2024 CAM-M ANNUAL NUNAVUT WATER BOARD REPORT

FOR THE

NORTH WARNING SYSTEM

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Sivunniutit Uqausingit

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EXECUTIVE SUMMARY IN ENGLISH FOLLOWS

UKAUTAIT NAITUUKHIMAYUT – CAM-M

Una 2024 Ukiumi Uniudjutit hapkununga Nunavunmi Imaliqiyiit Katimayiit (NWB) upalungaiyaqtauhimayut hapkunanga Nasittuq hapkununga Nunaqyuami Angujaktiit (DND) piyaangini pidjutigiyaangini piyakhat Ilangani B "General Qanuriniit", titiraqhimayuq 1 haffumani laisini 8BC-CAM1929. Una uniudjut pidjutiqaqtuq 01 Ubluqtuhivia hamunga 31 Ubluiqtirvia 2024.

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

Imaq atuqniit hapkununga CAM-M uvani 2023mi imaa 1548.8 m^3, ataani ukiuq tamaat kikliqaqniq imaa 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 2024mi.

Hivuranaqtut iqakut, ilautitlugit iqakut uqhuqyuaq, talvanga CAM-M tuyuutauhimayut angiqtauhimayunik hivuuranaqtut iqakut iqakuuqvik hilataani Nunavut piyariaqaqat laisiqaqvikmin. Qayangnaqtut iqakut tuyuqtauyut hapkunanga CAM-M uvani 2024mi **iluaniitut 47nik qataqyuit aalakiit hivuuganaqtut iqakut** (iqakut iqakut, iqakut halumaqhityut taimaalu.)**.**

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 ihivriuqtaugumik tautuminaqtun talvani **Annex Dmi.**

Atauhiq tuhaqtitaujuq avatimut pivaktuq CAM-M 2024-mi.

27-Jul-2024: ihuangittuq ilanga pipkaidjutijuq halocarbon-mik tunijut 12.7 kg-mik R407-mik. Tamna qanuriliurutinga umiktiqtauyuq ilangalu ihuarhaqtauniaqtuq atuqtinnagu.

Kuvipkainikkut qanuriliurutikhat hivunikhaq nakuujumik atuqtipkaqtaujuq.

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EXECUTIVE SUMMARY IN ENGLISH FOLLOWS

CAM-M ᐊᐅᓪᓚᑦᑎᐊᓂᖅᓴᓐᖅᑐᑦ ᓇᐃᓐᓇᖅᑭᑦ

Ċᓴᓇ 2024–ᒥ ᐊᖏᕐᒧᒫᒪᖅᑭᑦ ᐅᓂᒃᑲᖅ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖅᓴᓄᑦ (NWB) ᐱᓱᑲᔨᖅᑕᐅᓪᓚᐅᖅᑐᓐᖅ ᓇᓂᑦᑐᔪᑦ ᑲᓇᕐᑕ ᐅᓇᑕᖅᑐᑦᓴᓕᕆᔨᒃᑯᓄᑦ (DND) ᐱᖏᓪᓗᓂᑦ ᐱᔨᕆᐊᓕᑦ ᐃᓕᖓᒃ B "ᑭᓯᑐᐃᓴᓇᑦ ᖃᓄᐃᓕᖓᔪᓂᖏᓂᒃ", ᑎᑎᕋᖅᓯᒪᔪᖅ 1 ᐱᔨᓴᓇᐅᑎ 8BC-CAM1929. Ċᓴᓇ ᐅᓂᒃᑲᖅ ᐃᓗᓕᖃᖅᑐᖅ 01 ᓴᓄᐊᕆᒥᑦ 31 ᑎᓯᐱᕆ 2024-ᒧᑦ.

ᓇᓯᑐᖅ ᐊᐅᓪᓚᔨᐸᑎᖏᑦ ᐊᖅᑭᑭᐅᒪᔨᖏᓪᓗᓂᓗ (O&M) ᐊᖏᕐᖃᑎᑭᒍᑎᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔨᖅᑕᑎᑕᖅ ᐅᐊᖓᓇᖓᓂᑦ ᐅᓗᓕᐊᓇᖅᑐᓂᒃ ᖃᐅᔨᓴᐅᑎᓴᑦ (NWS), ᐃᓕᐅᓪᓗᑎᒃ CAM-M, ᐅᐸᓪᓚᐅᖅᑐᑦ (ᐃᓐᓄᒃᑕᐅᔪᓕᑦ) ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᑦ ᖃᐅᔨᓴᓇᖏᓐᓄ ᐃᖃᓗᓄᑑᓕᖅᖢᓂᖅ, ᓄᓇᕗᒻᒥ.

ᐃᒪᖅᑐᓂᖅ CAM-M-ᒧᑦ 2023-ᒥᑦ 1548.8 m³-ᖏᓪᓚᐅᖅᓴᖅ, ᑐᖓᓂᓄᑦ ᐊᖏᕐᒧᒫᒪᓕᒥᑦ 3650 ᑎᑕᑦ. ᐊᖏᕐᓀᖓ ᐃᒪᖅ ᐊᒧᕆᐅᔪᖅ ᐅᓪᓗᖏᓪᓗᒥ ᐊᑕᐅᔪᖏᓪᓗᒥ 11.12 ᑎᑕᑦ, ᑐᖓᓂᓕᓪᓗᓂ ᖃᐅᑕᒫᑦ ᐃᔪᖃᖏᓐᓄᖓ 300 m³.

ᑭᓴᓗᒃ CAM-M-ᒥᑦ ᐱᓪᓚᐊᖏᖃᑦᑕᖅᑐᖅ ᐃᒪᓕᓚᔨᐸᑎᒧᑦ. ᐃᓕᖏᑦ ᓴᓗᒪᖅᓴᖅᓯᒪᔪᑦ ᑯᐃᑎᑕᐅᒃᑲᓐᓂᖃᖃᑦᑕᖅᑐᑦ ᐃᑎᑭᐅᑦ/ᖏᑯᐃᐅᓪᓘ ᑯᐃᖕᐃᖓ. ᑯᐃᑎᑕᐅᔪᓕᖅᓄᑦ ᐃᒪᐅᓪᓘ ᖃᓄᐃᓕᖓᔪᓂᖓ ᐃᒪᑦᑎᐊᓂᐊᐅᔪᖅ. ᐅᒃᑐᑎᒥᒃ ᑯᐃᑎᑕᐅᔪᒥᒃ ᓇᒃᔪᐅᒃᓴᔨᓴᖃᓕᐅᖅᑐᖅᓴᓐᖅᓴᓂᖅ ᖃᐅᔨᓴᖏᓐᓄᖓ ᖃᐅᔨᓴᖅᑕᐅᔭᖅᑐᖅᓴᓐᖅᓴᓂ ᑕᖅᑭᑕᒫᑦ 2024-ᒥ.

ᖃᐊᖅᓱᖅᓇᖅᑐᑦ ᐊᑐᐃᖅᓱᐊᔪᓂᖅᑐᑦ, ᐃᓕᒋᔭᐅᓪᓗᑎᒃ ᐊᑐᐃᖅᓱᐊᔪᓂᖅᑐᑦ ᐅᖅᔪᖅᑎᑭᑦ, CAM-M–ᒥᑦ ᓇᓯᐅᔨᔭᐅᓕᐅᖅᓴᑦ ᐊᖏᕐᖃᑕᐅᔪᓕᒍᑦ ᖃᐊᖅᓱᖅᓇᖅᑐᓇᑦ ᐊᑐᐃᖅᓱᐊᔪᓂᖅᑐᓇᑦ ᐃᓂᒋᔭᐅᓕᒍᑦ ᓄᓇᕗᒻᑦ ᓯᓕᑕᓂ ᑕᐃᒪᐃᑦᑕᓕᐊᖏᖃᑎᖃᕐᓂᖅᑕᐅᓂᖓᓕᒫᓄᑦ ᓕᐃᔪᒥᑦ. ᖃᐊᖅᓱᖅᓇᖅᑐᑦ ᐊᑐᐃᖅᓱᐊᔪᓂᖅᑐᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᔪᒥᑦ CAM-M–ᒥᑦ 2024–ᒥ ᐃᓗᓕᖅᓯᐅᓂᖅᓴᑦ **47–ᓂᒃ ᖃᑦᑕᐅᒋᔦᑦᔪᓂᒃ ᐊᖑᑎᓐᖓᑦᑐᓂᒃ ᖃᐊᖅᓱᖅᓇᖅᑐᓂᒃ ᐊᑐᐃᖅᓱᐊᔪᓂᖅᑐᓂᒃ** (ᐅᖅᓯᖅᑎᑭᑎᓂᒃ, ᐊᑐᖅᓯᒪᔪᓂᑦ ᐅᖅᓯᖅᑎᑭᑎᓂᒃ ᐊᓯᖏᓐᓄᓪᓗᓕᓗ).

ᖃᐊᖅᓱᖅᓇᖅᓯᐅᑦᑐᑦ ᓄᓇᕗᓂᓂ ᐊᑲᑕᔪᐃᑦ ᐃᕐᑕᐅᓕᐅᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐊᑲᑕᔪᓂᑦ ᐊᖏᕐᖃᑎᖃᕐᓂᖅᑕᐅᔭᖅᑐᖅ Hᐊᓪᓚᕆᔭᔪᓂᖅᑐᑦ ᐃᖃᓗᓕᖅᖢᓂᖅᑕᐅᔪᓂᖅ. ᓇᓯᑐᖅ ᑎᑎᕋᖅᓯᒪᔪᖅ ᐱᔨᓴᓇᖅᑎᑕᑎᓂᕐᒥᒃ ᓄᓇᕗᓂᓂ ᐊᑲᑕᔪᓂᒃ ᐱᑎᑕᐅᑎᓂᕐᒥᑦᑐᖅᑐᑦ ᐃᖃᓗᓕᖅᖢᓂᖅᑕᐅᔪᓂᖅ.

ᔪᓚᑎᖅᓂᖅᑕᐅᔪᓂᖅᑐᑦ ᐃᓕᓴᐅᔪᓂᖅᑐᑦ ᐃᓕᓴᐅᔪᓂᖅᑐᑦ ᐅᖅᓯᖅᑎᑭᑦ, CAM-M–ᒥᑦ ᓇᓯᐅᔨᔭᐅᓕᐅᖅᓴᑦ ᐊᖏᕐᖃᑕᐅᔪᓕᒍᑦ ᖃᐊᖅᓱᖅᓇᖅᑐᓇᑦ ᐊᑐᐃᖅᓱᐊᔪᓂᖅᑐᓇᑦ ᐃᓂᒋᔭᐅᓕᒍᑦ ᓄᓇᕗᒻᑦ ᓯᓕᑕᓂ ᑕᐃᒪᐃᑦᑕᓕᐊᖏᖃᑎᖃᕐᓂᖅᑕᐅᓂᖓᓕᒫᓄᑦ ᓕᐃᔪᒥᑦ. ᖃᐊᖅᓱᖅᓇᖅᑐᑦ ᐊᑐᐃᖅᓱᐊᔪᓂᖅᑐᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᔪᒥᑦ CAM-M–ᒥᑦ 2024–ᒥ ᐃᓗᓕᖅᓯᐅᓂᖅᓴᑦ **47–ᓂᒃ ᖃᑦᑕᐅᒋᔦᑦᔪᓂᒃ ᐊᖑᑎᓐᖓᑦᑐᓂᒃ ᖃᐊᖅᓱᖅᓇᖅᑐᓂᒃ ᐊᑐᐃᖅᓱᐊᔪᓂᖅᑐᓂᒃ** (ᐅᖅᓯᖅᑎᑭᑎᓂᒃ, ᐊᑐᖅᓯᒪᔪᓂᑦ ᐅᖅᓯᖅᑎᑭᑎᓂᒃ ᐊᓯᖏᓐᓄᓪᓗᓕᓗ).

