

# 2022 Annual Report

182343-MBI

# Port of Alaska, MS4 Permit 052426

Prepared for:



Municipality of Anchorage Port of Alaska 2000 Anchorage Port Road Anchorage, Alaska 99501

#### Prepared by:

Michael Baker International 3900 C Street Suite 900 Anchorage, AK 99503 907-273-1600

February 2023

# 2022 Annual Report

## Port of Alaska, Storm Water Management Program

# Contents

Tal	bles	1
Ap	ppendices	1
Ac	ronym List	1
1.	Introduction	Page 1
2.	Regulatory Authority and Compliance	Page 1
3.	Minimum Control Measures	Page 2
	Public Education and Outreach	Page 2
	Public Involvement and Participation	Page 2
	Illicit Discharge Detection and Elimination	Page 3
	Wet Weather Monitoring	Page 3
	Dry Weather Screening	Page 6
	Construction Site Storm Water Runoff Control	Page 8
	Post-Construction Storm Water Management (New Development / Redevelopment)	Page 8
	Pollution Prevention and Good Housekeeping	Page 8
	Effectiveness of Controls	Page 10
	Maintenance Schedules and Records	Page 10
	Long-Term Inspection Procedures	Page 10
	Annual Evaluation	Page 11
4.	Monitoring, Evaluation, Reporting and Record-Keeping	Page 12
	Monitoring Program Plan and QAPP	Page 12
	Evaluation of Overall Program Effectiveness	Page 12
	Reporting	Page 12
	Spill Reporting	Page 12
	Annual Reporting	Page 14
	Record-Keeping	Page 14

# We Make a Difference

# Michael Baker

## INTERNATIONAL

# Tables

- 1. Outfall Sampling, Water Quality Parameter
- 2. Outfall Sampling Event 1, TAH Results
- 3. Outfall Sampling Event 2, TAH Results
- 4. Outfall Sampling Event 1, TAqH Results
- 5. Outfall Sampling Event 2, TAqH Results
- 6. Pollution Prevention and Good Housekeeping Elements per POA Area
- 7. Storm Water Management Program Measurable Goals, by MCM
- 8. Notable Spills & Leaks Reported, 1 January 2022 31 December 2022

# Appendices

- 1. Site Maps
- 2. Discharge Monitoring Reports, Chain-of-Custody Forms, and Analytical Results
- 3. Review of POA and Leaseholder Best Management Practices
- 4. 2022 SWPP Team Quarterly Meeting Minutes

## Acronym List

ADEC	Alaska Department of Environmental Conservation
POA	Port of Alaska
SWMP	Storm Water Management Program
SWPP	Storm Water Pollution Prevention
APDES	Alaska Pollutant Discharge Elimination System
MOA	Municipality of Anchorage
IDDE	Illicit Discharge Detection and Elimination
PEO	Public Education and Outreach
MCM	Minimum Control Measure
USEPA	United States Environmental Protection Agency
USC	United States Code
MS4	Municipal Separate Storm Sewer System
DMR	Discharge Monitoring Report
QAPP	Quality Assurance Protection Plan
BMPs	Best Management Practices
ТАН	Total Aromatic Hydrocarbons
TAqH	Total Aqueous Hydrocarbons
VOC	Volatile Organic Chemicals
AAC	Alaska Administrative Code
CGP	Construction General Permit
OWS	Oil-Water Separator
PP/GH	Pollution Prevention and Good Housekeeping
SDS	Storm drain system

# 1. Introduction

This Port of Alaska (POA) Storm Water Management Program (SWMP) Annual Report has been prepared for calendar year 2022, in accordance with requirements of the Alaska Pollutant Discharge Elimination System (APDES) Municipal Separate Storm Sewer System (MS4) Permit, number AKS052426, held by POA and renewed for five years as of August 2020.

This report provides a summary of the efficacy of each element or activity of the POA's SWMP for 2022 and includes a review of the following:

- Application of minimum control measures (MCMs) as identified in the MS4 Permit (see Section 3)
- Monitoring, evaluation, reporting and record-keeping activities

The purpose of this report is to:

- Provide an assessment of the efficacy of each of these elements.
- Identify any anticipated or expected changes to such implementation and activities including changes to monitoring frequency or extent, good housekeeping or BMPs.
- Evaluate the compliance of activities with the requirements of the MS4 permit.
- Identify progress towards measurable and long-term goals of the MS4 permit or the SWMP, and.
- Indicate any change in responsibility regarding geographic areas under POA or leaseholder management or changes in POA or third-party assistance towards fulfilling permit obligations.

The POA's MS4 permit (AKS052426) was renewed as of August 2020. Most of the prior elements, permit and reporting requirements remain the same as under the prior (2015-2020) MS4 permit authorization. One noteworthy change is the requirement for online 'e-reporting' of Discharge Monitoring Reports (DMRs) under the new NetDMR Reporting System managed by the U.S. Environmental Protection Agency (USEPA).

Responsibility for development and implementation of the SWMP processes and guidelines sits with the Port Director, Port Engineering Manager, leaseholders and SWPP Team members. The POA's designated representative is responsible for providing guidance, management, coordination, and implementation of the SWMP on behalf of POA and assisting POA on MS4 permitting matters as contractually requested.

# 2. Regulatory Authority and Compliance

This report is intended to comply with the requirements of the POA's MS4 reporting requirements under the APDES. Per 18 AAC 83, the APDES permit issuance and enforcement lies under the regulatory authority of AK Department of Environmental Conservation (ADEC). The APDES program is implemented to comply with the Clean Water Act (33 USC 1342) as regulated by the USEPA.

## INTERNATIONAL

# 3. Minimum Control Measures

Section 3.0 of the MS4 permit lists the following six Minimum Control Measures (MCM) for proper storm water management and permit compliance:

- Public education and outreach.
- Public involvement and participation.
- Illicit discharge detection and elimination.
- Construction site storm water runoff control.
- Post-construction storm water management in new development and redevelopment.
- Pollution prevention and good housekeeping.

This section summarizes the implementation of these control measures during the 2022 reporting period, the effectiveness of each measure, and proposed changes (if any) for the subsequent year.

## Public Education and Outreach

The Public Education and Outreach (PEO) component of the MS4 Permit was implemented in 2022. The PEO program is specifically targeted to both POA and leaseholder personnel who may have a role that could affect storm water quality, runoff, or illicit discharges and response. The PEO program focuses on illicit discharge detection and elimination (IDDE) training and is conducted annually.

This annual training typically consists of a presentation, in either video or slide format, that identifies:

- Identifies storm water regulations and regulatory authorities
- Indicates the purpose of storm water regulations and guidelines
- Identifies and defines illicit discharges, and
- Indicates methods for detecting and identifying illicit discharges to storm water systems.

Many of the POA leaseholders have contracts with an outside organization to provide this IDDE training.

In addition, IDDE elements, storm water controls, discharge events and other related topics were brought up and discussed at the quarterly SWPP Team meetings.

Another element of Public Education and Outreach under the POA MS4 permit and SWMP involves stenciling of all POA storm drain inlets on the property. In 2015, 100% of POA storm drain inlets were stenciled; however, much of this stenciling has been degraded and worn away. POA is undertaking a program to renew the stenciling. The goal is to have 50% of storm drain inlets stenciled by August 2022, and 100% of inlets stenciled by 2024. POA has stenciled 50% of inlets as of August 2022; however, ablation occurs due to heavy vehicle traffic, winter grit and other factors. POA will continue to stencil inlets to achieve the goal of having had all inlets (100%) stenciled between the years 2020 and 2024.

## Public Involvement and Participation

The Public Involvement and Participation program is focused primarily on POA personnel and leaseholders. Public involvement and participation beyond the POA itself and the leaseholders are generally limited to information made available on the POA stormwater website:

https://www.portofalaska.com/business/storm-water-management/

## INTERNATIONAL

This site provides public access to the following POA information related to its MS4 permit:

- List of SWPP Team members
- Prior three years' Annual MS4 Reports
- POA's current MS4 Permit
- Definitions of common storm water terms

The POA Storm Water website also indicates availability of SWPP Team meeting minutes up on request.

#### Illicit Discharge Detection and Elimination

The primary purpose of the SWMP under the MS4 permit is to detect, resolve, and eliminate all illicit discharges within the POA storm water system, and to prevent such discharges in the future. In addition to required compliance with 18 AAC 83 under ADEC's authority, the POA is also a branch of the Municipality of Anchorage and is thus subject to MOA Code 15.50.020. This describes 'Prohibited Acts' in the context of Watershed District Regulations, and among other such acts includes:

"(9). Pollute, contaminate, discharge, or dump any water, refuse, debris or material into any reservoir, pipeline, stream, rill, drainage, runoff, watercourse or ither groundwater and surface water source or supply."

#### Wet Weather Monitoring

The MS4 permit requires implementation of an ongoing wet weather screening program. The purpose of this screening program is to detect the presence of illicit discharges and connections or other pollution issues relating to the storm drain system (SDS). The POA's wet weather screening program consists of collecting visual observations and testing of water quality parameters once or twice per year (depending on parameter). Wet weather monitoring requirements, parameters, and frequency are outlined in the Monitoring Program Plan and QAPP. Outfalls 001, 002, and 003 were identified in the MS4 permit as the representative outfalls requiring monitoring and sampling; there are no monitoring requirements for Outfalls 004 through 008.

Wet weather monitoring, field observations, and analytical sample collection was conducted for Outfalls 001, 002, and 003 on 14 July (Event 1) and 9 September 2022 (Event 2). In addition, a supplemental sample collection occurred on 10 August, as the analytical results for Outfall 3 from Event 1 (14 July) did not include TAH and TAqH. These results are included in the Event 1 summaries. Field samples were collected directly from the outfall locations in 5-gallon buckets and Nalgene bottles. Samples were then transported by hand from the outfall locations to a nearby flat ground surface for ease-of-transfer into laboratory supplied analytical containers and vials. Field measurements were conducted in the filled Nalgene bottles.

Temperature, conductivity, salinity, and dissolved oxygen were measured using a YSI ProSolo handheld digital water quality meter, while pH was measured using a YSI EcoSense pH10A pen. All instruments were calibrated the day of sampling prior to field deployment. The YSI ProSolo meter was calibrated using 1,413  $\mu$ S/cm conductivity standard, and by entering the current local barometric pressure. The Ecosense pH meters were three-point calibrated using pH 4.01 pH 7.00, and pH 10.01 buffer solution.

Biochemical oxygen demand, chemical oxygen demand, total suspended solids, total dissolved solids, nitrates, and total Kjeldahl nitrogen were analyzed by a certified laboratory rather than in the field.

## INTERNATIONAL

Table 1 indicates the findings of these water quality measurements.

Table 1. Outran Sampling, Water Quanty Farameter					
Parameter	Unit	Acceptable	Outfall 1	Outfall 2	Outfall 3
		Range			
<b>Estimated Flow</b>	C.F./s	N/A	0.12	0.06	0.03
Temperature	Deg. C	<15 C	14.1	13.8	13.4
рН		6.5 – 8.5	7.66	7.99	7.59
Turbidity	NTU	<50 or	132	104	27.5
		background <sup>1</sup>			
Sheen		Virtually	None	None	None <sup>2</sup>
		none			
<b>Dissolved Oxygen</b>	mg/L	6.0 - 17.0	9.35	9.90	N/A
B.O.D.	mg/L	N/A	ND <sup>3</sup> 2.00	ND 2.00	N/A
C.O.D.	mg/L	N/A	53.6	92.4	N/A
TSS	mg/L	N/A	164	247	N/A
TDS	mg/L	N/A	2460	2940	N/A
Nitrate-Nitrite	mg/L	N/A	0.433	0.298	N/A
N (Kjeldahl)	mg/L	N/A	ND 1.00	ND 1.00	N/A

#### Table 1: Outfall Sampling, Water Quality Parameter

1 – Background levels equivalent to naturally occurring turbidity in Cook Inlet as the POA system is tidally influenced and receives incoming tidal water (including sediment) twice daily

2 – No sheen was noted at Outfall 003, however there was a slight but detectable hydrocarbon odor at this outfall

3 – ND = 'non-detectable'; number following 'ND' indicates the lower detectable threshold for laboratory analysis

Results were compared to acceptable ranges or action levels presented in the MS4 APDES permit authorization. The results were also used to complete the discharge monitoring report (DMR) included in Appendix B. The fully executed chains-of custody are included in Appendix B.

Analytical results included testing for total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons (TAqH), which are calculations based on analysis for volatile organic compounds (VOC) and polycyclic aromatic hydrocarbons. TAH and TAqH summations were compared to permit action levels which are based on 18 Alaska Administrative Code (AAC) 70, Water Quality Standards.

TAH analytical results are summarized in Tables 2 and 3 on the following page.

### INTERNATIONAL

#### Table 2: Outfall Sampling Event 1, TAH Results (in µg/L)

Location (Outfall)	1	2	3
	1	L8 AAC 70 Action	Level: 10 µg/L
Benzene	ND 0.400	ND 0.400	1.18
Ethylbenzene	ND 1.00	ND 1.00	6.16
Xylenes (total)	ND 3.00	ND 3.00	5.01
Toluene	ND 1.00	ND 1.00	ND 1.00
TAH Summation	ND 2.70	ND 2.70	12.4

#### Table 3: Outfall Sampling Event 2, TAH Results (in µg/L)

Location (Outfall)	1	2	3
	1	18 AAC 70 Action	Level: 10 µg/L
Benzene	ND 0.400	ND 0.400	ND 0.400
Ethylbenzene	ND 1.00	ND 1.00	2.05
Xylenes (total)	ND 3.00	ND 3.00	ND 3.00
Toluene	ND 1.00	ND 1.00	ND 1.00
TAH Summation	ND 2.70	ND 2.70	4.25

TAH concentrations were all below the action level of 10 micrograms per liter ( $\mu$ g/L) in all outfall samples across both sampling events. All analytes from Outfalls 001 and 002 were below detectable thresholds for both Event 1 and Event 2. Analytes for Outfall 003 ranged from non-detectable to 6.165  $\mu$ g/L for Event 1, and non-detectable to 2.05  $\mu$ g/L for Event 2.

TAqH analytical results are summarized in Tables 4 and 5, below.

#### Table 4: Outfall Sampling Event 1, TAqH Results (in µg/L)

Location (Outfall)	1	2	3	
18 AAC 70 Action Level: 15 μg/				
Acenaphthene	ND 0.0481	ND 0.0455	0.196	
Acenaphthylene	ND 0.0481	ND 0.0455	ND 0.0463	
Anthracene	ND 0.0481	ND 0.0455	ND 0.0463	
Benzo(a)Anthracene	ND 0.0481	ND 0.0455	ND 0.0463	
Benzo[a]pyrene	ND 0.0192	ND 0.0182	ND 0.0185	
Benzo[b]Fluoranthene	ND 0.0481	ND 0.0455	ND 0.0463	
Benzo[g,h,i]perylene	ND 0.0481	ND 0.0455	ND 0.0463	
Benzo[k]fluoranthene	ND 0.0481	ND 0.0455	ND 0.0463	
Chrysene	ND 0.0481	ND 0.0455	ND 0.0463	
Dibenzo[a,h]anthracene	ND 0.0192	ND 0.0182	ND 0.0185	
Fluoranthene	ND 0.0481	ND 0.0455	ND 0.0463	
Fluorene	ND 0.0481	ND 0.0455	0.17	
Indeno[1,2,3-c,d] pyrene	ND 0.0481	ND 0.0455	ND 0.0463	
Naphthalene	ND 0.0962	ND 0.0909	0.409	
Phenanthrene	ND 0.0962	ND 0.0909	0.12	
Pyrene	ND 0.0481	ND 0.0455	ND 0.0463	
TAqH Summation	ND 0.404	ND 0.3821	1.145	

#### INTERNATIONAL

#### Table 5: Outfall Sampling Event 2, TAqH Results (in µg/L)

Location (Outfall)	1	2	3		
	18 AAC 70 Action Level: 15 μg/l				
Acenaphthene	ND 0.0129	ND 0.0130	0.0413		
Acenaphthylene	ND 0.0129	ND 0.0130	ND 0.0132		
Anthracene	ND 0.0129	ND 0.0130	ND 0.0132		
Benzo(a)Anthracene	ND 0.0129	ND 0.0130	ND 0.0132		
Benzo[a]pyrene	ND 0.00515	ND 0.00521	ND 0.00526		
Benzo[b]Fluoranthene	ND 0.0129	ND 0.0130	ND 0.0132		
Benzo[g,h,i]perylene	ND 0.0129	ND 0.0130	ND 0.0132		
Benzo[k]fluoranthene	ND 0.0129	ND 0.0130	ND 0.0132		
Chrysene	ND 0.0129	ND 0.0130	ND 0.0132		
Dibenzo[a,h]anthracene	ND 0.00515	ND 0.00521	ND 0.00526		
Fluoranthene	ND 0.0129	ND 0.0130	ND 0.0132		
Fluorene	ND 0.0129	ND 0.0130	0.0373		
Indeno[1,2,3-c,d] pyrene	ND 0.0129	ND 0.0130	ND 0.0132		
Naphthalene	ND 0.0258	ND 0.0260	0.131		
Phenanthrene	ND 0.0258	ND 0.0260	0.0484		
Pyrene	ND 0.0129	ND 0.0130	ND 0.0132		
TAqH Summation	ND 0.10835	ND 0.10921	0.32926		

TAqH concentrations were all well below the action level of 15  $\mu$ g/L in samples from Outfalls 001, 002 and 003. All analytes from Outfalls 001 and 002 were below detectable thresholds for both Event 1 and Event 2. Most analytes for Outfall 003 were below detectable limits, however Acenaphthene, Fluorene, Naphthalene and Phenanthrene were all detected for both Events 1 and 2. These detections were all below actionable limits, ranging from 0.0413 to 0.409  $\mu$ g/L.

