nguyen Tran	Laboratory Analyst	Organics, Calgary, Alberta
Samantha Mayor	Lab Assistant	Inorganics, Edmonton, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre

>: greater than.
<: less than.
Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	*Description*
BODL	*Limit of Reporting for BOD was increased to account for the largest volume of sample tested.*
DLA	*Detection Limit adjusted for required dilution.*

Analytical Results Evaluation

Matrix:		Client sample ID	----	----	----	----	----	----	----
		Sampling date/time	----	----	----	----	----	----	----
		Sub-Matrix	----		----	----	----	----	----
Analyte	CAS Number	Unit	----	----	----	----	----	----	----
		-							

Please refer to the General Comments section for an explanation of any qualifiers detected.

pH	----	pH units							
Solids, total suspended [TSS]	----	mg/L							
Coliforms, thermotolerant [fecal]	----	MPN/100mL							
Biochemical oxygen demand [BOD]	----	mg/L							
Oil & grease (gravimetric)	----	mg/L							
Oil & grease, animal/vegetable (gravimetric)	----	mg/L							
Oil & grease, mineral (gravimetric)	----	mg/L							

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CERTIFICATE OF ANALYSIS

Work Order	: **EO2301560**	Page	: 1 of 4
Amendment	: **1**		
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton AB Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage CAM-M	Date Samples Received	: 23-Feb-2023 12:00
PO	: ----	Date Analysis Commenced	: 23-Feb-2023
C-O-C number	: ----	Issue Date	: 02-Mar-2023 08:40
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Muzammil Ali	Lab Analyst	Inorganics, Edmonton, Alberta
Nguyen Tran	Laboratory Analyst	Organics, Calgary, Alberta
Samantha Mayor	Lab Assistant	Inorganics, Edmonton, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.
Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
BODL	*Limit of Reporting for BOD was increased to account for the largest volume of sample tested.*
DLA	*Detection Limit adjusted for required dilution.*

Analytical Results

EO2301560-001

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML Cycle-let Gen Chem and O&G

Client sampling date / time: 14-Feb-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
pH	----	7.06	0.10	pH units	E108	24-Feb-2023	24-Feb-2023	844970
Solids, total suspended [TSS]	----	8.4	3.0	mg/L	E160	-	25-Feb-2023	844282
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<3.0 BODL.	3.0	mg/L	E550	-	24-Feb-2023	844451
Oil & grease (gravimetric)	----	<5.0	5.0	mg/L	E567	26-Feb-2023	26-Feb-2023	844602
Oil & grease, animal/vegetable (gravimetric)	----	<5.0	5	mg/L	EC567A.SG	-	27-Feb-2023	-
Oil & grease, mineral (gravimetric)	----	<5.0	5.0	mg/L	E567SG	26-Feb-2023	27-Feb-2023	844603

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

EO2301560-002

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML - Cycle-let Faecal A

Client sampling date / time: 14-Feb-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	30 DLA.	1	MPN/100mL	E010.FC	-	23-Feb-2023	843703

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

EO2301560-003

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML - Cycle-let Faecal B

Client sampling date / time: 14-Feb-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	10 DLA.	1	MPN/100mL	E010.FC	-	23-Feb-2023	843703

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

EO2301560-004

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML - Cycle-let Faecal C

Client sampling date / time: 14-Feb-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1 DLA.	1	MPN/100mL	E010.FC	-	23-Feb-2023	843703

Please refer to the General Comments section for an explanation of any qualifiers detected.

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QUALITY CONTROL REPORT

Work Order	: **EO2301560**	Page	: 1 of 4
Amendment	: **1**		
Client	: NASITTUQ CORPORATION	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: 613 225 8279
Project	: NWS Sewage CAM-M	Date Samples Received	: 23-Feb-2023 12:00
PO	: ----	Date Analysis Commenced	: 23-Feb-2023
C-O-C number	: ----	Issue Date	: 02-Mar-2023 08:40
Sampler	: FA 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Fahad Husain	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Muzammil Ali	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Nguyen Tran	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Samantha Mayor	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 844282)											
EO2301429-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.4	5.2	1.2	Diff <2x LOR	----
Physical Tests (QC Lot: 844970)											
EO2301559-001	Anonymous	pH	----	E108	0.10	pH units	7.64	7.48	2.12%	3%	----
Microbiological Tests (QC Lot: 843703)											
EO2301528-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	1	1	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 844282)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 843703)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 844451)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 844602)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 844603)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 844282)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	105	85.0	115	----
Physical Tests (QCLot: 844970)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Aggregate Organics (QCLot: 844451)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	99.2	85.0	115	----
Aggregate Organics (QCLot: 844602)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	77.1	70.0	130	----
Aggregate Organics (QCLot: 844603)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	74.8	70.0	130	----

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2301560**	Page	: 1 of 6
Amendment	: 1		
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage CAM-M	Date Samples Received	: 23-Feb-2023 12:00
PO	: ----	Issue Date	: 02-Mar-2023 08:40
C-O-C number	: ----		
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-48h] ML Cycle-let Gen Chem and O&G	E550	14-Feb-2023	----	----	----		24-Feb-2023	48 hrs	241 hrs	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML Cycle-let Gen Chem and O&G	E567SG	14-Feb-2023	26-Feb-2023	28 days	12 days	✓	27-Feb-2023	40 days	1 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML Cycle-let Gen Chem and O&G	E567	14-Feb-2023	26-Feb-2023	28 days	12 days	✓	26-Feb-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML - Cycle-let Faecal A	E010.FC	14-Feb-2023	----	----	----		23-Feb-2023	30 hrs	222 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML - Cycle-let Faecal B	E010.FC	14-Feb-2023	----	----	----		23-Feb-2023	30 hrs	222 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML - Cycle-let Faecal C	E010.FC	14-Feb-2023	----	----	----		23-Feb-2023	30 hrs	222 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML Cycle-let Gen Chem and O&G	E108	14-Feb-2023	24-Feb-2023	----	----		24-Feb-2023	0.25 hrs	0.26 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry										
HDPE										
ML Cycle-let Gen Chem and O&G	E160	14-Feb-2023	----	----	----		25-Feb-2023	7 days	11 days	× EHTR

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✗ = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	844451	0	12	0.0	5.0	✗
pH by Meter	E108	844970	1	11	9.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	843703	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	844282	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	844451	1	12	8.3	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	844603	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	844602	1	8	12.5	5.0	✓
pH by Meter	E108	844970	1	11	9.0	5.0	✓
TSS by Gravimetry	E160	844282	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	844451	1	12	8.3	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	844603	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	844602	1	8	12.5	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	843703	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	844282	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC Edmonton - Environmental	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 Edmonton - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 Edmonton - Environmental	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 Edmonton - Environmental	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG Calgary - Environmental	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page ____ of ____

Environmental Division Edmonton

Work Order Reference EO2301560

Telephone : +1 780 413 5227

Report To		Report Format / Distribution	Select Service Level Below (Rush Turn
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 p
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pn
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E ☐ Emergency (1-2 bus. days if received by E2 ☐ Same day or weekend emergency - cont
Phone:	613-223-0629	Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	Analys
Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution	Indicate Filtered (F), Preserved (P) or Fil
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax labresults@nasittuq.com	
Contact:		Email 2 naccounting@nasittuq.com	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q89840	Approver ID:	Cost Center:
Job #:	NWS Sewage CAM-M	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): EO2301560 **ALS Contact:** E. Dobbin **Sampler:** F AXLWARD

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Conta
	ML Cycle-let Gen Chem and O&G	14-Feb-23	9:00 AM	Effluent	R	R		4
	ML - Cycle-let Faecal A	14-Feb-23	9:00 AM	Effluent			R	1
	ML - Cycle-let Faecal B	14-Feb-23	9:00 AM	Effluent			R	1
	ML - Cycle-let Faecal C	14-Feb-23	9:00 AM	Effluent			R	1

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

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

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

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

NWS Nunavut Water Board Licence Criteria

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

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

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
5.6					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: *	Date:	Time:	Received by:	Date: 13-Feb-2023	Time: 12 pm	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2302080**	Page	: 1 of 3
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 14-Mar-2023 13:20
PO	: ----	Date Analysis Commenced	: 14-Mar-2023
C-O-C number	: ----	Issue Date	: 20-Mar-2023 13:04
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Michelle Schroder	Lab Assistant	Inorganics, Edmonton, Alberta
Samantha Mayor	Lab Assistant	Inorganics, Edmonton, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	*Description*
DLA	*Detection Limit adjusted for required dilution.*

Analytical Results Evaluation

Matrix:	Client sample ID	----	----	----	----	----	----	----
	Sampling date/time	----	----	----	----	----	----	----
	Sub-Matrix	----		----	----	----	----	----
Analyte / CAS Number	Unit	----	----	----	----	----	----	----
	-							

Please refer to the General Comments section for an explanation of any qualifiers detected.

pH	----	pH units							
Solids, total suspended [TSS]	----	mg/L							
Coliforms, thermotolerant [fecal]	----	MPN/100mL							
Biochemical oxygen demand [BOD]	----	mg/L							
Oil & grease (gravimetric)	----	mg/L							
Oil & grease, animal/vegetable (gravimetric)	----	mg/L							
Oil & grease, mineral (gravimetric)	----	mg/L							

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CERTIFICATE OF ANALYSIS

Work Order	: **EO2302080**	Page	: 1 of 4
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton AB Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 14-Mar-2023 13:20
PO	: ----	Date Analysis Commenced	: 14-Mar-2023
C-O-C number	: ----	Issue Date	: 20-Mar-2023 13:04
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Michelle Schroder	Lab Assistant	Inorganics, Edmonton, Alberta
Samantha Mayor	Lab Assistant	Inorganics, Edmonton, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.
Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
DLA	*Detection Limit adjusted for required dilution.*

Analytical Results

EO2302080-001

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Gen Chem and O&G

Client sampling date / time: 06-Mar-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
pH	----	7.14	0.10	pH units	E108	15-Mar-2023	15-Mar-2023	864210
Solids, total suspended [TSS]	----	9.0	3.0	mg/L	E160	-	16-Mar-2023	863717
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550	-	15-Mar-2023	864003
Oil & grease (gravimetric)	----	<5.0	5.0	mg/L	E567	16-Mar-2023	16-Mar-2023	865919
Oil & grease, animal/vegetable (gravimetric)	----	<5.0	5	mg/L	EC567A.SG	-	17-Mar-2023	-
Oil & grease, mineral (gravimetric)	----	<5.0	5.0	mg/L	E567SG	16-Mar-2023	17-Mar-2023	865920

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

EO2302080-002

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal A

Client sampling date / time: 06-Mar-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<10 DLA.	10	MPN/100mL	E010.FC	-	14-Mar-2023	863280

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

EO2302080-003

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal B

Client sampling date / time: 06-Mar-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<10 DLA.	10	MPN/100mL	E010.FC	-	14-Mar-2023	863280

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

EO2302080-004

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal C

Client sampling date / time: 06-Mar-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<10 DLA.	10	MPN/100mL	E010.FC	-	14-Mar-2023	863280

Please refer to the General Comments section for an explanation of any qualifiers detected.

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QUALITY CONTROL REPORT

Work Order	: **EO2302080**	Page	: 1 of 4
Client	: NASITTUQ CORPORATION	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 14-Mar-2023 13:20
PO	: ----	Date Analysis Commenced	: 14-Mar-2023
C-O-C number	: ----	Issue Date	: 20-Mar-2023 13:04
Sampler	: FA 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Fahad Husain	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Michelle Schroder	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Samantha Mayor	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 863717)											
EO2301924-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	4.8	1.8	Diff <2x LOR	----
Physical Tests (QC Lot: 864210)											
FC2300604-001	Anonymous	pH	----	E108	0.10	pH units	7.03	7.09	0.850%	3%	----
Microbiological Tests (QC Lot: 863280)											
EO2302054-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	10	MPN/100mL	<10	<10	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 863717)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 863280)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 864003)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 865919)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 865920)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 863717)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	99.5	85.0	115	----
Physical Tests (QCLot: 864210)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Aggregate Organics (QCLot: 864003)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	111	85.0	115	----
Aggregate Organics (QCLot: 865919)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	74.0	70.0	130	----
Aggregate Organics (QCLot: 865920)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	77.5	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2302080**	Page	: 1 of 6
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 14-Mar-2023 13:20
PO	: ----	Issue Date	: 20-Mar-2023 13:04
C-O-C number	: ----		
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-48h] ML-Main - Cycle-let Gen Chem and O&G	E550	06-Mar-2023	----	----	----		15-Mar-2023	48 hrs	217 hrs	✗ EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567SG	06-Mar-2023	16-Mar-2023	28 days	10 days	✓	17-Mar-2023	40 days	1 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	06-Mar-2023	16-Mar-2023	28 days	10 days	✓	16-Mar-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	06-Mar-2023	----	----	----		14-Mar-2023	30 hrs	200 hrs	✗ EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	06-Mar-2023	----	----	----		14-Mar-2023	30 hrs	200 hrs	✗ EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	06-Mar-2023	----	----	----		14-Mar-2023	30 hrs	200 hrs	✗ EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	06-Mar-2023	15-Mar-2023	----	----		15-Mar-2023	0.25 hrs	0.26 hrs	✗ EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry										
HDPE										
ML-Main - Cycle-let Gen Chem and O&G	E160	06-Mar-2023	----	----	----		16-Mar-2023	7 days	10 days	× EHTR

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✘ = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	864003	0	7	0.0	5.0	✘
pH by Meter	E108	864210	1	17	5.8	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	863280	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	863717	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	864003	1	7	14.2	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	865920	1	11	9.0	5.0	✓
Oil & Grease by Gravimetry	E567	865919	1	11	9.0	5.0	✓
pH by Meter	E108	864210	1	17	5.8	5.0	✓
TSS by Gravimetry	E160	863717	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	864003	1	7	14.2	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	865920	1	11	9.0	5.0	✓
Oil & Grease by Gravimetry	E567	865919	1	11	9.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	863280	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	863717	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC Edmonton - Environmental	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 Edmonton - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 Edmonton - Environmental	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 Edmonton - Environmental	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG Calgary - Environmental	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Number: 14 -

Page ____ of ____

Environmental Division
Edmonton
Work Order Reference
EO2302080

Telephone : +1 780 413 5227

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnarour
Company:	Nasittuq Corp	Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - t
Contact:	Alaina Leslie	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm
Phone:	613-223-0629	Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact A
		Email 1 or Fax	alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2	labresults@nasittuq.com	Analysis F
Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution		Indicate Filtered (F), Preserved (P) or Filtered
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax	labresults@nasittuq.com	
Contact:		Email 2	accounting@nasittuq.com	
Project Information		Oil and Gas Required Fields (client use)		
ALS Quote #:	Q89840	Approver ID:	Cost Center:	
Job #:	NWS Sewage	GL Account:	Routing Code:	
PO / AFE:		Activity Code:		
LSD:		Location:		
ALS Lab Work Order # (lab use only)	EO2302080	ALS Contact: E. Dobbin	Sampler:F Aylw*	

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Conta
	ML-Main - Cycle-let Gen Chem and O&G	*6-March-2023	9:00am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	*6-March-2023	9:00am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	*6-March-2023	9:00am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	*6-March-2023	9:00am	Effluent			R	1

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

SAMPLE CONDITION AS RECEIVED (lab use only)

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

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
5.1					

SHIPMENT RELEASE (client use)		
Released by: *	Date:	Time:

INITIAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date: 14-Mar-23	Time: 1:20 pm

FINAL SHIPMENT RECEPTION (lab use only)		
Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0326e v00 Front/04 January 2014

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

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Canada Ltd.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2302953**	Page	: 1 of 4
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 15-Apr-2023 10:36
PO	: ----	Date Analysis Commenced	: 15-Apr-2023
C-O-C number	: ----	Issue Date	: 20-Apr-2023 16:12
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Muzammil Ali	Lab Analyst	Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Stephanie Korol	Laboratory Assistant	Organics, Calgary, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
pH units	

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MBHT	The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Unit	Client sample ID	ML-Main - Cycle-let Gen Chem and O&G	----	----	----	----	----	----
			Sampling date/time	10-Apr-2023 09:00	----	----	----	----	----	----
			Sub-Matrix	Water	----	----	----	----	----	----
			EO2302953-001	--------	--------	--------	--------	--------	--------	
Physical Tests										
pH	----	pH units	7.15	----	----	----	----	----	----	
Solids, total suspended [TSS]	----	mg/L	14.6	----	----	----	----	----	----	
Aggregate Organics										
Biochemical oxygen demand [BOD]	----	mg/L	<2.0	----	----	----	----	----	----	
Oil & grease (gravimetric)	----	mg/L	<5.0	----	----	----	----	----	----	
Oil & grease, animal/vegetable (gravimetric)	----	mg/L	<5.0	----	----	----	----	----	----	
Oil & grease, mineral (gravimetric)	----	mg/L	<5.0	----	----	----	----	----	----	

Please refer to the General Comments section for an explanation of any qualifiers detected.