ᖃᐊᖅᓱᖅᓇᖅᓯᐅᑦᑐᑦ ᓄᓇᕗᓂᓂ ᐊᑲᑕᔪᐃᑦ ᐃᕐᑕᐅᓕᐅᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐊᑲᑕᔪᓂᑦ ᐊᖏᕐᖃᑎᖃᕐᓂᖅᑕᐅᔭᖅᑐᖅ Hᐊᓪᓚᕆᔭᔪᓂᖅᑐᑦ ᐃᖃᓗᓕᖅᖢᓂᖅᑕᐅᔪᓂᖅ. ᓇᓯᑐᖅ ᑎᑎᕋᖅᓯᒪᔪᖅ ᐱᔨᓴᓇᖅᑎᑕᑎᓂᕐᒥᒃ ᓄᓇᕗᓂᓂ ᐊᑲᑕᔪᓂᒃ ᐱᑎᑕᐅᑎᓂᕐᒥᑦᑐᖅᑐᑦ ᐃᖃᓗᓕᖅᖢᓂᖅᑕᐅᔪᓂᖅ.

ᐊᑕᐅᓯᖅ ᓴᓄᑕᐅᔪᖅ ᐊᖏᕐᒪᒫᓂᑦ ᐊᑐᓚᐅᖅᑐᖅ 12.7 kg R407. ᑕᒪᓐᓇ ᐊᑐᖅᑕᐅᔭᒃᑐᖅ ᖃᒥᑕᐅᓚᐅᖅᑐᓂᒃ ᐃᓗᓕᓴᓗᓗ ᐋᖅᑭᐸᓯᖅᑕᐅᓂᐊᖅᓱᓂ ᐊᑐᖅᑕᐅᓚᐅᖅᓯᒪᓂᓴᓂ.

ᑯᐊᓯᖃᖅᓂᖅᐸᑦ ᐅᐸᓗᖓᔨᖅᑭᒪᔨᖏᓪᓗᑎᒃ ᐱᔭᕆᔨᐅᑎ ᐊᑐᓕᖅᑎᑕᐅᑎᑕᐅᓚᐅᖅᑐᖅᓴᓐᖅ.

EXECUTIVE SUMMARY

This 2024 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 2024.

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 1548.8 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 2024.

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 2024 consisted of **47 drums of various hazardous waste** (waste oil, waste oil filters etc.)**.**

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.**

One release to the environment occurred at CAM-M in 2024.

- 27-Jul-2024: A failed component caused a halocarbon release of 12.7 kg of R407. The system was shutdown and the component will be repaired before use.

The spill contingency plan was successfully implemented.

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1.0 INTRODUCTION

This 2024 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, 14-Mar-2025
Time period covered:	01 January to 31 December 2024

2.0 WATER USE

The water usage for CAM-M in 2024 was **1548.8 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 2024.

Table 2-1: Monthly Raw Water Usage at CAM-M in 2024

Month	Raw water usage (m³)
January	115.4
February	126.4
March	158.2
April	109.2
May	103.4
June	179.8
July	141.6
August	129.8
September	98.4
October	126.8
November	134.8
December	125.0
TOTAL	**1548.80**

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 2024

Month	Volume of sewage and greywater treated then discharged or recycled (m^3)
January	115.4
February	126.4
March	158.2
April	109.2
May	103.4
June	179.8
July	141.6
August	129.8
September	98.4
October	126.8
November	134.8
December	125.0
TOTAL	**1548.80**

4.0 HAZARDOUS WASTE AND WASTE OIL DISPOSAL

The movement of hazardous waste outside of Nunavut is regulated under both the *Transportation of Dangerous Goods Regulations* (TDG) and the *Cross-border Movement of Hazardous Waste and Hazardous Recyclable Material Regulations* (XBR).

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 Qikiqtaaluk Environmental.

See Table 4-1 for the list of items sent for disposal.

See Annex A for the completed movement documents for waste regulated under the XBR.

The hazardous waste shipped from CAM-M in 2024 consisted of **47 drums of various hazardous waste** (waste oil, waste oil filters, etc.).

Table 4-1: Hazardous Waste and Waste Oil Sent for Disposal from CAM-M in 2024

TDG shipping name	Description	Nasittuq Manifest # (TCN)	Movement Document	Quantity
Waste Aerosols	WASTE - AEROSOLS, FLAMMABLE (DRUM OR CRATE)	49336	IZ01483-0	1 Drum
Waste Fuel, Aviation, Turbine Engine	WASTE - FUEL	49222	1Z01483-0	1 Drum
Waste Fuel, Aviation, Turbine Engine Mixture	WASTE - FUEL AND WATER MIXTURE (DRUM)	49222, 49222, 49222	1Z01483-0	3 Drums
Waste Solids Containing Flammable Liquid, N.O.S. (Fuel, Aviation, Turbine Engine)	WASTE - OILY RAGS	49236, 49238, 49238, 49240, 49240, 49304	1Z01483-0	6 Drums
Not TDG Regulated	WASTE - GLYCOL (DRUM)	49226, 49292	1Z01483-0	2 Drums
Not TDG Regulated	WASTE - OIL FILTERS (DRUM)	49236, 49237, 49237	1Z01483-0	3 Drums
Not TDG Regulated	WASTE - OIL (45 GALLON DRUM)	49223, 49224, 49225, 49226, 49226, 49226, 49235, 49292, 49304, 49304	1Z01483-0	24 Drums
Not TDG Regulated	WASTE - COOKING OIL	49304	OD01407-1	1 Drum
Not TDG Regulated	WASTE - ACTIVATED CARBON FILTER (DRUM)	49232, 49232, 49232, 49234, 49234, 49234	IZ01483-0	6 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 2024

Month	Waste Generated (kg)
January	1458
February	1073
March	1239
April	1188
May	1124
June	2039*
July	930
August	1137
September	808
October	1017

Month	Waste Generated (kg)
November	1056
December	522
TOTAL	**13,591**

*Tracking sheet for June was misplaced so waste was estimated based on site loading

6.0 MONITORING PROGRAM

In 2024, 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)

One release to the environment occurred at CAM-M in 2024. 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 2024

Date, NT-NU Spill #	Product	Quantity	Cause and follow-up action	On-site location
24-Jul-2024, Reported to ECCC in Semi-Annual FHR Report	R-407	12.7 kg	A failed component caused a halocarbon release of 12.7 kg of R407. The system was shutdown and the component will be repaired before use.	A-Train C&E, ECU 1 (69°06'59.35"N 105°07'05.09"W)

8.0 REVISIONS TO THE SPILL CONTINGENCY PLAN

The Spill Contingency Plan was updated on **27-Mar-2025**. 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
POL	Petroleum, Oil & Lubricant
SQG	Soil Quality Guidelines
TDGR	Transportation of Dangerous Goods Regulations
XBR	Cross-border Movement of Hazardous Waste and Hazardous Recyclable Material Regulations

ANNEX A. HAZARDOUS WASTE AND WASTE OIL DISPOSAL

The 2024 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 IZ01483-0
2. Movement Document OD01407-1

MOVEMENT DOCUMENT / MANIFEST
DOCUMENT DE MOUVEMENT / MANIFESTE

IZ01483-0

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

A Generator / consignor name / Nom de producteur / expéditeur (1): NASITTUQ CORP
Unique Identification Number / Numéro d'identification unique: NUG100003
Mailing addr. / Adr. postale: 22 WING BLDG 109
City / Ville: HORNELL HEIGHTS
Prov.:
Country / Pays: CAN
Postal code / Code postal: P0H1P0
E-mail / Courrier électronique: NWS-ENVIRONMENT@NASITTUQ.COM
Tel. No. / N° de tél: 705-494-2011 X 3400
Shipping facility company name / Nom de l'entreprise du installation de l'envoi (40): NWS CAM-M
Unique Identification Number / Numéro d'identification unique:
Shipping facility addr. / Adr. de l'installation d'envoi: CAMBRIDGE BAY, NU
City / Ville:
Prov.: NU
Country / Pays: CAN
Postal code / Code postal: X0B0C0
E-mail / Courrier électronique:
Tel. No. / N° de tél:

Intended receiver / consignee name / Nom de réceptionnaire / destinataire prévu (2): QIKIQTAALUK ENVIRONMENTAL
Unique Identification Number / Numéro d'identification unique: 7610-16-01-0348154 401694006
Mailing addr. / Adr. postale: 9935 CHEATEAUNEUF ENTRANCE 1 SUITE 200
City / Ville: BROSSARD
Prov.: QC
Country / Pays: CAN
Postal code / Code postal: J4Z 3V4
E-mail / Courrier électronique:
Tel. No. / N° de tél:
Receiving facility company name / Nom de l'entreprise du installation de réception (41):
Unique Identification Number / Numéro d'identification unique:
Receiving facility addr. / Adr. de l'installation de réception:
City / Ville:
Prov.: QC
Country / Pays:
Postal code / Code postal:
E-mail / Courrier électronique:
Tel. No. / N° de tél:

B Carrier name / Nom de transporteur (23):
Unique Identification Number / Numéro d'identification unique:
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 / 1° remorque - wagon		
Trailer - Rail car No. 2 / 2° 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 réceptionnaire/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

Reference Nos. of other movement documents/manifests used / N° de référence des autres documents de mouvement/manifestes utilisés (27): OD01487-1

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):
Unique Identification Number / Numéro d'identification unique:
Receiving facility addr. / Adr. de l'installation de réception:
City / Ville:
Prov.:
Country / Pays:
Postal code / Code postal:
E-mail / Courrier électronique:
Tel. No. / N° de tél:

Delivery date / Date de livraison (29)
Year / Année | Month / Mois | Day / Jour | Time / Heure | ☐ A.M. ☐ P.M.