It should be noted that, for Event 2, the bottles labelled for Outfall 1 and Outfall 2 were reversed for the outfalls sampled. Rather than potentially confuse the issue by notifying SGS of the bottle labelling, Michael Baker International applied SGS analytical results indicated for 'Outfall 1' to Outfall 2 and vice versa. All the above water quality monitoring information may be found on the DMRs in Appendix B. Copies of complete analytical results are available upon request.

#### Dry Weather Screening

The MS4 permit requires implementation of an ongoing dry weather screening program. The purpose of this screening program is to detect the presence of illicit connections and discharges or other water quality issues affecting the Port's SDS. The POA's dry weather screening program consists of:

- An awareness program for POA and leaseholder personnel.
- Outfall screening efforts.
- Regular site-wide visual inspections.

No dry weather analytical testing was conducted on any of the outfalls during 2022.

#### INTERNATIONAL

The main idea behind dry weather screening is to determine whether illicit discharges are occurring, in theory made easier because dry weather should include no flow. *However, given the high tidal range of Cook Inlet, the POA's geographical position within this tidal range, and the extent of the POA drainage network, our observations start with the fact that even after the low tide, the POA storm drain system continues to discharge tidal water that is flushed up through the system twice daily.* The tidal extent is identifiable based on the presence of silts and fines within the SDS matching the sediment in Cook Inlet.

Outfalls 001, 002, and 003 are visually screened at least once per year during a period of relatively dry weather close to low tide. Outfall screening is aimed at detecting illicit discharges and/or connections via the presence of solid waste, petroleum sheen, and/or unusual odors. The general condition and functionality of each outfall is noted to ensure the system is discharging appropriately. As required by the MS4 permit, each outfall was observed within the term of the permit and documented accordingly.

On 5 May, 8 June, 14 July, and 7 October 2022, outfalls were visually inspected at low tide. All inspections included Outfalls 001, 002 and 003. The 5 May and 7 October inspections included additional outfalls (004 through 008). Outfall 007 is not observable, as it is hidden behind and below fill material.

All observed outfalls appeared to be functional, adequately discharging storm water from the system. Outfall 004 is in poor physical condition, with visible degradation of the corrugated pipe; however, it is still discharging storm water appropriately. Low to moderate, continuous flows of clear or slightly turbid water with no sheen were observed. A slight hydrocarbon odor was detectable at Outfall 003; this outfall serves the storm system running below and through much of the tank farms along the southern area of POA. There is also likely residual ground and groundwater contamination in this area, and the pipe seams of the storm water system may be aging and allowing groundwater penetration.

Site-wide visual inspections were performed in 2022 during relatively dry weather periods to look for evidence of illicit discharges, poor housekeeping, storm water control effectiveness and to confirm whether POA and leaseholders are adhering to the SWMP. The site-wide visual inspection consists of inspecting exterior areas across the entire Port (i.e., excluding buildings and interior spaces). The site-wide visual inspection focuses on identifying illicit discharges, solid waste accumulation, identifying onsite and off-site sources of potential pollution, and checking for prohibited outdoor work activities. A total of two unannounced inspections were conducted throughout 2022.

In general, the Port facilities are maintained in good, clean condition. The issue noted most frequently during site inspections was the presence of debris, particularly in and around snow storage areas and areas where winter grit had accumulated and not been appropriately collected and stored. Temporary BMPs no longer needed were noted in a few areas around the Port. Good housekeeping, BMP maintenance and post-winter cleanup of sand and grit were not sufficiently mentioned or reiterated at SWPP Team quarterly meetings.

#### INTERNATIONAL

#### Construction Site Storm Water Runoff Control

The Construction Site Storm Water Runoff Control program was successfully implemented in 2022. For active construction projects disturbing greater than one acre within the jurisdiction of the Port, the Contractor shall obtain authorization under the APDES Construction General Permit (CGP). Projects disturbing greater than 10,000 square feet, but less than one acre, must coordinate improvements with the Port to avoid, minimize, and mitigate adverse impacts to water quality. A Construction Site Form must be prepared by the Contractor and signed by the Port before construction may commence.

The Port reviewed one construction Storm Water Pollution Prevention Plan (SWPPP) for a construction project in 2022 to ensure compliance with the Port's SWMP. Coverage under the CGP was required for a Port construction project associated with the new Administration Building. A Construction Site Form for this project was completed and signed by the Contractor and Port representative documenting each review.

Unannounced site inspections of Port facilities were conducted on a semi-regular basis throughout 2022. Active construction projects were observed for general compliance with storm water regulations and informally inspected at least once during active construction.

#### Post-Construction Storm Water Management (New Development / Redevelopment)

The Post-Construction Storm Water Management program for new development or redevelopment was implemented in 2022. POA requires a plan review for any proposed permanent storm water conveyance, drainage or treatment designs or changes. POA must receive, review, and approve a Post-Construction Site Form, prepared by the relevant contractor, prior to allowing any such construction to proceed.

The responsible party for any such construction project must prepare a post-construction design for permanent storm water controls as applicable. This design should include plans, specifications, design details and descriptions of BMPs that will be implemented to minimize or prevent discharge of pollutants to the POA's MS4 system following completion of construction.

#### Pollution Prevention and Good Housekeeping

The POA covers approximately 220 acres in total. Of that, approximately 81 acres are managed under long-term lease by the leaseholders, including Tote, Matson, Marathon, Delta Western, AFSC/Menzies, and ABI/AS&G. Another 31 acres is used for temporary staging. The POA is directly responsible for public areas not under lease agreement, while the leaseholders are responsible for the 81 acres under lease. A description of leaseholder pollution prevention and good housekeeping (PP/GH) and storm water controls can be found in Section 3.0 of the SWMP.

#### INTERNATIONAL

Table 6 summarizes the PP/GH measures typical of each land use type under POA responsibility.

	Prevention and Good Housekeeping Liements per FOA Area
POA Area Type	Applicable Pollution Prevention / Good Housekeeping Measures
Roads / streets	POA is responsible for maintaining and cleaning public drive access across the POA, and implements grit placement in winter as well as street sweeping, washing, and vacuuming as appropriate to minimize and remove accumulated grit, dust, and debris
Parking lots	POA implements ongoing street sweeping, washing, and vacuuming procedures to minimize the accumulation of suspended solids in storm water and to reduce air pollution. This effort is prevalent during spring breakup.
Maintenance / storage areas	POA maintenance and storage areas are controlled, covered areas where traffic patterns are not a hazard. Materials are stored within a secondary containment unit or above a sealed ground surface to avoid incidental contact with surface water runoff.
Waste transfer stations	Solid wastes are disposed of in non-leaking, lidded dumpsters to prevent refuse from blowing away or precipitation from entering and corroding the dumpsters. Any solid waste container leaks are contained so that the leakage and/or solid waste will not enter the SDS. Any dumpster found to be leaking is repaired or replaced immediately. Solid waste containers are located at least 50 feet from the nearest storm drain inlet.
Snow storage areas	Snow storage sites comply with ADEC snow storage site requirements and guidelines. Dumping, pushing, placing, or blowing snow into any drainage ditch or storm drain inlet is strictly prohibited.
Fleet maintenance shops	POA maintenance and fabrication activities for vehicle fleet and equipment are performed inside or under cover unless it is not possible to do so. Primary fleet maintenance areas incorporate a contained trap for grit and other pollutants. Outdoor storage areas have materials stored within secondary containment units or above a sealed ground surface to avoid incidental contact with surface water runoff.
Sand / salt storage areas	Sand is stored in a large, prefabricated tent to shield the stockpile from storm (wind or rain) erosion and sedimentation. The tent door is opened for import of new sand or removal of sand for winter placement. The amount removed is limited to the amount needed for application. When no sand is being loaded or removed from the hut, the doors are shut.
Ditches, culverts, catch basins, storm drains and outfalls	POA maintains an ongoing program of cleaning, maintenance, and repair of ditches, catch basins, culverts, and outfalls. Following a comprehensive MS4 system review, POA is undertaking MS4 system repairs and improvements. POA will continue to monitor, inspect, evaluate, and improve the SDS.

#### Table 6: Pollution Prevention and Good Housekeeping Elements per POA Area

#### INTERNATIONAL

Pollution prevention and housekeeping of areas under lease, including parking, drive lanes, staging and material storage, vehicle maintenance, and solid waste storage are the responsibility of the leaseholder. Areas serving as bulk fuel or contaminant storage have additional pollution prevention requirements.

#### Effectiveness of Controls

A summary of the efficacy of BMPs, source reduction and elimination measures, and source control measures implemented by POA and leaseholders within the MS4 coverage area may be found in the tables in Appendix C. These BMPs have been installed and implemented in accordance with the SWMP. This review also identifies discrepancies between current measures and controls enacted by POA or leaseholders and those required under the SWMP. Any such discrepancy noted will include a discussion of each discrepancy and recommendations on how to correct or ameliorate the discrepancy so as to bring each facility into compliance with the SWMP. If no discrepancy currently exists, the Port or Stakeholder facility is not mentioned here.

#### Maintenance Schedules and Records

POA and each leaseholder is responsible for adhering to their own facility-specific maintenance schedules, and for documenting and retaining associated maintenance records. These records are not included in this report but can be made available upon request to POA. To improve maintenance record tracking, retention, and availability, an Oil-Water Separator (OWS) and Sump Inspection Plan along with associated maintenance log were created in March 2017. This Plan and Inspection Log is retained in the Port Maintenance Building.

#### Long-Term Inspection Procedures

Long-term inspection procedures include a preventative maintenance program and regular inspections of the POA and leaseholder areas. The preventive maintenance program involves inspections of components of the storm water management system. The following systems and equipment are inspected at POA and leaseholder facilities:

- 1. **Storm drain network**. The whole system within the MS4 boundary is inspected annually, at a minimum. In addition, the system is inspected immediately when impeded flow conditions are detected. Debris that has collected in ditches, swales and catch basins is removed periodically throughout the year, although this activity is most frequent following spring melt and runoff.
- 2. Fuel storage, refueling areas, and tank truck loading racks. These features are inspected periodically and no less than annually. Inspections in these areas look for system integrity issues such as leaks, cracking, corrosion, or other wear or physical damage that can pose an increased risk of spill or indicate reduced containment capacity. Additional contaminant spill prevention requirements apply to these areas. If contaminants such as fuels are noted to have escaped into secondary containment, or if an obvious risk of contaminant release or secondary containment failure is noted, the facility in question will be immediately closed off and shut down until corrective action is taken and completed.
- 3. **Oil-water separators**. These features are inspected frequently by POA maintenance personnel. Depending upon the condition when inspected, these features are cleaned and services as necessary to maintain functionality and prevent overloading. If critical integrity concerns are identified, the OWS is removed from use and repairs or other corrective action is implemented immediately.

# INTERNATIONAL

#### Annual Evaluation

The PP/GH MCM was successfully implemented in 2022. POA and all leaseholders followed PP/GH measures outlined in the SWMP. The measurable PP/GH goals proposed for POA are on track for achievement according to the schedule in Table 7.

#### Table 7: Storm Water Management Program Measurable Goals, by MCM

Minimum Control Measure and Measurable Goal	Attainment Date			
Public Education and Outreach				
- POA Staff and Leaseholder training	31 December 2022			
Public Involvement and Participation				
- Maintain storm water management section on POA website	31 December 2022 (ongoing)			
- Renew storm drain stenciling coverage (50% of inlets)	31 August 2022			
- Renew storm drain stenciling coverage (100% of inlets)	31 August 2024			
Illicit Discharge Detection and Elimination				
- Conduct wet weather water quality monitoring	9 September 2022 (ongoing)			
- Conduct dry weather outfall screening	5 May 2022 (ongoing)			
<ul> <li>Identify water quality baseline for surface water draining into POA system</li> </ul>	9 September 2022 (ongoing)			
<ul> <li>Identify locations of groundwater contaminant penetration into POA system</li> </ul>	9 September 2022 (ongoing)			
- Complete comprehensive survey/assessment of storm system	21 October 2021			
Construction site Storm Water Runoff				
- Implement the POA Construction Site Runoff Control Program	31 December 2022 (ongoing)			
Post-Construction Storm Water Management (Re- or New Development)				
- Implement the POA Post-Construction Runoff Program	31 December 2022 (ongoing)			
Pollution Prevention and Good Housekeeping				
- Assess storm drain network for priority maintenance needs	31 December 2022 (ongoing)			
- Develop a comprehensive maintenance schedule for the storm system	21 October 2021			
<ul> <li>Incorporate maintenance and IDDE tracking into the POA's GIS database</li> </ul>	Ongoing			

The storm drain network was thoroughly reviewed in 2021 and a comprehensive, systemwide improvements schedule for the Port facilities is underway. This comprehensive redevelopment will start in 2023 with the design of SDS #1 scheduled for repair in 2024. Remaining SDSs are planned for design and repair implementation over subsequent years. The Port is completing their integration of facility systems and records into a GIS database system. An ongoing goal is to incorporate MCMs under the MS4 permit into this new tracking system. The Port considers this plan to be effective and in compliance with the current MS4 permit; no changes to the program itself or associated measurable goals are proposed for the upcoming year.

# 4. Monitoring, Evaluation, Reporting and Record-Keeping

# Monitoring Program Plan and QAPP

Results of dry and wet weather monitoring efforts have been presented in the preceding sections and indicate that monitoring and screening programs are effective at detecting illicit discharges and/or connections or other water quality impacts. Both the MS4 Monitoring Program Plan and QAPP were updated in 2021 based on the reissued MS4 permit.

# Evaluation of Overall Program Effectiveness

A review of the adequacy and efficacy of the overall Storm Water Management Program will be provided in this section of current and future Annual Reports. POA has had a storm water management plan in effect since 1995, when the MS4 permit was first issued by the USEPA under the National Pollutant and Discharge Elimination System (now APDES). As a result, protection of storm water quality and prevention of sedimentation, erosion and contaminant pollution has been a priority for POA for over 25 years. BMPs, structural controls, education programs, and maintenance practices to protect water quality have always been a common goal amongst the Port and Stakeholders. Key elements of the 2021 reporting period were detailed in Section 3.0.

## Reporting

## Spill Reporting

Table 8, below, provides a summary of all reported spills, leaks and accidental discharges of pollutants that occurred within the POA's boundary during 2022.

Facility	Date	Description
Port of Alaska	6/28/ 2022	Crowley fuel trucks had been parked on POA tarmac and were dripping oil or lubricant onto the pavement. POA Maintenance personnel directed Crowley to clean up after their trucks and activities.
ABI / AS&G	2022	No spills or leaks reported in 2022
Delta Western	2022	No spills or leaks reported in 2022
Marathon	7/25/ 2022	Less than 1 gallon of gasoline spilled from a manifold within secondary containment area. Following investigation, Marathon personnel tightened the flange bolts on the manifold and then cleaned up the product using absorbent pads.
Matson	2/2022	Approximately 2 gallons of diesel spilled from a top pick. Matson staff found and replaced a split fuel filter O-ring and cleaned up the product with absorbent pads or suck-it-up absorbent. There was no product migration to water or storm drains.
	3/2022	Approximately 2 gallons of antifreeze spilled from a tractor. Matson personnel found and replaced broken hose from coolant to turbo and cleaned up the product with absorbent pads or suck-it-up absorbent. There was no product migration to water or storm drains.

Table 8. Notable S	nills & Looks R	anorted 1 Januar	12022 - 31	December 2022
Table of Notable 5	pills & Leaks R	eporteu, 1 Januar	y 2022 – 31	December 2022

#### INTERNATIONAL

	4/2022	Approximately 1 gallon of hydraulic oil spilled from a top pick when a tractor with box ran into bridle. Repaired the damage and cleaned up the hydraulic oil with absorbent pads or suck-it-up absorbent. There was no product migration to water or storm drains.
	6/2022	Approximately 2.5 gallons of hydraulic oil spilled from Agent equipment in Matson yard. Matson personnel found and replaced a blown hydraulic line, then cleaned up product with absorbent pads or suck-it-up absorbent. There was no product migration to water or storm drains.
	8/2022	Approximately 2 gallons of fuel spilled from 'customer vehicle'. Customer was loading his personal vehicle onto trailer when customer's personal vehicle began to leak. Matson cleaned up the fuel with absorbent pads.
AFSC/ Menzies Aviation	2022	No spills or leaks reported in 2022
Tote Maritime	1/18/ 2022	Approximately 4 gallons of hydraulic fluid leaked along the west side of their Admin building. Tote contacted US Ecology, and the spill was treated with pressure wash and a vac truck.
	2/9/ 2022	Approximately 4 gallons of antifreeze leaked from a tractor radiator. Spill was cleaned up with Floor Dry and disposed of at the Anchorage landfill.
	3/6/ 2022	Up to 4 gallons of diesel spilled from a ruptured fuel tank on the stern ramp. Tote contacted Sea Star for response; absorbent material was applied, and the waste materials taken for disposal.
	3/31/ 2022	Approximately 1 gallon of hydraulic fluid spilled in the Tote vehicle yard. Sea Star responded, absorbents and granular material were applied.
	6/2/ 2022	Approximately 2 gallons of hydraulic fluid spilled on the Tote vehicle yard's west side and outside lanes. Absorbent materials were applied and disposed of at Sea Star's shop.
	6/8/ 2022	Approximately 2 gallons of hydraulic fluid spilled on the Tote vehicle yard' east side. Absorbent materials were applied and disposed of at Sea Star's shop.
	9/25/ 2022	Approximately 2 gallons of engine oil spilled on the bow ramp and main deck of the North Star (ship). Absorbent materials were applied and disposed of at Sea Star's shop.
	12/11/ 2022	Approximately 5 gallons of coolant spilled on the main deck of the Midnight Sun (ship). Sea Star responded with absorbent materials, which were disposed of at Sea Star's shop.