Summary of Guideline Limits

Analyte	*CAS Number*	*Unit*	**NWS Sewage Limits**						
Physical Tests									
pH	----	pH units	**6 - 9 pH units**						
Solids, total suspended [TSS]	----	mg/L							
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	MPN/100mL							
Aggregate Organics									
Biochemical oxygen demand [BOD]	----	mg/L	**120 mg/L**						
Oil & grease (gravimetric)	----	mg/L							
Oil & grease, animal/vegetable (gravimetric)	----	mg/L							
Oil & grease, mineral (gravimetric)	----	mg/L							

Please refer to the General Comments section for an explanation of any qualifiers detected.

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CERTIFICATE OF ANALYSIS

Work Order	: **EO2302953**	Page	: 1 of 4
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton AB Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 15-Apr-2023 10:36
PO	: ----	Date Analysis Commenced	: 15-Apr-2023
C-O-C number	: ----	Issue Date	: 20-Apr-2023 16:12
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Muzammil Ali	Lab Analyst	Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Stephanie Korol	Laboratory Assistant	Organics, Calgary, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.
Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*
MBHT	*The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).*

Analytical Results

EO2302953-001

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Gen Chem and O&G

Client sampling date / time: 10-Apr-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
pH	----	7.15	0.10	pH units	E108	15-Apr-2023	15-Apr-2023	899188
Solids, total suspended [TSS]	----	14.6	3.0	mg/L	E160	-	17-Apr-2023	898813
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550	-	15-Apr-2023	898923
Oil & grease (gravimetric)	----	<5.0	5.0	mg/L	E567	16-Apr-2023	16-Apr-2023	899251
Oil & grease, animal/vegetable (gravimetric)	----	<5.0	5	mg/L	EC567A.SG	-	16-Apr-2023	-
Oil & grease, mineral (gravimetric)	----	<5.0	5.0	mg/L	E567SG	16-Apr-2023	16-Apr-2023	899252

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

EO2302953-002

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal A

Client sampling date / time: 10-Apr-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	6 DLM, MBHT.	1	MPN/100mL	E010.FC	-	15-Apr-2023	899174

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

EO2302953-003

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal B

Client sampling date / time: 10-Apr-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	16 DLM, MBHT.	1	MPN/100mL	E010.FC	-	15-Apr-2023	899174

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

EO2302953-004

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal C

Client sampling date / time: 10-Apr-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	19 DLM, MBHT.	1	MPN/100mL	E010.FC	-	15-Apr-2023	899174

Please refer to the General Comments section for an explanation of any qualifiers detected.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **EO2302953**	Page	: 1 of 4
Client	: NASITTUQ CORPORATION	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 15-Apr-2023 10:36
PO	: ----	Date Analysis Commenced	: 15-Apr-2023
C-O-C number	: ----	Issue Date	: 20-Apr-2023 16:12
Sampler	: FA 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Fahad Husain	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Muzammil Ali	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Stephanie Korol	Laboratory Assistant	Calgary Organics, Calgary, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 898813)											
EO2302845-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	58.0	55.6	4.22%	20%	----
Physical Tests (QC Lot: 899188)											
EO2302954-013	Anonymous	pH	----	E108	0.10	pH units	5.41	# 6.11	0.70	Diff <2x LOR	DUP-PH
Microbiological Tests (QC Lot: 899174)											
EO2302950-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	10	MPN/100mL	24200	24200	0.00%	65%	----
Aggregate Organics (QC Lot: 898923)											
FC2300891-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	152	158	3.9%	30%	----

Qualifiers

Qualifier	Description
DUP-PH	Duplicate pH result meets ALS Data Quality Objective for low ionic strength samples (+/- 1 pH unit where EC < 200 uS).

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 898813)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 899174)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 898923)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 899251)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 899252)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 898813)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	94.9	85.0	115	----
Physical Tests (QCLot: 899188)									
pH	----	E108	----	pH units	6 pH units	100	97.0	103	----
Aggregate Organics (QCLot: 898923)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	85.9	85.0	115	----
Aggregate Organics (QCLot: 899251)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	88.9	70.0	130	----
Aggregate Organics (QCLot: 899252)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	71.3	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2302953**	Page	: 1 of 7
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 15-Apr-2023 10:36
PO	: ----	Issue Date	: 20-Apr-2023 16:12
C-O-C number	: ----		
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Duplicate outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Physical Tests	Anonymous	Anonymous	pH	----	E108	0.70 % DUP-PH	Diff <2x LOR	Low Level DUP DQO exceeded (difference > 2 LOR).

Result Qualifiers

Qualifier	Description
DUP-PH	*Duplicate pH result meets ALS Data Quality Objective for low ionic strength samples (+/- 1 pH unit where EC < 200 uS).*

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] ML-Main - Cycle-let Gen Chem and O&G	E550	10-Apr-2023	----	----	----		15-Apr-2023	3 days	5 days	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567SG	10-Apr-2023	16-Apr-2023	28 days	6 days	✓	16-Apr-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	10-Apr-2023	16-Apr-2023	28 days	6 days	✓	16-Apr-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	10-Apr-2023	----	----	----		15-Apr-2023	30 hrs	127 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	10-Apr-2023	----	----	----		15-Apr-2023	30 hrs	127 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	10-Apr-2023	----	----	----		15-Apr-2023	30 hrs	127 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	10-Apr-2023	15-Apr-2023	----	----		15-Apr-2023	0.25 hrs	0.26 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry										
HDPE										
ML-Main - Cycle-let Gen Chem and O&G	E160	10-Apr-2023	----	----	----		17-Apr-2023	7 days	7 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	898923	1	10	10.0	5.0	✓
pH by Meter	E108	899188	1	9	11.1	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	899174	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	898813	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	898923	1	10	10.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	899252	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	899251	1	13	7.6	5.0	✓
pH by Meter	E108	899188	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	898813	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	898923	1	10	10.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	899252	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	899251	1	13	7.6	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	899174	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	898813	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC Edmonton - Environmental	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 Edmonton - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 Edmonton - Environmental	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 Edmonton - Environmental	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG Calgary - Environmental	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page ____ of ____

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Phone:	613-223-0629	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
		Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	

Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax labresults@nasittuq.com
Contact:		Email 2 accounting@nasittuq.com

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q89840	Approver ID:	Cost Center:
Job #:	NWS Sewage	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)		ALS Contact: E. Dobbin	Sampler: F.Aylward

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

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Containers
	ML-Main - Cycle-let Gen Chem and O&G	10-Apr-23	9:00am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	10-Apr-23	9:00am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	10-Apr-23	9:00am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	10-Apr-23	9:00am	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2302953

Telephone : +1 780 413 5227

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

SAMPLE CONDITION AS RECEIVED (lab use only)

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

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
6.2					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: *	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
				15-APR-23	10:37			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0336e v09 Front04 January 2014

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

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2303669**	Page	: 1 of 4
Amendment	: **1**		
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage CAM-M	Date Samples Received	: 09-May-2023 13:33
PO	: ----	Date Analysis Commenced	: 09-May-2023
C-O-C number	: WO# 1041037 ML-MAIN	Issue Date	: 16-May-2023 12:54
Sampler	: KB		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	Organics, Calgary, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Michelle Schroder	Lab Assistant	Inorganics, Edmonton, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
pH units	

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	Description
DLA	Detection Limit adjusted for required dilution.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MBHT	The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	ML Cycle-let Gen Chem and O&G	----	----	----	----	----	----
				Sampling date/time	04-May-2023 08:15	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
				EO2303669-001	--------	--------	--------	--------	--------	--------	--------
Physical Tests											
pH	----	E108/EO			7.02	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		13.2	----	----	----	----	----	----
Aggregate Organics											
Biochemical oxygen demand [BOD]	----	E550/EO			<2.0	----	----	----	----	----	----
Oil & grease (gravimetric)	----	E567/CG	mg/L		<5.0	----	----	----	----	----	----
Oil & grease, animal/vegetable (gravimetric)	----	EC567A.SG/CG			<5.0	----	----	----	----	----	----
Oil & grease, mineral (gravimetric)	----	E567SG/CG	mg/L		<5.0	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Limits

Analyte	*CAS Number*	*Unit*	**NWS Sewage Limits**						
Physical Tests									
pH	----	pH units	**6 - 9 pH units**						
Solids, total suspended [TSS]	----	mg/L	**180 mg/L**						
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	MPN/100mL							
Aggregate Organics									
Biochemical oxygen demand [BOD]	----	mg/L	**120 mg/L**						
Oil & grease (gravimetric)	----	mg/L							
Oil & grease, animal/vegetable (gravimetric)	----	mg/L							
Oil & grease, mineral (gravimetric)	----	mg/L							

Please refer to the General Comments section for an explanation of any qualifiers detected.

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CERTIFICATE OF ANALYSIS

Work Order	: **EO2303669**	Page	: 1 of 4
Amendment	: **1**		
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton AB Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage CAM-M	Date Samples Received	: 09-May-2023 13:33
PO	: ----	Date Analysis Commenced	: 09-May-2023
C-O-C number	: WO# 1041037 ML-MAIN	Issue Date	: 16-May-2023 12:55
Sampler	: KB		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	Organics, Calgary, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Michelle Schroder	Lab Assistant	Inorganics, Edmonton, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.
Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
DLA	*Detection Limit adjusted for required dilution.*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*
MBHT	*The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).*

Analytical Results

EO2303669-001

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML Cycle-let Gen Chem and O&G

Client sampling date / time: 04-May-2023 08:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
pH	----	7.02	0.10	pH units	E108/EO	10-May-2023	10-May-2023	928754
Solids, total suspended [TSS]	----	13.2	3.0	mg/L	E160/EO	-	11-May-2023	930435
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/EO	-	10-May-2023	930021
Oil & grease (gravimetric)	----	<5.0	5.0	mg/L	E567/CG	10-May-2023	10-May-2023	929873
Oil & grease, animal/vegetable (gravimetric)	----	<5.0	5	mg/L	EC567A.SG/CG	-	10-May-2023	-
Oil & grease, mineral (gravimetric)	----	<5.0	5.0	mg/L	E567SG/CG	10-May-2023	10-May-2023	929874

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2303669-002

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML - Cycle-let Faecal A

Client sampling date / time: 04-May-2023 08:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<10 DLA, DLM, MBHT,	10	MPN/100mL	E010.FC/EO	-	09-May-2023	928966

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2303669-003

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML - Cycle-let Faecal B

Client sampling date / time: 04-May-2023 08:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<10 DLA, DLM, MBHT,	10	MPN/100mL	E010.FC/EO	-	09-May-2023	928966

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2303669-004

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: ML - Cycle-let Faecal C

Client sampling date / time: 04-May-2023 08:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								

Analytical Results

EO2303669-004

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: ML - Cycle-let Faecal C
Client sampling date / time: 04-May-2023 08:15

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<10 DLA, DLM, MBHT,	10	MPN/100mL	E010.FC/EO	-	09-May-2023	928966

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

QUALITY CONTROL REPORT

Work Order	: **EO2303669**	Page	: 1 of 4
Amendment	: **1**		
Client	: NASITTUQ CORPORATION	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: 613 225 8279
Project	: NWS Sewage CAM-M	Date Samples Received	: 09-May-2023 13:33
PO	: ----	Date Analysis Commenced	: 09-May-2023
C-O-C number	: WO# 1041037 ML-MAIN	Issue Date	: 16-May-2023 12:54
Sampler	: KB 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Brooke Miller	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Fahad Husain	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Michelle Schroder	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 928754)											
EO2303668-001	Anonymous	pH	----	E108	0.10	pH units	7.30	7.32	0.274%	3%	----
Physical Tests (QC Lot: 930435)											
EO2303570-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	14.2	10.6	3.6	Diff <2x LOR	----
Microbiological Tests (QC Lot: 928966)											
EO2303640-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 930435)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 928966)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 929873)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 929874)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 930021)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 928754)									
pH	----	E108	----	pH units	6 pH units	100	97.0	103	----
Physical Tests (QCLot: 930435)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	92.0	85.0	115	----
Aggregate Organics (QCLot: 929873)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	92.2	70.0	130	----
Aggregate Organics (QCLot: 929874)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	77.7	70.0	130	----
Aggregate Organics (QCLot: 930021)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	114	85.0	115	----

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2303669**	Page	: 1 of 6
Amendment	: 1		
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage CAM-M	Date Samples Received	: 09-May-2023 13:33
PO	: ----	Issue Date	: 16-May-2023 12:55
C-O-C number	: WO# 1041037 ML-MAIN		
Sampler	: KB		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] ML Cycle-let Gen Chem and O&G	E550	04-May-2023	----	----	----		10-May-2023	3 days	6 days	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML Cycle-let Gen Chem and O&G	E567SG	04-May-2023	10-May-2023	28 days	6 days	✓	10-May-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML Cycle-let Gen Chem and O&G	E567	04-May-2023	10-May-2023	28 days	6 days	✓	10-May-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML - Cycle-let Faecal A	E010.FC	04-May-2023	----	----	----		09-May-2023	30 hrs	127 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML - Cycle-let Faecal B	E010.FC	04-May-2023	----	----	----		09-May-2023	30 hrs	127 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML - Cycle-let Faecal C	E010.FC	04-May-2023	----	----	----		09-May-2023	30 hrs	127 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML Cycle-let Gen Chem and O&G	E108	04-May-2023	10-May-2023	----	----		10-May-2023	0.25 hrs	0.33 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry										
HDPE										
ML Cycle-let Gen Chem and O&G	E160	04-May-2023	----	----	----		11-May-2023	7 days	7 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✗ = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	930021	0	17	0.0	5.0	✗
pH by Meter	E108	928754	1	7	14.2	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	928966	1	10	10.0	5.0	✓
TSS by Gravimetry	E160	930435	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	930021	1	17	5.8	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	929874	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	929873	1	11	9.0	5.0	✓
pH by Meter	E108	928754	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	930435	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	930021	1	17	5.8	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	929874	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	929873	1	11	9.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	928966	1	10	10.0	5.0	✓
TSS by Gravimetry	E160	930435	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC Edmonton - Environmental	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 Edmonton - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 Edmonton - Environmental	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 Edmonton - Environmental	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG Calgary - Environmental	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Number: 14 -

Page ___ of ___

WO# 1041037
ML-main

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pr
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by :
Phone:	613-223-0629	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - conta
		Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	Analysi

Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax labresults@nasittuq.com
Contact:		Email 2 naccounting@nasittuq.com

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q89840	Approver ID:	Cost Center:
Job #:	NWS Sewage CAM-M	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)

ALS Contact: E. Dobbin **Sampler:** KERRY BENNETT

Indicate Filtered (F), Preserved (P) or Filte

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms											Number of C
	ML Cycle-let Gen Chem and O&G	*4-MAY-23	08:15	Effluent	R	R												17
	ML - Cycle-let Faecal A	*4-MAY-23	08:15	Effluent			R											1
	ML - Cycle-let Faecal B	*4-MAY-23	08:15	Effluent			R											1
	ML - Cycle-let Faecal C	*4-MAY-23	08:15	Effluent			R											1