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

3 Prov. code / Code prov.	6 UN No. / N° NU	4 Shipping name / Appellation réglementaire	5 Class / Classe Sub. Class(es) / Classe(s) sub.	7 Packing/category / Gr. d'emballage/ catégorie	30 Toxic by inhalation / Toxique par inhalation	Quantity shipped / Quantité expédiée	8 Units / L or / ou kg / Unités	9 Packaging / Contenant No. / N°	Codes int.- ext.	10 Phys. state / Etat phys.
(i)	UN1950	WASTE - AEROSOLS flammable	2.1			62	kg	1	01	S
(ii)	UN1863	WASTE - FUEL, AVIATION, TURBINE ENGINE	3	II		140	L	1	01	L
(iii)	UN1863	WASTE - FUEL, AVIATION, TURBINE ENGINE mixture (fuel-water mix)	3	II		420	L	3	01	L
(iv)	--	WASTE - ACTIVATED CARBON FILTER - NR	--	--		1175	kg	6	01	S

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	Refused / Refusé	35 Decont. Pack. / Cont.	Veh. / Véh.

11 Permit No. / N° de permis	Permit Line No. / N° de ligne de la permis	Shipment / Envoi	Of / De	12	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	Import / Importation	19 Customs codes / Codes de douanes
(i)												
(ii)												
(iii)												
(iv)												

***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):
Signature:
Tel. No. / N° de tél:

TDGR additional info / Info additionnelle RTMD (38): 1-888-CAN-UTEC OR 613-996-6666

Special Handling / Manutention spéciale (22): ☐ Attached / Ci-joint ☐ As follows / Ci-contre:
24-Hour Number / Numéro 24 heures (39): 705-494-2011 X3400

***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 plaques-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): NATALIE SERRÉ
Signature:
Tel. No. / N° de tél: 705-494-2011x3400 (20)

Date Shipped / Date d'expédition (21): Year / Année: 2 4 | Month / Mois: 0 9 | Day / Jour: 1 7 | Time / Heure: ☐ A.M. ☐ P.M.
Scheduled arrival date / Date d'arrivée prévue: Year / Année | Month / Mois | Day / Jour

ECCC XBR v1.1 (2022/08) **Additional carriers and waste lines on reverse / Transporteurs et lignes de déchets additionnels au verso** Copy / Copie___ / Colour / Couleur_____

Note – The NEAS ship captain accidentally signed in the receiver section. Movement Document to be sent to NEAS for revision.

IZ01483-0

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.*
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.* 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

	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/category / Gr. d'emballage/ catégorie	30 Toxic by inhalation / Toxique par inhalation	8 Quantity shipped / Quantité expédiée	Units / L or / ou kg / Unités	9 Packaging / Contenant No. / N°	Codes int.- ext.	10 Phys. state / Etat phys.
(v)		---	WASTE - OIL FILTERS -NR				232	kg	3	01	S
(vi)		---	WASTE - OILY RAGS - NR				484	kg	6	01	S
(vii)		---	WASTE GLYCOL - NR				335	L	2	01	L
(viii)		---	WASTE OIL - NR				3740	L	24	01	L

	11 Permit No. / N° de permis	Permit Line No. / N° de ligne de la permis	12 Shipment / Envoi	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	Import / Importation	19 Customs codes / Codes de douanes
(v)												
(vi)												
(vii)												
(viii)												

C

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

NASITTUQ

NWS

MOVEMENT DOCUMENT / MANIFEST
DOCUMENT DE MOUVEMENT / MANIFESTE

OD01487-1

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

A Generator / consignor name / Nom de producteur / expéditeur — Unique Identification Number / Numéro d'identification unique: NUG100003

NASITTUQ CORP

Mailing addr. / Adr. postale: 22 WING BLDG 109 | City / Ville: HORNELL HEIGHTS | Prov.: | Country / Pays: CAN | Postal code / Code postal: P0H1P0

E-mail / Courrier électronique: NWS-ENVIRONMENT@NASITTUQ.COM | Tel. No. / N° de tél: 705-494-2011 X 3400

Shipping facility company name / Nom de l'entreprise du installation de l'envoi: NWS CAM-M | Unique Identification Number / Numéro d'identification unique: 40

Shipping facility addr. / Adr. de l'installation d'envoi: CAMBRIDGE BAY, NU | City / Ville: | Prov.: NU | Country / Pays: CAN | Postal code / Code postal: X0B0C0

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

Intended receiver / consignee name / Nom de réceptionnaire / destinataire prévu: QIKIQTAALUK ENVIRONMENTAL | Unique Identification Number / Numéro d'identification unique: 7610-16-01-0348154 401694006 | 2

Mailing addr. / Adr. postale: 9935 CHEATEAUNEUF ENTRANCE 1 SUITE 200 | City / Ville: BROSSARD | Prov.: QC | Country / Pays: CAN | Postal code / Code postal: J4Z 3V4

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

Receiving facility company name / Nom de l'entreprise du installation de réception | Unique Identification Number / Numéro d'identification unique: 41

Receiving facility addr. / Adr. de l'installation de réception | City / Ville | Prov.: QC | Country / Pays | Postal code / Code postal

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

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

Reference Nos. of other movement documents/manifests used / N° de référence des autres documents de mouvement/manifestes utilisés: IZ01407-9 — 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 — Unique Identification Number / Numéro d'identification unique: 28

Receiving facility addr. / Adr. de l'installation de réception | City / Ville | Prov. | Country / Pays | Postal code / Code postal

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

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

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

3 Prov. code / Code prov.	6 UN No. / N° NU	4 Shipping name / Appellation réglementaire	5 Class / Classe Sub. Class(es) / Classe(s) sub.	7 Packing/category / Gr. d'emballage/ categorie	30 Toxic by inhalation / Toxique par inhalation	8 Quantity shipped / Quantité expédiée	Units / L or / ou kg / Unités	9 Packaging / Contenant No. / N°	Codes int.- ext.	10 Phys. state / Etat phys.	31 Quantity received / Quantité reçue	Units / L or / ou kg / Unités	32 Comments / Commentaires	33 Handling Code / Code de manutention	34 Shipment / Envoi Accepted / Accepté	Refused / Refusé	35 Decont. Pack. / Cont.	Veh. / Véh.
(i)		WASTE - COOKING OIL NR				140	L	1	01	L								
(ii)							-		-	-								
(iii)							-		-	-								
(iv)							-		-	-								

11 Permit No. / N° de permis	Permit Line No. / N° de ligne de la permis	12 Shipment / Envoi	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	National code in country of / Code national du pays d' 18 Export / Exportation	Import / Importation	19 Customs codes / Codes de douanes
(i)											
(ii)											
(iii)											
(iv)											

Receiver/consignee certification: *I certify that the information contained in Part C is correct and complete.* 37
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)

Signature | Tel. No. / N° de tél

TDGR additional info / Info additionnelle RTMD: 1-888-CAN-UTEC OR 613-996-6666 — 38

Special Handling / Manutention spéciale: ☐ Attached / Ci-joint ☐ As follows / Ci-contre — 22

24-Hour Number / Numéro 24 heures: 705-494-2011 X3400 — 39

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 plaques-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: 705-494-2011x3400 — 20

Signature

Date Shipped / Date d'expédition: Year / Année: 24 | Month / Mois: 09 | Day / Jour: 15 — Time / Heure: ☐ A.M. ☐ P.M. — 21

Scheduled arrival date / Date d'arrivée prévue: Year / Année | Month / Mois | Day / Jour

ECCC XBR v1.1 (2022/08) **Additional carriers and waste lines on reverse / Transporteurs et lignes de déchets additionnels au verso** **Copy / Copie___ / Colour / Couleur_____**

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 2024

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
2-Jan-24	7.28	A	<2.0	6	1.50
7-Feb-24	7.66	A	<2.0	7.6	28.67
12-Mar-24	7.78	A	<2.0	8.2	4.33
1-Apr-24	7.66	A	<2.0	9	15.00
8-May-24	7.88	A	<2.0	12	40.33
3-Jun-24	7.96	A	<2.0	8	71.67
2-Jul-24	8.08	A	<2.0	9.4	118.00
8-Aug-24	7.59	A	<2.0	3.4	3.33
4-Sep-24	6.81	A	<2.0	3.5	107.00
1-Oct-24	7.50	A	<2.0	6.1	<1
12-Nov-24	7.65	A*	<2.0	6.3	3.33
3-Dec-24	7.40	A	<2.0	5.7	38.33

**November sample results were detectable for Oil and Grease (8.2 mg/L) but absent for visual sheen.*

The following documents are enclosed:

1. ALS Certificate of Analysis Jan-24
2. ALS Certificate of Analysis Feb-24
3. ALS Certificate of Analysis Mar-24
4. ALS Certificate of Analysis Apr-24
5. ALS Certificate of Analysis May-24
6. ALS Certificate of Analysis Jun-24
7. ALS Certificate of Analysis Jul-24
8. ALS Certificate of Analysis Aug-24
9. ALS Certificate of Analysis Sep-24
10. ALS Certificate of Analysis Oct-24
11. ALS Certificate of Analysis Nov-24
12. ALS Certificate of Analysis Dec-24

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

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2400144**	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 CAM-M	Date Samples Received	: 08-Jan-2024 12:00
PO	: ----	Date Analysis Commenced	: 08-Jan-2024
C-O-C number	: ----	Issue Date	: 15-Jan-2024 10:39
Sampler	: ----		
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*
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Analyst	Inorganics, Edmonton, Alberta
Garrett Nodin	Lab Analyst	Inorganics, Edmonton, Alberta
Roseanne Drake	Lab Assistant	Microbiology, Edmonton, Alberta
Victoria Piguing	Laboratory Analyst	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	
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 Cycle-let Gen Chem and O&G	ML - Cycle-let Faecal A	ML - Cycle-let Faecal B	ML - Cycle-let Faecal C	----	----	----
				Sampling date/time	02-Jan-2024 13:30	02-Jan-2024 13:30	02-Jan-2024 13:30	02-Jan-2024 13:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
				EO2400144-001	EO2400144-002	EO2400144-003	EO2400144-004	--------	--------	--------	
Physical Tests											
pH	----	E108/EO	pH units	7.28	----	----	----	----	----	----	
Solids, total suspended [TSS]	----	E160/EO	mg/L	6.0	----	----	----	----	----	----	
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL	----	1	<1	2	----	----	----	
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.