This table is updated annually. Any spills, leaks or discharges not reported to POA or observed by POA personnel will not be included in Table 7 nor in this report; any such discharges would be noncompliant with terms of the MS4 permit and the leaseholder agreements with POA.

## INTERNATIONAL

#### Annual Reporting

Annual reports will be prepared each for each reporting period (calendar year) to document MS4 compliance methods and efficacy for that reporting period. These summary reports will include supporting documentation, including the SWMP. These reports will be submitted to ADEC each year by February 15 of the year following the reporting period, will be posted on the POA's website, and will be distributed to all SWPP Team members and leaseholders.

## Record-Keeping

The POA maintains records and copies of all relevant and pertinent reporting materials under the MS4 permit, including:

- Copies of each year's DMRs
- The current APDES permit (AKS052426)
- SWPP Team Quarterly Meeting minutes
- Records of data used to complete the annual reporting
- Data used to complete the APDES permit application
- Data used to generate the SWMP

These records will be retained for a period of at least three years, or for the term of the current 5-year permit (2020-2025), whichever is longer. These records will be made available to ADEC or the public if requested to do so in writing.







2022 Annual Report



Pat Whitesel Michael Baker International

Results via Engage

Work Order:	1223970	
	2022 POA	Stephen C. Ede
Client:	Michael Baker International	Stophen C. Ede 2022.07.29
<b>Report Date:</b>	July 29, 2022	10:19:36 -08'00'

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. If you have any questions regarding this report, or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343. This document is issued by the Company under its General Conditions of Service accessible at <a href="http://www.sgs.com/en/Terms-and-Conditions.aspx">http://www.sgs.com/en/Terms-and-Conditions.aspx</a>>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO 17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
В	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content.



SGS Ref.#	1223970001		
Client Name	Michael Baker International	Printed Date/Time	07/29/2022 7:55
Project Name/#	2022 POA	<b>Collected Date/Time</b>	07/14/2022 17:03
Client Sample ID	Outfall 1	<b>Received Date/Time</b>	07/14/2022 17:40
Matrix	Water (Surface, Eff., Ground)	<b>Technical Director</b>	Stephen C. Ede

5210B - BOD - LCS result of 160 mg/L is lower than the method limit of 167.5 mg/L. Results may be biased low.

5210B - BOD - Sample DO result is over-depleted. BOD results are estimated.

Parameter	Results	LOQ	Units	Method 0	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Waters Department									
Chemical Oxygen Demand	53.6	20.0	mg/L	EPA 410.4	В			07/27/22	NRZ
Total Dissolved Solids	2460	50.0	mg/L	SM21 2540C	D			07/19/22	EBH
Total Suspended Solids	164	4.00	mg/L	SM21 2540D	С			07/15/22	EBH
Total Kjeldahl Nitrogen	ND	1.00	mg/L	SM23 4500-N D	В		07/21/22	07/21/22	DMM
Total Nitrate/Nitrite-N	0.433	0.200	mg/L	SM21 4500NO3	-F B			07/18/22	EBH
Microbiology Laboratory									
Biochemical Oxygen Demand	ND	2.00	mg/L	SM21 5210B	А			07/15/22	M.A
Volatile GC/MS									
Benzene	ND	0.400	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
Ethylbenzene	ND	1.00	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
o-Xylene	ND	1.00	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
P & M -Xylene	ND	2.00	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
Toluene	ND	1.00	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
Surrogates									
1,2-Dichloroethane-D4 (surr)	117		%	EPA 602/624	F	81-118	07/21/22	07/21/22	AZL
4-Bromofluorobenzene (surr)	103		%	EPA 602/624	F	85-114	07/21/22	07/21/22	AZL
Toluene-d8 (surr)	97.3		%	EPA 602/624	F	89-112	07/21/22	07/21/22	AZL
Polynuclear Aromatics GC	/ms								
Acenaphthene	ND	0.0481	ug/L	EPA 625M SIM	(РА Н		07/19/22	07/22/22	NRB
Acenaphthylene	ND	0.0481	ug/L	EPA 625M SIM	(РА Н		07/19/22	07/22/22	NRB



SGS Ref.#	1223970001		
Client Name	Michael Baker International	Printed Date/Time	07/29/2022 7:55
Project Name/#	2022 POA	<b>Collected Date/Time</b>	07/14/2022 17:03
Client Sample ID	Outfall 1	<b>Received Date/Time</b>	07/14/2022 17:40
Matrix	Water (Surface, Eff., Ground)	<b>Technical Director</b>	Stephen C. Ede

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics G	C/MS								
Anthracene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Benzo(a)Anthracene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Benzo[a]pyrene	ND	0.0192	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Benzo[b]Fluoranthene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Benzo[g,h,i]perylene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Benzo[k]fluoranthene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Chrysene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Dibenzo[a,h]anthracene	ND	0.0192	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Fluoranthene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Fluorene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Indeno[1,2,3-c,d] pyrene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Naphthalene	ND	0.0962	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Phenanthrene	ND	0.0962	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Pyrene	ND	0.0481	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Surrogates									
2-Methylnaphthalene-d10 (surr)	58.8		%	EPA 625M SI	М (РАН	42-86	07/19/22	07/22/22	NRB
Fluoranthene-d10 (surr)	65.7		%	EPA 625M SI	М (РАН	50-97	07/19/22	07/22/22	NRB



SGS Ref.#	1223970002		
Client Name	Michael Baker International	Printed Date/Time	07/29/2022 7:55
Project Name/#	2022 POA	<b>Collected Date/Time</b>	07/14/2022 16:29
Client Sample ID	Outfall 2	<b>Received Date/Time</b>	07/14/2022 17:40
Matrix	Water (Surface, Eff., Ground)	<b>Technical Director</b>	Stephen C. Ede

5210B - BOD - LCS result of 160 mg/L is lower than the method limit of 167.5 mg/L. Results may be biased low.

5210B - BOD - Sample DO result is over-depleted. BOD results are estimated.

Parameter	Results	LOQ	Units	Method 0	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Waters Department									
Chemical Oxygen Demand	92.4	20.0	mg/L	EPA 410.4	В			07/27/22	NRZ
Total Dissolved Solids	2940	66.7	mg/L	SM21 2540C	D			07/19/22	EBH
Total Suspended Solids	247	4.00	mg/L	SM21 2540D	С			07/15/22	EBH
Total Kjeldahl Nitrogen	ND	1.00	mg/L	SM23 4500-N D	в		07/21/22	07/21/22	DMM
Total Nitrate/Nitrite-N	0.298	0.200	mg/L	SM21 4500NO3	-F B			07/18/22	EBH
Microbiology Laboratory									
Biochemical Oxygen Demand	ND	2.00	mg/L	SM21 5210B	А			07/15/22	M.A
Volatile GC/MS									
Benzene	ND	0.400	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
Ethylbenzene	ND	1.00	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
o-Xylene	ND	1.00	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
P & M -Xylene	ND	2.00	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
Toluene	ND	1.00	ug/L	EPA 602/624	F		07/21/22	07/21/22	AZL
Surrogates									
1,2-Dichloroethane-D4 (surr)	117		%	EPA 602/624	F	81-118	07/21/22	07/21/22	AZL
4-Bromofluorobenzene (surr)	105		%	EPA 602/624	F	85-114	07/21/22	07/21/22	AZL
Toluene-d8 (surr)	97.1		%	EPA 602/624	F	89-112	07/21/22	07/21/22	AZL
Polynuclear Aromatics GC	/MS								
Acenaphthene	ND	0.0455	ug/L	EPA 625M SIM	(РА Н		07/19/22	07/22/22	NRB
Acenaphthylene	ND	0.0455	ug/L	EPA 625M SIM	(РА Н		07/19/22	07/22/22	NRB



Matrix	Water (Surface, Eff., Ground)	<b>Technical Director</b>	Stephen C. Ede
Client Sample ID	Outfall 2	<b>Received Date/Time</b>	07/14/2022 17:40
Project Name/#	2022 POA	<b>Collected Date/Time</b>	07/14/2022 16:29
Client Name	Michael Baker International	<b>Printed Date/Time</b>	07/29/2022 7:55
SGS Ref.#	1223970002		

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC	C/MS								
Anthracene	ND	0.0455	ug/L	EPA 625M SI	M (PA H		07/19/22	07/22/22	NRB
Benzo(a)Anthracene	ND	0.0455	ug/L	EPA 625M SI	M (PA H		07/19/22	07/22/22	NRB
Benzo[a]pyrene	ND	0.0182	ug/L	EPA 625M SI	M (PA H		07/19/22	07/22/22	NRB
Benzo[b]Fluoranthene	ND	0.0455	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Benzo[g,h,i]perylene	ND	0.0455	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Benzo[k]fluoranthene	ND	0.0455	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Chrysene	ND	0.0455	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Dibenzo[a,h]anthracene	ND	0.0182	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Fluoranthene	ND	0.0455	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Fluorene	ND	0.0455	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Indeno[1,2,3-c,d] pyrene	ND	0.0455	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Naphthalene	ND	0.0909	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Phenanthrene	ND	0.0909	ug/L	EPA 625M SI	М (РАН		07/19/22	07/22/22	NRB
Pyrene	ND	0.0455	ug/L	EPA 625M SI	М (РА Н		07/19/22	07/22/22	NRB
Surrogates									
2-Methylnaphthalene-d10 (surr)	55.6		%	EPA 625M SI	M (PA H	42-86	07/19/22	07/22/22	NRB
Fluoranthene-d10 (surr)	66.9		%	EPA 625M SI	M (PA H	50-97	07/19/22	07/22/22	NRB



SGS Ref.#	1223970003		
Client Name	Michael Baker International	Printed Date/Time	07/29/2022 7:55
Project Name/#	2022 POA	<b>Collected Date/Time</b>	07/14/2022 15:58
Client Sample ID	Outfall 3	<b>Received Date/Time</b>	07/14/2022 17:40
Matrix	Water (Surface, Eff., Ground)	<b>Technical Director</b>	Stephen C. Ede

5210B - BOD - LCS result of 160 mg/L is lower than the method limit of 167.5 mg/L. Results may be biased low.

Parameter	Results	LOQ	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
The second second									
Waters Department									
Chemical Oxygen Demand	52.5	20.0	mg/L	EPA 410.4	В			07/27/22	NRZ
Total Dissolved Solids	790	10.0	mg/L	SM21 2540C	D			07/19/22	EBH
Total Suspended Solids	60.3	2.50	mg/L	SM21 2540D	С			07/15/22	EBH
Total Kjeldahl Nitrogen	ND	1.00	mg/L	SM23 4500-N D	) В		07/21/22	07/21/22	DMM
Total Nitrate/Nitrite-N	0.307	0.200	mg/L	SM21 4500NO3	-F B			07/18/22	EBH
Mignobiology Isborstory									
Microbiology Laboratory									
Biochemical Oxygen Demand	ND	2.00	mg/L	SM21 5210B	А			07/15/22	M.A



SGS Ref.#	1223970004		
Client Name	Michael Baker International	Printed Date/Time	07/29/2022 7:55
Project Name/#	2022 POA	<b>Collected Date/Time</b>	07/14/2022 15:58
Client Sample ID	Trip Blank	<b>Received Date/Time</b>	07/14/2022 17:40
Matrix	Water (Surface, Eff., Ground)	<b>Technical Director</b>	Stephen C. Ede

Parameter	Results	LOO	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile GC/MS									
Benzene	ND	0.400	ug/L	EPA 602/624	А		07/21/22	2 07/21/22	AZL
Ethylbenzene	ND	1.00	ug/L	EPA 602/624	А		07/21/22	2 07/21/22	AZL
o-Xylene	ND	1.00	ug/L	EPA 602/624	А		07/21/22	2 07/21/22	AZL
P & M -Xylene	ND	2.00	ug/L	EPA 602/624	А		07/21/22	2 07/21/22	AZL
Toluene	ND	1.00	ug/L	EPA 602/624	А		07/21/22	2 07/21/22	AZL
Surrogates									
1,2-Dichloroethane-D4 (surr)	115		%	EPA 602/624	А	81-118	07/21/22	2 07/21/22	AZL
4-Bromofluorobenzene (surr)	104		%	EPA 602/624	А	85-114	07/21/22	2 07/21/22	AZL
Toluene-d8 (surr)	98.4		%	EPA 602/624	А	89-112	07/21/22	2 07/21/22	AZL



#### SGS North America Inc. CHAIN OF CUSTODY RECORD

1223970
---------

,	<u> </u>						-	0	H	37	75	7 le	lec	m		www	<u>,</u>	
	CLIENT:		$(\gamma, \gamma)$				Ins	trudti	ons:	Sécti	ons 1	- 5 n	nust k	oe fill	ed ou	t.		
		Vichael Bake	LINT!				C	)missi T	ons r	nay d	elay t	he or	nset o	t ana	lysis.			Page of
_	Pat	whitesell	907 2	273 16	00	Sec	tion 3					Pre	eservat	ive				
Declinit	PROJECT NAME:	PRO PWS 022 POA PER	JECT/ SID/ MIT#:			# C 0												
	REPORTS TO	): E-N	IAIL:			N	Comp					Anal	ysis*					NOTE:
		Pro	file #:			Ā	Grab											*The following analyses
	INVOICE TO:	QU P.O	OTE #: ). #:			I N E	MI (Multi- incre-	$\delta$	+0	S	5	R	I					require specific method and/or compound list: BTEX, Metals, PFAS
	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX MATRIX CODE	R S	mental)	Bc	S	5	70	2	H.	\				REMARKS/LOC ID
	IAI	Outfall 1	07/14/22	17:03		49		ŀ	1	1	1	3	2					
	2AI	Outlall 2		16:29		9		1	i	1	l	3	2					
N	3AC	Outfall 3		15:58		¥_		1	1		1							
5		V																
eci																		
נו																-		
							1											
	Relinquishe	d_By: (1)	Date	Time	Received B	y:		1	I	Sect	ion 4	DOI	) Proje	ct? Ye	s No	Data	a Delive	erable Requirements:
	1		7111122	1740						Cool	er ID:							
د د	Relinquished	j By: (2)	Date	Time	Received B	y:	)			Reque	sted T	urnaro	und Tin	ne and	or Spe	cial Ins	tructio	ns:
ection	Relinquished	d By: (3)	Date	Time	Received B	y:												
מ			-		-		•			Temp	Blank	°C:	17, 3	s p	62	Cha	ain of C	Custody Seal: (Circle)
	Relinquished	d By: (4)	Date	Time	Received Fo	or Laboi	ratory By	:				or Am	bient [	]		INT	ACT	BROKEN ABSENT
			17/14/12	17:40	1/1-	- V.			27	<b>—</b>	Del	iverv M	ethod:	Hand	Delivery	/LA Co	mmerio	al Delivery [ ]

http://www.sgs.com/terms-and-conditions



SGS North America Inc. 200 W. Potter Dr., 3180 Peger Rd. Ste. 12:00 Anchorage, AK 99518 (ph) 190, Fairbanks, AK 7/5/2022 Client pickup Date: Time: Sample Kit Request 99709 (ph) 907-474-907-562-2343, (fax) 907-561-5301 8656 Be sure to ask if client will ship by ground (DOT) or air carrier (IATA) **Deliver to client:** Does a Profile exist in LIMS? If not, please send a request for new profile build. Ship by/Air Carrier: Michael Baker International Client Name: Airbill Number: Patrick Whitesell Ordered By: Date to ship by: Patrick.Whitesell@mbakerintl.com Email: 2022 POA Notes: **Project Name:** AKL Date: June 20, 2022 Profile#: Kit request taken by: Quote #: 10 22 Date: Kit prepared by: 9BF Kit (including lid tightness for pres'd bottles) checked by: Date: **Delivery Address:** Date: Kit packed & shipped by: 10 SKIT Michael Baker International\_2022 POA\_2022-06 \*Required Items Filename: Hold # QC Total Preservative No. Lot # Time **Bottles Bottles** Bottle Lot # Container Size & Type Pres. Matrix Analysis Samples 48 hours 3 BOD 1 x 1-L 🗸 HDPE None 3 3 COD, TKN, Total Nitrate+Nitrite 1 H2SO4 28 days 1 x 250-mL HDPE 3 3 7 days 1 x 1-L HDPE None 3 TSS / None 7 days 3 TDS V HDPE 1 x 125-mL 3 3 14 days TAH 🗸 3 x 40-mL VOA vials HCI 1 2 7 davs TAqH 🗡 2 x 250-ml None amber glass 1

Note: The first 10 Analysis and Preservative columns will auto-fill up to the capacity of the associated COC.