Environmental Division
Edmonton
Work Order Reference
EO2303669

Telephone : +1 780 413 5227

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

SAMPLE CONDITION AS RECEIVED (lab use only)

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

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
8.9					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: *	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
				9-MAY-23	1:33pm			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NA-FM-0329e v09 Front/04 January 2014

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

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form.**

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2304746**	Page	: 1 of 4
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 13-Jun-2023 11:33
PO	: ----	Date Analysis Commenced	: 13-Jun-2023
C-O-C number	: ----	Issue Date	: 23-Jun-2023 19:05
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	Organics, Calgary, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Inorganics, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Saron Gebremariam	Lab Assistant	Inorganics, Edmonton, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	
pH units	

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	ML-Main - Cycle-let Gen Chem and O & G	ML-Main - Cycle-let Faecal A	ML-Main - Cycle-let Faecal B	ML-Main - Cycle-let Faecal C	----	----	----
				Sampling date/time	06-Jun-2023 08:30	06-Jun-2023 08:30	06-Jun-2023 08:30	06-Jun-2023 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2304746-001	EO2304746-002	EO2304746-003	EO2304746-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO			7.45	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		11.4	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO			----	3	6	1	----	----	----
Aggregate Organics											
Biochemical oxygen demand [BOD]	----	E550/EO	mg/L		<2.0	----	----	----	----	----	----
Oil & grease (gravimetric)	----	E567/CG			<5.0	----	----	----	----	----	----
Oil & grease, animal/vegetable (gravimetric)	----	EC567A.SG/CG	mg/L		<5.0	----	----	----	----	----	----
Oil & grease, mineral (gravimetric)	----	E567SG/CG			<5.0	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Limits

Analyte	CAS Number	Unit	NWS Sewage Limits						
Physical Tests									
pH	----	pH units	**6 - 9 pH units**						
Solids, total suspended [TSS]	----	mg/L	**180 mg/L**						
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	MPN/100mL							
Aggregate Organics									
Biochemical oxygen demand [BOD]	----	mg/L	**120 mg/L**						
Oil & grease (gravimetric)	----	mg/L	**--**						
Oil & grease, animal/vegetable (gravimetric)	----	mg/L	**--**						
Oil & grease, mineral (gravimetric)	----	mg/L	**--**						

Please refer to the General Comments section for an explanation of any qualifiers detected.

Key:

NWS Sewage Limits

NWS Sewage Limits

NWS Sewage Limits

NWS Sewage Limits

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right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **EO2304746**	Page	: 1 of 4
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton AB Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 13-Jun-2023 11:33
PO	: ----	Date Analysis Commenced	: 13-Jun-2023
C-O-C number	: ----	Issue Date	: 23-Jun-2023 19:05
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

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This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Fahad Husain	Lab Assistant	Microbiology, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	Organics, Calgary, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Inorganics, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Saron Gebremariam	Lab Assistant	Inorganics, Edmonton, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.
Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

EO2304746-001

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Gen Chem and O & G
Client sampling date / time: 06-Jun-2023 08:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
pH	----	7.45	0.10	pH units	E108/EO	23-Jun-2023	23-Jun-2023	1004778
Solids, total suspended [TSS]	----	11.4	3.0	mg/L	E160/EO	-	14-Jun-2023	987810
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/EO	-	14-Jun-2023	988453
Oil & grease (gravimetric)	----	<5.0	5.0	mg/L	E567/CG	15-Jun-2023	15-Jun-2023	988838
Oil & grease, animal/vegetable (gravimetric)	----	<5.0	5	mg/L	EC567A.SG/CG	-	15-Jun-2023	-
Oil & grease, mineral (gravimetric)	----	<5.0	5.0	mg/L	E567SG/CG	15-Jun-2023	15-Jun-2023	988839

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2304746-002

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal A
Client sampling date / time: 06-Jun-2023 08:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	3	1	MPN/100mL	E010.FC/EO	-	13-Jun-2023	986860

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2304746-003

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal B
Client sampling date / time: 06-Jun-2023 08:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	6	1	MPN/100mL	E010.FC/EO	-	13-Jun-2023	986860

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2304746-004

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal C
Client sampling date / time: 06-Jun-2023 08:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								

Analytical Results

EO2304746-004

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: ML-Main - Cycle-let Faecal C
Client sampling date / time: 06-Jun-2023 08:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	1	1	MPN/100mL	E010.FC/EO	-	13-Jun-2023	986860

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **EO2304746**	Page	: 1 of 4
Client	: NASITTUQ CORPORATION	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 13-Jun-2023 11:33
PO	: ----	Date Analysis Commenced	: 13-Jun-2023
C-O-C number	: ----	Issue Date	: 23-Jun-2023 19:05
Sampler	: FA 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Fahad Husain	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Edmonton Inorganics, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Saron Gebremariam	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1004778)											
FC2301539-002	Anonymous	pH	----	E108	0.10	pH units	8.14	8.14	0.00%	3%	----
Physical Tests (QC Lot: 987810)											
EO2304737-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	754	829	9.42%	20%	----
Microbiological Tests (QC Lot: 986860)											
EO2304750-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	3	# 1	2	Diff <2x LOR	DUP-H
Aggregate Organics (QC Lot: 988453)											
EO2304554-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	27.1	22.0	20.8%	30%	----

Qualifiers

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 987810)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 986860)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 988453)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 988838)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 988839)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1004778)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Physical Tests (QCLot: 987810)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	94.7	85.0	115	----
Aggregate Organics (QCLot: 988453)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	99.5	85.0	115	----
Aggregate Organics (QCLot: 988838)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	90.3	70.0	130	----
Aggregate Organics (QCLot: 988839)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	72.0	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2304746**	Page	: 1 of 7
Client	: **NASITTUQ CORPORATION**	Laboratory	: Edmonton - Environmental
Contact	: Alaina Leslie	Account Manager	: Costas Farassoglou
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 613 225 8279
Project	: NWS Sewage	Date Samples Received	: 13-Jun-2023 11:33
PO	: ----	Issue Date	: 23-Jun-2023 19:05
C-O-C number	: ----		
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Duplicate outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Microbiological Tests	Anonymous	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	2 % DUP-H	Diff <2x LOR	Low Level DUP DQO exceeded (difference > 2 LOR).

Result Qualifiers

Qualifier	Description
DUP-H	*Duplicate results outside ALS DQO, due to sample heterogeneity.*

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d]										
ML-Main - Cycle-let Gen Chem and O & G	E550	06-Jun-2023	----	----	----		14-Jun-2023	3 days	8 days	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid)										
ML-Main - Cycle-let Gen Chem and O & G	E567SG	06-Jun-2023	15-Jun-2023	28 days	9 days	✓	15-Jun-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid)										
ML-Main - Cycle-let Gen Chem and O & G	E567	06-Jun-2023	15-Jun-2023	28 days	9 days	✓	15-Jun-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate)										
ML-Main - Cycle-let Faecal A	E010.FC	06-Jun-2023	----	----	----		13-Jun-2023	30 hrs	176 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate)										
ML-Main - Cycle-let Faecal B	E010.FC	06-Jun-2023	----	----	----		13-Jun-2023	30 hrs	176 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate)										
ML-Main - Cycle-let Faecal C	E010.FC	06-Jun-2023	----	----	----		13-Jun-2023	30 hrs	176 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE										
ML-Main - Cycle-let Gen Chem and O & G	E108	06-Jun-2023	23-Jun-2023	----	----		23-Jun-2023	0.25 hrs	0.26 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry										
HDPE										
ML-Main - Cycle-let Gen Chem and O & G	E160	06-Jun-2023	----	----	----		14-Jun-2023	7 days	8 days	× EHTL

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	988453	1	20	5.0	5.0	✓
pH by Meter	E108	1004778	1	19	5.2	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	986860	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	987810	1	18	5.5	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	988453	1	20	5.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	988839	1	4	25.0	5.0	✓
Oil & Grease by Gravimetry	E567	988838	1	15	6.6	5.0	✓
pH by Meter	E108	1004778	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	987810	1	18	5.5	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	988453	1	20	5.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	988839	1	4	25.0	5.0	✓
Oil & Grease by Gravimetry	E567	988838	1	15	6.6	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	986860	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	987810	1	18	5.5	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC Edmonton - Environmental	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 Edmonton - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 Edmonton - Environmental	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 Edmonton - Environmental	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG Calgary - Environmental	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 Calgary - Environmental	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page ____ of ____

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Phone:	613-223-0629	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
		Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	

Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax labresults@nasittuq.com
Contact:		Email 2 accounting@nasittuq.com

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q89840	Approver ID:	Cost Center:
Job #:	NWS Sewage	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): EO2304746 **ALS Contact:** E. Dobbin **Sampler:** F.Aylward

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

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Containers
	ML-Main - Cycle-let Gen Chem and O&G	06-Jun-23	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	06-Jun-23	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	06-Jun-23	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	06-Jun-23	8:30am	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2304746

Telephone : +1 780 413 5227

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

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ — Ice packs Yes ☐ No ☐ — Cooling Initiated ☐ — Custody seal intact Yes ☐ No ☐ — No ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
20.9					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: *	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
				13-Jun-23	9:00			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2305763**	Page	: 1 of 4
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Dana Brown
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 7804136472
Project	: NWS Sewage	Date Samples Received	: 06-Jul-2023 09:58
PO	: ----	Date Analysis Commenced	: 06-Jul-2023
C-O-C number	: ----	Issue Date	: 13-Jul-2023 17:53
Sampler	: ----		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Michelle Schroder	Laboratory Analyst	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Roseanne Drake	Lab Assistant	Microbiology, Edmonton, Alberta
Saron Gebremariam	Lab Assistant	Inorganics, Edmonton, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	
pH units	

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	ML-Main - Cycle-let Gen Chem and O&G	ML-Main - Cycle-let Faecal A	ML-Main - Cycle-let Faecal B	ML-Main - Cycle-let Faecal C	----	----	----
				Sampling date/time	03-Jul-2023 08:30	03-Jul-2023 08:30	03-Jul-2023 08:30	03-Jul-2023 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2305763-001	EO2305763-002	EO2305763-003	EO2305763-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO			7.52	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		11.8	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO			----	2	1	1	----	----	----
Aggregate Organics											
Biochemical oxygen demand [BOD]	----	E550/EO	mg/L		<2.0	----	----	----	----	----	----
Oil & grease (gravimetric)	----	E567/CG			<5.0	----	----	----	----	----	----
Oil & grease, animal/vegetable (gravimetric)	----	EC567A.SG/CG	mg/L		<5.0	----	----	----	----	----	----
Oil & grease, mineral (gravimetric)	----	E567SG/CG			<5.0	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Limits

Analyte	CAS Number	Unit	NWS Sewage Limits						
Physical Tests									
pH	----	pH units	**6 - 9 pH units**						
Solids, total suspended [TSS]	----	mg/L	**180 mg/L**						
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	MPN/100mL							
Aggregate Organics									
Biochemical oxygen demand [BOD]	----	mg/L	**120 mg/L**						
Oil & grease (gravimetric)	----	mg/L	**--**						
Oil & grease, animal/vegetable (gravimetric)	----	mg/L	**--**						
Oil & grease, mineral (gravimetric)	----	mg/L	**--**						

Please refer to the General Comments section for an explanation of any qualifiers detected.

Key:

NWS Sewage Limits

NWS Sewage Limits

NWS Sewage Limits

NWS Sewage Limits

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **EO2305763**	Page	: 1 of 4
Client	: NASITTUQ CORPORATION	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Dana Brown
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: 7804136472
Project	: NWS Sewage	Date Samples Received	: 06-Jul-2023 09:58
PO	: ----	Date Analysis Commenced	: 06-Jul-2023
C-O-C number	: ----	Issue Date	: 13-Jul-2023 15:40
Sampler	: ---- 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Michelle Schroder	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Roseanne Drake	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Saron Gebremariam	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1031107)											
EO2305711-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	11.2	12.0	0.8	Diff <2x LOR	----
Physical Tests (QC Lot: 1032412)											
EO2305844-001	Anonymous	pH	----	E108	0.10	pH units	8.74	8.71	0.344%	3%	----
Microbiological Tests (QC Lot: 1027739)											
FC2301814-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1031107)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1027739)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1025609)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1037205)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1037206)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1031107)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	99.2	85.0	115	----
Physical Tests (QCLot: 1032412)									
pH	----	E108	----	pH units	6 pH units	100	97.0	103	----
Aggregate Organics (QCLot: 1025609)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	104	85.0	115	----
Aggregate Organics (QCLot: 1037205)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	94.8	70.0	130	----
Aggregate Organics (QCLot: 1037206)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	82.0	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2305763**	Page	: 1 of 6
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Dana Brown
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 7804136472
Project	: NWS Sewage	Date Samples Received	: 06-Jul-2023 09:58
PO	: ----	Issue Date	: 13-Jul-2023 15:40
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] ML-Main - Cycle-let Gen Chem and O&G	E550	03-Jul-2023	----	----	----		06-Jul-2023	3 days	3 days	✓
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567SG	03-Jul-2023	13-Jul-2023	28 days	10 days	✓	13-Jul-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	03-Jul-2023	13-Jul-2023	28 days	10 days	✓	13-Jul-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	03-Jul-2023	----	----	----		06-Jul-2023	30 hrs	78 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	03-Jul-2023	----	----	----		06-Jul-2023	30 hrs	78 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	03-Jul-2023	----	----	----		06-Jul-2023	30 hrs	78 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	03-Jul-2023	12-Jul-2023	0.07 hrs	0.25 hrs	× EHTR-FM	12-Jul-2023	-220.45 hrs	0.07 hrs	× UCP

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry										
HDPE										
ML-Main - Cycle-let Gen Chem and O&G	E160	03-Jul-2023	----	----	----		11-Jul-2023	7 days	8 days	× EHT

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✘ = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	1025609	0	14	0.0	5.0	✘
pH by Meter	E108	1032412	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1027739	1	14	7.1	5.0	✓
TSS by Gravimetry	E160	1031107	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1025609	1	14	7.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1037206	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1037205	1	1	100.0	5.0	✓
pH by Meter	E108	1032412	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1031107	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1025609	1	14	7.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1037206	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1037205	1	1	100.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1027739	1	14	7.1	5.0	✓
TSS by Gravimetry	E160	1031107	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC ALS Environmental - Edmonton	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 ALS Environmental - Edmonton	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 ALS Environmental - Edmonton	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Edmonton	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG ALS Environmental - Calgary	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page ____ of ____

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	613-223-0629	Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	**Analysis Request**
Invoice To	Same as Report To ☐ Yes ☐ No	**Invoice Distribution**	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax labresults@nasittuq.com	
Contact:		Email 2 accounting@nasittuq.com	
Project Information		**Oil and Gas Required Fields (client use)**	
ALS Quote #:	Q89840	Approver ID: / Cost Center:	
Job #:	NWS Sewage	GL Account: / Routing Code:	
PO / AFE:		Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)	EO2305763	**ALS Contact:** E. Dobbin / **Sampler:** F.Aylward	

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Containers
	ML-Main - Cycle-let Gen Chem and O&G	03-Jul-23	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	03-Jul-23	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	03-Jul-23	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	03-Jul-23	8:30am	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2305763

Telephone : +1 780 413 5227

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)	SAMPLE CONDITION AS RECEIVED (lab use only)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	NWS Nunavut Water Board Licence Criteria	Frozen ☐ SIF Observations Yes ☐ No ☐
Are samples for human drinking water use? ☐ Yes ☑ No		Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐
		Cooling Initiated ☐
		INITIAL COOLER TEMPERATURES °C: 18-4 / FINAL COOLER TEMPERATURES °C:

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: *	Date:	Time:	Received by: R…	Date: 7/6/23	Time: 9A…	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION — WHITE - LABORATORY COPY — YELLOW - CLIENT COPY