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	: **EO2400144**	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 CAM-M	Date Samples Received	: 08-Jan-2024 12:00
PO	: ----	Date Analysis Commenced	: 08-Jan-2024
C-O-C number	: ----	Issue Date	: 15-Jan-2024 10:39
Sampler	: ---- 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*
Brooke Miller	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Fahad Husain	Analyst	Edmonton Inorganics, Edmonton, Alberta
Garrett Nodin	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Roseanne Drake	Lab Assistant	Edmonton Microbiology, Edmonton, Alberta
Victoria Piguing	Laboratory Analyst	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: 1296854)											
EO2400127-001	Anonymous	pH	----	E108	0.10	pH units	6.85	6.89	0.582%	3%	----
Physical Tests (QC Lot: 1297081)											
EO2400126-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	17.8	21.6	3.8	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1297127)											
FC2400054-002	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: 1297081)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1297127)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1297487)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1297488)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1297616)						
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: 1296854)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Physical Tests (QCLot: 1297081)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	93.3	85.0	115	----
Aggregate Organics (QCLot: 1297487)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	104	70.0	130	----
Aggregate Organics (QCLot: 1297488)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	79.3	70.0	130	----
Aggregate Organics (QCLot: 1297616)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	95.0	85.0	115	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2400144**	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 CAM-M	Date Samples Received	: 08-Jan-2024 12:00
PO	: ----	Issue Date	: 15-Jan-2024 10:39
C-O-C number	: ----		
Sampler	: ----		
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 Cycle-let Gen Chem and O&G	E550	02-Jan-2024	----	----	----		09-Jan-2024	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	02-Jan-2024	09-Jan-2024	28 days	7 days	✓	09-Jan-2024	28 days	7 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML Cycle-let Gen Chem and O&G	E567	02-Jan-2024	09-Jan-2024	28 days	7 days	✓	09-Jan-2024	28 days	7 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML - Cycle-let Faecal A	E010.FC	02-Jan-2024	----	----	----		08-Jan-2024	30 hrs	145 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML - Cycle-let Faecal B	E010.FC	02-Jan-2024	----	----	----		08-Jan-2024	30 hrs	145 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML - Cycle-let Faecal C	E010.FC	02-Jan-2024	----	----	----		08-Jan-2024	30 hrs	145 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML Cycle-let Gen Chem and O&G	E108	02-Jan-2024	08-Jan-2024	0.25 hrs	143 hrs	× EHTR-FM	08-Jan-2024	0.25 hrs	144 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 Cycle-let Gen Chem and O&G	E160	02-Jan-2024	----	----	----		10-Jan-2024	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	1297616	0	12	0.0	5.0	✗
pH by Meter	E108	1296854	1	14	7.1	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1297127	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1297081	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1297616	1	12	8.3	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1297488	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1297487	1	2	50.0	5.0	✓
pH by Meter	E108	1296854	1	14	7.1	5.0	✓
TSS by Gravimetry	E160	1297081	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1297616	1	12	8.3	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1297488	1	1	100.0	5.0	✓
Oil & Grease by Gravimetry	E567	1297487	1	2	50.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1297127	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1297081	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 ____

Environmental Division Edmonton

Work Order Reference EO2400144

Telephone : +1 780 413 5227

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround T
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - busir
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% su
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) 10(
Phone:	613-223-0629	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS t
		Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	Analysis Req
Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution	indicate Filtered (F), Preserved (P) or Filtered and
	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:	

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 Contain
	ML Cycle-let Gen Chem and O&G	2 / 1 / 24	1:30	Effluent	R	R		3
	ML - Cycle-let Faecal A	2 / 1 / 24	1:30	Effluent			R	1
	ML - Cycle-let Faecal B	2 / 1 / 24	1:30	Effluent			R	1
	ML - Cycle-let Faecal C	2 / 1 / 24	1:30	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		
8.3					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: PATRICK BEAULNE	Date: 2/1/24	Time: 1:30	Received by:	Date: 8-Jan-2024	Time: 12:00 pm	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	: **EO2401004**	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	: 12-Feb-2024 14:55
PO	: ----	Date Analysis Commenced	: 13-Feb-2024
C-O-C number	: ----	Issue Date	: 11-Mar-2025 10:20
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	Microbiology, Edmonton, Alberta
Jing Liu	Laboratory Analyst	Inorganics, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	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 - 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	07-Feb-2024 08:30	07-Feb-2024 08:30	07-Feb-2024 08:30	07-Feb-2024 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2401004-001	EO2401004-002	EO2401004-003	EO2401004-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.66	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		7.6	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	28	32	26	----	----	----
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:

QUALITY CONTROL REPORT

Work Order	: **EO2401004**	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	: 12-Feb-2024 14:55
PO	: ----	Date Analysis Commenced	: 13-Feb-2024
C-O-C number	: ----	Issue Date	: 11-Mar-2025 10:20
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 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 Microbiology, Edmonton, Alberta
Jing Liu	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Ping Yeung	Team Leader - Inorganics	Edmonton Inorganics, Edmonton, Alberta
Rosalie Van Deelen	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: 1331636)											
EO2401007-001	Anonymous	pH	----	E108	0.10	pH units	8.36	8.37	0.120%	3%	----
Physical Tests (QC Lot: 1331699)											
EO2400991-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	6.4	6.0	0.4	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1331913)											
EO2401013-002	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: 1331699)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1331913)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1331348)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1333815)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1333816)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1331636)									
pH	----	E108	----	pH units	6 pH units	100	97.0	103	----
Physical Tests (QCLot: 1331699)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	103	85.0	115	----
Aggregate Organics (QCLot: 1331348)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	95.6	85.0	115	----
Aggregate Organics (QCLot: 1333815)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	93.8	70.0	130	----
Aggregate Organics (QCLot: 1333816)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	80.3	70.0	130	----

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2401004**	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	: 12-Feb-2024 14:55
PO	: ----	Issue Date	: 11-Mar-2025 10:20
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	07-Feb-2024	----	----	----		13-Feb-2024	3 days	6 days	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567SG	07-Feb-2024	15-Feb-2024	28 days	8 days	✓	15-Feb-2024	28 days	8 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	07-Feb-2024	15-Feb-2024	28 days	8 days	✓	15-Feb-2024	28 days	8 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	07-Feb-2024	----	----	----		13-Feb-2024	30 hrs	150 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	07-Feb-2024	----	----	----		13-Feb-2024	30 hrs	150 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	07-Feb-2024	----	----	----		13-Feb-2024	30 hrs	150 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	07-Feb-2024	13-Feb-2024	0.25 hrs	149 hrs	× EHTR-FM	13-Feb-2024	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	07-Feb-2024	----	----	----		13-Feb-2024	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)							
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1331913	1	10	10.0	5.0	✓
pH by Meter	E108	1331636	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	1331699	1	17	5.8	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1331348	0	8	0.0	5.0	×
Laboratory Control Samples (LCS)							
pH by Meter	E108	1331636	1	19	5.2	5.0	✓
TSS by Gravimetry	E160	1331699	1	17	5.8	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1331348	1	8	12.5	5.0	✓
Oil & Grease by Gravimetry	E567	1333815	1	11	9.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1333816	1	1	100.0	5.0	✓
Method Blanks (MB)							
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1331913	1	10	10.0	5.0	✓
TSS by Gravimetry	E160	1331699	1	17	5.8	5.0	✓
Biochemical Oxygen Demand - 5 day	E550	1331348	1	8	12.5	5.0	✓
Oil & Grease by Gravimetry	E567	1333815	1	11	9.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1333816	1	1	100.0	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

Environmental Division Edmonton

Work Order Reference EO2401004

Telephone : +1 780 413 5227

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaro
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm -
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 3p
Phone:	613-223-0629	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact
		Email 1 or Fax alaina.leslie@nasittuq.com	Specify Date Required for E2,E or P:
		Email 2 labresults@nasittuq.com	Analysis
Invoice To	Same as Report To ☐ Yes ☐ No	Invoice Distribution	Indicate Filtered (F), Preserved (P) or Filte
	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)	EO2401004	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	07-Feb-24	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	07-Feb-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	07-Feb-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	07-Feb-24	8:30am	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	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	
5.1			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: *	Date:	Time:	Received by: VA	Date: 12Feb24	Time: 2:55pm	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.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2401783**	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	: 12-Mar-2024 14:39
PO	: ----	Date Analysis Commenced	: 12-Mar-2024
C-O-C number	: ----	Issue Date	: 19-Mar-2024 15:47
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
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Michelle Schroder	Laboratory Analyst	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Thomas Beeken	Lab Assistant	Microbiology, 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	04-Mar-2024 08:30	04-Mar-2024 08:30	04-Mar-2024 08:30	04-Mar-2024 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2401783-001	EO2401783-002	EO2401783-003	EO2401783-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.78	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		8.2	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	2	3	8	----	----	----
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	: **EO2401783**	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	: 12-Mar-2024 14:39
PO	: ----	Date Analysis Commenced	: 12-Mar-2024
C-O-C number	: ----	Issue Date	: 19-Mar-2024 15:47
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
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
Shruti Mudliar	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Thomas Beeken	Lab Assistant	Edmonton Microbiology, 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: 1363444)											
EO2401762-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	25.8	24.8	1.0	Diff <2x LOR	----
Physical Tests (QC Lot: 1364904)											
FC2400566-007	Anonymous	pH	----	E108	0.10	pH units	7.92	7.89	0.380%	3%	----
Microbiological Tests (QC Lot: 1363625)											
EO2401760-002	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: 1363444)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1363625)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1364442)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1370652)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1370653)						
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: 1363444)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	100	85.0	115	----
Physical Tests (QCLot: 1364904)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Aggregate Organics (QCLot: 1364442)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	106	85.0	115	----
Aggregate Organics (QCLot: 1370652)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	114	70.0	130	----
Aggregate Organics (QCLot: 1370653)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	72.6	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2401783**	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	: 12-Mar-2024 14:39
PO	: ----	Issue Date	: 19-Mar-2024 15:48
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	04-Mar-2024	----	----	----		13-Mar-2024	3 days	9 days	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567SG	04-Mar-2024	19-Mar-2024	28 days	15 days	✓	19-Mar-2024	28 days	15 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	04-Mar-2024	19-Mar-2024	28 days	15 days	✓	19-Mar-2024	28 days	15 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	04-Mar-2024	----	----	----		12-Mar-2024	30 hrs	199 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	04-Mar-2024	----	----	----		12-Mar-2024	30 hrs	199 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	04-Mar-2024	----	----	----		12-Mar-2024	30 hrs	199 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	04-Mar-2024	13-Mar-2024	0.25 hrs	220 hrs	× EHTR-FM	13-Mar-2024	0.25 hrs	223 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	04-Mar-2024	----	----	----		13-Mar-2024	7 days	9 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	1364442	0	15	0.0	5.0	✗
pH by Meter	E108	1364904	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1363625	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1363444	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1364442	1	15	6.6	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1370653	1	3	33.3	5.0	✓
Oil & Grease by Gravimetry	E567	1370652	1	13	7.6	5.0	✓
pH by Meter	E108	1364904	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1363444	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1364442	1	15	6.6	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1370653	1	3	33.3	5.0	✓
Oil & Grease by Gravimetry	E567	1370652	1	13	7.6	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1363625	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1363444	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	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	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)	E2401783	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	04-Mar-24	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	04-Mar-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	04-Mar-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	04-Mar-24	8:30am	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2401783

Telephone : +1 780 413 6227

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		
7.4					

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:
				12-MAR-24	2:39			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2402467**	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 CAM-M	Date Samples Received	: 05-Apr-2024 12:57
PO	: ----	Date Analysis Commenced	: 05-Apr-2024
C-O-C number	: ----	Issue Date	: 11-Apr-2024 14:21
Sampler	: ----		
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*
Brayden Ginther	Laboratory Analyst	Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Michelle Schroder	Laboratory Analyst	Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Stephanie Korol	Laboratory Assistant	Organics, Calgary, Alberta
Thomas Beeken	Lab Assistant	Microbiology, 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*
DLA	*Detection Limit adjusted for required dilution.*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*