	Additio	onal Information	Notes for Kit Prep	Attention Client/Sampler:
	Pack for Shipment via:	N/A		1. Do not rinse container, be aware of any acid preservative.
	Temperature Blank:	Yes - Small (125 mL)		2. Fill container, but do not overfill (except volatiles).
	Trip Blank:	Yes - Water (8260, AK101, 8021, 624)		3. Label the container with your sample ID and date/time of collection
	Coolers:	Yes		4. Fill out the Chain of Custody.
	Gel Ice:	Yes		5. Add frozen gel packs to your cooler and pack to prevent breakage.
Ì	Labels:	Yes		If you have any questions please contact your Project Manager.
	Custody Seals:	Yes		
	Paper Chain of Custody:	Yes - Standard COC		
Lot Number	Tracking (Required for DOD):	No		

Houtfall 2 TAgH unlabeled.

e-Sample Receipt Form							
202	SGS Workorder #:	122	23970	1223970			
Re	eview Criteria	Condition (Yes, No, N//	Ex	ceptions Noted below			
Chain of Custo	dy / Temperature Requirements	Note:	Temperature and COC sea	al information is found on the chain of custody form			
DOD only: Did all sa	ample coolers have a corresponding (	COC? N/A					
	If <0°C, were sample containers ice	free? N/A					
	Note containers receive	<mark>∋d with ice:</mark>					
Identify any cor	tainers received at non-compliant ter (Use form FS-0029 if more space i	mperature: is needed)					
lolding Time / Docume	Intation / Sample Condition Req		Refer to form F-083 "Sample	Guide" for specific holding times and sample containers.			
vvere samp	les received within analytical holding	time? Yes					
Do sample	labels match COC? Record discrepan	ncies. <b>Yes</b>					
<b>Note:</b> If information on information for login. If time	containers differs from COC, default res differ <1hr, record details & login	to COC per COC.					
	Were analytical requests	clear? Yes					
(i.e. method is specified fo (Eg, BTEX 8021	or analyses with multiple option for me 1 vs 8260, Metals 6020 vs 200.8)	ethod					
Were proper containe	e <mark>rs (type/mass/volume/preservative)</mark> u	Ised? Yes					
Note: Exemption for	<sup>•</sup> metals analysis by 200.8/6020 in wa	ater.					
Volatile Analysis R	equirements (VOC, GRO, LL-Hg	j, etc.)					
Vere all soil VOAs received	d with a corresponding % solids conta	ainer? N/A					
Were Trip Blanks (e	<mark>∍.g., VOAs, LL-H</mark> g) in cooler with sam	iples? Yes					
Were all water VOA vials	free of headspace (e.g., bubbles $\leq 6$	i <mark>mm)? Yes</mark>					
Were all soil	VOAs field extracted with Methanol+	BFB? N/A					
Note to Client: An	y "No", answer above indicates non-o	compliance with	standard procedu	res and may impact data quality.			
	Additional r	<mark>notes (if appl</mark>	icable):				



#### **Sample Containers and Preservatives**

<u>Container Id</u>	Preservative	<u>Container</u> Condition	Container Id	<u>Preservative</u>	<u>Container</u> Condition
1223970001-A	No Preservative Required	<u>ОК</u>			
1223970001-B	H2SO4 to pH < 2	OK			
1223970001-C	No Preservative Required	OK			
1223970001-D	No Preservative Required	OK			
1223970001-F	HCL to $pH < 2$	OK			
1223970001-F	HCL to $pH < 2$	OK			
1223970001-G	HCL to $pH < 2$	OK			
1223970001-H	No Preservative Required	OK			
1223970001-I	No Preservative Required	OK			
1223970002-A	No Preservative Required	OK			
1223970002-R	H2SO4 to pH < 2	OK			
1223970002-C	No Preservative Required	OK			
1223970002-D	No Preservative Required	OK			
1223970002-F	HCL to pH < 2	OK			
1223970002-E	HCL to $pH < 2$	OK			
1223970002-G	HCL to $pH < 2$	OK			
1223970002-H	No Preservative Required	OK			
1223970002-I	No Preservative Required	OK			
1223970002-1	No Preservative Required	OK			
1223970003-B	H2SO4 to pH < 2	OK			
1223970003-C	No Preservative Required	OK			
1223970003-D	No Preservative Required	OK			
1223970004-A	HCL to $pH < 2$	OK			
1223970004-B	HCL to pH < 2	0K			
1223970004-C	$\frac{1}{100}$ HCL to pH < 2	OK			

#### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

- OK The container was received at an acceptable pH for the analysis requested.
- BU The container was received with headspace greater than 6mm.
- DM The container was received damaged.
- FR The container was received frozen and not usable for Bacteria or BOD analyses.
- IC The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
- NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
- PA The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
- PH The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis

requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added. QN - Insufficient sample quantity provided.



#### Laboratory Report of Analysis

To: Michael Baker International 3900 C St SUite 900 Anchorage, AK 99503

Report Number: 1224736

Client Project: POA MS4 Sampling

Dear Pat Whitesell,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

**Justin Nelson** 

11:53:43 -08'00'

2022.08.31

Sincerely, SGS North America Inc.

Justin Nelson Project Manager

Justin.Nelson@sgs.com

Date

Print Date: 08/31/2022 11:51:30AM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518 t 907.562.2343 f 907.561.5301 www.us.sgs.com Results via Engage

Member of SGS Group



#### **Case Narrative**

SGS Client: Michael Baker International SGS Project: 1224736 Project Name/Site: POA MS4 Sampling Project Contact: Pat Whitesell

Refer to sample receipt form for information on sample condition.

#### 1224658004MSD (1679336) MSD

8270D SIM -PAH surrogate recoveries for fluoranthene-d10 and 2-methylnaphthalene-d10 do not meet QC criteria.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 08/31/2022 11:51:31AM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group



#### Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <<u>http://www.sgs.com/en/Terms-and-Conditions.aspx></u>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
В	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.
Sample summaries which i All DRO/RRO analyses are	nclude a result for "Total Solids" have already been adjusted for moisture content.

Print Date: 08/31/2022 11:51:33AM

Note:



#### Sample Summary

<u>Client Sample ID</u> POA 3, 8/10/2022 Trip Blank Lab Sample ID 1224736001 1224736002 
 Collected
 Received

 08/10/2022
 08/10/2022

 08/10/2022
 08/10/2022

<u>Matrix</u> Water (Surface, Eff., Ground) Water (Surface, Eff., Ground)

Method EPA 602/624 EPA 625M SIM (PAH) LV Method Description 602 Aromatics by 624 (W)

625 PAH SIM GC/MS Low Volume

Print Date: 08/31/2022 11:51:34AM



#### **Detectable Results Summary** Client Sample ID: POA 3, 8/10/2022 Lab Sample ID: 1224736001 <u>Units</u> Parameter <u>Result</u> Acenaphthene 0.196 ug/L **Polynuclear Aromatics GC/MS** Fluorene 0.170 ug/L Naphthalene 0.409 ug/L Phenanthrene 0.120 ug/L Volatile GC/MS Benzene 1.18 ug/L 6.16 Ethylbenzene ug/L P & M -Xylene 4.51 ug/L

Print Date: 08/31/2022 11:51:35AM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



Results of POA 3, 8/10/2022

Client Sample ID: **POA 3, 8/10/2022** Client Project ID: **POA MS4 Sampling** Lab Sample ID: 1224736001 Lab Project ID: 1224736 Collection Date: 08/10/22 15:07 Received Date: 08/10/22 15:30 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

#### Results by Polynuclear Aromatics GC/MS

						Allowable	
<u>Parameter</u>	<u>Result Qual</u>	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	Limits	Date Analyzed
Acenaphthene	0.196	0.0463	0.0139	ug/L	1		08/22/22 18:52
Acenaphthylene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Anthracene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Benzo(a)Anthracene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Benzo[a]pyrene	0.0185 U	0.0185	0.00574	ug/L	1		08/22/22 18:52
Benzo[b]Fluoranthene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Benzo[g,h,i]perylene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Benzo[k]fluoranthene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Chrysene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Dibenzo[a,h]anthracene	0.0185 U	0.0185	0.00574	ug/L	1		08/22/22 18:52
Fluoranthene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Fluorene	0.170	0.0463	0.0139	ug/L	1		08/22/22 18:52
Indeno[1,2,3-c,d] pyrene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Naphthalene	0.409	0.0926	0.0287	ug/L	1		08/22/22 18:52
Phenanthrene	0.120	0.0926	0.0287	ug/L	1		08/22/22 18:52
Pyrene	0.0463 U	0.0463	0.0139	ug/L	1		08/22/22 18:52
Surrogates							
2-Methylnaphthalene-d10 (surr)	59.6	42-86		%	1		08/22/22 18:52
Fluoranthene-d10 (surr)	68.7	50-97		%	1		08/22/22 18:52

#### Batch Information

Analytical Batch: XMS13308 Analytical Method: EPA 625M SIM (PAH) LV Analyst: NGG Analytical Date/Time: 08/22/22 18:52 Container ID: 1224736001-D Prep Batch: XXX46798 Prep Method: SW3535A Prep Date/Time: 08/14/22 13:00 Prep Initial Wt./Vol.: 270 mL Prep Extract Vol: 1 mL

Print Date: 08/31/2022 11:51:37AM

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



#### Results of POA 3, 8/10/2022

Client Sample ID: **POA 3, 8/10/2022** Client Project ID: **POA MS4 Sampling** Lab Sample ID: 1224736001 Lab Project ID: 1224736 Collection Date: 08/10/22 15:07 Received Date: 08/10/22 15:30 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

#### Results by Volatile GC/MS

						<u>Allowable</u>	
<u>Parameter</u>	<u>Result Qual</u>	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	<u>Limits</u>	Date Analyzed
Benzene	1.18	0.400	0.120	ug/L	1		08/17/22 03:46
Ethylbenzene	6.16	1.00	0.310	ug/L	1		08/17/22 03:46
o-Xylene	1.00 U	1.00	0.310	ug/L	1		08/17/22 03:46
P & M -Xylene	4.51	2.00	0.620	ug/L	1		08/17/22 03:46
Toluene	1.00 U	1.00	0.310	ug/L	1		08/17/22 03:46
Surrogates							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		08/17/22 03:46
4-Bromofluorobenzene (surr)	106	85-114		%	1		08/17/22 03:46
Toluene-d8 (surr)	102	89-112		%	1		08/17/22 03:46

#### **Batch Information**

Analytical Batch: VMS21881 Analytical Method: EPA 602/624 Analyst: S.S Analytical Date/Time: 08/17/22 03:46 Container ID: 1224736001-A Prep Batch: VXX39025 Prep Method: SW5030B Prep Date/Time: 08/16/22 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/31/2022 11:51:37AM
Results of Trip Blank

Client Sample ID: **Trip Blank** Client Project ID: **POA MS4 Sampling** Lab Sample ID: 1224736002 Lab Project ID: 1224736

Collection Date: 08/10/22 15:07 Received Date: 08/10/22 15:30 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile GC/MS

						Allowable	
<u>Parameter</u>	<u>Result Qual</u>	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Benzene	0.400 U	0.400	0.120	ug/L	1		08/17/22 01:17
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		08/17/22 01:17
o-Xylene	1.00 U	1.00	0.310	ug/L	1		08/17/22 01:17
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		08/17/22 01:17
Toluene	1.00 U	1.00	0.310	ug/L	1		08/17/22 01:17
Surrogates							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		08/17/22 01:17
4-Bromofluorobenzene (surr)	103	85-114		%	1		08/17/22 01:17
Toluene-d8 (surr)	105	89-112		%	1		08/17/22 01:17

### **Batch Information**

Analytical Batch: VMS21881 Analytical Method: EPA 602/624 Analyst: S.S Analytical Date/Time: 08/17/22 01:17 Container ID: 1224736002-A Prep Batch: VXX39025 Prep Method: SW5030B Prep Date/Time: 08/16/22 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/31/2022 11:51:37AM

# Method Blank

Blank ID: MB for HBN 1841644 [VXX/39025] Blank Lab ID: 1679974

QC for Samples: 1224736001, 1224736002

### Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	LOQ/CL	DL	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	105	81-118		%
4-Bromofluorobenzene (surr)	97.9	85-114		%
Toluene-d8 (surr)	102	89-112		%

# **Batch Information**

Analytical Batch: VMS21881 Analytical Method: EPA 602/624 Instrument: Agilent 7890-75MS Analyst: S.S Analytical Date/Time: 8/16/2022 10:33:00PM

Prep Batch: VXX39025 Prep Method: SW5030B Prep Date/Time: 8/16/2022 6:00:00AM Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/31/2022 11:51:38AM

Matrix: Water (Surface, Eff., Ground)





### Blank Spike Summary

Blank Spike ID: LCS for HBN 1224736 [VXX39025] Blank Spike Lab ID: 1679975 Date Analyzed: 08/16/2022 22:48 Spike Duplicate ID: LCSD for HBN 1224736 [VXX39025] Spike Duplicate Lab ID: 1679976 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224736001, 1224736002

### Results by EPA 602/624

		Blank Spike (ug/L)		;	Spike Dupli	cate (ug/L)			
<u>Parameter</u>	Spike	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL
Benzene	30	29.2	97	30	29.7	99	(79-120)	1.60	(< 20)
Ethylbenzene	30	30.0	100	30	30.1	100	(79-121)	0.12	(< 20)
o-Xylene	30	30.5	102	30	30.4	101	(78-122)	0.14	(< 20)
P & M -Xylene	60	61.4	102	60	60.6	101	(80-121)	1.30	(< 20)
Toluene	30	29.0	97	30	29.1	97	(80-121)	0.60	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		96	30		96	(81-118)	0.06	
4-Bromofluorobenzene (surr)	30		93	30		94	(85-114)	0.55	
Toluene-d8 (surr)	30		102	30		102	(89-112)	0.61	

### Batch Information

Analytical Batch: VMS21881 Analytical Method: EPA 602/624 Instrument: Agilent 7890-75MS Analyst: S.S Prep Batch: VXX39025 Prep Method: SW5030B Prep Date/Time: 08/16/2022 06:00 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 08/31/2022 11:51:40AM

# Method Blank

Blank ID: MB for HBN 1841401 [XXX/46798] Blank Lab ID: 1679333

QC for Samples: 1224736001

### Results by EPA 625M SIM (PAH) LV

<u>Parameter</u>	<u>Results</u>	LOQ/CL	<u>DL</u>	<u>Units</u>
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0500U	0.100	0.0310	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Methylnaphthalene-d10 (surr)	62.4	42-86		%
Fluoranthene-d10 (surr)	73.1	50-97		%

# **Batch Information**

Analytical Batch: XMS13300 Analytical Method: EPA 625M SIM (PAH) LV Instrument: Agilent GC 7890B/5977A SWA Analyst: NGG Analytical Date/Time: 8/17/2022 8:56:00PM Prep Batch: XXX46798 Prep Method: SW3535A Prep Date/Time: 8/14/2022 1:00:12PM Prep Initial Wt./Vol.: 250 mL Prep Extract Vol: 1 mL

Print Date: 08/31/2022 11:51:43AM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Matrix: Water (Surface, Eff., Ground)



#### Blank Spike Summary

Blank Spike ID: LCS for HBN 1224736 [XXX46798] Blank Spike Lab ID: 1679334 Date Analyzed: 08/17/2022 21:16

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224736001

### Results by EPA 625M SIM (PAH) LV

		Blank Spike	e (ug/L)	
<u>Parameter</u>	Spike	Result	<u>Rec (%)</u>	
Acenaphthene	2	1.45	73	
Acenaphthylene	2	1.45	73	
Anthracene	2	1.52	76	
Benzo(a)Anthracene	2	1.43	72	
Benzo[a]pyrene	2	1.50	75	
Benzo[b]Fluoranthene	2	1.48	74	
Benzo[g,h,i]perylene	2	1.65	83	
Benzo[k]fluoranthene	2	1.59	80	
Chrysene	2	1.50	75	
Dibenzo[a,h]anthracene	2	1.64	82	
Fluoranthene	2	1.46	73	
Fluorene	2	1.47	73	
Indeno[1,2,3-c,d] pyrene	2	1.63	81	
Naphthalene	2	1.30	65	
Phenanthrene	2	1.53	77	
Pyrene	2	1.47	73	
Surrogates				
2-Methylnaphthalene-d10 (surr)	2		61	
Fluoranthene-d10 (surr)	2		70	

# **Batch Information**

Analytical Batch: XMS13300 Analytical Method: EPA 625M SIM (PAH) LV Instrument: Agilent GC 7890B/5977A SWA Analyst: NGG Prep Batch: XXX46798 Prep Method: SW3535A Prep Date/Time: 08/14/2022 13:00 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL Dupe Init Wt./Vol.: Extract Vol:

Print Date: 08/31/2022 11:51:45AM

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



### Matrix Spike Summary

Original Sample ID: 1224658004 MS Sample ID: 1679335 MS MSD Sample ID: 1679336 MSD Analysis Date: 08/17/2022 21:57 Analysis Date: 08/17/2022 19:33 Analysis Date: 08/17/2022 19:54 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224736001

#### Results by EPA 625M SIM (PAH) LV

		Matrix Spike (ug/L)		Spike Duplicate (ug/L)						
Parameter	Sample	Spike	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL
Acenaphthene	0.0236U	1.96	1.33	68	2.00	1.36	68	48-114	2.10	(< 20)
Acenaphthylene	0.0236U	1.96	1.33	68	2.00	1.35	68	35-121	1.20	(< 20)
Anthracene	0.0236U	1.96	1.38	71	2.00	1.37	69	53-119	0.69	(< 20)
Benzo(a)Anthracene	0.0236U	1.96	1.33	68	2.00	1.44	72	59-120	7.70	(< 20)
Benzo[a]pyrene	0.00945U	1.96	1.41	72	2.00	1.52	76	53-120	7.30	(< 20)
Benzo[b]Fluoranthene	0.0236U	1.96	1.4	71	2.00	1.51	76	53-126	8.00	(< 20)
Benzo[g,h,i]perylene	0.0236U	1.96	1.65	84	2.00	1.70	85	44-128	2.90	(< 20)
Benzo[k]fluoranthene	0.0236U	1.96	1.49	76	2.00	1.60	80	54-125	7.30	(< 20)
Chrysene	0.0236U	1.96	1.39	71	2.00	1.51	75	57-120	7.90	(< 20)
Dibenzo[a,h]anthracene	0.00945U	1.96	1.62	83	2.00	1.69	85	44-131	4.30	(< 20)
Fluoranthene	0.0236U	1.96	1.34	68	2.00	1.40	70	58-120	4.40	(< 20)
Fluorene	0.0236U	1.96	1.34	69	2.00	1.36	68	50-118	0.89	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0236U	1.96	1.62	82	2.00	1.69	85	48-130	4.50	(< 20)
Naphthalene	0.0471U	1.96	1.28	65	2.00	1.30	65	43-114	2.10	(< 20)
Phenanthrene	0.0471U	1.96	1.4	72	2.00	1.41	70	53-115	0.32	(< 20)
Pyrene	0.0236U	1.96	1.33	68	2.00	1.39	70	53-121	4.70	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		1.96	1.27	65	2.00	0.00	0 *	42-86	200.00	
Fluoranthene-d10 (surr)		1.96	1.38	70	2.00	0.0128	1 *	50-97	196.00	