NA-FM-3328e v09 Front/04 January 2014

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

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CERTIFICATE OF ANALYSIS

Work Order	: **EO2306933**	Page	: 1 of 4
Amendment	: **1**		
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton AB Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS Sewage CAM-M	Date Samples Received	: 03-Aug-2023 15:00
PO	: ----	Date Analysis Commenced	: 03-Aug-2023
C-O-C number	: ----	Issue Date	: 11-Aug-2023 11:30
Sampler	: ----		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Garrett Nodin	Lab Analyst	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Roseanne Drake	Lab Assistant	Microbiology, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.
Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

Ammended to add NWS Threshold Limits to Report

Analytical Results

EO2306933-001

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: CAM-M-Cycle-let Gen Chem and O&G

Client sampling date / time: 01-Aug-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
pH	----	5.92	0.10	pH units	E108/EO	04-Aug-2023	04-Aug-2023	1071878
Solids, total suspended [TSS]	----	6.8	3.0	mg/L	E160/EO	-	08-Aug-2023	1074126
Aggregate Organics								
Biochemical oxygen demand [BOD]	----	<2.0	2.0	mg/L	E550/EO	-	04-Aug-2023	1071900
Oil & grease (gravimetric)	----	<5.0	5.0	mg/L	E567/CG	10-Aug-2023	10-Aug-2023	1077160
Oil & grease, animal/vegetable (gravimetric)	----	<5.0	5	mg/L	EC567A.SG/CG	-	10-Aug-2023	-
Oil & grease, mineral (gravimetric)	----	<5.0	5.0	mg/L	E567SG/CG	10-Aug-2023	10-Aug-2023	1077161

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2306933-002

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: CAM-M-Cycle-let faecal A

Client sampling date / time: 01-Aug-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	MPN/100mL	E010.FC/EO	-	03-Aug-2023	1070686

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2306933-003

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: CAM-M-Cycle-let faecal B

Client sampling date / time: 01-Aug-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	MPN/100mL	E010.FC/EO	-	03-Aug-2023	1070686

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2306933-004

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: CAM-M-Cycle-let faecal C

Client sampling date / time: 01-Aug-2023 09:00

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								

Analytical Results

EO2306933-004

Sub-Matrix:**Water**
(Matrix: **Water)**

Client sample ID: CAM-M-Cycle-let faecal C
Client sampling date / time: 01-Aug-2023 09:00

Analyte	*CAS Number*	*Result*	*LOR*	*Unit*	*Method/Lab*	*Prep Date*	*Analysis Date*	*QCLot*
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	<1	1	MPN/100mL	E010.FC/EO	-	03-Aug-2023	1070686

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL REPORT

Work Order	: **EO2306933**	Page	: 1 of 4
Amendment	: **1**		
Client	: NASITTUQ CORPORATION	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: +1 780 413 5227
Project	: NWS Sewage CAM-M	Date Samples Received	: 03-Aug-2023 15:00
PO	: ----	Date Analysis Commenced	: 03-Aug-2023
C-O-C number	: ----	Issue Date	: 11-Aug-2023 11:30
Sampler	: ---- 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Garrett Nodin	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Ping Yeung	Team Leader - Inorganics	Edmonton Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Roseanne Drake	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1071878)											
FC2302123-009	Anonymous	pH	----	E108	0.10	pH units	5.49	# 5.21	0.28	Diff <2x LOR	DUP-PH
Physical Tests (QC Lot: 1074126)											
EO2306919-012	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	5.0	5.4	0.4	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1070686)											
EO2306897-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1071900)											
FC2302131-003	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	327	394	18.6%	30%	----

Qualifiers

Qualifier	Description
DUP-PH	Duplicate pH result meets ALS Data Quality Objective for low ionic strength samples (+/- 1 pH unit where EC < 200 uS).

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1074126)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1070686)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1071900)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1077160)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1077161)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1071878)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Physical Tests (QCLot: 1074126)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	94.4	85.0	115	----
Aggregate Organics (QCLot: 1071900)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	109	85.0	115	----
Aggregate Organics (QCLot: 1077160)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	87.5	70.0	130	----
Aggregate Organics (QCLot: 1077161)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	77.4	70.0	130	----

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2306933**	Page	: 1 of 7
Amendment	: 1		
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS Sewage CAM-M	Date Samples Received	: 03-Aug-2023 15:00
PO	: ----	Issue Date	: 11-Aug-2023 11:31
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Duplicate outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Physical Tests	Anonymous	Anonymous	pH	----	E108	0.28 % DUP-PH	Diff <2x LOR	Low Level DUP DQO exceeded (difference > 2 LOR).

Result Qualifiers

Qualifier	Description
DUP-PH	*Duplicate pH result meets ALS Data Quality Objective for low ionic strength samples (+/- 1 pH unit where EC < 200 uS).*

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] CAM-M-Cycle-let Gen Chem and O&G	E550	01-Aug-2023	----	----	----		04-Aug-2023	3 days	3 days	✓
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) CAM-M-Cycle-let Gen Chem and O&G	E567SG	01-Aug-2023	10-Aug-2023	28 days	9 days	✓	10-Aug-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) CAM-M-Cycle-let Gen Chem and O&G	E567	01-Aug-2023	10-Aug-2023	28 days	9 days	✓	10-Aug-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) CAM-M-Cycle-let faecal A	E010.FC	01-Aug-2023	----	----	----		03-Aug-2023	30 hrs	55 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) CAM-M-Cycle-let faecal B	E010.FC	01-Aug-2023	----	----	----		03-Aug-2023	30 hrs	55 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) CAM-M-Cycle-let faecal C	E010.FC	01-Aug-2023	----	----	----		03-Aug-2023	30 hrs	55 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE CAM-M-Cycle-let Gen Chem and O&G	E108	01-Aug-2023	04-Aug-2023	0.25 hrs	78 hrs	× EHTR-FM	04-Aug-2023	0.25 hrs	79 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE										
CAM-M-Cycle-let Gen Chem and O&G	E160	01-Aug-2023	----	----	----		08-Aug-2023	7 days	7 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	1071900	1	14	7.1	5.0	✓
pH by Meter	E108	1071878	1	17	5.8	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1070686	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1074126	1	19	5.2	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1071900	1	14	7.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1077161	1	5	20.0	5.0	✓
Oil & Grease by Gravimetry	E567	1077160	1	13	7.6	5.0	✓
pH by Meter	E108	1071878	1	17	5.8	5.0	✓
TSS by Gravimetry	E160	1074126	1	19	5.2	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1071900	1	14	7.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1077161	1	5	20.0	5.0	✓
Oil & Grease by Gravimetry	E567	1077160	1	13	7.6	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1070686	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1074126	1	19	5.2	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC ALS Environmental - Edmonton	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 ALS Environmental - Edmonton	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 ALS Environmental - Edmonton	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Edmonton	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG ALS Environmental - Calgary	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page ___ of ___

Report To

Company: Nasittuq Corp
Contact: Alaina Leslie
Address: 275 Slater St
Ottawa ON K1P 5H9
Phone: 613-223-0629

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report ☑ Yes ☐ No
☑ Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax alaina.leslie@nasittuq.com
Email 2 labresults@nasittuq.com

Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)

R ☑ Regular (Standard TAT if received by 3 pm - business days)
P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Specify Date Required for E2,E or P:

Invoice To

Same as Report To ☐ Yes ☐ No
Copy of Invoice with Report ☐ Yes ☐ No
Company:
Contact:

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax labresults@nasittuq.com
Email 2 accounting@nasittuq.com

Project Information

ALS Quote #: Q89840
Job #: NWS Sewage CAM-M
PO / AFE:
LSD:

Oil and Gas Required Fields (client use)

Approver ID: | Cost Center:
GL Account: | Routing Code:
Activity Code:
Location:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and P...

Environmental Division
Edmonton
Work Order Reference
EO2306933
Telephone : +1 780 413 5227

ALS Lab Work Order # (lab use only) E02306933

ALS Contact: E. Dobbin | Sampler: *

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Containers
	CAM-M- Cycle-let Gen Chem and O&G	* 1 Aug 23	9:00 AM	Effluent	R	R		3
	CAM-M- Cycle-let Faecal A	* 1 Aug 23	9:0 AM	Effluent			R	1
	CAM-M- Cycle-let Faecal B	* 1 Aug 23	9:00 AM	Effluent			R	1
	CAM-M- Cycle-let Faecal C	* 1 Aug 23	9:01 AM	Effluent			R	1

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

Are samples taken from a Regulated DW System? ☐ Yes ☑ No
Are samples for human drinking water use? ☐ Yes ☑ No

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

NWS Nunavut Water Board Licence Criteria
ENTER NWS THRESHOLD LIMITS ON SAMPLES

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ | SIF Observations Yes ☐ No ☐
Ice packs Yes ☐ No ☐ | Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐
INITIAL COOLER TEMPERATURES °C: 8.6
FINAL COOLER TEMPERATURES °C:

SHIPMENT RELEASE (client use)	INITIAL SHIPMENT RECEPTION (lab use only)	FINAL SHIPMENT RECEPTION (lab use only)
Released by:* Patrick Beaulieu Date: Aug 1/23 Time: 9:00 am	Received by: VA Date: 3-Aug-23 Time: 3:00	Received by: Date: Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION — WHITE - LABORATORY COPY — YELLOW - CLIENT COPY

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

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

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form.**

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2308235**	Page	: 1 of 3
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS Sewage	Date Samples Received	: 12-Sep-2023 14:00
PO	: ----	Date Analysis Commenced	: 12-Sep-2023
C-O-C number	: ----	Issue Date	: 19-Sep-2023 08:53
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Analyst	Inorganics, Edmonton, Alberta
Fahad Husain	Analyst	Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Saron Gebremariam	Lab Assistant	Inorganics, Edmonton, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	*Description*
BODQ	*BOD Qualification: Lab Control Sample outside standard 85-115% objective (see QC report). Sample(s) cannot be rerun due to hold time expiry.*

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	ML-Main - Cycle-let Gen Chem and O&G	ML-Main - Cycle-let Faecal A	ML-Main - Cycle-let Faecal B	ML-Main - Cycle-let Faecal C	----	----	----
				Sampling date/time	06-Sep-2023 08:30	06-Sep-2023 08:30	06-Sep-2023 08:30	06-Sep-2023 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
				EO2308235-001	EO2308235-002	EO2308235-003	EO2308235-004	--------	--------	--------	
Physical Tests											
pH	----	E108/EO	pH units	7.35	----	----	----	----	----	----	
Solids, total suspended [TSS]	----	E160/EO	mg/L	3.8	----	----	----	----	----	----	
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL	----	2	<1	1	----	----	----	
Aggregate Organics											
Biochemical oxygen demand [BOD]	----	E550/EO	mg/L	<2.0 BODQ	----	----	----	----	----	----	
Oil & grease (gravimetric)	----	E567/CG	mg/L	<5.0	----	----	----	----	----	----	
Oil & grease, animal/vegetable (gravimetric)	----	EC567A.SG/CG	mg/L	<5.0	----	----	----	----	----	----	
Oil & grease, mineral (gravimetric)	----	E567SG/CG	mg/L	<5.0	----	----	----	----	----	----	

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Key:

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **EO2308235**	Page	: 1 of 4
Client	: NASITTUQ CORPORATION	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: +1 780 413 5227
Project	: NWS Sewage	Date Samples Received	: 12-Sep-2023 14:00
PO	: ----	Date Analysis Commenced	: 12-Sep-2023
C-O-C number	: ----	Issue Date	: 19-Sep-2023 08:53
Sampler	: FA 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Fahad Husain	Analyst	Edmonton Inorganics, Edmonton, Alberta
Fahad Husain	Analyst	Edmonton Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Saron Gebremariam	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1131824)											
EO2308235-001	ML-Main - Cycle-let Gen Chem and O&G	Solids, total suspended [TSS]	----	E160	3.0	mg/L	3.8	5.2	1.4	Diff <2x LOR	----
Physical Tests (QC Lot: 1133486)											
EO2308227-001	Anonymous	pH	----	E108	0.10	pH units	6.55	6.62	0.07	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1130543)											
EO2308203-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1131824)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1130543)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1131738)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1133502)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1133503)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1131824)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	92.8	85.0	115	----
Physical Tests (QCLot: 1133486)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Aggregate Organics (QCLot: 1131738)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	# 127	85.0	115	LCS-H
Aggregate Organics (QCLot: 1133502)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	74.2	70.0	130	----
Aggregate Organics (QCLot: 1133503)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	70.3	70.0	130	----

Qualifiers

Qualifier	Description
LCS-H	*Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.*

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2308235**	Page	: 1 of 7
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS Sewage	Date Samples Received	: 12-Sep-2023 14:00
PO	: ----	Issue Date	: 19-Sep-2023 08:54
C-O-C number	: ----		
Sampler	: FA		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Laboratory Control Sample (LCS) Recoveries								
Aggregate Organics	QC-1131738-002	----	Biochemical oxygen demand [BOD]	----	E550	127 % LCS-H	85.0-115%	Recovery greater than upper control limit

Result Qualifiers

Qualifier	Description
LCS-H	*Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.*

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] ML-Main - Cycle-let Gen Chem and O&G	E550	06-Sep-2023	----	----	----		13-Sep-2023	3 days	7 days	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567SG	06-Sep-2023	14-Sep-2023	28 days	8 days	✓	14-Sep-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	06-Sep-2023	14-Sep-2023	28 days	8 days	✓	14-Sep-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	06-Sep-2023	----	----	----		12-Sep-2023	30 hrs	150 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	06-Sep-2023	----	----	----		12-Sep-2023	30 hrs	150 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	06-Sep-2023	----	----	----		12-Sep-2023	30 hrs	150 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	06-Sep-2023	14-Sep-2023	0.25 hrs	198 hrs	× EHTR-FM	15-Sep-2023	0.25 hrs	217 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE										
ML-Main - Cycle-let Gen Chem and O&G	E160	06-Sep-2023	----	----	----		13-Sep-2023	7 days	7 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✗ = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	1131738	0	9	0.0	5.0	✗
pH by Meter	E108	1133486	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1130543	1	5	20.0	5.0	✓
TSS by Gravimetry	E160	1131824	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1131738	1	9	11.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1133503	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1133502	1	7	14.2	5.0	✓
pH by Meter	E108	1133486	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1131824	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1131738	1	9	11.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1133503	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1133502	1	7	14.2	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1130543	1	5	20.0	5.0	✓
TSS by Gravimetry	E160	1131824	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC ALS Environmental - Edmonton	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 ALS Environmental - Edmonton	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 ALS Environmental - Edmonton	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Edmonton	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG ALS Environmental - Calgary	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page ____ of ____

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Phone:	613-223-0629	Email 1 or Fax alaina.leslie@nasittuq.com	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
		Email 2 labresults@nasittuq.com	Specify Date Required for E2,E or P:

Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution	Analysis Request
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
Company:		Email 1 or Fax labresults@nasittuq.com	
Contact:		Email 2 accounting@nasittuq.com	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q89840	Approver ID:	Cost Center:
Job #:	NWS Sewage	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): EO2308235 | ALS Contact: E. Dobbin | Sampler: F.Aylward

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Containers
	ML-Main - Cycle-let Gen Chem and O&G	06-Sep-23	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	06-Sep-23	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	06-Sep-23	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	06-Sep-23	8:30am	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2308235

Telephone : +1 780 413 5227

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

SAMPLE CONDITIO
Frozen ☐
Ice packs Yes ☑ No ☐
Cooling Initiated ☐
INITIAL COOLER TEMPERATURES °C: 18.7