Analytical Results Evaluation

Matrix: **Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	ML-Cycle-let Gen Chem and O&G	ML-Cycle-let Faecal A	ML-Cycle-let Faecal B	ML-Cycle-let Faecal C	----	----	----
				Sampling date/time	01-Apr-2024 00:00	01-Apr-2024 00:00	01-Apr-2024 00:00	01-Apr-2024 00:00	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
				EO2402467-	001	002	003	004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.66	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		9.0	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	20 DLA, DLM	<10 DLA, DLM	10 DLA, DLM	----	----	----
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:

QUALITY CONTROL REPORT

Work Order	: **EO2402467**	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 CAM-M	Date Samples Received	: 05-Apr-2024 12:57
PO	: ----	Date Analysis Commenced	: 05-Apr-2024
C-O-C number	: ----	Issue Date	: 11-Apr-2024 14:19
Sampler	: ----		
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*
Brayden Ginther	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Michelle Schroder	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Stephanie Korol	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Thomas Beeken	Lab Assistant	Edmonton Microbiology, 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: 1392749)											
EO2402441-002	Anonymous	pH	----	E108	0.10	pH units	8.16	8.16	0.00%	3%	----
Physical Tests (QC Lot: 1393610)											
EO2402395-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	90.2	84.8	6.17%	20%	----
Microbiological Tests (QC Lot: 1392721)											
EO2402444-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1393504)											
FC2400783-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	226	212	6.4%	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: 1393610)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1392721)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1393314)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1393315)						
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1393504)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1392749)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Physical Tests (QCLot: 1393610)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	101	85.0	115	----
Aggregate Organics (QCLot: 1393314)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	114	70.0	130	----
Aggregate Organics (QCLot: 1393315)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	70.3	70.0	130	----
Aggregate Organics (QCLot: 1393504)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	89.9	85.0	115	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2402467**	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 CAM-M	Date Samples Received	: 05-Apr-2024 12:57
PO	: ----	Issue Date	: 11-Apr-2024 14:20
C-O-C number	: ----		
Sampler	: ----		
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

- 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 3d] ML-Cycle-let Gen Chem and O&G	E550	01-Apr-2024	----	----	----		06-Apr-2024	3 days	5 days	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Cycle-let Gen Chem and O&G	E567SG	01-Apr-2024	06-Apr-2024	28 days	5 days	✓	06-Apr-2024	28 days	6 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Cycle-let Gen Chem and O&G	E567	01-Apr-2024	06-Apr-2024	28 days	5 days	✓	06-Apr-2024	28 days	6 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Cycle-let Faecal A	E010.FC	01-Apr-2024	----	----	----		05-Apr-2024	30 hrs	110 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Cycle-let Faecal B	E010.FC	01-Apr-2024	----	----	----		05-Apr-2024	30 hrs	110 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Cycle-let Faecal C	E010.FC	01-Apr-2024	----	----	----		05-Apr-2024	30 hrs	110 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Cycle-let Gen Chem and O&G	E108	01-Apr-2024	05-Apr-2024	0.25 hrs	111 hrs	× EHTR-FM	05-Apr-2024	0.25 hrs	111 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-Cycle-let Gen Chem and O&G	E160	01-Apr-2024	----	----	----		08-Apr-2024	7 days	8 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	1393504	1	7	14.2	5.0	✓
pH by Meter	E108	1392749	1	12	8.3	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1392721	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1393610	1	19	5.2	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1393504	1	7	14.2	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1393315	1	5	20.0	5.0	✓
Oil & Grease by Gravimetry	E567	1393314	1	13	7.6	5.0	✓
pH by Meter	E108	1392749	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	1393610	1	19	5.2	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1393504	1	7	14.2	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1393315	1	5	20.0	5.0	✓
Oil & Grease by Gravimetry	E567	1393314	1	13	7.6	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1392721	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1393610	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		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 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): EO2402467 **ALS Contact:** E. Dobbin **Sampler:** *

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-Cycle-let Gen Chem and O&G	* 1/4/2024		Effluent	R	R				3
	ML-Cycle-let Faecal A	* 1/4/2024		Effluent			R			1
	ML-Cycle-let Faecal B	* 1/4/2024		Effluent			R			1
	ML-Cycle-let Faecal C	* 1/4/2024		Effluent			R			1

Environmental Division
Edmonton
Work Order Reference
EO2402467

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	Please apply NWS Sewage Limits Threshold

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		
3.7					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: * PATRICK BRAGUE	Date: April 1	Time: 9:15 AM	Received by:	Date: 05 APR 24	Time: 12:13	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	: **EO2403350**	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	: 08-May-2024 11:56
PO	: ----	Date Analysis Commenced	: 08-May-2024
C-O-C number	: ----	Issue Date	: 14-May-2024 15:25
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*
Brayden Ginther	Laboratory Analyst	Inorganics, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	Organics, Calgary, Alberta
Michelle Schroder	Laboratory Analyst	Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Organics, Calgary, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Thomas Beeken	Lab Assistant	Microbiology, 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.

Workorder Comments

Samples for fraction -002,-003,-004(Bacti samples are past hold times and their ID's on bottles do not match the ID's written on COC so named them as per the COC

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	01-May-2024 08:30	01-May-2024 08:30	01-May-2024 08:30	01-May-2024 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
				EO2403350-001	EO2403350-002	EO2403350-003	EO2403350-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units	7.88	----	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L	12.0	----	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL	----	37	34	50	----	----	----	----
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	: **EO2403350**	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	: 08-May-2024 11:56
PO	: ----	Date Analysis Commenced	: 08-May-2024
C-O-C number	: ----	Issue Date	: 14-May-2024 15:25
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 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*
Brayden Ginther	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	Calgary Organics, Calgary, Alberta
Michelle Schroder	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Rosalie Van Deelen	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Shruti Mudliar	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Thomas Beeken	Lab Assistant	Edmonton Microbiology, 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: 1433561)											
EO2403331-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	11.6	9.8	1.8	Diff <2x LOR	----
Physical Tests (QC Lot: 1433579)											
EO2403349-001	Anonymous	pH	----	E108	0.10	pH units	8.39	8.38	0.119%	3%	----
Microbiological Tests (QC Lot: 1433861)											
EO2403350-002	ML-Main-cycle-let Faecal A	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	37	30	21.4%	65%	----
Aggregate Organics (QC Lot: 1435088)											
EO2403368-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	214	216	0.9%	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: 1433561)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1433861)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1435088)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1435253)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1435254)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1433561)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	110	85.0	115	----
Physical Tests (QCLot: 1433579)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Aggregate Organics (QCLot: 1435088)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	98.6	85.0	115	----
Aggregate Organics (QCLot: 1435253)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	112	70.0	130	----
Aggregate Organics (QCLot: 1435254)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	102	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2403350**	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	: 08-May-2024 11:56
PO	: ----	Issue Date	: 14-May-2024 15:25
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

- 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 3d] ML-Main-Cycle-let Gen Chem and O&G	E550	01-May-2024	----	----	----		09-May-2024	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	01-May-2024	09-May-2024	28 days	8 days	✓	10-May-2024	28 days	9 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main-Cycle-let Gen Chem and O&G	E567	01-May-2024	09-May-2024	28 days	8 days	✓	10-May-2024	28 days	9 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main-cycle-let Faecal A	E010.FC	01-May-2024	----	----	----		08-May-2024	30 hrs	175 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main-cycle-let Faecal B	E010.FC	01-May-2024	----	----	----		08-May-2024	30 hrs	175 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main-cycle-let Faecal C	E010.FC	01-May-2024	----	----	----		08-May-2024	30 hrs	175 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main-Cycle-let Gen Chem and O&G	E108	01-May-2024	09-May-2024	0.25 hrs	194 hrs	× EHTR-FM	09-May-2024	0.25 hrs	194 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		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	01-May-2024	----	----	----		09-May-2024	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	1435088	1	20	5.0	5.0	✓
pH by Meter	E108	1433579	1	4	25.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1433861	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1433561	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1435088	1	20	5.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1435254	1	8	12.5	5.0	✓
Oil & Grease by Gravimetry	E567	1435253	1	8	12.5	5.0	✓
pH by Meter	E108	1433579	1	4	25.0	5.0	✓
TSS by Gravimetry	E160	1433561	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1435088	1	20	5.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1435254	1	8	12.5	5.0	✓
Oil & Grease by Gravimetry	E567	1435253	1	8	12.5	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1433861	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1433561	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): | **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	01-May-24	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	01-May-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	01-May-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	01-May-24	8:30am	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2403350

Telephone : +1 780 413 5227

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)	SAMPLE CONDITIO
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	NWS Nunavut Water Board Licence Criteria	Frozen ☐
Are samples for human drinking water use? ☐ Yes ☑ No		Ice packs Yes ☐ No ☐
		Cooling Initiated ☐
		INITIAL COOLER TEMPERATURES °C: 5 · 3

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT
Released by: *	Date:	Time:	Received by:	Date: May 8/24	Time: 11:56	Received by:

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	: **EO2404470**	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 CAM-M	Date Samples Received	: 08-Jun-2024 09:40
PO	: ----	Date Analysis Commenced	: 08-Jun-2024
C-O-C number	: ----	Issue Date	: 17-Jun-2024 17:55
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	Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Michelle Schroder	Laboratory Analyst	Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Inorganics, Edmonton, Alberta
Victoria Piguing	Laboratory Analyst	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.