### **Batch Information**

Analytical Batch: XMS13300 Analytical Method: EPA 625M SIM (PAH) LV Instrument: Agilent GC 7890B/5977A SWA Analyst: NGG Analytical Date/Time: 8/17/2022 7:33:00PM

#### Prep Batch: XXX46798 Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV Prep Date/Time: 8/14/2022 1:00:12PM Prep Initial Wt./Vol.: 255.00mL Prep Extract Vol: 1.00mL

Print Date: 08/31/2022 11:51:46AM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



# SGS North America Inc. CHAIN OF CUSTODY RECORD



0#375766 CM

							Inc	truotia		Sectio	ne 1	- 5 m	uist h	e filler			T	]			
		IAL DALL- T	1			Omissions may delay the onset of analysis.															
	1714	ALL BAKER						111331	0113 11	iay at	siu y ti							Page of			
			···- #.		1-1-	Sec	Section 3 Preservative														
<b></b>	PATRICI	L WAITESELL	70(	602	5352	#	· · · · · ·														
ion		PROJ PWSI	D/																		
sect	NAIVIE. MC	SA MOT SAMPLING	MPLING			SAMPLING			0		$\square$						//		/		
05	REPORTS TO	): E-M	AIL: patric	patrick, whitelelle			Comp					Analy		<u> </u>	<u> </u>			NOTE:			
		Prot	ile#: ოს	akerintl.	con	Å	Grab	T										*The following analyses			
	INVOICE TO:	QUC	DTE #:				M	1X	$\mathcal{Z}$									and/or compound list:			
	PATRICK	WHITESELL P.O.	. #:		MALBIX	E	incre-	T.	3									BTEX, Metals, PFAS			
	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM		R S	mental)	¢	4									REMARKS/LOC ID			
	MAC	POA3 4/16/22	\$/10/22	15:07		3				ļ											
	BATHE	POA3 \$/10/12	\$/10/22	15:08		5															
	- Pro-		, <del>, , , , , , , , , , , , , , , , </del>																		
2 0			-																		
ct:																					
S.																					
											1										
					1		+			1											
			»	<i>(</i>					1	+		1									
$\left  \right $	Belinguishe	d Bv: (1) \	Date	Time	Received B	 y:		<u> </u>	1	Sec	tion 4	DOI	) Proje	ct? Yeş	110	Data	Deliv	erable Requirements:			
	$\overline{\mathbf{v}}$		5/ 1-	15:28		-															
		21)	1/10/2	<u>}</u>	Bessived B		<u></u>			Coo	ler ID:	urnaro	und Tin	ne and/o	or Spec	ial Inst	tructio	ons:			
L.C	Relinquishe	d By: (2)	Date	lime	INECEIVED D	у.				Ineque	saleu I	amato									
8				· · · · ·						1											
ţ	Relinquishe	d By: (3)	Date	Time	Received B	y:															
ľ										Temp	Blank	°C:				Cha	ain of (	Custody Seal: (Circle)			
	Relinquishe	d By: (4)	Date	Time	Received F	or Labo	oratory-B	y:		1	Jun	or Am	hight	$\sim$		INT	АСТ	BROKEN ABSENT			
			SJ/11/27	1531	1 Dan	A N K.	75()								)	1					
L			10100	10.0	Vovv	vol	- pc	~		<u> </u>	De	livery N	lethod:	Hand L	Jelivery	NT ROI	nmeri				

ł

http://www.sgs.com/terms-and-conditions

000	e-Samp	le Receipt For	m	
262	SGS Workorder #:	122	4736	1224736
Re	view Criteria	Condition (Yes, No, N/A	Ex	ceptions Noted below
Chain of Custor	dy / Temperature Requirements	Note:	Temperature and COC sea	al information is found on the chain of custody form
DOD only: Did all sa	mple coolers have a corresponding (	COC? N/A		
	If <0°C, were sample containers ice	free? N/A		
	Note containers receive	ed with ice:		
Identify any con	tainers received at non-compliant ter (Use form FS-0029 if more space i	mperature: is needed)		
lolding Time / Docume	ntation / Sample Condition Req		Refer to form F-083 "Sample	Guide" for specific holding times and sample containers.
Were samp	es received within analytical holding	time? Yes		
Do sample l	abels match COC? Record discrepan	ncies. Yes		
<b>Note:</b> If information on information for login. If tim	containers differs from COC, default les differ <1hr, record details & login	to COC per COC.		
	Were analytical requests	clear? Yes		
(i.e. method is specified fo	<mark>r analyses with multiple option for m</mark> e	ethod		
(Eg, BTEX 8021	vs 8260, Metals 6020 vs 200.8)			
Were proper containe Note: Exemption for	rs (type/mass/volume/preservative)u metals analysis by 200.8/6020 in wa	ised? Yes ater.		
Volatile Analysis R	equirements (VOC, GRO, LL-Hc	. etc.)		
Vere all soil VOAs received	with a corresponding % solids cont	ainer? N/A		
Were Trip Blanks (e	.a., VOAs, LL-Ha) in cooler with sam	ples? Yes		
Were all water VOA vials	free of headspace (e.g., bubbles $\leq 6$	omm)? Yes		
Were all soil	VOAs field extracted with Methanol+	BFB? N/A		
Note to Client: Any	y "No", answer above indicates non-ر	compliance with	standard procedu	es and may impact data quality.
	Additional	notes (if appli	<u>cable):</u>	



# **Sample Containers and Preservatives**

<u>Container Id</u>	Preservative	<u>Container</u> Condition	<u>Container Id</u>	<u>Preservative</u>	<u>Container</u> Condition
1224736001-A	HCL to pH < 2	ОК			
1224736001-B	HCL to $pH < 2$	ОК			
1224736001-C	HCL to $pH < 2$	ОК			
1224736001-D	No Preservative Required	ОК			
1224736001-E	No Preservative Required	ОК			
1224736002-A	HCL to $pH < 2$	ОК			
1224736002-B	HCL to $pH < 2$	ОК			
1224736002-C	HCL to $pH < 2$	ОК			

#### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis

requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added. QN - Insufficient sample quantity provided.



### Laboratory Report of Analysis

To: Michael Baker International 3900 C St SUite 900 Anchorage, AK 99503

Report Number: 1225674

Client Project: 2022 POA

Dear Pat Whitesell,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Justin Nelson

Sincerely, SGS North America Inc.

2022.10.12 16:35:51 -08'00' Date

Justin Nelson Project Manager Justin.Nelson@sgs.com

Print Date: 10/12/2022 8:13:03AM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518 t 907.562.2343 f 907.561.5301 www.us.sgs.com Results via Engage

Member of SGS Group



#### **Case Narrative**

SGS Client: Michael Baker International SGS Project: 1225674 Project Name/Site: 2022 POA Project Contact: Pat Whitesell

Refer to sample receipt form for information on sample condition.

### Outfall 1 (1225674001) PS

5210B - BOD - Sample DO result is under-depleted. BOD results are estimated.

### Outfall 2 (1225674002) PS

5210B - BOD - Sample DO result is under-depleted. BOD results are estimated.

### 1225536002MS (1687219) MS

410.4 - Chemical Oxygen Demand - MS recovery is outside of QC criteria (biased high). Refer to LCS for accuracy requirements.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 10/12/2022 8:13:05AM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group



### Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <<u>http://www.sgs.com/en/Terms-and-Conditions.aspx></u>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
В	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.
Sample summaries which i	nclude a result for "Total Solids" have already been adjusted for moisture content.
All DRO/RRO analyses are	integrated per SOP.

Print Date: 10/12/2022 8:13:07AM

Note:



SM21 2540D

Sample Summary								
Client Sample ID	Lab Sample ID	<u>Collected</u>	Received	<u>Matrix</u>				
Outfall 1	1225674001	09/19/2022	09/19/2022	Water (Surface, Eff., Ground)				
Outfall 2	1225674002	09/19/2022	09/19/2022	Water (Surface, Eff., Ground)				
Outfall 3	1225674003	09/19/2022	09/19/2022	Water (Surface, Eff., Ground)				
Trip Blank	1225674004	09/19/2022	09/19/2022	Water (Surface, Eff., Ground)				
<u>Method</u>	Method Desc	cription						
EPA 602/624	602 Aromatio	cs by 624 (W)						
EPA 625M SIM (PAH)	625 Semi-Vo	olatiles GC/MS Lic	ı/Liq ext.					
SM21 5210B	Biochemical Oxygen Demand SM21 5210B							
EPA 410.4	EPA 410.4 Chemical Oxygen Demand							
SM21 2540C Total Dissolved Solids SM18 2540C								

Total Suspended Solids SM20 2540D

Print Date: 10/12/2022 8:13:08AM



-----

.

~ ~ ~

# **Detectable Results Summary**

Client Sample ID: <b>Outfall 1</b>	_		
Lab Sample ID: 1225674001	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Waters Department	Chemical Oxygen Demand	63.5	mg/L
	Total Dissolved Solids	668	mg/L
	Total Suspended Solids	11.4	mg/L
Client Sample ID: Outfall 2			
Lab Sample ID: 1225674002	Parameter	Result	<u>Units</u>
Waters Department	Chemical Oxygen Demand	148	mg/L
	Total Dissolved Solids	548	mg/L
	Total Suspended Solids	57.0	mg/L
Client Sample ID: Outfall 3			
Lab Sample ID: 1225674003	Parameter	Result	<u>Units</u>
Polynuclear Aromatics GC/MS	Acenaphthene	0.0413	ug/L
	Fluorene	0.0373	ug/L
	Naphthalene	0.131	ug/L
	Phenanthrene	0.0484	ug/L
Volatile GC/MS	Ethylbenzene	2.05	ug/L

Print Date: 10/12/2022 8:13:09AM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Results of Outfall 1							
Client Sample ID: <b>Outfall 1</b> Client Project ID: <b>2022 POA</b> Lab Sample ID: 1225674001 Lab Project ID: 1225674		Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:					
Results by Microbiology Laboratory							
<u>Parameter</u> Biochemical Oxygen Demand	<u>Result Qual</u> 2.00 U	<u>LOQ/CL</u> 2.00	<u>DL</u> 2.00	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u> 09/20/22 10:41
Batch Information							
Analytical Batch: BOD7307 Analytical Method: SM21 5210B Analyst: M.A Analytical Date/Time: 09/20/22 10:41 Container ID: 1225674001-A							



Results of Outfall 1

Client Sample ID: **Outfall 1** Client Project ID: **2022 POA** Lab Sample ID: 1225674001 Lab Project ID: 1225674 Collection Date: 09/19/22 11:50 Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Polynuclear Aromatics GC/MS

						Allowable	
<u>Parameter</u>	<u>Result Qual</u>	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Acenaphthene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Acenaphthylene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Anthracene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Benzo(a)Anthracene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Benzo[a]pyrene	0.00521 U	0.00521	0.00156	ug/L	1		10/05/22 02:18
Benzo[b]Fluoranthene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Benzo[g,h,i]perylene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Benzo[k]fluoranthene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Chrysene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Dibenzo[a,h]anthracene	0.00521 U	0.00521	0.00156	ug/L	1		10/05/22 02:18
Fluoranthene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Fluorene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Indeno[1,2,3-c,d] pyrene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Naphthalene	0.0260 U	0.0260	0.00813	ug/L	1		10/05/22 02:18
Phenanthrene	0.0260 U	0.0260	0.00807	ug/L	1		10/05/22 02:18
Pyrene	0.0130 U	0.0130	0.00385	ug/L	1		10/05/22 02:18
Surrogates							
2-Methylnaphthalene-d10 (surr)	76.6	42-86		%	1		10/05/22 02:18
Fluoranthene-d10 (surr)	82.6	50-97		%	1		10/05/22 02:18

### **Batch Information**

Analytical Batch: XMS13389 Analytical Method: EPA 625M SIM (PAH) Analyst: NGG Analytical Date/Time: 10/05/22 02:18 Container ID: 1225674001-E Prep Batch: XXX47037 Prep Method: SW3535A Prep Date/Time: 09/23/22 09:53 Prep Initial Wt./Vol.: 960 mL Prep Extract Vol: 1 mL

Print Date: 10/12/2022 8:13:11AM

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Results of Outfall 1

Client Sample ID: **Outfall 1** Client Project ID: **2022 POA** Lab Sample ID: 1225674001 Lab Project ID: 1225674 Collection Date: 09/19/22 11:50 Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile GC/MS

						<u>Allowable</u>	
<u>Parameter</u>	<u>Result Qual</u>	LOQ/CL	DL	<u>Units</u>	DF	<u>Limits</u>	Date Analyzed
Benzene	0.400 U	0.400	0.120	ug/L	1		09/29/22 20:23
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/29/22 20:23
o-Xylene	1.00 U	1.00	0.310	ug/L	1		09/29/22 20:23
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		09/29/22 20:23
Toluene	1.00 U	1.00	0.310	ug/L	1		09/29/22 20:23
Surrogates							
1,2-Dichloroethane-D4 (surr)	108	81-118		%	1		09/29/22 20:23
4-Bromofluorobenzene (surr)	108	85-114		%	1		09/29/22 20:23
Toluene-d8 (surr)	101	89-112		%	1		09/29/22 20:23

### **Batch Information**

Analytical Batch: VMS22036 Analytical Method: EPA 602/624 Analyst: AZL Analytical Date/Time: 09/29/22 20:23 Container ID: 1225674001-G Prep Batch: VXX39286 Prep Method: SW5030B Prep Date/Time: 09/29/22 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 10/12/2022 8:13:11AM

Results of Outfall 1       Collection Date: 09/19/22 11:50         Client Sample ID: 0022 POA       Received Date: 09/19/22 13:27         Lab Sample ID: 1225674001       Matrix: Water (Surface, Eff., Ground)         Lab Project ID: 1225674       Solids (%):         Location:       Results by Waters Department         Parameter       Result Qual       LOQ/CL       DL       Units       DF       Limits         Chemical Oxygen Demand       63.5       20.0       6.20       mg/L       1	<u>Date Analyzed</u> 09/21/22 14:52
Results by Waters Department         Parameter       Result Qual       LOQ/CL       DL       Units       DF       Limits         Chemical Oxygen Demand       63.5       20.0       6.20       mg/L       1         Batch Information       Analytical Batch: WSP5795       Analytical Mathematical Mathmatematical Mathematical Mathematical Mathmatical Mathem	<u>Date Analyzed</u> 09/21/22 14:52
Analytical Batch: WSP5795	
Analytical Method. EPA 410.4 Analyst: MEB Analytical Date/Time: 09/21/22 14:52 Container ID: 1225674001-B	
Parameter       Result Qual       LOQ/CL       DL       Units       DF       Limits         Total Dissolved Solids       668       20.0       6.20       mg/L       1	Date Analyzed 09/21/22 17:07
Batch Information         Analytical Batch: STS7398         Analytical Method: SM21 2540C         Analyst: EBH         Analytical Date/Time: 09/21/22 17:07         Container ID: 1225674001-D	
Parameter       Result Qual       LOQ/CL       DL       Units       DF       Limits         Total Suspended Solids       11.4       1.00       0.310       mg/L       1	<u>Date Analyzed</u> 09/21/22 13:26
Batch Information         Analytical Batch: STS7396         Analytical Method: SM21 2540D         Analyst: EBH         Analytical Date/Time: 09/21/22 13:26         Container ID: 1225674001-C	

Print Date: 10/12/2022 8:13:11AM

000

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

tesults of Outfall 2							
Ilient Sample ID: <b>Outfall 2</b> Ilient Project ID: <b>2022 POA</b> ab Sample ID: 1225674002 ab Project ID: 1225674		C R M S La	Collection Date: 09/19/22 12:12 Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:				
esults by Microbiology Laboratory							
<u>arameter</u> iochemical Oxygen Demand	<u>Result Qual</u> 2.00 U	<u>LOQ/CL</u> 2.00	<u>DL</u> 2.00	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u> 09/20/22 10:4
atch Information							
Analytical Batch: BOD7307 Analytical Method: SM21 5210B Analyst: M.A Analytical Date/Time: 09/20/22 10:41 Container ID: 1225674002-A							



Results of Outfall 2

Client Sample ID: **Outfall 2** Client Project ID: **2022 POA** Lab Sample ID: 1225674002 Lab Project ID: 1225674 Collection Date: 09/19/22 12:12 Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Polynuclear Aromatics GC/MS

						Allowable	
<u>Parameter</u>	<u>Result Qual</u>	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Acenaphthene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Acenaphthylene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Anthracene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Benzo(a)Anthracene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Benzo[a]pyrene	0.00515 U	0.00515	0.00155	ug/L	1		10/05/22 02:39
Benzo[b]Fluoranthene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Benzo[g,h,i]perylene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Benzo[k]fluoranthene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Chrysene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Dibenzo[a,h]anthracene	0.00515 U	0.00515	0.00155	ug/L	1		10/05/22 02:39
Fluoranthene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Fluorene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Indeno[1,2,3-c,d] pyrene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Naphthalene	0.0258 U	0.0258	0.00804	ug/L	1		10/05/22 02:39
Phenanthrene	0.0258 U	0.0258	0.00799	ug/L	1		10/05/22 02:39
Pyrene	0.0129 U	0.0129	0.00381	ug/L	1		10/05/22 02:39
Surrogates							
2-Methylnaphthalene-d10 (surr)	78.6	42-86		%	1		10/05/22 02:39
Fluoranthene-d10 (surr)	75.5	50-97		%	1		10/05/22 02:39