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT		
Released by: *	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
				12-Sep-23	2:00			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2308912**	Page	: 1 of 10
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS SITE LSS-C-CAMBRIDGE BAY	Date Samples Received	: 30-Sep-2023 12:28
PO	: ----	Date Analysis Commenced	: 30-Sep-2023
C-O-C number	: ----	Issue Date	: 10-Oct-2023 17:06
Sampler	: FA		
Site	: ----		
Quote number	: Potable Water Testing		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Alex Drake	Lab Analyst	Inorganics, Edmonton, Alberta
Daniel Nguyen	Lab Assistant	Metals, Edmonton, Alberta
Garrett Nodin	Lab Analyst	Inorganics, Edmonton, Alberta
Jeremy Gingras	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta
Ping Yeung	Team Leader - Inorganics	Metals, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Saron Gebremariam	Lab Assistant	Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Metals, Edmonton, Alberta

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
CAM-M WATER LAKE	Water	Hardness (as CaCO3), from total Ca/Mg	Hardness levels between 80 and 100 mg/L (as CaCO3) provide acceptable balance between corrosion and incrustation; where a water softener is used, a separate unsoftened supply for cooking and drinking purposes is recommended.	CDWG	AO	203 mg/L	80-100 mg/L

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	CAM-M WATER LAKE	----	----	----	----	----	----
				Sampling date/time	25-Sep-2023 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
					EO2308912-001	--------	--------	--------	--------	--------	--------
Physical Tests											
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/EO	mg/L		147	----	----	----	----	----	----
Alkalinity, carbonate (as CO3)	3812-32-6	E290/EO	mg/L		<1.0	----	----	----	----	----	----
Alkalinity, hydroxide (as OH)	14280-30-9	E290/EO	mg/L		<1.0	----	----	----	----	----	----
Conductivity	----	E100/EO	µS/cm		681	----	----	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/EO	mg/L		203	----	----	----	----	----	----
Langelier index (@ 20°C)	----	EC105A/EO	-		0.309	----	----	----	----	----	----
Langelier index (@ 4°C)	----	EC105A/EO	-		0.064	----	----	----	----	----	----
pH	----	E108/EO	pH units		8.20	----	----	----	----	----	----
Solids, total dissolved [TDS]	----	E162/EO	mg/L		396	----	----	----	----	----	----
Solids, total dissolved [TDS], calculated	----	EC103A/EO	mg/L		443	----	----	----	----	----	----
Turbidity	----	E121/EO	NTU		0.69	----	----	----	----	----	----
pH, saturation (@ 4°C)	----	EC105A/EO	pH units		8.14	----	----	----	----	----	----
pH, saturation (@ 20°C)	----	EC105A/EO	pH units		7.89	----	----	----	----	----	----
Anions and Nutrients											
Ammonia, total (as N)	7664-41-7	E298/EO	mg/L		0.0178	----	----	----	----	----	----
Bromide	24959-67-9	E235.Br/EO	mg/L		0.27	----	----	----	----	----	----
Chloride	16887-00-6	E235.Cl/EO	mg/L		135	----	----	----	----	----	----
Fluoride	16984-48-8	E235.F/EO	mg/L		0.102	----	----	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/EO	mg/L		0.037	----	----	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/EO	mg/L		0.0370	----	----	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/EO	mg/L		<0.010	----	----	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/EO	mg/L		<0.0010	----	----	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/EO	mg/L		41.1	----	----	----	----	----	----
Metals											
Sodium adsorption ratio [SAR]	----	EC102/EO	-		1.80	----	----	----	----	----	----
Ion Balance											
Anion sum	----	EC101A/EO	meq/L		7.07	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Water**

				Client sample ID	CAM-M WATER LAKE	----	----	----	----	----	----
				Sampling date/time	25-Sep-2023 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
Analyte	*CAS Number*	*Method/Lab*	*Unit*	EO2308912-001	--------	--------	--------	--------	--------	--------
Ion Balance											
Cation sum (total)	----	EC101A/EO	meq/L	6.71	----	----	----	----	----	----
Ion balance (APHA)	----	EC101A/EO	%	-2.61	----	----	----	----	----	----
Ion balance (cations/anions)	----	EC101A/EO	%	94.9	----	----	----	----	----	----
Total Metals											
Aluminum, total	7429-90-5	E420/EO	mg/L	0.0072	----	----	----	----	----	----
Antimony, total	7440-36-0	E420/EO	mg/L	<0.00010	----	----	----	----	----	----
Arsenic, total	7440-38-2	E420/EO	mg/L	0.00051	----	----	----	----	----	----
Barium, total	7440-39-3	E420/EO	mg/L	0.0256	----	----	----	----	----	----
Beryllium, total	7440-41-7	E420/EO	mg/L	<0.000020	----	----	----	----	----	----
Bismuth, total	7440-69-9	E420/EO	mg/L	0.000060	----	----	----	----	----	----
Boron, total	7440-42-8	E420/EO	mg/L	0.036	----	----	----	----	----	----
Cadmium, total	7440-43-9	E420/EO	mg/L	<0.0000050	----	----	----	----	----	----
Calcium, total	7440-70-2	E420/EO	mg/L	30.5	----	----	----	----	----	----
Cesium, total	7440-46-2	E420/EO	mg/L	<0.000010	----	----	----	----	----	----
Chromium, total	7440-47-3	E420/EO	mg/L	<0.00050	----	----	----	----	----	----
Cobalt, total	7440-48-4	E420/EO	mg/L	<0.00010	----	----	----	----	----	----
Copper, total	7440-50-8	E420/EO	mg/L	<0.00050	----	----	----	----	----	----
Iron, total	7439-89-6	E420/EO	mg/L	0.018	----	----	----	----	----	----
Lead, total	7439-92-1	E420/EO	mg/L	<0.000050	----	----	----	----	----	----
Lithium, total	7439-93-2	E420/EO	mg/L	0.0048	----	----	----	----	----	----
Magnesium, total	7439-95-4	E420/EO	mg/L	30.9	----	----	----	----	----	----
Manganese, total	7439-96-5	E420/EO	mg/L	0.00576	----	----	----	----	----	----
Mercury, total	7439-97-6	E508/EO	mg/L	<0.0000050	----	----	----	----	----	----
Molybdenum, total	7439-98-7	E420/EO	mg/L	0.000371	----	----	----	----	----	----
Nickel, total	7440-02-0	E420/EO	mg/L	<0.00050	----	----	----	----	----	----
Phosphorus, total	7723-14-0	E420/EO	mg/L	<0.050	----	----	----	----	----	----
Potassium, total	7440-09-7	E420/EO	mg/L	2.93	----	----	----	----	----	----
Rubidium, total	7440-17-7	E420/EO	mg/L	0.00073	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	CAM-M WATER LAKE	----	----	----	----	----	----
				Sampling date/time	25-Sep-2023 09:00	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
				EO2308912-001	--------	--------	--------	--------	--------	--------	
Total Metals											
Selenium, total	7782-49-2	E420/EO	mg/L	<0.000050	----	----	----	----	----	----	
Silicon (as SiO2), total	7631-86-9	EC420.SiO2/EO	mg/L	0.34	----	----	----	----	----	----	
Silicon, total	7440-21-3	E420/EO	mg/L	0.16	----	----	----	----	----	----	
Silver, total	7440-22-4	E420/EO	mg/L	<0.000010	----	----	----	----	----	----	
Sodium, total	7440-23-5	E420/EO	mg/L	59.1	----	----	----	----	----	----	
Strontium, total	7440-24-6	E420/EO	mg/L	0.0456	----	----	----	----	----	----	
Sulfur, total	7704-34-9	E420/EO	mg/L	14.3	----	----	----	----	----	----	
Tellurium, total	13494-80-9	E420/EO	mg/L	<0.00020	----	----	----	----	----	----	
Thallium, total	7440-28-0	E420/EO	mg/L	0.000026	----	----	----	----	----	----	
Thorium, total	7440-29-1	E420/EO	mg/L	<0.00010	----	----	----	----	----	----	
Tin, total	7440-31-5	E420/EO	mg/L	<0.00010	----	----	----	----	----	----	
Titanium, total	7440-32-6	E420/EO	mg/L	<0.00030	----	----	----	----	----	----	
Tungsten, total	7440-33-7	E420/EO	mg/L	<0.00010	----	----	----	----	----	----	
Uranium, total	7440-61-1	E420/EO	mg/L	0.000188	----	----	----	----	----	----	
Vanadium, total	7440-62-2	E420/EO	mg/L	<0.00050	----	----	----	----	----	----	
Zinc, total	7440-66-6	E420/EO	mg/L	<0.0030	----	----	----	----	----	----	
Zirconium, total	7440-67-7	E420/EO	mg/L	<0.00020	----	----	----	----	----	----	
Aggregate Organics											
Oil & grease (gravimetric)	----	E567/CG	mg/L	<5.0	----	----	----	----	----	----	
Polychlorinated Biphenyls											
Aroclor 1016	12674-11-2	E687/WT	µg/L	<0.020	----	----	----	----	----	----	
Aroclor 1221	11104-28-2	E687/WT	µg/L	<0.020	----	----	----	----	----	----	
Aroclor 1232	11141-16-5	E687/WT	µg/L	<0.020	----	----	----	----	----	----	
Aroclor 1242	53469-21-9	E687/WT	µg/L	<0.020	----	----	----	----	----	----	
Aroclor 1248	12672-29-6	E687/WT	µg/L	<0.020	----	----	----	----	----	----	
Aroclor 1254	11097-69-1	E687/WT	µg/L	<0.020	----	----	----	----	----	----	
Aroclor 1260	11096-82-5	E687/WT	µg/L	<0.020	----	----	----	----	----	----	
Aroclor 1262	37324-23-5	E687/WT	µg/L	<0.020	----	----	----	----	----	----	

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID: CAM-M WATER LAKE	----	----	----	----	----	----
				Sampling date/time: 25-Sep-2023 09:00	----	----	----	----	----	----
				Sub-Matrix: Water	----	----	----	----	----	----
				EO2308912-001	--------	--------	--------	--------	--------	--------
Polychlorinated Biphenyls										
Aroclor 1268	11100-14-4	E687/WT	µg/L	<0.020	----	----	----	----	----	----
Polychlorinated biphenyls [PCBs], total	----	E687/WT	µg/L	<0.060	----	----	----	----	----	----
Polychlorinated Biphenyls Surrogates										
Decachlorobiphenyl	2051-24-3	E687/WT	%	107	----	----	----	----	----	----
Tetrachloro-m-xylene	877-09-8	E687/WT	%	94.4	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Limits

Analyte	CAS Number	Unit	CDWG AO	CDWG MAC	CDWG OG				
Physical Tests									
Alkalinity, bicarbonate (as HCO3)	71-52-3	mg/L	--	--	<a--				
Alkalinity, carbonate (as CO3)	3812-32-6	mg/L	--	--	<a--				
Alkalinity, hydroxide (as OH)	14280-30-9	mg/L	--	--	<a--				
Conductivity	----	µS/cm	--	--	<a--				
Hardness (as CaCO3), from total Ca/Mg	----	mg/L	**80 - 100 mg/L**	--	<a--				
Langelier index (@ 20°C)	----	-	--	--	<a--				
Langelier index (@ 4°C)	----	-	--	--	<a--				
pH, saturation (@ 20°C)	----	pH units	--	--	<a--				
pH, saturation (@ 4°C)	----	pH units	--	--	<a--				
pH	----	pH units	**7 - 10.5 pH units**	--	<a--				
Solids, total dissolved [TDS], calculated	----	mg/L	**500 mg/L**	--	<a--				
Solids, total dissolved [TDS]	----	mg/L	**500 mg/L**	--	<a--				
Turbidity	----	NTU	**1 NTU**	--	<a--				
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	mg/L	--	--	<a--				
Bromide	24959-67-9	mg/L	--	--	<a--				
Chloride	16887-00-6	mg/L	**250 mg/L**	--	<a--				
Fluoride	16984-48-8	mg/L	--	**1.5 mg/L**	<a--				
Nitrate (as N)	14797-55-8	mg/L	--	**10 mg/L**	<a--				
Nitrate + Nitrite (as N)	----	mg/L	--	**10 mg/L**	<a--				
Nitrite (as N)	14797-65-0	mg/L	--	**1 mg/L**	<a--				
Phosphate, ortho-, dissolved (as P)	14265-44-2	mg/L	--	--	<a--				
Sulfate (as SO4)	14808-79-8	mg/L	**500 mg/L**	--	<a--				
Metals									
Sodium adsorption ratio [SAR]	----	-	--	--	<a--				
Ion Balance									
Anion sum	----	meq/L	--	--	<a--				
Cation sum (total)	----	meq/L	--	--	<a--				
Ion balance (APHA)	----	%	--	--	<a--				
Ion balance (cations/anions)	----	%	--	--	<a--				
Total Metals									
Aluminum, total	7429-90-5	mg/L	--	**2.9 mg/L**	**0.1 mg/L**				
Antimony, total	7440-36-0	mg/L	--	**0.006 mg/L**	<a--				
Arsenic, total	7440-38-2	mg/L	--	**0.01 mg/L**	<a--				
Barium, total	7440-39-3	mg/L	--	**2 mg/L**	<a--				
Beryllium, total	7440-41-7	mg/L	--	--	<a--				

Analyte	CAS Number	Unit	CDWG AO	CDWG MAC	CDWG OG				
Total Metals - Continued									
Bismuth, total	7440-69-9	mg/L	--	--	<a--				
Boron, total	7440-42-8	mg/L	--	**5 mg/L**	<a--				
Cadmium, total	7440-43-9	mg/L	--	**0.007 mg/L**	<a--				
Calcium, total	7440-70-2	mg/L	--	--	<a--				
Cesium, total	7440-46-2	mg/L	--	--	<a--				
Chromium, total	7440-47-3	mg/L	--	**0.05 mg/L**	<a--				
Cobalt, total	7440-48-4	mg/L	--	--	<a--				
Copper, total	7440-50-8	mg/L	**1 mg/L**	**2 mg/L**	<a--				
Iron, total	7439-89-6	mg/L	**0.3 mg/L**	--	<a--				
Lead, total	7439-92-1	mg/L	--	**0.005 mg/L**	<a--				
Lithium, total	7439-93-2	mg/L	--	--	<a--				
Magnesium, total	7439-95-4	mg/L	--	--	<a--				
Manganese, total	7439-96-5	mg/L	**0.02 mg/L**	**0.12 mg/L**	<a--				
Mercury, total	7439-97-6	mg/L	--	**0.001 mg/L**	<a--				
Molybdenum, total	7439-98-7	mg/L	--	--	<a--				
Nickel, total	7440-02-0	mg/L	--	--	<a--				
Phosphorus, total	7723-14-0	mg/L	--	--	<a--				
Potassium, total	7440-09-7	mg/L	--	--	<a--				
Rubidium, total	7440-17-7	mg/L	--	--	<a--				
Selenium, total	7782-49-2	mg/L	--	**0.05 mg/L**	<a--				
Silicon (as SiO2), total	7631-86-9	mg/L	--	--	<a--				
Silicon, total	7440-21-3	mg/L	--	--	<a--				
Silver, total	7440-22-4	mg/L	--	--	<a--				
Sodium, total	7440-23-5	mg/L	**200 mg/L**	--	<a--				
Strontium, total	7440-24-6	mg/L	--	**7 mg/L**	<a--				
Sulfur, total	7704-34-9	mg/L	--	--	<a--				
Tellurium, total	13494-80-9	mg/L	--	--	<a--				
Thallium, total	7440-28-0	mg/L	--	--	<a--				
Thorium, total	7440-29-1	mg/L	--	--	<a--				
Tin, total	7440-31-5	mg/L	--	--	<a--				
Titanium, total	7440-32-6	mg/L	--	--	<a--				
Tungsten, total	7440-33-7	mg/L	--	--	<a--				
Uranium, total	7440-61-1	mg/L	--	**0.02 mg/L**	<a--				
Vanadium, total	7440-62-2	mg/L	--	--	<a--				
Zinc, total	7440-66-6	mg/L	**5 mg/L**	--	<a--				
Zirconium, total	7440-67-7	mg/L	--	--	<a--				
Aggregate Organics									
Oil & grease (gravimetric)	----	mg/L	--	--	<a--				
Polychlorinated Biphenyls									

Analyte	CAS Number	Unit	CDWG AO	CDWG MAC	CDWG OG				
Polychlorinated Biphenyls - Continued									
Aroclor 1016	12674-11-2	µg/L	--	--	<a--				
Aroclor 1221	11104-28-2	µg/L	--	--	<a--				
Aroclor 1232	11141-16-5	µg/L	--	--	<a--				
Aroclor 1242	53469-21-9	µg/L	--	--	<a--				
Aroclor 1248	12672-29-6	µg/L	--	--	<a--				
Aroclor 1254	11097-69-1	µg/L	--	--	<a--				
Aroclor 1260	11096-82-5	µg/L	--	--	<a--				
Aroclor 1262	37324-23-5	µg/L	--	--	<a--				
Aroclor 1268	11100-14-4	µg/L	--	--	<a--				
Polychlorinated biphenyls [PCBs], total	----	µg/L	--	--	<a--				
Decachlorobiphenyl	2051-24-3	%							
Tetrachloro-m-xylene	877-09-8	%							

Please refer to the General Comments section for an explanation of any qualifiers detected.