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	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-Jun-2024 08:30	03-Jun-2024 08:30	03-Jun-2024 08:30	03-Jun-2024 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2404470-001	EO2404470-002	EO2404470-003	EO2404470-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.96	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		8.0	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	48 MBHT	99 MBHT	68 MBHT	----	----	----
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	: **EO2404470**	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 CAM-M	Date Samples Received	: 08-Jun-2024 09:40
PO	: ----	Date Analysis Commenced	: 08-Jun-2024
C-O-C number	: ----	Issue Date	: 17-Jun-2024 17:54
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 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 Microbiology, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Michelle Schroder	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Shruti Mudliar	Lab Analyst	Edmonton Inorganics, Edmonton, Alberta
Victoria Piguing	Laboratory Analyst	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: 1484259)											
EO2404258-013	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	39.8	41.8	4.90%	20%	----
Physical Tests (QC Lot: 1490351)											
FC2401403-001	Anonymous	pH	----	E108	0.10	pH units	8.35	8.32	0.360%	3%	----
Microbiological Tests (QC Lot: 1484260)											
EO2404470-002	ML-Main-Cycle-let Faecal A	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	48	37	25.9%	65%	----
Aggregate Organics (QC Lot: 1483222)											
FC2401372-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	242	209	14.5%	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: 1484259)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1484260)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1483222)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1496686)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1496687)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1484259)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1490351)									
pH	----	E108	----	pH units	6 pH units	102	97.0	103	----
Aggregate Organics (QCLot: 1483222)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	90.4	85.0	115	----
Aggregate Organics (QCLot: 1496686)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	95.9	70.0	130	----
Aggregate Organics (QCLot: 1496687)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	71.4	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2404470**	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 CAM-M	Date Samples Received	: 08-Jun-2024 09:40
PO	: ----	Issue Date	: 17-Jun-2024 17:56
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

- 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 3d] ML-Main-Cycle-let Gen Chem and O&G	E550	03-Jun-2024	----	----	----		08-Jun-2024	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	03-Jun-2024	16-Jun-2024	28 days	13 days	✓	17-Jun-2024	28 days	14 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main-Cycle-let Gen Chem and O&G	E567	03-Jun-2024	16-Jun-2024	28 days	13 days	✓	17-Jun-2024	28 days	14 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main-Cycle-let Faecal A	E010.FC	03-Jun-2024	----	----	----		09-Jun-2024	30 hrs	150 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main-Cycle-let Faecal B	E010.FC	03-Jun-2024	----	----	----		09-Jun-2024	30 hrs	150 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main-Cycle-let Faecal C	E010.FC	03-Jun-2024	----	----	----		09-Jun-2024	30 hrs	150 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main-Cycle-let Gen Chem and O&G	E108	03-Jun-2024	12-Jun-2024	0.25 hrs	223 hrs	× EHTR-FM	12-Jun-2024	0.25 hrs	224 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	03-Jun-2024	----	----	----		11-Jun-2024	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).

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	1483222	1	20	5.0	5.0	✓
pH by Meter	E108	1490351	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1484260	1	5	20.0	5.0	✓
TSS by Gravimetry	E160	1484259	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1483222	1	20	5.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1496687	1	2	50.0	5.0	✓
Oil & Grease by Gravimetry	E567	1496686	1	3	33.3	5.0	✓
pH by Meter	E108	1490351	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1484259	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1483222	1	20	5.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1496687	1	2	50.0	5.0	✓
Oil & Grease by Gravimetry	E567	1496686	1	3	33.3	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1484260	1	5	20.0	5.0	✓
TSS by Gravimetry	E160	1484259	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
	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 CAM-M	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): EO2404470 **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	03-Jun-24	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	03-Jun-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	03-Jun-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	03-Jun-24	8:30am	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

Frozen ☐ SIF

Ice packs Yes ☐ No ☐ Cus

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C: 14.8

FINAL SHIPMENT

Received by:

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)		
Released by: *	Date:	Time:	Received by:	Date: June 18/24	Time: 9.40

Environmental Division
Edmonton
Work Order Reference
EO2404470

Telephone : +1 780 413 5227

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.

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2405520**	Page	: 1 of 3
Amendment	: **1**		
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 CAM-M	Date Samples Received	: 08-Jul-2024 10:40
PO	: ----	Date Analysis Commenced	: 08-Jul-2024
C-O-C number	: WO#1107400 ITEM# 4007043	Issue Date	: 14-Aug-2024 13:35
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*
Brayden Ginther	Laboratory Analyst	Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Analyst	Inorganics, Edmonton, Alberta
Fahad Husain	Analyst	Microbiology, 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
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.

Workorder Comments

Ammended to update Sample Date to July-2-2024.

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	02-Jul-2024 08:30	02-Jul-2024 08:30	02-Jul-2024 08:30	02-Jul-2024 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2405520-001	EO2405520-002	EO2405520-003	EO2405520-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		8.08	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		9.4	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	115	112	127	----	----	----
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	: **EO2405520**	Page	: 1 of 4
Amendment	: **1**		
Client	: NASITTUQ CORPORATION	Laboratory	: ALS Environmental - Edmonton
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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*
Brayden Ginther	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Fahad Husain	Analyst	Edmonton Inorganics, Edmonton, Alberta
Fahad Husain	Analyst	Edmonton Microbiology, 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.

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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: 1534123)											
EO2405208-008	Anonymous	pH	----	E108	0.10	pH units	8.11	8.10	0.123%	3%	----
Physical Tests (QC Lot: 1534997)											
EO2405432-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	115	116	1.04%	20%	----
Microbiological Tests (QC Lot: 1534152)											
EO2405520-002	ML-Main - Cycle-let Faecal A	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	115	148	25.0%	65%	----

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: 1534997)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1534152)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1535600)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1543928)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1543929)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1534123)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Physical Tests (QCLot: 1534997)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	101	85.0	115	----
Aggregate Organics (QCLot: 1535600)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	90.2	85.0	115	----
Aggregate Organics (QCLot: 1543928)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	102	70.0	130	----
Aggregate Organics (QCLot: 1543929)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	99.6	70.0	130	----

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2405520**	Page	: 1 of 6
Amendment	: 1		
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 CAM-M	Date Samples Received	: 08-Jul-2024 10:40
PO	: ----	Issue Date	: 14-Aug-2024 13:35
C-O-C number	: WO#1107400 ITEM# 4007043		
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	02-Jul-2024	----	----	----		09-Jul-2024	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	02-Jul-2024	14-Jul-2024	28 days	12 days	✓	14-Jul-2024	28 days	12 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	02-Jul-2024	14-Jul-2024	28 days	12 days	✓	14-Jul-2024	28 days	12 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	02-Jul-2024	----	----	----		08-Jul-2024	30 hrs	151 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	02-Jul-2024	----	----	----		08-Jul-2024	30 hrs	151 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	02-Jul-2024	----	----	----		08-Jul-2024	30 hrs	151 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	02-Jul-2024	08-Jul-2024	0.25 hrs	152 hrs	× EHTR-FM	08-Jul-2024	0.25 hrs	152 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	02-Jul-2024	----	----	----		10-Jul-2024	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).

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	1535600	0	15	0.0	5.0	✗
pH by Meter	E108	1534123	1	11	9.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1534152	1	14	7.1	5.0	✓
TSS by Gravimetry	E160	1534997	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1535600	1	15	6.6	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1543929	1	2	50.0	5.0	✓
Oil & Grease by Gravimetry	E567	1543928	1	6	16.6	5.0	✓
pH by Meter	E108	1534123	1	11	9.0	5.0	✓
TSS by Gravimetry	E160	1534997	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1535600	1	15	6.6	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1543929	1	2	50.0	5.0	✓
Oil & Grease by Gravimetry	E567	1543928	1	6	16.6	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1534152	1	14	7.1	5.0	✓
TSS by Gravimetry	E160	1534997	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 - WO#1107400
Item# 4007043
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:	

ALS Lab Work Order # (lab use only): E02405520

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	03-Jun-24	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	03-Jun-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	03-Jun-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	03-Jun-24	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 CONDITIO[N]

Frozen ☐
Ice packs Yes ☑ No ☐
Cooling Initiated ☐
INITIAL COOLER TEMPERATURES °C: 8.7

Environmental Division
Edmonton
Work Order Reference
EO2405520

Telephone : +1 780 413 5227

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT
Released by: * Patrick Abaullah	Date: July 2 2024	Time: 9:30 AM	Received by: [initials]	Date: 8-July-24	Time: 1040	Received by:

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.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2406801**	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 CAM-M	Date Samples Received	: 12-Aug-2024 13:00
PO	: ----	Date Analysis Commenced	: 12-Aug-2024
C-O-C number	: ----	Issue Date	: 19-Aug-2024 12:35
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*
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Fahad Husain	Analyst	Inorganics, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Mikhail Rubanov	Lab Assistant	Microbiology, 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-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	08-Aug-2024 08:30	08-Aug-2024 08:30	08-Aug-2024 08:30	08-Aug-2024 08:30	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2406801-001	EO2406801-002	EO2406801-003	EO2406801-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.59	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		3.4	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	2	4	4	----	----	----
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	: **EO2406801**	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 CAM-M	Date Samples Received	: 12-Aug-2024 13:00
PO	: ----	Date Analysis Commenced	: 12-Aug-2024
C-O-C number	: ----	Issue Date	: 19-Aug-2024 12:35
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 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
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, Alberta
Fahad Husain	Analyst	Edmonton Inorganics, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Mikhail Rubanov	Lab Assistant	Edmonton Microbiology, 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: 1591735)											
EO2406796-012	Anonymous	pH	----	E108	0.10	pH units	8.08	8.11	0.370%	3%	----
Physical Tests (QC Lot: 1599563)											
EO2406801-001	ML-Main-Cycle-let Gen Chem and O&G	Solids, total suspended [TSS]	----	E160	3.0	mg/L	3.4	3.4	0	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1591606)											
FC2402125-002	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: 1599563)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1591606)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1593191)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1602587)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1602588)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1591735)									
pH	----	E108	----	pH units	6 pH units	102	97.0	103	----
Physical Tests (QCLot: 1599563)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	107	85.0	115	----
Aggregate Organics (QCLot: 1593191)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	105	85.0	115	----
Aggregate Organics (QCLot: 1602587)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	114	70.0	130	----
Aggregate Organics (QCLot: 1602588)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	78.4	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2406801**	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 CAM-M	Date Samples Received	: 12-Aug-2024 13:00
PO	: ----	Issue Date	: 19-Aug-2024 12:35
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	08-Aug-2024	----	----	----		13-Aug-2024	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	08-Aug-2024	18-Aug-2024	28 days	10 days	✓	19-Aug-2024	28 days	11 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main-Cycle-let Gen Chem and O&G	E567	08-Aug-2024	18-Aug-2024	28 days	10 days	✓	19-Aug-2024	28 days	11 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main-Cycle-let Faecal A	E010.FC	08-Aug-2024	----	----	----		12-Aug-2024	30 hrs	101 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main-Cycle-let Faecal B	E010.FC	08-Aug-2024	----	----	----		12-Aug-2024	30 hrs	101 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main-Cycle-let Faecal C	E010.FC	08-Aug-2024	----	----	----		12-Aug-2024	30 hrs	101 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main-Cycle-let Gen Chem and O&G	E108	08-Aug-2024	12-Aug-2024	0.25 hrs	104 hrs	× EHTR-FM	12-Aug-2024	0.25 hrs	104 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	08-Aug-2024	----	----	----		16-Aug-2024	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).