### **Batch Information**

Analytical Batch: XMS13389 Analytical Method: EPA 625M SIM (PAH) Analyst: NGG Analytical Date/Time: 10/05/22 02:39 Container ID: 1225674002-E Prep Batch: XXX47037 Prep Method: SW3535A Prep Date/Time: 09/23/22 09:53 Prep Initial Wt./Vol.: 970 mL Prep Extract Vol: 1 mL

Print Date: 10/12/2022 8:13:11AM

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Results of Outfall 2

Client Sample ID: **Outfall 2** Client Project ID: **2022 POA** Lab Sample ID: 1225674002 Lab Project ID: 1225674 Collection Date: 09/19/22 12:12 Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile GC/MS

						<u>Allowable</u>	
<u>Parameter</u>	<u>Result Qual</u>	LOQ/CL	DL	<u>Units</u>	DF	<u>Limits</u>	Date Analyzed
Benzene	0.400 U	0.400	0.120	ug/L	1		09/29/22 20:38
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/29/22 20:38
o-Xylene	1.00 U	1.00	0.310	ug/L	1		09/29/22 20:38
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		09/29/22 20:38
Toluene	1.00 U	1.00	0.310	ug/L	1		09/29/22 20:38
Surrogates							
1,2-Dichloroethane-D4 (surr)	106	81-118		%	1		09/29/22 20:38
4-Bromofluorobenzene (surr)	108	85-114		%	1		09/29/22 20:38
Toluene-d8 (surr)	101	89-112		%	1		09/29/22 20:38

### **Batch Information**

Analytical Batch: VMS22036 Analytical Method: EPA 602/624 Analyst: AZL Analytical Date/Time: 09/29/22 20:38 Container ID: 1225674002-G Prep Batch: VXX39286 Prep Method: SW5030B Prep Date/Time: 09/29/22 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 10/12/2022 8:13:11AM

<b>515</b>							
Results of <b>Outfall 2</b> Client Sample ID: <b>Outfall 2</b> Client Project ID: <b>2022 POA</b> Lab Sample ID: 1225674002 Lab Project ID: 1225674		Collection Date: 09/19/22 12:12 Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:					
Results by Waters Department           Parameter           Chemical Oxygen Demand	<u>Result Qual</u> 148	<u>LOQ/CL</u> 20.0	<u>DL</u> 6.20	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 09/21/22 14:52
Batch Information Analytical Batch: WSP5795 Analytical Method: EPA 410.4 Analyst: MEB Analytical Date/Time: 09/21/22 14:52 Container ID: 1225674002-B							
Parameter Total Dissolved Solids	<u>Result Qual</u> 548	<u>LOQ/CL</u> 20.0	<u>DL</u> 6.20	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u> 09/21/22 17:07
Batch Information Analytical Batch: STS7398 Analytical Method: SM21 2540C Analyst: EBH Analytical Date/Time: 09/21/22 17:07 Container ID: 1225674002-D							
<u>Parameter</u> Total Suspended Solids	<u>Result Qual</u> 57.0	<u>LOQ/CL</u> 5.00	<u>DL</u> 1.55	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u> 09/21/22 13:26
Batch Information Analytical Batch: STS7396 Analytical Method: SM21 2540D Analyst: EBH Analytical Date/Time: 09/21/22 13:26 Container ID: 1225674002-C							

Print Date: 10/12/2022 8:13:11AM

000



Results of Outfall 3

Client Sample ID: **Outfall 3** Client Project ID: **2022 POA** Lab Sample ID: 1225674003 Lab Project ID: 1225674 Collection Date: 09/19/22 12:32 Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Polynuclear Aromatics GC/MS

						Allowable	
<u>Parameter</u>	<u>Result Qual</u>	LOQ/CL	DL	<u>Units</u>	DF	<u>Limits</u>	Date Analyzed
Acenaphthene	0.0413	0.0132	0.00389	ug/L	1		10/05/22 02:59
Acenaphthylene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Anthracene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Benzo(a)Anthracene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Benzo[a]pyrene	0.00526 U	0.00526	0.00158	ug/L	1		10/05/22 02:59
Benzo[b]Fluoranthene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Benzo[g,h,i]perylene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Benzo[k]fluoranthene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Chrysene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Dibenzo[a,h]anthracene	0.00526 U	0.00526	0.00158	ug/L	1		10/05/22 02:59
Fluoranthene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Fluorene	0.0373	0.0132	0.00389	ug/L	1		10/05/22 02:59
Indeno[1,2,3-c,d] pyrene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Naphthalene	0.131	0.0263	0.00821	ug/L	1		10/05/22 02:59
Phenanthrene	0.0484	0.0263	0.00816	ug/L	1		10/05/22 02:59
Pyrene	0.0132 U	0.0132	0.00389	ug/L	1		10/05/22 02:59
Surrogates							
2-Methylnaphthalene-d10 (surr)	68.3	42-86		%	1		10/05/22 02:59
Fluoranthene-d10 (surr)	71.6	50-97		%	1		10/05/22 02:59

### **Batch Information**

Analytical Batch: XMS13389 Analytical Method: EPA 625M SIM (PAH) Analyst: NGG Analytical Date/Time: 10/05/22 02:59 Container ID: 1225674003-A Prep Batch: XXX47037 Prep Method: SW3535A Prep Date/Time: 09/23/22 09:53 Prep Initial Wt./Vol.: 950 mL Prep Extract Vol: 1 mL

Print Date: 10/12/2022 8:13:11AM

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Results of Outfall 3

Client Sample ID: **Outfall 3** Client Project ID: **2022 POA** Lab Sample ID: 1225674003 Lab Project ID: 1225674 Collection Date: 09/19/22 12:32 Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile GC/MS

						<u>Allowable</u>	
Parameter	<u>Result Qual</u>	LOQ/CL	DL	<u>Units</u>	DF	<u>Limits</u>	Date Analyzed
Benzene	0.400 U	0.400	0.120	ug/L	1		09/29/22 20:53
Ethylbenzene	2.05	1.00	0.310	ug/L	1		09/29/22 20:53
o-Xylene	1.00 U	1.00	0.310	ug/L	1		09/29/22 20:53
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		09/29/22 20:53
Toluene	1.00 U	1.00	0.310	ug/L	1		09/29/22 20:53
Surrogates							
1,2-Dichloroethane-D4 (surr)	105	81-118		%	1		09/29/22 20:53
4-Bromofluorobenzene (surr)	110	85-114		%	1		09/29/22 20:53
Toluene-d8 (surr)	100	89-112		%	1		09/29/22 20:53

### **Batch Information**

Analytical Batch: VMS22036 Analytical Method: EPA 602/624 Analyst: AZL Analytical Date/Time: 09/29/22 20:53 Container ID: 1225674003-C Prep Batch: VXX39286 Prep Method: SW5030B Prep Date/Time: 09/29/22 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 10/12/2022 8:13:11AM



### Results of Trip Blank

Client Sample ID: **Trip Blank** Client Project ID: **2022 POA** Lab Sample ID: 1225674004 Lab Project ID: 1225674 Collection Date: 09/19/22 11:50 Received Date: 09/19/22 13:27 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile GC/MS

						<u>Allowable</u>	
<u>Parameter</u>	<u>Result Qual</u>	LOQ/CL	DL	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Benzene	0.400 U	0.400	0.120	ug/L	1		09/29/22 18:39
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		09/29/22 18:39
o-Xylene	1.00 U	1.00	0.310	ug/L	1		09/29/22 18:39
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		09/29/22 18:39
Toluene	1.00 U	1.00	0.310	ug/L	1		09/29/22 18:39
Surrogates							
1,2-Dichloroethane-D4 (surr)	106	81-118		%	1		09/29/22 18:39
4-Bromofluorobenzene (surr)	108	85-114		%	1		09/29/22 18:39
Toluene-d8 (surr)	101	89-112		%	1		09/29/22 18:39

#### **Batch Information**

Analytical Batch: VMS22036 Analytical Method: EPA 602/624 Analyst: AZL Analytical Date/Time: 09/29/22 18:39 Container ID: 1225674004-A Prep Batch: VXX39286 Prep Method: SW5030B Prep Date/Time: 09/29/22 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 10/12/2022 8:13:11AM

Method Blank				
Blank ID: MB for HBN 1843976 [BOD/7307] Blank Lab ID: 1686721	Matrix	: Water (Sur	face, Eff., Ground)	
QC for Samples: 1225674001, 1225674002				
Results by SM21 5210B	·			
ParameterResultsBiochemical Oxygen Demand2.00U	LOQ/CL 2.00	<u>DL</u> 2.00	<u>Units</u> mg/L	
Batch Information				
Analytical Batch: BOD7307 Analytical Method: SM21 5210B Instrument: Analyst: M.A Analytical Date/Time: 9/20/2022 10:41:00AM				

Print Date: 10/12/2022 8:13:12AM

SGS	
	-

1				
Blank Spike Summary				
Blank Spike ID: LCS for HBN Blank Spike Lab ID: 1686722 Date Analyzed: 09/20/2022	1225674   10:41	[BOD7307	]	Matrix: Water (Surface, Eff., Ground)
QC for Samples: 12256740	001, 122567	4002		
Results by SM21 5210B				
		Blank Spike	e (mg/L)	
<u>Parameter</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	CL
Biochemical Oxygen Demand	198	211	107	( 84.6-115.4
Batch Information				
Analytical Batch: <b>BOD7307</b> Analytical Method: <b>SM21 5210</b> Instrument: Analyst: <b>M.A</b>	В			
Print Date: 10/12/2022 8:13:15AM				

Method Blank					
Blank ID: MB for HBN 184 Blank Lab ID: 1686836	44002 [STS/7396]	Matrix	: Water (Surfa	ace, Eff., Ground)	
QC for Samples: 1225674001, 1225674002					
Results by SM21 2540D					
Parameter	Results	LOQ/CL	<u>DL</u>	<u>Units</u>	
Total Suspended Solids	0.500U	1.00	0.310	mg/L	
Batch Information					
Analytical Batch: STS73 Analytical Method: SM21 Instrument: Analyst: EBH Analytical Date/Time: 9/2	96   2540D 21/2022 1:26:18PM				

Print Date: 10/12/2022 8:13:17AM

SGS	

- Dunlicate Sample Summary		7			
Original Sample ID: 122566500 Duplicate Sample ID: 1686839 QC for Samples:	11		Analysis Date: 09/ Matrix: Water (Sur	21/2022 13:26 face, Eff., Ground)	
Results by SM21 2540D					
NAME Total Suspended Solids	<u>Original</u> 36.0	Duplicate 36.0	<u>Units</u> mg/L	<u>RPD (%)</u> 0.00	<u>RPD CL</u> (< 5 )
Batch Information Analytical Batch: STS7396 Analytical Method: SM21 2540D Instrument: Analyst: EBH					

uplicate Sample Summary	/				
original Sample ID: 122566 Ouplicate Sample ID: 16868	5002 340		Analysis Date: Matrix: Water	09/21/2022 13:26 Surface, Eff., Grou	nd)
C for Samples:					
225674001, 1225674002					
esults by SM21 2540D					
AME	<u>Original</u>	Duplicate	<u>Units</u>	<u>RPD (%)</u>	RPD CL
otal Suspended Solids	39.0	40.0	mg/L	2.50	(< 5)
atch Information					
Analytical Batch: STS7396 Analytical Method: SM21 254 Instrument: Analyst: EBH	10D				

Print Date: 10/12/2022 8:13:18AM



Blank Spike Summary									
Blank Spike ID: LCS for HB Blank Spike Lab ID: 168683 Date Analyzed: 09/21/202	N 1225674 [ 37 2 13:26	STS7396]		Sp [ST Sp Ma	ike Duplica S7396] ike Duplica trix: Water	te ID: LCS te Lab ID: · (Surface,	D for HBN 1 1686838 Eff., Ground	225674	
QC for Samples: 122567	4001, 122567	4002				<b>`</b>	, -	,	
Results by SM21 2540D									
	E	Blank Spike	e (mg/L)	:	Spike Duplic	ate (mg/L)			
<u>Parameter</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Total Suspended Solids	25	25.1	100	25	25.4	102	(75-125)	1.20	(< 5)
Batch Information									
Analytical Batch: <b>STS7396</b> Analytical Method: <b>SM21 25</b> Instrument: Analyst: <b>EBH</b>	40D								

Print Date: 10/12/2022 8:13:19AM

Method Blank		]			
Blank ID: MB for HBN 184 Blank Lab ID: 1687033	44045 [STS/7398]	Matriz	x: Water (Surf	ace, Eff., Ground)	
QC for Samples: 1225674001, 1225674002					
Results by SM21 2540C		)			
<u>Parameter</u> Total Dissolved Solids	<u>Results</u> 5.00U	<u>LOQ/CL</u> 10.0	<u>DL</u> 3.10	<u>Units</u> mg/L	
Batch Information Analytical Batch: STS73 Analytical Method: SM21 Instrument: Analyst: EBH Analytical Date/Time: 9/2	98 I 2540C 21/2022 5:07:09PM				

Print Date: 10/12/2022 8:13:21AM

Duplicate Sample Summary	/				
Original Sample ID: 1225674 Duplicate Sample ID: 16870	4001 936		Analysis Date: Matrix: Water (	09/21/2022 17:07 Surface, Eff., Grou	nd)
QC for Samples:					
1225674001, 1225674002					
Results by SM21 2540C					
NAME	Original	Duplicate	<u>Units</u>	<u>RPD (%)</u>	RPD CL
Total Dissolved Solids	668	670	mg/L	0.30	(< 5)
Batch Information Analytical Batch: STS7398 Analytical Method: SM21 254 Instrument: Analyst: EBH	40C				

Duplicate Sample Summar	у				
Original Sample ID: 122567 Duplicate Sample ID: 16870	74002 037		Analysis Date: Matrix: Water (	09/21/2022 17:07 Surface, Eff., Grou	nd)
QC for Samples:					
1225674002					
Results by SM21 2540C					
NAME	<u>Original</u>	Duplicate	<u>Units</u>	<u>RPD (%)</u>	RPD CL
Total Dissolved Solids	548	546	mg/L	0.37	(< 5 )
Batch Information Analytical Batch: STS7398 Applytical Methods SM21.25	400				
Analyst: EBH	400				

Print Date: 10/12/2022 8:13:22AM



I									
Blank Spike Summary									
Blank Spike ID: LCS for HB Blank Spike Lab ID: 168703 Date Analyzed: 09/21/2022	N 1225674 [ 34 2 17:07	<u>[</u> STS7398]		Spi [ST Spi Ma	ike Duplica S7398] ike Duplica trix: Wate	ite ID: LCS ite Lab ID: r (Surface,	D for HBN 1 1687035 Eff., Ground	225674 )	
QC for Samples: 122567	4001, 122567	4002							
Results by SM21 2540C									
	I	Blank Spike	e (mg/L)	\$	Spike Duplic	ate (mg/L)			
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Total Dissolved Solids	333	312	94	333	313	94	(75-125)	0.32	(< 5)
Batch Information									
Analytical Batch: <b>STS7398</b> Analytical Method: <b>SM21 25</b> Instrument: Analyst: <b>EBH</b>	40C								

Print Date: 10/12/2022 8:13:24AM

# Method Blank

SG:

Blank ID: MB for HBN 1845249 [VXX/39286] Blank Lab ID: 1690085 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225674001, 1225674003, 1225674004

### Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	LOQ/CL	<u>DL</u>	Unite
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	107	81-118		%
4-Bromofluorobenzene (surr)	109	85-114		%
Toluene-d8 (surr)	100	89-112		%

# **Batch Information**

Analytical Batch: VMS22036 Analytical Method: EPA 602/624 Instrument: Agilent 7890-75MS Analyst: AZL Analytical Date/Time: 9/29/2022 3:17:00PM Prep Batch: VXX39286 Prep Method: SW5030B Prep Date/Time: 9/29/2022 6:00:00AM Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 10/12/2022 8:13:26AM


#### **Blank Spike Summary**

Blank Spike ID: LCS for HBN 1225674 [VXX39286] Blank Spike Lab ID: 1690086 Date Analyzed: 09/29/2022 15:32 Spike Duplicate ID: LCSD for HBN 1225674 [VXX39286] Spike Duplicate Lab ID: 1690087 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225674001, 1225674002, 1225674003, 1225674004

#### Results by EPA 602/624

	Blank Spike	lank Spike (ug/L)			Spike Duplicate (ug/L)				
<u>Parameter</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Benzene	30	30.5	102	30	30.6	102	(79-120)	0.56	(< 20)
Ethylbenzene	30	30.6	102	30	30.3	101	(79-121)	1.10	(< 20)
o-Xylene	30	30.6	102	30	30.1	100	(78-122)	1.70	(< 20)
P & M -Xylene	60	62.3	104	60	61.1	102	(80-121)	1.90	(< 20)
Toluene	30	30.2	101	30	29.7	99	(80-121)	1.60	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		100	30		101	(81-118)	0.70	
4-Bromofluorobenzene (surr)	30		103	30		101	(85-114)	1.20	
Toluene-d8 (surr)	30		101	30		99	(89-112)	1.40	

#### **Batch Information**

Analytical Batch: VMS22036 Analytical Method: EPA 602/624 Instrument: Agilent 7890-75MS Analyst: AZL Prep Batch: VXX39286 Prep Method: SW5030B Prep Date/Time: 09/29/2022 06:00 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 10/12/2022 8:13:28AM

# SGS

Method Blank				
Blank ID: MB for HBN 1844087 [WSP/5795] Blank Lab ID: 1687216	Matrix	x: Water (Sur	face, Eff., Ground)	
QC for Samples: 1225674001, 1225674002				
Results by EPA 410.4				
ParameterResultsChemical Oxygen Demand10.0U	<u>LOQ/CL</u> 20.0	<u>DL</u> 6.20	<u>Units</u> mg/L	
Analytical Batch: WSP5795 Analytical Method: EPA 410.4 Instrument: HACH DR2700 Spec. Analyst: MEB Analytical Date/Time: 9/21/2022 2:52:00PM				

Print Date: 10/12/2022 8:13:30AM



Blank Spike Summary									
Blank Spike ID: LCS for HBN Blank Spike Lab ID: 1687217 Date Analyzed: 09/21/2022	]	Sp [W Sp Ma	ike Duplica SP5795] ike Duplica atrix: Wate	ate ID: LCS ate Lab ID: r (Surface,	D for HBN 1 1687218 Eff., Ground	)			
QC for Samples: 12256740	001, 122567	74002							
Results by <b>FPA 410 4</b>									
		Blank Snike	(mg/L)		Spiko Duplic	cato (ma/L)			
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Chemical Oxygen Demand	500	515	103	500	461	92	(90-110)	11.10	(< 25 )
Batch Information Analytical Batch: WSP5795 Analytical Method: EPA 410.4 Instrument: HACH DR2700 Sp Analyst: MEB	Dec.								