Key:

CDWG — Canada Guidelines for Canadian Drinking Water Quality (JAN, 2023)

- AO — Aesthetic Objective
- MAC — Maximum Acceptable Concentrations
- OG — Operational Guidance

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QUALITY CONTROL REPORT

Work Order	: **EO2308912**	Page	: 1 of 13
Client	: NASITTUQ CORPORATION	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: +1 780 413 5227
Project	: NWS SITE LSS-C-CAMBRIDGE BAY	Date Samples Received	: 30-Sep-2023 12:28
PO	: ----	Date Analysis Commenced	: 30-Sep-2023
C-O-C number	: ----	Issue Date	: 10-Oct-2023 17:03
Sampler	: FA 613 223 0629		
Site	: ----		
Quote number	: Potable Water Testing		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Alex Drake	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Daniel Nguyen	Lab Assistant	Edmonton Metals, Edmonton, Alberta
Garrett Nodin	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Jeremy Gingras	Supervisor - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Ping Yeung	Team Leader - Inorganics	Edmonton Inorganics, Edmonton, Alberta
Ping Yeung	Team Leader - Inorganics	Edmonton Metals, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Saron Gebremariam	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Edmonton Metals, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1163136)											
EO2308864-001	Anonymous	Turbidity	----	E121	0.10	NTU	1.58	1.59	0.505%	15%	----
Physical Tests (QC Lot: 1166381)											
EO2308803-002	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	737	780	5.60%	20%	----
Physical Tests (QC Lot: 1175619)											
FC2302831-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	16400	16500	0.669%	10%	----
Physical Tests (QC Lot: 1175620)											
FC2302831-001	Anonymous	pH	----	E108	0.10	pH units	9.51	9.51	0.00%	3%	----
Anions and Nutrients (QC Lot: 1163105)											
EO2308911-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	137	136	0.576%	20%	----
Anions and Nutrients (QC Lot: 1163106)											
EO2308911-001	Anonymous	Bromide	24959-67-9	E235.Br	0.10	mg/L	0.29	0.29	0.003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1163107)											
EO2308911-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.087	0.090	0.003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1163108)											
EO2308911-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	0.045	0.047	0.001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1163109)											
EO2308911-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1163110)											
EO2308911-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	38.5	38.5	0.0623%	20%	----
Anions and Nutrients (QC Lot: 1163209)											
EO2308912-001	CAM-M WATER LAKE	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1173818)											
EO2308964-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.173	0.176	1.72%	20%	----
Total Metals (QC Lot: 1163979)											
EO2307750-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	0.0000982	0.0000856	13.7%	20%	----
Total Metals (QC Lot: 1172283)											
EO2308912-001	CAM-M WATER LAKE	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0072	0.0067	0.0005	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00051	0.00050	0.00001	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0256	0.0258	0.862%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1172283) - continued											
EO2308912-001	CAM-M WATER LAKE	Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	0.000060	<0.000050	0.000010	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.036	0.035	0.0004	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	30.5	31.1	1.78%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.018	0.020	0.002	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0048	0.0048	0.00002	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	30.9	31.2	1.23%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00576	0.00608	5.39%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000371	0.000335	0.000036	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	2.93	2.90	1.08%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00073	0.00075	0.00002	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	0.16	0.17	0.005	Diff <2x LOR	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	59.1	61.3	3.60%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.0456	0.0461	1.06%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	14.3	14.4	0.782%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000026	<0.000010	0.000016	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000188	0.000188	0.165%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1172283) - continued											
EO2308912-001	CAM-M WATER LAKE	Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1163136)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1166381)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests (QCLot: 1175619)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Anions and Nutrients (QCLot: 1163105)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1163106)						
Bromide	24959-67-9	E235.Br	0.1	mg/L	<0.10	----
Anions and Nutrients (QCLot: 1163107)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1163108)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1163109)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 1163110)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1163209)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1173818)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Total Metals (QCLot: 1163979)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1172283)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1172283) - continued						
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Aggregate Organics (QCLot: 1169683)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Polychlorinated Biphenyls (QCLot: 1168912)						
Aroclor 1016	12674-11-2	E687	0.02	µg/L	<0.020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polychlorinated Biphenyls (QCLot: 1168912) - continued						
Aroclor 1221	11104-28-2	E687	0.02	µg/L	<0.020	----
Aroclor 1232	11141-16-5	E687	0.02	µg/L	<0.020	----
Aroclor 1242	53469-21-9	E687	0.02	µg/L	<0.020	----
Aroclor 1248	12672-29-6	E687	0.02	µg/L	<0.020	----
Aroclor 1254	11097-69-1	E687	0.02	µg/L	<0.020	----
Aroclor 1260	11096-82-5	E687	0.02	µg/L	<0.020	----
Aroclor 1262	37324-23-5	E687	0.02	µg/L	<0.020	----
Aroclor 1268	11100-14-4	E687	0.02	µg/L	<0.020	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1163136)									
Turbidity	----	E121	0.1	NTU	200 NTU	100	85.0	115	----
Physical Tests (QCLot: 1166381)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	96.8	85.0	115	----
Physical Tests (QCLot: 1175619)									
Conductivity	----	E100	1	µS/cm	1412 µS/cm	102	90.0	110	----
Physical Tests (QCLot: 1175620)									
pH	----	E108	----	pH units	6 pH units	102	97.0	103	----
Anions and Nutrients (QCLot: 1163105)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.4	90.0	110	----
Anions and Nutrients (QCLot: 1163106)									
Bromide	24959-67-9	E235.Br	0.1	mg/L	0.5 mg/L	97.5	85.0	115	----
Anions and Nutrients (QCLot: 1163107)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1163108)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 1163109)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1163110)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1163209)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.03 mg/L	105	80.0	120	----
Anions and Nutrients (QCLot: 1173818)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	103	85.0	115	----
Total Metals (QCLot: 1163979)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	98.3	80.0	120	----
Total Metals (QCLot: 1172283)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	89.3	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	89.2	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	98.2	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	97.6	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1172283) - continued									
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	92.0	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	93.6	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	90.2	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	96.0	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	90.9	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	88.3	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	96.8	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	96.3	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	93.6	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	93.3	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	96.0	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	87.6	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	92.5	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	98.1	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	97.4	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	97.1	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	95.8	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	97.0	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	92.4	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	85.5	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	93.7	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	95.3	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	85.3	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	90.6	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	90.9	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	89.8	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	87.8	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	86.2	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	96.3	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	90.4	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	96.2	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	95.5	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.0	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Aggregate Organics (QCLot: 1169683)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	101	70.0	130	----
Polychlorinated Biphenyls (QCLot: 1168912)									
Aroclor 1016	12674-11-2	E687	0.02	µg/L	0.2 µg/L	120	60.0	140	----
Aroclor 1221	11104-28-2	E687	0.02	µg/L	0.2 µg/L	120	60.0	140	----
Aroclor 1232	11141-16-5	E687	0.02	µg/L	0.2 µg/L	120	60.0	140	----
Aroclor 1242	53469-21-9	E687	0.02	µg/L	0.2 µg/L	120	60.0	140	----
Aroclor 1248	12672-29-6	E687	0.02	µg/L	0.2 µg/L	96.1	60.0	140	----
Aroclor 1254	11097-69-1	E687	0.02	µg/L	0.2 µg/L	112	60.0	140	----
Aroclor 1260	11096-82-5	E687	0.02	µg/L	0.2 µg/L	137	60.0	140	----
Aroclor 1262	37324-23-5	E687	0.02	µg/L	0.2 µg/L	137	60.0	140	----
Aroclor 1268	11100-14-4	E687	0.02	µg/L	0.2 µg/L	137	60.0	140	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1163105)										
EO2308911-001	Anonymous	Chloride	16887-00-6	E235.Cl	ND mg/L	100 mg/L	ND	75.0	125	----
Anions and Nutrients (QCLot: 1163106)										
EO2308911-001	Anonymous	Bromide	24959-67-9	E235.Br	0.45 mg/L	0.5 mg/L	89.8	75.0	125	----
Anions and Nutrients (QCLot: 1163107)										
EO2308911-001	Anonymous	Fluoride	16984-48-8	E235.F	0.962 mg/L	1 mg/L	96.2	75.0	125	----
Anions and Nutrients (QCLot: 1163108)										
EO2308911-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	2.50 mg/L	2.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1163109)										
EO2308911-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.478 mg/L	0.5 mg/L	95.6	75.0	125	----
Anions and Nutrients (QCLot: 1163110)										
EO2308911-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	95.3 mg/L	100 mg/L	95.3	75.0	125	----
Anions and Nutrients (QCLot: 1163209)										
EO2308912-001	CAM-M WATER LAKE	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0355 mg/L	0.0294 mg/L	121	70.0	130	----
Anions and Nutrients (QCLot: 1173818)										
FC2302863-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	0.1 mg/L	ND	75.0	125	----
Total Metals (QCLot: 1163979)										
EO2307750-002	Anonymous	Mercury, total	7439-97-6	E508	ND mg/L	0.0001 mg/L	ND	70.0	130	----
Total Metals (QCLot: 1172283)										
EO2308960-001	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	0.2 mg/L	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0186 mg/L	0.02 mg/L	93.0	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0194 mg/L	0.02 mg/L	97.1	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0409 mg/L	0.04 mg/L	102	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00893 mg/L	0.01 mg/L	89.3	70.0	130	----
		Boron, total	7440-42-8	E420	0.108 mg/L	0.1 mg/L	108	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00390 mg/L	0.004 mg/L	97.4	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00946 mg/L	0.01 mg/L	94.6	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0380 mg/L	0.04 mg/L	95.1	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1172283) - continued										
EO2308960-001	Anonymous	Cobalt, total	7440-48-4	E420	0.0186 mg/L	0.02 mg/L	93.0	70.0	130	----
		Copper, total	7440-50-8	E420	0.0177 mg/L	0.02 mg/L	88.4	70.0	130	----
		Iron, total	7439-89-6	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Lead, total	7439-92-1	E420	0.0184 mg/L	0.02 mg/L	91.9	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0917 mg/L	0.1 mg/L	91.7	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0372 mg/L	0.04 mg/L	92.9	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.84 mg/L	10 mg/L	98.4	70.0	130	----
		Potassium, total	7440-09-7	E420	3.84 mg/L	4 mg/L	96.0	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0191 mg/L	0.02 mg/L	95.3	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0409 mg/L	0.04 mg/L	102	70.0	130	----
		Silicon, total	7440-21-3	E420	8.48 mg/L	10 mg/L	84.8	70.0	130	----
		Silver, total	7440-22-4	E420	0.00372 mg/L	0.004 mg/L	92.9	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	20.1 mg/L	20 mg/L	100	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0367 mg/L	0.04 mg/L	91.9	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00364 mg/L	0.004 mg/L	91.0	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0191 mg/L	0.02 mg/L	95.5	70.0	130	----
		Tin, total	7440-31-5	E420	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0392 mg/L	0.04 mg/L	97.9	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00376 mg/L	0.004 mg/L	94.0	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0978 mg/L	0.1 mg/L	97.8	70.0	130	----
		Zinc, total	7440-66-6	E420	0.365 mg/L	0.4 mg/L	91.3	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0378 mg/L	0.04 mg/L	94.6	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2308912**	Page	: 1 of 10
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS SITE LSS-C-CAMBRIDGE BAY	Date Samples Received	: 30-Sep-2023 12:28
PO	: ----	Issue Date	: 10-Oct-2023 17:02
C-O-C number	: ----		
Sampler	: FA		
Site	: ----		
Quote number	: Potable Water Testing		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) CAM-M WATER LAKE	E567	25-Sep-2023	06-Oct-2023	28 days	11 days	✓	06-Oct-2023	40 days	0 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) CAM-M WATER LAKE	E298	25-Sep-2023	06-Oct-2023	28 days	11 days	✓	06-Oct-2023	28 days	11 days	✓
Anions and Nutrients : Bromide in Water by IC										
HDPE CAM-M WATER LAKE	E235.Br	25-Sep-2023	30-Sep-2023	28 days	5 days	✓	30-Sep-2023	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE CAM-M WATER LAKE	E235.Cl	25-Sep-2023	30-Sep-2023	28 days	5 days	✓	30-Sep-2023	28 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001										
HDPE CAM-M WATER LAKE	E378-U	25-Sep-2023	30-Sep-2023	3 days	5 days	× EHTR	30-Sep-2023	3 days	5 days	× EHTR-FM
Anions and Nutrients : Fluoride in Water by IC										
HDPE CAM-M WATER LAKE	E235.F	25-Sep-2023	30-Sep-2023	28 days	5 days	✓	30-Sep-2023	28 days	5 days	✓