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	1593191	0	14	0.0	5.0	✘
pH by Meter	E108	1591735	1	2	50.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1591606	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1599563	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1593191	1	14	7.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1602588	1	3	33.3	5.0	✓
Oil & Grease by Gravimetry	E567	1602587	1	14	7.1	5.0	✓
pH by Meter	E108	1591735	1	2	50.0	5.0	✓
TSS by Gravimetry	E160	1599563	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1593191	1	14	7.1	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1602588	1	3	33.3	5.0	✓
Oil & Grease by Gravimetry	E567	1602587	1	14	7.1	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1591606	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1599563	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 ____

Environmental Division Edmonton

Work Order Reference EO2406801

Telephone : +1 780 413 5227

Report To		Report Format / Distribution	Select Service Level Below (Rush Tu
Company:	Nasittuq Corp	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3
Contact:	Alaina Leslie	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3
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 b E2 ☐ Same day or weekend emergency - co
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	Analy
Invoice To	Same as Report To ☐ Yes ☐ No	**Invoice Distribution**	Indicate Filtered (F), Preserved (P) or F
	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 CAM-M	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)	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 Containe
	ML-Main - Cycle-let Gen Chem and O&G	08-Aug-24	8:30am	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	08-Aug-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal B	08-Aug-24	8:30am	Effluent			R	1
	ML-Main - Cycle-let Faecal C	08-Aug-24	8:30am	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		
9.7					

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
				08/12/24	1:00 P.M			

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	: **EO2407757**	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 CAM-M	Date Samples Received	: 06-Sep-2024 16:00
PO	: ----	Date Analysis Commenced	: 07-Sep-2024
C-O-C number	: ----	Issue Date	: 13-Sep-2024 12:35
Sampler	: ----		
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*
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Fahad Husain	Analyst	Microbiology, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	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

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
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	ML-Cycle-let Gen Faecal A	ML-Cycle-let Gen Faecal B	ML-Cycle-let Gen Faecal C	----	----	----
				Sampling date/time	04-Sep-2024 11:15	04-Sep-2024 11:15	04-Sep-2024 11:15	04-Sep-2024 11:15	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2407757-001	EO2407757-002	EO2407757-003	EO2407757-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		6.81	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		3.5	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	171 DLA, DLM, MBHT	98 DLA, DLM, MBHT	52 DLA, DLM, MBHT	----	----	----
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	: **EO2407757**	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 CAM-M	Date Samples Received	: 06-Sep-2024 16:00
PO	: ----	Date Analysis Commenced	: 07-Sep-2024
C-O-C number	: ----	Issue Date	: 13-Sep-2024 12:32
Sampler	: ----		
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*
Brooke Miller	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Fahad Husain	Analyst	Edmonton Microbiology, Edmonton, Alberta
Joshua Stessun	Laboratory Analyst	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

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: 1639070)											
EO2407775-003	Anonymous	pH	----	E108	0.10	pH units	7.54	7.53	0.133%	3%	----
Physical Tests (QC Lot: 1646822)											
EO2407757-001	ML-Cycle-let Gen Chem and O&G	Solids, total suspended [TSS]	----	E160	3.0	mg/L	3.5	3.7	0.2	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1638891)											
EO2407757-002	ML-Cycle-let Gen Faecal A	Coliforms, thermotolerant [fecal]	----	E010.FC	10	MPN/100mL	171	41	123%	65%	DUP-H

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: 1646822)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1638891)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1638484)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1646817)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1646818)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1639070)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Physical Tests (QCLot: 1646822)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	99.4	85.0	115	----
Aggregate Organics (QCLot: 1638484)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	98.5	85.0	115	----
Aggregate Organics (QCLot: 1646817)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	88.8	70.0	130	----
Aggregate Organics (QCLot: 1646818)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	73.3	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2407757**	Page	: 1 of 7
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 CAM-M	Date Samples Received	: 06-Sep-2024 16:00
PO	: ----	Issue Date	: 13-Sep-2024 12:36
C-O-C number	: ----		
Sampler	: ----		
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 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

- 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
Duplicate (DUP) RPDs								
Microbiological Tests	EO2407757-002	ML-Cycle-let Gen Faecal A	Coliforms, thermotolerant [fecal]	----	E010.FC	123 % DUP-H	65%	Duplicate RPD does not meet the DQO for this test.

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 : 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-Cycle-let Gen Chem and O&G	E550	04-Sep-2024	----	----	----		07-Sep-2024	3 days	3 days	✓
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Cycle-let Gen Chem and O&G	E567SG	04-Sep-2024	12-Sep-2024	28 days	8 days	✓	12-Sep-2024	28 days	8 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Cycle-let Gen Chem and O&G	E567	04-Sep-2024	12-Sep-2024	28 days	8 days	✓	12-Sep-2024	28 days	8 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Cycle-let Gen Faecal A	E010.FC	04-Sep-2024	----	----	----		07-Sep-2024	30 hrs	75 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Cycle-let Gen Faecal B	E010.FC	04-Sep-2024	----	----	----		07-Sep-2024	30 hrs	75 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Cycle-let Gen Faecal C	E010.FC	04-Sep-2024	----	----	----		07-Sep-2024	30 hrs	75 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Cycle-let Gen Chem and O&G	E108	04-Sep-2024	07-Sep-2024	0.25 hrs	77 hrs	× EHTR-FM	07-Sep-2024	0.25 hrs	77 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-Cycle-let Gen Chem and O&G	E160	04-Sep-2024	----	----	----		13-Sep-2024	7 days	9 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	1638484	0	5	0.0	5.0	✘
pH by Meter	E108	1639070	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1638891	1	4	25.0	5.0	✓
TSS by Gravimetry	E160	1646822	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1638484	1	5	20.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1646818	1	5	20.0	5.0	✓
Oil & Grease by Gravimetry	E567	1646817	1	10	10.0	5.0	✓
pH by Meter	E108	1639070	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1646822	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1638484	1	5	20.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1646818	1	5	20.0	5.0	✓
Oil & Grease by Gravimetry	E567	1646817	1	10	10.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1638891	1	4	25.0	5.0	✓
TSS by Gravimetry	E160	1646822	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	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	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 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): EO2407757 **ALS Contact:** E. Dobbin **Sampler:** *

Environmental Division
Edmonton
Work Order Reference
EO2407757

Telephone : +1 780 413 5227

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-Cycle-1et Gen Chem and O&G	*4 9 2024	11:15	Effluent	R	R		3
	ML-Cycle-1et Faecal A	*4 9 2024	11:15	Effluent			R	1
	ML-Cycle-1et Faecal B	*4 9 2024	11:15	Effluent			R	1
	ML-Cycle-1et Faecal C	*4 9 2024	11:15	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	Please apply NWS Sewage Limits Threshold
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		
9.2°					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Patrick BEAULNE	Date: 4 9 2024	Time: 11:15	Received by: PP	Date: 08/09/2024	Time: 4:00PM	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2408765**	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 CAM-M	Date Samples Received	: 04-Oct-2024 12:30
PO	: ----	Date Analysis Commenced	: 04-Oct-2024
C-O-C number	: ----	Issue Date	: 10-Oct-2024 14:32
Sampler	: ----		
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
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Organics, Calgary, Alberta
Michelle Schroder	Laboratory Analyst	Inorganics, Edmonton, 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.

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	ML-Cycle-let Gen Chem and O&G	ML-Cycle-let Gen Faecal A	ML-Cycle-let Gen Faecal B	ML-Cycle-let Gen Faecal C	----	----	----
				Sampling date/time	01-Oct-2024 00:00	01-Oct-2024 00:00	01-Oct-2024 00:00	01-Oct-2024 00:00	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2408765-001	EO2408765-002	EO2408765-003	EO2408765-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.50	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		6.1	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	<1 MBHT	<1 MBHT	<1 MBHT	----	----	----
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:

QUALITY CONTROL REPORT

Work Order	: **EO2408765**	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 CAM-M	Date Samples Received	: 04-Oct-2024 12:30
PO	: ----	Date Analysis Commenced	: 04-Oct-2024
C-O-C number	: ----	Issue Date	: 10-Oct-2024 14:31
Sampler	: ----		
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
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Marsha Calero	Laboratory Assistant	Calgary Organics, Calgary, Alberta
Michelle Schroder	Laboratory Analyst	Edmonton Inorganics, Edmonton, 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: 1692584)											
EO2408758-001	Anonymous	pH	----	E108	0.10	pH units	8.13	8.08	0.617%	3%	----
Physical Tests (QC Lot: 1698759)											
EO2408695-011	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	8.3	9.7	1.4	Diff <2x LOR	----
Microbiological Tests (QC Lot: 1690879)											
EO2408725-036	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1692545)											
FC2402733-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	175	166	5.2%	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: 1698759)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1690879)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1692545)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1696127)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1696128)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1692584)									
pH	----	E108	----	pH units	6 pH units	100	97.0	103	----
Physical Tests (QCLot: 1698759)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	93.7	85.0	115	----
Aggregate Organics (QCLot: 1692545)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	101	85.0	115	----
Aggregate Organics (QCLot: 1696127)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	102	70.0	130	----
Aggregate Organics (QCLot: 1696128)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	73.4	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2408765**	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 CAM-M	Date Samples Received	: 04-Oct-2024 12:30
PO	: ----	Issue Date	: 10-Oct-2024 14:33
C-O-C number	: ----		
Sampler	: ----		
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

- 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 3d] ML-Cycle-let Gen Chem and O&G	E550	01-Oct-2024	----	----	----		05-Oct-2024	3 days	4 days	× EHTL
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Cycle-let Gen Chem and O&G	E567SG	01-Oct-2024	08-Oct-2024	28 days	7 days	✓	09-Oct-2024	28 days	8 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Cycle-let Gen Chem and O&G	E567	01-Oct-2024	08-Oct-2024	28 days	7 days	✓	08-Oct-2024	28 days	7 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Cycle-let Gen Faecal A	E010.FC	01-Oct-2024	----	----	----		04-Oct-2024	30 hrs	69 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Cycle-let Gen Faecal B	E010.FC	01-Oct-2024	----	----	----		04-Oct-2024	30 hrs	69 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Cycle-let Gen Faecal C	E010.FC	01-Oct-2024	----	----	----		04-Oct-2024	30 hrs	69 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Cycle-let Gen Chem and O&G	E108	01-Oct-2024	05-Oct-2024	0.25 hrs	92 hrs	× EHTR-FM	05-Oct-2024	0.25 hrs	95 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-Cycle-let Gen Chem and O&G	E160	01-Oct-2024	----	----	----		08-Oct-2024	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.

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	1692545	1	10	10.0	5.0	✓
pH by Meter	E108	1692584	1	16	6.2	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1690879	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1698759	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1692545	1	10	10.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1696128	1	8	12.5	5.0	✓
Oil & Grease by Gravimetry	E567	1696127	1	20	5.0	5.0	✓
pH by Meter	E108	1692584	1	16	6.2	5.0	✓
TSS by Gravimetry	E160	1698759	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1692545	1	10	10.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1696128	1	8	12.5	5.0	✓
Oil & Grease by Gravimetry	E567	1696127	1	20	5.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1690879	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	1698759	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

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 naccounting@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:	

ALS Lab Work Order # (lab use only)

ALS Contact: E. Dobbin

Sampler: *

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-Cycle-let Gen Chem and O&G	01 10 2024		Effluent	R	R		3
	ML-Cycle-let Faecal A	01 10 2024		Effluent			R	1
	ML-Cycle-let Faecal B	01 10 2024		Effluent			R	1
	ML-Cycle-let Faecal C	01 10 2024		Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
E02408765

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 drinking water use? ☐ Yes ☑ No

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

Please apply NWS Sewage Limits Threshold

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: 7.2

FINAL COOLER TEMPERATURES °C:

SHIPMENT RELEASE (client use)

Released by: Patrick Beaulne Date: 01 10 2024 Time: 11:28

INITIAL SHIPMENT RECEPTION (lab use only)

Received by: Rm Date: 10/4/24 Time: 12:30

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

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.