Print Date: 10/12/2022 8:13:32AM

SGS	

Matrix Spike Summary										
Original Sample ID: 1225536002 MS Sample ID: 1687219 MS MSD Sample ID:					Analysis Analysis Analysis Matrix:	Date: 09 Date: 09 Date: Water (Su	9/21/2022 9/21/2022 urface, Eff.	14:52 14:52 , Ground)	1	
QC for Samples: 122567400	1, 1225674002	2								
Results by EPA 410.4										
		Mat	rix Spike (	mg/L)	Spike	e Duplicate	e (mg/L)			
<u>Parameter</u> Chemical Oxygen Demand	<u>Sample</u> 42.0	<u>Spike</u> 500	<u>Result</u> 712	<u>Rec (%)</u> 134   *	<u>Spike</u>	<u>Result</u>	<u>Rec (%)</u>	<u>CL</u> 90-110	<u>RPD (%)</u>	<u>RPD CL</u>
Batch Information										
Analytical Batch: WSP5795 Analytical Method: EPA 410. Instrument: HACH DR2700 5 Analyst: MEB Analytical Date/Time: 9/21/2	.4 Spec. 022 2:52:00P	'M								
Print Date: 10/12/2022 8:13:34AM										

# SGS

#### Method Blank

Blank ID: MB for HBN 1844133 [XXX/47037] Blank Lab ID: 1687435 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225674001, 1225674002, 1225674003

#### Results by EPA 625M SIM (PAH)

<u>Parameter</u>	Results	LOQ/CL	<u>DL</u>	<u>Units</u>
Acenaphthene	0.0250U	0.0500	0.0148	ug/L
Acenaphthylene	0.0250U	0.0500	0.0148	ug/L
Anthracene	0.0250U	0.0500	0.0148	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0148	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00600	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0148	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0148	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0148	ug/L
Chrysene	0.0250U	0.0500	0.0148	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00600	ug/L
Fluoranthene	0.0250U	0.0500	0.0148	ug/L
Fluorene	0.0250U	0.0500	0.0148	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0148	ug/L
Naphthalene	0.0500U	0.100	0.0312	ug/L
Phenanthrene	0.0500U	0.100	0.0310	ug/L
Pyrene	0.0250U	0.0500	0.0148	ug/L
Surrogates				
2-Methylnaphthalene-d10 (surr)	72.7	42-86		%
Fluoranthene-d10 (surr)	81.1	50-97		%

#### **Batch Information**

Analytical Batch: XMS13389 Analytical Method: EPA 625M SIM (PAH) Instrument: Agilent GC 7890B/5977A SWA Analyst: NGG Analytical Date/Time: 10/4/2022 11:34:00PM Prep Batch: XXX47037 Prep Method: SW3535A Prep Date/Time: 9/23/2022 9:53:07AM Prep Initial Wt./Vol.: 250 mL Prep Extract Vol: 1 mL

Print Date: 10/12/2022 8:13:35AM

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



#### **Blank Spike Summary**

Blank Spike ID: LCS for HBN 1225674 [XXX47037] Blank Spike Lab ID: 1687436 Date Analyzed: 10/04/2022 23:55 Spike Duplicate ID: LCSD for HBN 1225674 [XXX47037] Spike Duplicate Lab ID: 1687437 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225674001, 1225674002, 1225674003

#### Results by EPA 625M SIM (PAH)

		Blank Spike	e (ug/L)		Spike Dupli	cate (ug/L)			
<u>Parameter</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Acenaphthene	2	1.60	80	2	1.59	79	(48-114)	0.71	(< 20)
Acenaphthylene	2	1.46	73	2	1.43	72	(35-121)	2.30	(< 20)
Anthracene	2	1.64	82	2	1.61	80	(53-119)	1.80	(< 20)
Benzo(a)Anthracene	2	1.45	73	2	1.37	69	(59-120)	5.40	(< 20)
Benzo[a]pyrene	2	1.64	82	2	1.53	77	(53-120)	6.70	(< 20)
Benzo[b]Fluoranthene	2	1.52	76	2	1.42	71	(53-126)	6.70	(< 20)
Benzo[g,h,i]perylene	2	1.88	94	2	1.77	89	(44-128)	6.10	(< 20)
Benzo[k]fluoranthene	2	1.68	84	2	1.59	79	(54-125)	5.70	(< 20)
Chrysene	2	1.58	79	2	1.50	75	(57-120)	5.50	(< 20)
Dibenzo[a,h]anthracene	2	1.91	95	2	1.79	89	(44-131)	6.50	(< 20)
Fluoranthene	2	1.54	77	2	1.49	75	(58-120)	2.80	(< 20)
Fluorene	2	1.66	83	2	1.62	81	(50-118)	2.30	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.81	90	2	1.70	85	(48-130)	6.40	(< 20)
Naphthalene	2	1.31	66	2	1.30	65	(43-114)	1.10	(< 20)
Phenanthrene	2	1.64	82	2	1.59	80	(53-115)	3.10	(< 20)
Pyrene	2	1.54	77	2	1.51	75	(53-121)	1.80	(< 20)
Surrogates									
2-Methylnaphthalene-d10 (surr)	2		75	2		74	(42-86)	1.50	
Fluoranthene-d10 (surr)	2		80	2		80	(50-97)	0.01	

#### **Batch Information**

Analytical Batch: XMS13389 Analytical Method: EPA 625M SIM (PAH) Instrument: Agilent GC 7890B/5977A SWA Analyst: NGG Prep Batch: XXX47037 Prep Method: SW3535A Prep Date/Time: 09/23/2022 09:53 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Print Date: 10/12/2022 8:13:37AM

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



#### SGS North America Inc. CHAIN OF CUSTODY RECORD

1225674

|--|--|--|

								1	D#	375	576	6	M	l	11		IE  1981 E 113	
Γ	CLIENT: Michae	el Baber Int	1.				Ins O	tructi missi	ons: ons n	Sectional design of the section of t	ons 1 elay t	- 5 n he on	nust b set o	oe fille f anal	ed out lysis.			Page of
	CONTACT: Patw	hitese11	PHONE #:			Sec	tion 3					Pre	eservat	ive				
ection 1		P22 PoA	PROJECT/ PWSID/ PERMIT#:	• <u>•</u> ••••••••••••••••••••••••••••••••••		# C				20 M		h	716					
S	REPORTS TO	D:	E-MAIL: Patric Profile #:	k.whitesel) Mlonkerii	Q nH.com	N T A	Comp Grab MI	· · .				Anal	ysis*					NOTE: *The following analyses require specific method
			P.O. #:	TIME	MATRIX/	N E	(Multi- incre- mental)	00	+ 00	55	0 2	4 4	924					and/or compound list: BTEX, Metals, PFAS
	for lab use		ION DATE mm/dd/yy	HH:MM		RS			2	1	<del> </del>	5	+					REMARKS/LOC ID
	14+ 2AI	outfall 1 ontfall 2	01/19/22	12:12	Ŵ	9	-		1	1	1	3	2					
ion 2	3 AE YAC	ontfall 3		12:32							X	5						
Sect																		
	Relinquishe	ed By: (1)	Date	Time	Received B	y:				Sec	tion 4	DOI	D Proje	ct? Ye	es No	Data	a Delivo	erable Requirements:
202	Relinquishe	d By: (2)	Date	Time	Received B	y:				Coo Reque	ested T	urnaro	und Tir	me and	/or Spe	i cial Ins	structio	ns:
Cocti	Relinquishe	d By: (3)	Date	Time	Received B	iy:				Temp	Blank	°C:			<i>.</i>	Cha	ain of (	Custody Seal: (Circle)
	Relinquishe	d By: (4)	Date		Received F	or Labo	oratory By	/: 		Ľ		or An	bient	rv⁄	Dolive		ACT	BROKEN ABSENT
			V192	proc.	$\perp \not \sim$	<i>.</i>				<u> </u>	De	iivery N	nethod	. nand	Deliver	VILLO	mmeri	

http://www.sgs.com/terms-and-conditions

000	e-Samp	le Receipt For	m	
202	SGS Workorder #:	122	25674	1225674
R	eview Criteria	Condition (Yes, No, N/A	Ex	ceptions Noted below
Chain of Custo	dy / Temperature Requirements	Note:	Temperature and COC sea	al information is found on the chain of custody form
DOD only: Did all sa	ample coolers have a corresponding (	COC? N/A		
	If <0°C, were sample containers ice	free? N/A		
	Note containers receive	<mark>d with ice:</mark>		
Identify any cor	ntainers received at non-compliant ten (Use form FS-0029 if more space i	nperature: s <i>needed)</i>		
lolding Time / Docume	entation / Sample Condition Req	uirement:Note:	Refer to form F-083 "Sample	Guide" for specific holding times and sample containers.
Were samp	bles received within analytical holding	time? Yes		
Do sample	labels match COC? Record discrepar	ncies. Yes		
Note: If information on	containers differs from COC, default	to COC		
information for login. If tin	nes differ <1hr, record details & login <sub>l</sub>	per COC.		
	Were analytical requests (	clear? Yes		
(i.e. method is specified for	or analyses with multiple option for $m\epsilon$	ethod		
(Eg, BTEX 802)	1 vs 8260, Metals 6020 vs 200.8)			
Were proper contain	ers (type/mass/volume/preservative)u	sed? Yes		
Note: Exemption for	r metals analysis by 200.8/6020 in wa	ter.		
Volatile Analysis R	Requirements (VOC, GRO, LL-Hg	, etc.)		
Vere all soil VOAs receive	d with a corresponding % solids conta	ainer? N/A		
Were Trip Blanks (e	e.g., VOAs, LL-Hg) in cooler with sam	i <mark>ples?</mark> Yes		
Were all water VOA vials	; free of headspace (e.g., bubbles ≤ 6	mm)? Yes		
Were all soil	VOAs field extracted with Methanol+	BFB? N/A		
Note to Client: An	y "No", answer above indicates non-c	compliance with	standard procedur	es and may impact data quality.
	Additional r	notes (if appl	<u>icable):</u>	



#### **Sample Containers and Preservatives**

Container Id	Preservative	<u>Container</u> Condition	Container Id	<u>Preservative</u>	<u>Container</u> Condition
1225674001-A	No Preservative Required	<u>ОК</u>			
1225674001-B	H2SO4 to pH $< 2$	OK			
1225674001-C	No Preservative Required	OK			
1225674001-D	No Preservative Required	OK			
1225674001-F	No Preservative Required	OK			
1225674001-F	No Preservative Required	OK			
1225674001-G	HCL to $pH < 2$	OK			
1225674001-H	HCL to $pH < 2$	OK			
1225674001-I	HCL to $pH < 2$	OK			
1225674002-A	No Preservative Required	OK			
1225674002-B	H2SO4 to pH < 2	OK			
1225674002-C	No Preservative Required	OK			
1225674002-D	No Preservative Required	OK			
1225674002-F	No Preservative Required	OK			
1225674002-F	No Preservative Required	OK			
1225674002-G	HCL to $pH < 2$	OK			
1225674002-H	HCL to $pH < 2$	OK			
1225674002-I	HCL to $pH < 2$	OK			
1225674003-A	No Preservative Required	OK			
1225674003-B	No Preservative Required	OK			
1225674003-C	HCL to $pH < 2$	OK			
1225674003-D	HCL to $pH < 2$	OK			
1225674003-E	HCL to $pH < 2$	OK			
1225674004-A	HCL to pH < 2	ОК			
1225674004-B	HCL to $pH < 2$	ОК			
1225674004-C	HCL to $pH < 2$	OK			

#### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

- BU The container was received with headspace greater than 6mm.
- DM The container was received damaged.
- FR The container was received frozen and not usable for Bacteria or BOD analyses.
- IC The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
- NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
- PA The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis

requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added. QN - Insufficient sample quantity provided.

# Appendix 3 – Assessment of Controls, 2022

### Port of Alaska

Area / Concern	Source Controls	Source Reduction & Elimination Measures	BMPs
Roadways	А	А	А
Vehicle Wash Areas	А	А	А
Petroleums, Oils, Lubricants	А	А	А
Paints, Antifreeze, Batteries	А	А	А
Hazardous Chemicals and Wastes	А	А	А
Floatables	А	А	А
Illicit Discharges / Improper Disposal	А	А	А
Spill Prevention and Control	А	А	A
Public Education	А	A	A

'A' = 'Adequate'

'l' = 'Inadequate'

'N/A' = 'Not Applicable'

#### Matson

Area / Concern	Source Controls	Source Reduction & Elimination Measures	BMPs
Roadways	А	А	А
Vehicle Wash Areas	А	А	А
Petroleums, Oils, Lubricants	А	А	А
Paints, Antifreeze, Batteries	А	А	А
Hazardous Chemicals and Wastes	А	А	А
Floatables	А	А	А
Illicit Discharges / Improper Disposal	А	А	А
Spill Prevention and Control	А	А	А
Public Education	А	А	А

#### **Tote Maritime**

Area / Concern	Source Controls	Source Reduction & Elimination Measures	BMPs
Roadways	А	А	А
Vehicle Wash Areas	А	A	А
Petroleums, Oils, Lubricants	А	A	А
Paints, Antifreeze, Batteries	А	А	А
Hazardous Chemicals and Wastes	А	А	А
Floatables	А	А	А
Illicit Discharges / Improper Disposal	А	А	А
Spill Prevention and Control	А	А	А
Public Education	A	A	A

# **AFSC/Menzies Aviation**

Area / Concern	Source Controls	Source Reduction & Elimination Measures	BMPs
Roadways	А	А	А
Vehicle Wash Areas	N/A	N/A	N/A
Petroleums, Oils, Lubricants	А	А	А
Paints, Antifreeze, Batteries	А	А	А
Hazardous Chemicals and Wastes	А	А	А
Floatables	А	А	А
Illicit Discharges / Improper Disposal	А	А	А
Spill Prevention and Control	А	А	А
Public Education	A	А	A

#### Assessment of Controls – Marathon

Area / Concern	Source Controls	Source Reduction & Elimination Measures	BMPs
Roadways	А	А	А
Vehicle Wash Areas	N/A	N/A	N/A
Petroleums, Oils, Lubricants	А	А	А
Paints, Antifreeze, Batteries	А	А	А
Hazardous Chemicals and Wastes	А	А	А
Floatables	А	А	А
Illicit Discharges / Improper Disposal	А	А	А
Spill Prevention and Control	А	А	А
Public Education	А	А	А

## Assessment of Controls – Delta Western

Area / Concern	Source	Source Reduction &	BMPs
	Controls	Elimination Measures	
Roadways	А	A	А
Vehicle Wash Areas	N/A	N/A	N/A
Petroleums, Oils, Lubricants	А	А	А
Paints, Antifreeze, Batteries	А	А	А
Hazardous Chemicals and Wastes	А	А	А
Floatables	А	А	А
Illicit Discharges / Improper Disposal	А	А	А
Spill Prevention and Control	А	А	А
Public Education	А	А	А

# Appendix B – Assessment of Controls, 2022

# Assessment of Controls – ABI/AS&G

Area / Concern	Source Controls	Source Reduction & Elimination Measures	BMPs
Roadways	А	А	А
Vehicle Wash Areas	N/A	N/A	N/A
Petroleums, Oils, Lubricants	А	А	А
Paints, Antifreeze, Batteries	А	А	А
Hazardous Chemicals and Wastes	А	А	А
Floatables	А	А	А
Illicit Discharges / Improper Disposal	А	А	А
Spill Prevention and Control	A	А	A
Public Education	A	А	A



2000 Anchorage Port Road Anchorage, Alaska 99501 907-343-6200 PortOfAlaska@Muni.org PortOfAlaska.com

Subject: POA, MS4 Permit / Port SWPPP Team Q1 Meeting Time: 2:30 pm – 3:30 pm

Date: Tuesday, February 15, 2022

#### ATTENDEES

Brian Weigand, P.E.	РОА	Ronnie Poole	РОА
Paul Rotkis	POA	Ryan Perrault	Marathon
Jim Rypkema	ADEC	Serena Lewellyn	Marathon
Scott DeWandel	ASG/ABI	Monique Cortez	Matson
Kris Shippen	ASG/ABI	Patrick Whitesell	MBI
Billy Godwin	Tote	Collin Dey, P.E.	MBI
Mike Thrasher	Tote	RaeAnne Hebnes, P.E.	MBI
Theodore Frey	POA	Nichole Rehm	PTS
<del>Laurie Butler</del>	Menzies/AFC	Justina Lindberg	Tote