Matrix: **Water**

Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrate in Water by IC										
HDPE										
CAM-M WATER LAKE	E235.NO3	25-Sep-2023	30-Sep-2023	3 days	5 days	✗ EHTR	30-Sep-2023	3 days	5 days	✗ EHTR-FM
Anions and Nutrients : Nitrite in Water by IC										
HDPE										
CAM-M WATER LAKE	E235.NO2	25-Sep-2023	30-Sep-2023	3 days	5 days	✗ EHTR	30-Sep-2023	3 days	5 days	✗ EHTR-FM
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
CAM-M WATER LAKE	E235.SO4	25-Sep-2023	30-Sep-2023	28 days	5 days	✓	30-Sep-2023	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
CAM-M WATER LAKE	E290	25-Sep-2023	09-Oct-2023	14 days	14 days	✓	10-Oct-2023	14 days	15 days	✗ EHT
Physical Tests : Conductivity in Water										
HDPE										
CAM-M WATER LAKE	E100	25-Sep-2023	09-Oct-2023	28 days	14 days	✓	10-Oct-2023	28 days	15 days	✓
Physical Tests : pH by Meter										
HDPE										
CAM-M WATER LAKE	E108	25-Sep-2023	09-Oct-2023	0.25 hrs	342 hrs	✗ EHTR-FM	10-Oct-2023	0.25 hrs	361 hrs	✗ EHTR-FM
Physical Tests : TDS by Gravimetry										
HDPE										
CAM-M WATER LAKE	E162	25-Sep-2023	----	----	----		02-Oct-2023	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
CAM-M WATER LAKE	E121	25-Sep-2023	----	----	----		30-Sep-2023	3 days	5 days	✗ EHTR
Polychlorinated Biphenyls : PCB Aroclors by GC-MS										
Amber glass/Teflon lined cap										
CAM-M WATER LAKE	E687	25-Sep-2023	04-Oct-2023	365 days	9 days	✓	05-Oct-2023	40 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
CAM-M WATER LAKE	E508	25-Sep-2023	03-Oct-2023	28 days	8 days	✓	03-Oct-2023	28 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
CAM-M WATER LAKE	E420	25-Sep-2023	06-Oct-2023	180 days	11 days	✓	06-Oct-2023	180 days	11 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Ammonia by Fluorescence	E298	1173818	1	7	14.2	5.0	✓
Bromide in Water by IC	E235.Br	1163106	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1163105	1	20	5.0	5.0	✓
Conductivity in Water	E100	1175619	1	16	6.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1163209	1	5	20.0	5.0	✓
Fluoride in Water by IC	E235.F	1163107	1	2	50.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1163108	1	2	50.0	5.0	✓
Nitrite in Water by IC	E235.NO2	1163109	1	2	50.0	5.0	✓
pH by Meter	E108	1175620	1	16	6.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1163110	1	2	50.0	5.0	✓
TDS by Gravimetry	E162	1166381	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1163979	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1172283	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1163136	1	6	16.6	5.0	✓
Laboratory Control Samples (LCS)							
Ammonia by Fluorescence	E298	1173818	1	7	14.2	5.0	✓
Bromide in Water by IC	E235.Br	1163106	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1163105	1	20	5.0	5.0	✓
Conductivity in Water	E100	1175619	1	16	6.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1163209	1	5	20.0	5.0	✓
Fluoride in Water by IC	E235.F	1163107	1	2	50.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1163108	1	2	50.0	5.0	✓
Nitrite in Water by IC	E235.NO2	1163109	1	2	50.0	5.0	✓
Oil & Grease by Gravimetry	E567	1169683	1	17	5.8	5.0	✓
PCB Aroclors by GC-MS	E687	1168912	1	10	10.0	4.7	✓
pH by Meter	E108	1175620	1	16	6.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1163110	1	2	50.0	5.0	✓
TDS by Gravimetry	E162	1166381	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1163979	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1172283	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1163136	1	6	16.6	5.0	✓
Method Blanks (MB)							
Ammonia by Fluorescence	E298	1173818	1	7	14.2	5.0	✓
Bromide in Water by IC	E235.Br	1163106	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1163105	1	20	5.0	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Conductivity in Water	E100	1175619	1	16	6.2	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1163209	1	5	20.0	5.0	✓
Fluoride in Water by IC	E235.F	1163107	1	2	50.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1163108	1	2	50.0	5.0	✓
Nitrite in Water by IC	E235.NO2	1163109	1	2	50.0	5.0	✓
Oil & Grease by Gravimetry	E567	1169683	1	17	5.8	5.0	✓
PCB Aroclors by GC-MS	E687	1168912	1	10	10.0	4.7	✓
Sulfate in Water by IC	E235.SO4	1163110	1	2	50.0	5.0	✓
TDS by Gravimetry	E162	1166381	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1163979	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1172283	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1163136	1	6	16.6	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1173818	1	7	14.2	5.0	✓
Bromide in Water by IC	E235.Br	1163106	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1163105	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1163209	1	5	20.0	5.0	✓
Fluoride in Water by IC	E235.F	1163107	1	2	50.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1163108	1	2	50.0	5.0	✓
Nitrite in Water by IC	E235.NO2	1163109	1	2	50.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1163110	1	2	50.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1163979	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1172283	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Edmonton	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Edmonton	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Edmonton	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TDS by Gravimetry	E162 ALS Environmental - Edmonton	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Water by IC	E235.Br ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Water by IC	E235.Cl ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC	E235.F ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC	E235.NO2 ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC	E235.NO3 ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Edmonton	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Alkalinity Species by Titration	E290 ALS Environmental - Edmonton	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Edmonton	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Edmonton	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Edmonton	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Edmonton	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Oil & Grease by Gravimetry	E567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
PCB Aroclors by GC-MS	E687 ALS Environmental - Waterloo	Water	EPA 8270E (mod)	PCB Aroclors are analyzed by GC-MS
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Edmonton	Water	APHA 2340B	“Hardness (as CaCO3), from total Ca/Mg” is calculated from the sum of total Calcium and Magnesium concentrations, expressed in $CaCO_3$ equivalents. “Total Hardness” refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Ion Balance using Total Metals	EC101A ALS Environmental - Edmonton	Water	APHA 1030E	Cation Sum (using total metals), Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
Sodium Adsorption Ratio [SAR] from Total Metals	EC102 ALS Environmental - Edmonton	Water	CCME Sodium Adsorption Ratio (SAR)	The Sodium Adsorption Ratio (SAR) for a water sample is calculated from the Sodium, Calcium, and Magnesium concentrations of the water, using the same calculations as would be used for a sediment paste extract.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TDS calculated from conductivity	EC103A ALS Environmental - Edmonton	Water	APHA 1030 E	Total dissolved solids (as mg/L) can be estimated by multiplying electrical conductance (in umhos/cm) by 0.65.
Saturation Index using Laboratory pH (Ca-T)	EC105A ALS Environmental - Edmonton	Water	APHA 2330B	Langelier Index provides an indication of scale formation potential at a given pH and temperature, and is calculated as per APHA 2330B Saturation Index. Positive values indicate oversaturation with respect to CaCO3. Negative values indicate undersaturation of CaCO3. This calculation uses laboratory pH measurements and provides estimates of Langelier Index at temperatures of 4, 15, 20, 25, 66, and 77°C. Ryznar Stability Index is an alternative index used for scale formation and corrosion potential.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Edmonton	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Total Silicon as Silica (Calculation)	EC420.SiO2 ALS Environmental - Edmonton	Water	N/A	Total Silicon (as SiO2) is a calculated parameter. Total Silicon (as SiO2 mg/L) = 2.139 x Total Silicon (mg/L).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Edmonton	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.
Pesticides, PCB, and Neutral Extractable Chlorinated Hydrocarbons Extraction	EP660 ALS Environmental - Waterloo	Water	EPA 3511 (mod)	Samples are extracted from aqueous sample using an organic solvent liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 22 -

Page of

Report To	Contact and company name below will appear on the final report
Company:	Nasittuq Corporation - NATT100
Contact:	Alaina Leslie
Phone:	613-223-0629
	Company address below will appear on the final report
Street:	275 Slater St.
City/Province:	Ottawa, ON
Postal Code:	K1P 5H9
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Project Information

ALS Account # / Quote #:	NATT100/WT2023NATT1000003
Job #:	NWS SITE LSS-C - CAMBRIDGE BAY
PO / AFE:	
LSD:	
ALS Lab Work Order # (ALS use only):	EO2308912

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: alainaleslie@nasittuq.com

Email 2: labresults@nasittuq.com

Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: labresults@nasittuq.com

Email 2: naccounting@nasittuq.com

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Contact: Costas Farassoglou

Sampler: F AYLWARD

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

For all tests with rush TATs requested, please contact your AM to confirm availability.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Potable Water	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	CAM-M WATER LAKE	25-09-23	9:00 AM	WATER	8	R			
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				
				WATER	8				

Environmental Division Edmonton

Work Order Reference

EO2308912

Telephone : +1 780 413 5227

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

Are samples taken from a Regulated DW System? ☐ YES ☑ NO

Are samples for human consumption/ use? ☑ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Health CANADA DW Guidelines.

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
17.0							

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
	30 Sep 23	10:50

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JAN 2023 FRONT

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

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2309096**	Page	: 1 of 3
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS SITE LSS-C-CAMBRIDGE BAY (SEWAGE)	Date Samples Received	: 05-Oct-2023 18:35
PO	: ----	Date Analysis Commenced	: 06-Oct-2023
C-O-C number	: ----	Issue Date	: 16-Oct-2023 15:53
Sampler	: ----		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Analyst	Inorganics, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Roseanne Drake	Lab Assistant	Microbiology, Edmonton, Alberta
Saron Gebremariam	Lab Assistant	Inorganics, Edmonton, Alberta
Stephanie Korol	Laboratory Assistant	Organics, Calgary, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	ML-MAIN	----	----	----	----	----	----
				Sampling date/time	03-Oct-2023 08:45	----	----	----	----	----	----
				Sub-Matrix	Water	----	----	----	----	----	----
					EO2309096-001	--------	--------	--------	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.17	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		4.6	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		5	----	----	----	----	----	----
Aggregate Organics											
Biochemical oxygen demand [BOD]	----	E550/EO	mg/L		<2.0	----	----	----	----	----	----
Oil & grease (gravimetric)	----	E567/CG	mg/L		<5.0	----	----	----	----	----	----
Oil & grease, animal/vegetable (gravimetric)	----	EC567A.SG/CG	mg/L		<5.0	----	----	----	----	----	----
Oil & grease, mineral (gravimetric)	----	E567SG/CG	mg/L		<5.0	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Key:

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **EO2309096**	Page	: 1 of 4
Client	: NASITTUQ CORPORATION	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: +1 780 413 5227
Project	: NWS SITE LSS-C-CAMBRIDGE BAY (SEWAGE)	Date Samples Received	: 05-Oct-2023 18:35
PO	: ----	Date Analysis Commenced	: 06-Oct-2023
C-O-C number	: ----	Issue Date	: 16-Oct-2023 15:53
Sampler	: ---- 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Fahad Husain	Analyst	Edmonton Inorganics, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Roseanne Drake	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Saron Gebremariam	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Stephanie Korol	Laboratory Assistant	Calgary Organics, Calgary, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1176620)											
EO2309006-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.2	9.6	3.4	Diff <2x LOR	----
Physical Tests (QC Lot: 1183824)											
EO2309349-001	Anonymous	pH	----	E108	0.10	pH units	8.29	8.31	0.241%	3%	----
Microbiological Tests (QC Lot: 1173556)											
EO2309091-003	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	10	MPN/100mL	>24200	>24200	0.00%	65%	----
Aggregate Organics (QC Lot: 1173118)											
EO2309063-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	618	556	10.6%	30%	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1176620)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1173556)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1173118)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1186577)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1186578)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1176620)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	95.3	85.0	115	----
Physical Tests (QCLot: 1183824)									
pH	----	E108	----	pH units	6 pH units	100	97.0	103	----
Aggregate Organics (QCLot: 1173118)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	93.6	85.0	115	----
Aggregate Organics (QCLot: 1186577)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	90.0	70.0	130	----
Aggregate Organics (QCLot: 1186578)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	83.8	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2309096**	Page	: 1 of 5
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS SITE LSS-C-CAMBRIDGE BAY (SEWAGE)	Date Samples Received	: 05-Oct-2023 18:35
PO	: ----	Issue Date	: 16-Oct-2023 16:01
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 1		
No. of samples analysed	: 1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-48h] ML-MAIN	E550	03-Oct-2023	----	----	----		06-Oct-2023	48 hrs	76 hrs	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-MAIN	E567SG	03-Oct-2023	16-Oct-2023	28 days	13 days	✓	16-Oct-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-MAIN	E567	03-Oct-2023	16-Oct-2023	28 days	13 days	✓	16-Oct-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-MAIN	E010.FC	03-Oct-2023	----	----	----		06-Oct-2023	30 hrs	79 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-MAIN	E108	03-Oct-2023	13-Oct-2023	0.25 hrs	243 hrs	× EHTR-FM	13-Oct-2023	0.25 hrs	244 hrs	× EHTR-FM
Physical Tests : TSS by Gravimetry										
HDPE ML-MAIN	E160	03-Oct-2023	----	----	----		10-Oct-2023	7 days	7 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	1173118	1	20	5.0	5.0	✓
pH by Meter	E108	1183824	1	3	33.3	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1173556	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1176620	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1173118	1	20	5.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1186578	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1186577	1	14	7.1	5.0	✓
pH by Meter	E108	1183824	1	3	33.3	5.0	✓
TSS by Gravimetry	E160	1176620	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1173118	1	20	5.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1186578	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1186577	1	14	7.1	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1173556	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1176620	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC ALS Environmental - Edmonton	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 ALS Environmental - Edmonton	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 ALS Environmental - Edmonton	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Edmonton	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG ALS Environmental - Calgary	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

COC Number: 22 -

Page of

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Environmental Division Edmonton

Work Order Reference EO2309096

Telephone : +1 780 413 5227

Report To	Contact and company name below will appear on the final report
Company:	Nasittuq Corporation - NATT100
Contact:	Alaina Leslie
Phone:	613-223-0629
	Company address below will appear on the final report
Street:	275 Slater St.
City/Province:	Ottawa, ON
Postal Code:	K1P 5H9
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax alainaleslie@nasittuq.com

Email 2 labresults@nasittuq.com

Email 3

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax labresults@nasittuq.com

Email 2 naccounting@nasittuq.com

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimu

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimu

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimu

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimu

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, s

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please conta

Project Information

ALS Account # / Quote #:	NATT100/WT2023NATT1000004
Job #:	NWS SITE LSS-C - CAMBRIDGE BAY (SEWAGE)
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only): EO2309096

ALS Contact: Costas Farassoglou Sampler:

Analysis Requested

Indicate Filtered (F), Preserved (P) or Filtered and Pre

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BOD	SPECIATED OGG	pH	TSS	Faecal Coliforms	SAMPLES ON HOLD	EXTENDED STORAGE REQ	SUSPECTED HAZARD (see
	ML - MAIN	3 OCT 23	8:45 AM	WATER	7	R	R	R	R	R			
	ML - MAIN	3 OCT 23	8:45	WATER	7								
	ML - MAIN	3 OCT 23	8:45 AM	WATER	7								
	ML - MAIN	3 OCT 23	8:45 AM	WATER	7								
				WATER	7								
				WATER	7								
				WATER	7								
				WATER	7								
				WATER	7								
				WATER	7								
				WATER	7								
				WATER	7								
				WATER	7								

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

Are samples taken from a Regulated DW System?

☐ YES ☑ NO

Are samples for human consumption/ use?

☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
13.7							

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
PATRICK BENEUPE	OCT 3 23	9:00

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
	oct 5/23	5:35PM

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JAN 2023 FRONT

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

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Canada Ltd.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2310156**	Page	: 1 of 3
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS Sewage	Date Samples Received	: 02-Nov-2023 15:20
PO	: ----	Date Analysis Commenced	: 02-Nov-2023
C-O-C number	: ----	Issue Date	: 07-Nov-2023 11:57
Sampler	: ----		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Roseanne Drake	Lab Assistant	Microbiology, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Sample Comments

Sample	Client Id	*Comment*
EO2310156-001	Cycle-let Gen Chem and O&G	BOD bottle for -1 not received at laboratory, but requested on Chain of Custody / analytical request form; subsample cannot be obtained from other containers to meet request. The requested analysis cannont be performed.

Qualifiers

Qualifier	Description
MBHT	The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	Cycle-let Gen Chem and O&G	Cycle-let Faecal A	Cycle-let Faecal B	Cycle-let Faecal C	----	----	----
				Sampling date/time	31-Oct-2023 09:30	31-Oct-2023 09:30	31-Oct-2023 09:30	31-Oct-2023 09:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2310156-001	EO2310156-002	EO2310156-003	EO2310156-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.78	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		7.0	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	22 MBHT	20 MBHT	12 MBHT	----	----	----
Aggregate Organics											
Oil & grease (gravimetric)	----	E567/CG	mg/L		<5.0	----	----	----	----	----	----
Oil & grease, animal/vegetable (gravimetric)	----	EC567A.SG/CG	mg/L		<5.0	----	----	----	----	----	----
Oil & grease, mineral (gravimetric)	----	E567SG/CG	mg/L		<5.0	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Key:

ALS Canada Ltd.