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

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2410331**	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 CAM-M	Date Samples Received	: 15-Nov-2024 09:36
PO	: ----	Date Analysis Commenced	: 15-Nov-2024
C-O-C number	: ----	Issue Date	: 21-Nov-2024 15:24
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*
Brayden Ginther	Laboratory Analyst	Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Organics, Calgary, Alberta
Michelle Schroder	Laboratory Analyst	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.

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	12-Nov-2024 09:00	12-Nov-2024 09:00	12-Nov-2024 09:00	12-Nov-2024 09:00	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2410331-001	EO2410331-002	EO2410331-003	EO2410331-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.65	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		6.3	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	2	4	4	----	----	----
Aggregate Organics											
Biochemical oxygen demand [BOD]	----	E550/EO	mg/L		<2.0	----	----	----	----	----	----
Oil & grease (gravimetric)	----	E567/CG	mg/L		8.2	----	----	----	----	----	----
Oil & grease, animal/vegetable (gravimetric)	----	EC567A.SG/CG	mg/L		8.2	----	----	----	----	----	----
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:

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QUALITY CONTROL REPORT

Work Order	: **EO2410331**	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 CAM-M	Date Samples Received	: 15-Nov-2024 09:36
PO	: ----	Date Analysis Commenced	: 15-Nov-2024
C-O-C number	: ----	Issue Date	: 21-Nov-2024 15:24
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 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*
Brayden Ginther	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Cynthia Bauer	Organic Supervisor	Calgary Organics, Calgary, 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
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: 1769213)											
FC2403131-001	Anonymous	pH	----	E108	0.10	pH units	7.53	7.53	0.00%	3%	----
Physical Tests (QC Lot: 1771579)											
EO2410258-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	36.3	35.1	3.36%	20%	----
Microbiological Tests (QC Lot: 1768851)											
EO2410316-002	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	<1	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1768295)											
FC2403128-003	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	308	258	17.8%	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: 1771579)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1768851)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1768295)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1776862)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1776863)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1769213)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Physical Tests (QCLot: 1771579)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	108	85.0	115	----
Aggregate Organics (QCLot: 1768295)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	93.8	85.0	115	----
Aggregate Organics (QCLot: 1776862)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	89.2	70.0	130	----
Aggregate Organics (QCLot: 1776863)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	75.4	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2410331**	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 CAM-M	Date Samples Received	: 15-Nov-2024 09:36
PO	: ----	Issue Date	: 21-Nov-2024 15:24
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

- 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 - Cycle-let Gen Chem and O&G	E550	12-Nov-2024	----	----	----		15-Nov-2024	48 hrs	74 hrs	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567SG	12-Nov-2024	21-Nov-2024	28 days	9 days	✓	21-Nov-2024	28 days	9 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	12-Nov-2024	21-Nov-2024	28 days	9 days	✓	21-Nov-2024	28 days	9 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	12-Nov-2024	----	----	----		15-Nov-2024	30 hrs	77 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	12-Nov-2024	----	----	----		15-Nov-2024	30 hrs	77 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	12-Nov-2024	----	----	----		15-Nov-2024	30 hrs	77 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	12-Nov-2024	15-Nov-2024	0.25 hrs	80 hrs	× EHTR-FM	15-Nov-2024	0.25 hrs	80 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	12-Nov-2024	----	----	----		20-Nov-2024	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).

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	1768295	1	16	6.2	5.0	✓
pH by Meter	E108	1769213	1	18	5.5	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1768851	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1771579	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1768295	1	16	6.2	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1776863	1	3	33.3	5.0	✓
Oil & Grease by Gravimetry	E567	1776862	1	14	7.1	5.0	✓
pH by Meter	E108	1769213	1	18	5.5	5.0	✓
TSS by Gravimetry	E160	1771579	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1768295	1	16	6.2	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1776863	1	3	33.3	5.0	✓
Oil & Grease by Gravimetry	E567	1776862	1	14	7.1	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1768851	1	9	11.1	5.0	✓
TSS by Gravimetry	E160	1771579	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	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 CAM-M	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): EO2410331 **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	12-Nov-24	9:00	Effluent	R	R		4
	ML-Main - Cycle-let Faecal A	12-Nov-24	9:00	Effluent			R	1
	ML-Main - Cycle-let Faecal B	12-Nov-24	9:00	Effluent			R	1
	ML-Main - Cycle-let Faecal C	12-Nov-24	9:00	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2410331

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		
11.5					

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:
				11/15/24	9:36			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **EO2410921**	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 CAM-M	Date Samples Received	: 07-Dec-2024 12:38
PO	: ----	Date Analysis Commenced	: 07-Dec-2024
C-O-C number	: ----	Issue Date	: 16-Dec-2024 15:07
Sampler	: ----		
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
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
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	03-Dec-2024 10:00	03-Dec-2024 10:00	03-Dec-2024 10:00	03-Dec-2024 10:00	----	----	----
				Sub-Matrix	Water	Water	Water	Water	----	----	----
					EO2410921-001	EO2410921-002	EO2410921-003	EO2410921-004	--------	--------	--------
Physical Tests											
pH	----	E108/EO	pH units		7.40	----	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/EO	mg/L		5.7	----	----	----	----	----	----
Microbiological Tests											
Coliforms, thermotolerant [fecal]	----	E010.FC/EO	MPN/100 mL		----	48	16	51	----	----	----
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	: **EO2410921**	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 CAM-M	Date Samples Received	: 07-Dec-2024 12:38
PO	: ----	Date Analysis Commenced	: 07-Dec-2024
C-O-C number	: ----	Issue Date	: 16-Dec-2024 15:07
Sampler	: ----		
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
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
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: 1800622)											
EO2410878-001	Anonymous	Solids, total suspended [TSS]	----	E160	7.5	mg/L	571	571	0.00%	20%	----
Physical Tests (QC Lot: 1800623)											
FC2403309-001	Anonymous	pH	----	E108	0.10	pH units	7.48	7.50	0.267%	3%	----
Microbiological Tests (QC Lot: 1800471)											
EO2410921-002	ML-Main - Cycle-let Faecal A	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	48	46	3.18%	65%	----
Aggregate Organics (QC Lot: 1800286)											
FC2403308-002	Anonymous	Biochemical oxygen demand [BOD]	----	E550	2.0	mg/L	229	209	9.2%	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: 1800622)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Microbiological Tests (QCLot: 1800471)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Aggregate Organics (QCLot: 1800286)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 1810205)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1810206)						
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1800622)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	108	85.0	115	----
Physical Tests (QCLot: 1800623)									
pH	----	E108	----	pH units	6 pH units	101	97.0	103	----
Aggregate Organics (QCLot: 1800286)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	92.1	85.0	115	----
Aggregate Organics (QCLot: 1810205)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	105	70.0	130	----
Aggregate Organics (QCLot: 1810206)									
Oil & grease, mineral (gravimetric)	----	E567SG	5	mg/L	50 mg/L	100	70.0	130	----

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **EO2410921**	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 CAM-M	Date Samples Received	: 07-Dec-2024 12:38
PO	: ----	Issue Date	: 16-Dec-2024 15:07
C-O-C number	: ----		
Sampler	: ----		
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

- 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 - Cycle-let Gen Chem and O&G	E550	03-Dec-2024	----	----	----		07-Dec-2024	48 hrs	99 hrs	× EHTR
Aggregate Organics : Mineral Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567SG	03-Dec-2024	15-Dec-2024	28 days	12 days	✓	16-Dec-2024	28 days	13 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) ML-Main - Cycle-let Gen Chem and O&G	E567	03-Dec-2024	15-Dec-2024	28 days	12 days	✓	16-Dec-2024	28 days	13 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal A	E010.FC	03-Dec-2024	----	----	----		07-Dec-2024	30 hrs	99 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal B	E010.FC	03-Dec-2024	----	----	----		07-Dec-2024	30 hrs	99 hrs	× EHTR
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (Sodium thiosulphate) ML-Main - Cycle-let Faecal C	E010.FC	03-Dec-2024	----	----	----		07-Dec-2024	30 hrs	99 hrs	× EHTR
Physical Tests : pH by Meter										
HDPE ML-Main - Cycle-let Gen Chem and O&G	E108	03-Dec-2024	07-Dec-2024	0.25 hrs	101 hrs	× EHTR-FM	07-Dec-2024	0.25 hrs	101 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	03-Dec-2024	----	----	----		11-Dec-2024	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).

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	1800286	1	10	10.0	5.0	✓
pH by Meter	E108	1800623	1	4	25.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1800471	1	10	10.0	5.0	✓
TSS by Gravimetry	E160	1800622	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Biochemical Oxygen Demand - 5 day	E550	1800286	1	10	10.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1810206	1	3	33.3	5.0	✓
Oil & Grease by Gravimetry	E567	1810205	1	10	10.0	5.0	✓
pH by Meter	E108	1800623	1	4	25.0	5.0	✓
TSS by Gravimetry	E160	1800622	1	20	5.0	5.0	✓
Method Blanks (MB)							
Biochemical Oxygen Demand - 5 day	E550	1800286	1	10	10.0	5.0	✓
Mineral Oil & Grease by Gravimetry	E567SG	1810206	1	3	33.3	5.0	✓
Oil & Grease by Gravimetry	E567	1810205	1	10	10.0	5.0	✓
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	1800471	1	10	10.0	5.0	✓
TSS by Gravimetry	E160	1800622	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	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	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 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: *

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-Cycle-let Gen Chem and O&G	*3 12 2024	10:00 AM	Effluent	R	R		3
	ML-Cycle-let Faecal A	*3 12 2024	10:00 AM	Effluent			R	1
	ML-Cycle-let Faecal B	*3 12 2024	10:00 AM	Effluent			R	1
	ML-Cycle-let Faecal C	*3 12 2024	10:00 AM	Effluent			R	1

Environmental Division
Edmonton
Work Order Reference
EO2410921

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	Please apply NWS Sewage Limits Threshold
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		
3.2					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: * PATRICK BEAUCAGE	Date: 3 12 2024	Time: 10:15	Received by:	Date: 07-DEC-24	Time: 12:40	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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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.

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 2024

Berm	Location on-site	Discharge Latitude[2]	Discharge Longitude	Date
CAM W22A	Summit	69° 07'02.76"N	105° 07'02.69"W	June-2024
CAM W20B & W20C	Airstrip	69° 06'12.01"N	105° 07'36.60"W	June-2024
CAM W22C & W20D	Beach	69° 06'11.41"N	105° 05'50.26"W	June-2024

[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 6 2024 - W22A

[3] Effluent from bermed fuel storage facilities.

June 6 2024 - W20B & W20C

June 6 2024 - CAM W22C & W20D

ANNEX F. MONITORING ACTIVITIES

n/a