#### AGENDA

#### 1. Introductions

- Safety minute: Slips, Trips, Falls

#### 2. Meeting Goals

- 1. Familiarize new team members
  - a. Ronnie Poole (POA, M&O head)
  - b. Justina Lindberg (Tote, M&R Supervisor)
- 2. Identify ongoing and current operations, concerns or constraints on the MS4 permit / compliance process
  - a. POA
  - b. Lessees
  - c. ADEC
- 3. Discuss any recent issues
  - a. Illicit discharges
    - i. ALSO any as-yet unreported discharges or spills from last year?
    - ii. Summary of spills reported to date:
      - 1. Concrete discharge
      - 2. Hydraulic fluid (sand tent)
      - 3. Hydraulic fluid (forklift)
      - 4. All on 'POA-administered' areas; no spills or discharges reported to me from leaseholder properties



- 5. Send Billy (Tote) a reminder ping tomorrow (2/16) about accidental spills/discharges
- 6. Send Mo Cortez (Matson) a reminder ping tomorrow (2/16) about accidental spills/discharges
- 7. Send Mo Cortez (Marathon) a reminder ping tomorrow (2/16) about accidental spills/discharges
- 8.
- b. Anticipated conditions

## 3. Discussion Topics

- 1. MS4 permit
  - a. New online reporting system (NetDMR) set up
    - i. Pat, Brian, and Paul will have access include Ronnie if he wants to be included
    - ii. Pat preparing 2021 Summary for upload
- 2. POAVY
  - a. Done
  - b. Some work to remove jumper (installed as part of PCT)
- 3. Storm drain system evaluations/upgrades
  - a. Outfall 95% in July; questions arose that pushed the project into 2022
  - b. Planning working on over the winter
    - i. 99% design right now, but procurement is ~12 weeks
    - ii. May extend into 2023
- 4. Sand Tent/POA Admin
  - a. RFP Design/Build out Dec 1
  - b. Likely include demo of sand tent
  - c. New sand tent location; E of Security building
  - d. Ground breaking bid in June, dig in Aug (?)
- 5. Other projects
  - a. Fire line cracked
  - b. Heat trace repairs (T1,2)
  - c. ARRC tracks to be reconstructed (some grading work)
  - d. Tote asphalt cut/replace
  - e. Tote trestle repair at bow ramp
  - f. Matson Drilling for GW monitoring wells
- 6. Schedule
  - a. Inspections
    - i. N/A (late April May 2022)
  - b. Monitoring
    - i. After Spring breakup (May-Nov)
  - c. Training video is available on youtube
    - 1. Self-taught is fine, but <u>Pat W needs rosters</u>
    - i. POA submitted
    - ii. Menzies/ASG/Marathon online/inhouse will send Pat completion info
    - iii. Paul/Manson SPCC training

- 7. Activities
  - a. Regular/ongoing
  - b. Projects/new
    - i. Petroleum / Cement Terminal
      - 1. Done?
    - ii. MOV Cable small trench
      - 1. Still needs ADEC review/approval of contaminated soil plan

.....

- iii. Earthquake repairs
- iv. Others?
- 8. Next meeting
  - a. 2022 series set up
    - i. Tuesday, May 17
    - ii. Tuesday, August 16
    - iii. Tuesday, November 15

## 4. Action Items

#### Action Item Log

Action	Assigned	Due Date
Schedule 2023 quarterly meetings	PAW	Sep 30 2022
Complete annual training	PAW	November 2022
Identify discharge issues	Leaseholders & POA	Ongoing

## 5. General Discussion

Sharen says "No more earthquakes allowed" 🐵



2000 Anchorage Port Road Anchorage, Alaska 99501 907-343-6200 PortOfAlaska@Muni.org PortOfAlaska.com

**Subject:** POA, MS4 Permit / Port SWPPP Team Q2 Meeting **Time:** 2:30 pm – 3:30 pm

Date: Tuesday, May 17, 2022

#### ATTENDEES

Brian Weigand, P.E.	POA	Ronnie Poole	POA
Paul Rotkis	POA	Ryan Perrault	Marathon
Jim Rypkema	ADEC	Serena Lewellyn	Marathon
Scott DeWandel	ASG/ABI	Monique Cortez	Matson
Kris Shippen	ASG/ABI	Patrick Whitesell	MBI
Billy Godwin	Tote	Collin Dey, P.E.	MBI
Mike Thrasher	Tote	RaeAnne Hebnes, P.E.	MBI
Theodore Frey	POA	Nichole Rehm	<u>PTS</u>
Laurie Butler	Menzies/AFC	Justina Lindberg	Tote

#### AGENDA

#### 1. Introductions

- Safety minute: Summertime!

#### 2. Meeting Goals

- 1. Familiarize new team members
  - a. Menzies (Laurie) trying to get terminal pipeline supers to join
- 2. Identify ongoing and current operations, concerns or constraints on the MS4 permit / compliance process
  - a. POA
  - b. Lessees
    - i. Tank farm yards; weed abatement? POA used same as ARRC (herbicide). Also, water softener salt might help as well
    - ii. As long as herbicides are applied per manufacturer's spec, all good
    - iii. Applying to water is a different case
    - iv. Check with ADEC Env Health/Pesticide section
      - 1. Registered pesticide applicator
  - c. ADEC
- 3. Discuss any recent issues
  - a. Illicit discharges
    - i. Summary of spills reported to date:
      - 1. None (as of May 2022)
      - 2. Remnant cleanup / monitoring underway for 2021 spill



b. Anticipated conditions

i. May/June/July

# 3. Discussion Topics

- 1. MS4 permit
  - a. POA set up in new EPA online reporting system (NetDMR)
    - i. 2021 data uploaded
    - ii. Ronnie access wanted?
    - iii. Paul access?
  - b. Storm drain inlet stenciling
    - i. 50% SD Inlets stenciled by August 2022
- 2. Storm drain system evaluations/upgrades
  - a. Planning 5-year plan underway
  - b. System 1 going out to bid in 2023
    - i. Following earthquake repairs (SDS 1, 2, 5, 9)
- 3. Sand Tent/POA Admin
  - a. New sand tent location; E of Security building
  - b. Geotech and design underway
  - c. Status of existing
    - i. RFP to move existing May
    - ii. RFP for remainder EOY 2022
  - d. 35% design for new POA Admin
- 4. Other projects
  - a. Heat trace repairs (T1,2)
    - i. Underway
  - b. ARRC tracks to be reconstructed (some grading work)
    - i. Possibly in July
  - c. Tote asphalt cut/replace
  - d. Tote trestle repair at bow ramp
    - i. 1 trestle completed, other pouring concrete as of 5/17/22
    - ii. Should be done by 6/2022
  - e. Matson Drilling for GW monitoring wells
    - i. Still underway, waitingon driller
  - f. New snow disposal site (JBER)
    - i. In POA hands for G/NG decision
  - g. SPCC update (underway)
- 5. Schedule
  - a. Inspections
    - i. Snow/ice at outfalls as of May 5
  - b. Monitoring
    - i. Starting soon (May-Nov)
    - ii. Target June, September (wet weather sampling)
  - c. IDDE Training video is available on youtube
    - 1. Self-taught is fine (send attendee roster to Pat W)



## 2. Pat W can also provide IDDE training

- 6. Activities
  - a. Regular/ongoing
    - i. Reminder; if doing any excavation at POA, get a dig permit (Paul R)
  - b. Projects/new
    - i. Petroleum / Cement Terminal
    - ii. MOV Cable small trench
      - 1. On hold, POA decision
    - iii. Earthquake repairs
    - iv. Others?
- 7. Next meeting
  - a. August 16, 2022
  - b. Patto set up 2023 series
    - i. 3<sup>rd</sup> Tuesday in:
      - 1. Feb 2023
      - 2. May 2023
      - 3. Aug 2023
      - 4. Nov 2023

## 4. Action Items

#### **Action Item Log**

Action	Assigned	Due Date
Schedule 2023 quarterly meetings	PAW	Sep 30 2022
Complete annual training	PAW	November 2022
Identify discharge issues	Leaseholders & POA	Ongoing
Check/add new members (Ronnie, Justina) to	PAW	May 25, 2022
meetings		

#### 5. General Discussion



2000 Anchorage Port Road Anchorage, Alaska 99501 907-343-6200 PortOfAlaska@Muni.org PortOfAlaska.com

Subject: POA, MS4 Permit / Port SWPPP Team Q3 Meeting Time: 2:30 pm – 3:30 pm

Date: Tuesday, August 16, 2022

#### ATTENDEES

Brian Weigand, P.E.	POA	Ronnie Poole	POA
Paul Rotkis	POA	Ryan Perrault	Marathon
Jim Rypkema	ADEC	Serena Lewellyn	Marathon
		Monique Cortez	Matson
Kris Shippen	ASG/ABI	Patrick Whitesell	MBI
Billy Godwin	Tote	Collin Dey, P.E.	MBI
Mike Thrasher	Tote	RaeAnne Hebnes, P.E.	MBI
Theodore Frey	POA	Nichole Rehm	PTS
Laurie Butler	Menzies/AFC	Justina Lindberg	Tote

#### AGENDA

#### 1. Introductions

- Safety minute: Water and roads

#### 2. Meeting Goals

- 1. Familiarize new team members
- 2. Desire to recommence in-person or hybrid meetings?
  - a. General desire to keep as is or 'no strong feeling'
- 3. Identify ongoing and current operations, concerns or constraints on the MS4 permit / compliance process
  - a. POA
  - b. Lessees
    - i. No issues
  - c. ADEC
- 4. Discuss any recent issues
  - a. Illicit discharges
    - i. Summary of spills reported to date:
      - 1. None (as of August 2022)
        - a. This is rather 'unusual' to have no reported spills on any POA areas (POA or lessees) to date; outstanding spill reports?
        - b. A few minor spills (TOTE)
      - 2. Remnant cleanup / monitoring underway for 2021 spill?
        - a. Should be closing out in the next couple months (+/-)



.....

- b. Anticipated conditions
  - i. Aug/Sep/Oct

## 3. Discussion Topics

- 1. MS4 permit
  - a. POA set up in new EPA online reporting system (NetDMR)
    - i. 2022 1st set of data uploaded
      - 1. Need to revise and resubmit, apparently
    - ii. Ronnie access wanted? Still desired
    - iii. Paul access? No need
  - b. Storm drain inlet stenciling
    - i. Ongoing? Still ongoing
    - ii. Let's talk (POA and MBI) methods to improve on stenciling (medallions, stamps, etc)
- 2. Storm drain system evaluations/upgrades
  - a. Planning 5-year plan underway
  - b. System 1 going out to bid in 2023
    - i. Following earthquake repairs (SDS 1, 2, 5, 9)
- 3. Sand Tent/POA Admin
  - a. New sand tent location; E of Security building
  - b. Geotech and design underway (sitework)
  - c. Status of existing
    - i. New sand storage facility 2023
    - ii. RFP for remainder EOY 2023/2024
  - d. 35% design for new POA Admin (footers going in late 2022)
- 4. Other projects
  - a. Heat trace repairs (T1,2)
    - i. Underway
  - b.--ARRC tracks to be reconstructed (some grading work)
    - i.—Possibly in July
  - c. Tote asphalt cut/replace (sidewalks, front/read of Admin)
  - d.—Tote trestle repair at bow ramp
    - i.—1 trestle completed, other pouring concrete as of 5/17/22
    - ii. Should be done by 6/2022
  - e. Matson Drilling for GW monitoring wells
    - i. Still underway, waiting on driller?
  - f.—New snow disposal site (JBER)
    - i. In POA hands for G/NG decision
  - g. Tote may redo bow ramp hydraulics
    - i. Unlikely to affect stormwater / MS4
- 5. Schedule
  - a. Inspections
    - i.  $1^{st}$  inspections conducted July 14
    - ii. No significant precipitation in May or June
  - b. Monitoring

- i. Underway
- ii. July, then September (wet weather sampling)
- c. IDDE Training video is available on youtube
  - 1. Self-taught is fine (send attendee roster to Pat W)
  - 2. Pat W can also provide IDDE training

## 6. Activities

- a. Regular/ongoing
  - i. Reminder; if doing any excavation at POA, get a dig permit (Paul R)
- b. Projects/new
  - i. Petroleum / Cement Terminal
  - ii. Earthquake repairs
  - iii. Others?
- 7. Next meeting
  - a. November 15, 2022
  - b. Pat to set up 2023 series
    - i.  $3^{rd}$  Tuesday in:
      - 1. Feb 2023
      - 2. May 2023
      - 3. Aug 2023
      - 4. Nov 2023

## 4. Action Items

### **Action Item Log**

Action	Assigned	Due Date
Schedule 2023 quarterly meetings	PAW	Sep 30 2022
Complete annual training	PAW	November 2022
Identify discharge issues	Leaseholders & POA	Ongoing
Set up Ronnie P for NetDMR access	PAW	September 1, 2022

#### 5. General Discussion



2000 Anchorage Port Road Anchorage, Alaska 99501 907-343-6200 PortOfAlaska@Muni.org PortOfAlaska.com

**Subject:** POA, MS4 Permit / Port SWPPP Team Q3 Meeting **Time:** 2:30 pm – 3:30 pm

Date: Tuesday, November 15, 2022

#### ATTENDEES

Brian Weigand, P.E.	POA	Ronnie Poole	РОА
Paul Rotkis	POA	Theodore Frey	POA
Jim Rypkema	ADEC	Serena Lewellyn	Marathon
Laurie Butler	Menzies/AFC	Ryan Perrault	Marathon
Kris Shippen	ASG/ABI	Patrick Whitesell	MBI
Billy Godwin	Tote	Collin Dey, P.E.	MBI
Mike Thrasher	Tote	RaeAnne Hebnes, P.E.	MBI
Monique Cortez	Matson	Nichole Rehm	PTS
		Eric Hohmann	PTS

#### AGENDA

#### 1. Introductions

- Safety minute: hi viz!

#### 2. Meeting Goals

- 1. Familiarize new team members
- 2. Desire to recommence **in-person or hybrid** meetings?
  - a. General desire to keep as is or 'no strong feeling'
- 3. Identify ongoing and current operations, concerns or constraints on the MS4 permit / compliance process
  - a. POA
  - b. Lessees
    - i. No issues
  - c. ADEC
- 4. Discuss any recent issues
  - a. Illicit discharges
    - i. Summary of spills reported to date:
      - 1. None (as of August 2022)
        - a. This is rather 'unusual' to have no reported spills on any POA areas (POA or lessees) to date; outstanding spill reports?
      - 2. Remnant cleanup / monitoring underway for 2021 spill?
        - a. Cleanup complete, waiting to be able to conduct water sampling (2023)



.....

- b. Anticipated conditions
  - i. Nov/Dec/Jan/Feb

## 3. Discussion Topics

- 1. MS4 permit
  - a. POA set up in new EPA online reporting system (NetDMR)
    - i.  $20221^{st}$  set of data uploaded
      - 1. Need to revise and resubmit
    - ii. Submit 2022 2<sup>nd</sup> set of data (PAW)
    - iii. Ronnie access wanted? Still desired
    - Storm drain inlet stenciling
      - iv. Ongoing? Still ongoing
      - v. Let's talk (POA and MBI) methods to improve on stenciling (medallions, stamps, etc)
- 2. Storm drain system evaluations/upgrades
  - a. Planning 5-year plan underway
  - b. System 1 (design awarded)
    - i. Following earthquake repairs (SDS 1, 2, 5, 9)
- 3. Sand Tent/POA Admin
  - a. New sand tent location tbd (possibly near PCT)
  - b.—Geotech and design underway (sitework)
  - c. POA Admin BLdg construction underway
    - i. New sand storage facility 2023
    - ii. RFP for remainder EOY 2023/2024
  - d. 35% design for new POA Admin (footers going in late 2022)
- 4. Other projects
  - a. Heat trace repairs (T1,2)
    - i. Underway (on hold)
  - b. Tote asphalt cut/replace (sidewalks, front/read of Admin)
    - i. Complete
  - c.—Matson Drilling for GW monitoring wells
    - i.--Still underway, waiting on driller? Complete (on land)
    - ii. Drilling last hold on dock Nov 2022
  - d. Tote may redo bow ramp hydraulics
    - i. Unlikely to affect stormwater / MS4
    - ii. Not complete as of yet
- 5. Schedule
  - a. Inspections
    - i.  $1^{st}$  inspections conducted July 14
    - ii. No significant precipitation in May or June
    - iii. 2<sup>nd</sup> inspections conducted September 19
  - b. Monitoring
    - i. Complete for 2022
    - ii. July, then September (wet weather sampling)
  - c. IDDE Training video is available on youtube



#### 1. Self-taught is fine (send attendee roster to Pat W)

2. Pat W can also provide IDDE training

#### 6. Activities

- a. Regular/ongoing
  - i. Reminder; if doing any excavation at POA, get a dig permit (Paul R)
  - ii. Keep in mind that utility locates can take some time to process/validate (esp. in winter conditions)

b. Projects/new

#### i.-Petroleum / Cement Terminal

- ii. Earthquake repairs
- iii. ABI cement line complete (PCT)
- iv. Geotech borings on Tract J (related to Tract J road up to bluff)
- v. Roger Graves Road and PCT Access rd will have Geotech borings completed late Nov 2022
- 7. Next meeting
  - a. February 16, 2022
  - b. Patto set up 2023 series
    - i. 3<sup>rd</sup> Thursday in:
      - 1. Feb 2023
      - 2. May 2023
      - 3. Aug 2023
      - 4. Nov 2023

#### 4. Action Items

## Action Item Log

Action	Assigned	Due Date
Schedule 2023 quarterly meetings	PAW	<del>Sep 30 2022</del>
Complete annual training	PAW	November 2022
Identify discharge issues	Leaseholders & POA	Ongoing
Set up Ronnie P for NetDMR access	PAW	September 1, 2022

#### 5. General Discussion