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CERTIFICATE OF ANALYSIS

Work Order	: **EO2310156**	Page	: 1 of 4
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton AB Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS Sewage	Date Samples Received	: 02-Nov-2023 15:20
PO	: ----	Date Analysis Commenced	: 02-Nov-2023
C-O-C number	: ----	Issue Date	: 07-Nov-2023 11:56
Sampler	: ----		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Roseanne Drake	Lab Assistant	Microbiology, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.
Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).
Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	*Comment*
EO2310156-001	Cycle-let Gen Chem and O&G	**BOD bottle for -1 not received at laboratory, but requested on Chain of Custody / analytical request form; subsample cannot be obtained from other containers to meet request. The requested analysis cannont be performed.**

Qualifiers

Qualifier	*Description*
MBHT	*The APHA 30 hour holding time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).*

Analytical Results

EO2310156-001

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: Cycle-let Gen Chem and O&G

Client sampling date / time: 31-Oct-2023 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
pH	----	7.78	0.10	pH units	E108/EO	03-Nov-2023	03-Nov-2023	1221677
Solids, total suspended [TSS]	----	7.0	3.0	mg/L	E160/EO	-	06-Nov-2023	1224482
Aggregate Organics								
Oil & grease (gravimetric)	----	<5.0	5.0	mg/L	E567/CG	06-Nov-2023	06-Nov-2023	1224230
Oil & grease, animal/vegetable (gravimetric)	----	<5.0	5	mg/L	EC567A.SG/CG	-	06-Nov-2023	-
Oil & grease, mineral (gravimetric)	----	<5.0	5.0	mg/L	E567SG/CG	06-Nov-2023	06-Nov-2023	1224231

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2310156-002

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: Cycle-let Faecal A

Client sampling date / time: 31-Oct-2023 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	22 MBHT,	1	MPN/100mL	E010.FC/EO	-	02-Nov-2023	1220621

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2310156-003

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: Cycle-let Faecal B

Client sampling date / time: 31-Oct-2023 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	20 MBHT,	1	MPN/100mL	E010.FC/EO	-	02-Nov-2023	1220621

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

EO2310156-004

Sub-Matrix:**Water** (Matrix: **Water**)

Client sample ID: Cycle-let Faecal C

Client sampling date / time: 31-Oct-2023 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								

Analytical Results

EO2310156-004

Sub-Matrix:**Water**
(Matrix: **Water**)

Client sample ID: Cycle-let Faecal C
Client sampling date / time: 31-Oct-2023 09:30

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Microbiological Tests								
Coliforms, thermotolerant [fecal]	----	12 MBHT.	1	MPN/100mL	E010.FC/EO	-	02-Nov-2023	1220621

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **EO2310156**	Page	: 1 of 3
Client	: NASITTUQ CORPORATION	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: +1 780 413 5227
Project	: NWS Sewage	Date Samples Received	: 02-Nov-2023 15:20
PO	: ----	Date Analysis Commenced	: 02-Nov-2023
C-O-C number	: ----	Issue Date	: 07-Nov-2023 11:56
Sampler	: ---- 613 223 0629		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Roseanne Drake	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1221677)											
FC2303194-010	Anonymous	pH	----	E108	0.10	pH units	8.22	8.22	0.00%	3%	----
Physical Tests (QC Lot: 1224482)											
EO2310135-017	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	3.8	7.2	3.4	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1220621)											
EO2310110-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1224482)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1220621)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1224230)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1224231)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1221677)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Physical Tests (QCLot: 1224482)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	97.6	85.0	115	----
Aggregate Organics (QCLot: 1224230)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	72.2	70.0	130	----
Aggregate Organics (QCLot: 1224231)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	72.2	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2310156**	Page	: 1 of 6
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Samantha Faulkner
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: +1 780 413 5227
Project	: NWS Sewage	Date Samples Received	: 02-Nov-2023 15:20
PO	: ----	Issue Date	: 07-Nov-2023 11:58
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: Q89801 - NWS DRINKING WATER		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) Cycle-let Gen Chem and O&G	E567SG	31-Oct-2023	06-Nov-2023	28 days	6 days	✓	06-Nov-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) Cycle-let Gen Chem and O&G	E567	31-Oct-2023	06-Nov-2023	28 days	6 days	✓	06-Nov-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Cycle-let Faecal A	E010.FC	31-Oct-2023	----	----	----		02-Nov-2023	30 hrs	56 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Cycle-let Faecal B	E010.FC	31-Oct-2023	----	----	----		02-Nov-2023	30 hrs	56 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) Cycle-let Faecal C	E010.FC	31-Oct-2023	----	----	----		02-Nov-2023	30 hrs	56 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE Cycle-let Gen Chem and O&G	E108	31-Oct-2023	03-Nov-2023	0.25 hrs	76 hrs	× EHTR-FM	03-Nov-2023	0.25 hrs	78 hrs	× EHTR-FM
Physical Tests : TSS by Gravimetry										
HDPE Cycle-let Gen Chem and O&G	E160	31-Oct-2023	----	----	----		06-Nov-2023	7 days	6 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
pH by Meter	E108	1221677	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1220621	1	17	5.8	5.0	✓
TSS by Gravimetry	E160	1224482	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Mineral Oil & Grease by Gravimetry	E567SG	1224231	1	2	50.0	5.0	✓
Oil & Grease by Gravimetry	E567	1224230	1	5	20.0	5.0	✓
pH by Meter	E108	1221677	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1224482	1	20	5.0	5.0	✓
Method Blanks (MB)							
Mineral Oil & Grease by Gravimetry	E567SG	1224231	1	2	50.0	5.0	✓
Oil & Grease by Gravimetry	E567	1224230	1	5	20.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1220621	1	17	5.8	5.0	✓
TSS by Gravimetry	E160	1224482	1	20	5.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC ALS Environmental - Edmonton	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 ALS Environmental - Edmonton	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 ALS Environmental - Edmonton	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Oil & Grease by Gravimetry	E567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG ALS Environmental - Calgary	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page ____ of ____

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL | EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Phone:	613-223-0629	Select Distribution: ☑ EMAIL | MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
		Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	

Invoice To		Invoice Distribution	Analysis Request
	Same as Report To ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL | MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ Yes ☐ No	Email 1 or Fax labresults@nasittuq.com	
Company:		Email 2 accounting@nasittuq.com	
Contact:			

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q89840	Approver ID:	Cost Center:
Job #:	NWS Sewage	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): EO2310156 **ALS Contact:** E. Dobbin **Sampler:** *

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Containers
	- Cycle-let Gen Chem and O&G	*31 OCT 23	9 30	Effluent	R	R		3
	- Cycle-let Faecal A	*31 OCT 23	9:30	Effluent			R	1
	- Cycle-let Faecal B	*31 OCT 23	9:31	Effluent			R	1
	- Cycle-let Faecal C	*31 OCT 23	9:30	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2310156

Telephone : +1 780 413 5227

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

SAMPLE CONDITION AS RECEIVED (lab use only)

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

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
7.6					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: *	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Patrick BEAULNE	Oct 31/23	9:30		02-NOV-23	3:20			

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2311337**	Page	: 1 of 3
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Dana Brown
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 7804136472
Project	: NWS Sewage	Date Samples Received	: 11-Dec-2023 11:42
PO	: ----	Date Analysis Commenced	: 11-Dec-2023
C-O-C number	: ----	Issue Date	: 18-Dec-2023 09:48
Sampler	: FA		
Site	: ----		
Quote number	: NWS Sewage testing		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Analyst	Inorganics, Edmonton, Alberta
Fahad Husain	Analyst	Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	ML-Main - Cycle-let Gen Chem and O&G	ML-Main - Cycle-let Faecal A	ML-Main - Cycle-let Faecal B	ML-Main - Cycle-let Faecal C	----	----	----
				Sampling date/time	05-Dec-2023 08:30	05-Dec-2023 08:30	05-Dec-2023 08:30	05-Dec-2023 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2311337-001	EO2311337-002	EO2311337-003	EO2311337-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.20	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		7.6	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	1	<1	<1	----	----	----
Aggregate Organics											
Biochemical oxygen demand [BOD]	----	E550/EO	mg/L		2.1	----	----	----	----	----	----
Oil & grease (gravimetric)	----	E567/CG	mg/L		<5.0	----	----	----	----	----	----
Oil & grease, animal/vegetable (gravimetric)	----	EC567A.SG/CG	mg/L		<5.0	----	----	----	----	----	----
Oil & grease, mineral (gravimetric)	----	E567SG/CG	mg/L		<5.0	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Key:

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **EO2311337**	Page	: 1 of 4
Client	: NASITTUQ CORPORATION	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Dana Brown
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	:	Telephone	: 7804136472
Project	: NWS Sewage	Date Samples Received	: 11-Dec-2023 11:42
PO	: ----	Date Analysis Commenced	: 11-Dec-2023
C-O-C number	: ----	Issue Date	: 18-Dec-2023 09:49
Sampler	: FA 613 223 0629		
Site	: ----		
Quote number	: NWS Sewage testing		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Fahad Husain	Analyst	Edmonton Inorganics, Edmonton, Alberta
Fahad Husain	Analyst	Edmonton Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Shruti Mudliar	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1272080)											
EO2311254-016	Anonymous	pH	----	E108	0.10	pH units	5.42	5.43	0.01	Diff <2x LOR	----
Physical Tests (QC Lot: 1273004)											
EO2311325-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	24.0	22.0	2.0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1272316)											
EO2311337-002	ML-Main - Cycle-let Faecal A	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	1	<1	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1273004)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1272316)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1273356)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1276977)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1276978)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1272080)									
pH	----	E108	----	pH units	6 pH units	102	97.0	103	----
Physical Tests (QCLot: 1273004)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	109	85.0	115	----
Aggregate Organics (QCLot: 1273356)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	104	85.0	115	----
Aggregate Organics (QCLot: 1276977)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	96.8	70.0	130	----
Aggregate Organics (QCLot: 1276978)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	76.1	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2311337**	Page	: 1 of 6
Client	: **NASITTUQ CORPORATION**	Laboratory	: ALS Environmental - Edmonton
Contact	: Alaina Leslie	Account Manager	: Dana Brown
Address	: 275 Slater Street Suite 1600 Ottawa ON Canada K1P 5H9	Address	: 9450 - 17 Avenue NW Edmonton, Alberta Canada T6N 1M9
Telephone	: 613 223 0629	Telephone	: 7804136472
Project	: NWS Sewage	Date Samples Received	: 11-Dec-2023 11:42
PO	: ----	Issue Date	: 18-Dec-2023 09:50
C-O-C number	: ----		
Sampler	: FA		
Site	: ----		
Quote number	: NWS Sewage testing		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT 3d] ML-Main - Cycle-let Gen Chem and O&G	E550	05-Dec-2023	----	----	----		12-Dec-2023	3 days	7 days	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567SG	05-Dec-2023	15-Dec-2023	28 days	10 days	✓	15-Dec-2023	40 days	0 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	05-Dec-2023	15-Dec-2023	28 days	10 days	✓	15-Dec-2023	40 days	0 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	05-Dec-2023	----	----	----		11-Dec-2023	30 hrs	151 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	05-Dec-2023	----	----	----		11-Dec-2023	30 hrs	151 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	05-Dec-2023	----	----	----		11-Dec-2023	30 hrs	151 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	05-Dec-2023	11-Dec-2023	0.25 hrs	150 hrs	× EHTR-FM	11-Dec-2023	0.25 hrs	150 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TSS by Gravimetry										
HDPE										
ML-Main - Cycle-let Gen Chem and O&G	E160	05-Dec-2023	----	----	----		12-Dec-2023	7 days	7 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✘ = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Biochemical Oxygen Demand - 5 day	E550	1273356	0	13	0.0	5.0	✘
pH by Meter	E108	1272080	1	10	10.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1272316	1	4	25.0	5.0	✓
TSS by Gravimetry	E160	1273004	1	19	5.2	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1273356	1	13	7.6	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1276978	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1276977	1	9	11.1	5.0	✓
pH by Meter	E108	1272080	1	10	10.0	5.0	✓
TSS by Gravimetry	E160	1273004	1	19	5.2	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1273356	1	13	7.6	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1276978	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1276977	1	9	11.1	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1272316	1	4	25.0	5.0	✓
TSS by Gravimetry	E160	1273004	1	19	5.2	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC ALS Environmental - Edmonton	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
pH by Meter	E108 ALS Environmental - Edmonton	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
TSS by Gravimetry	E160 ALS Environmental - Edmonton	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Edmonton	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Oil & Grease by Gravimetry	E567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
Mineral Oil & Grease by Gravimetry	E567SG ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane, followed by silica gel treatment after which the extract is evaporated to dryness. The residue is then weighed to determine Mineral Oil and Grease.
Animal & Vegetable Oil & Grease by Gravimetry	EC567A.SG ALS Environmental - Calgary	Water	APHA 5520 (mod)	Animal & vegetable oil and grease is calculated as follows: Oil & Grease (gravimetric) minus Mineral Oil & Grease (gravimetric)

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Calgary	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page ____ of ____

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	275 Slater St Ottawa ON K1P 5H9	☑ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Phone:	613-223-0629	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
		Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	

Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax labresults@nasittuq.com
Contact:		Email 2 accounting@nasittuq.com

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q89840	Approver ID:	Cost Center:
Job #:	NWS Sewage	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): E02311337 | ALS Contact: E. Dobbin | Sampler: F.Aylward

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

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	BOD, pH, TSS	O&G	Faecal Coliforms	Number of Containers
	ML-Main - Cycle-let Gen Chem and O&G	05-Dec-23	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	05-Dec-23	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	05-Dec-23	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	05-Dec-23	8:30am	Effluent			R	1

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

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

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

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

NWS Nunavut Water Board Licence Criteria

SAMPLE CONDIT

Frozen ☐

Ice packs Yes ☑ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C: 4.9

FINAL SHIPME

Received by:

SHIPMENT RELEASE (client use)

Released by: *	Date:	Time:

INITIAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:
MA	11-Dec-23	11:42am

Environmental Division Edmonton

Work Order Reference EO2311337

Telephone : +1 780 413 5227

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ANNEX D. LOCATION OF BERMED FUEL STORAGE FACILITIES

Table D-2 contains the locations and sampling dates for the wastewater discharged from the bermed fuel storage facilities.

Table D-2: Analysis of Berm Water at CAM-M in 2023

Berm	Location on-site	Discharge Latitude[2]	Discharge Longitude	Date
CAM W22A	Summit	69° 07'02.76"N	105° 07'02.69"W	June-2023
CAM W20B & W20C	Airstrip	69° 06'12.01"N	105° 07'36.60"W	June-2023
CAM W22C & W20D	Beach	69° 06'11.41"N	105° 05'50.26"W	June-2023

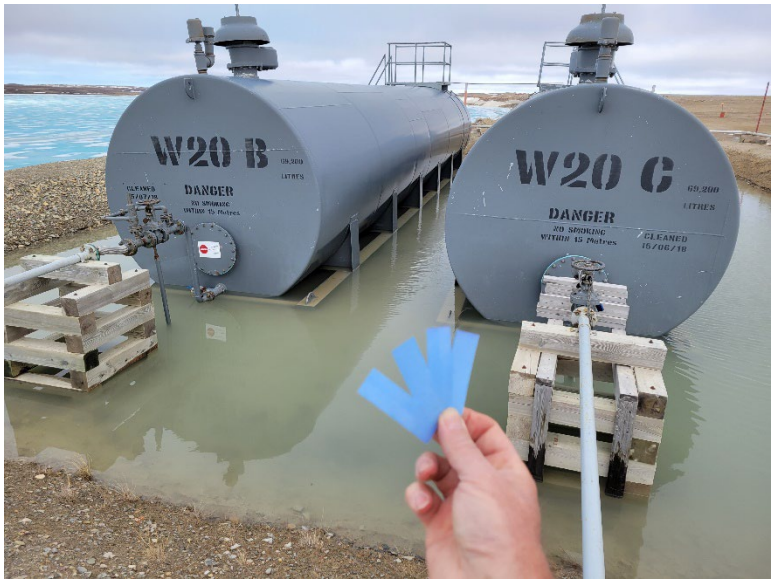
[2] Final discharge point of bermed fuel storage facility

ANNEX E. ANALYSIS OF BERM WATER [3]

The berm water at CAM-M was tested using hydrocarbon test strips as per the approved QA/QC Plan for Berm Water Sampling as stated in the water licence 8BC-CAM1929, PART D, Item 11. The photo log of the hydrocarbon test strips is included below.

Photo Log

June 8 2023 - W22A



June 8 2023 - W20B & W20C

[3] Effluent from bermed fuel storage facilities.

June 8 2023 - CAM W22C & W20D

ANNEX F. MONITORING ACTIVITIES

n/a